MITIGATED NEGATIVE DECLARATION

FILE: DR14-0005-S/BLA14-0055

PROJECT NAME: Dollar General Georgetown

NAME OF APPLICANT: Simon CRE Abbie, LLC

ASSESSOR'S PARCEL NOS.: 061-362-01, -02, and -04 **SECTION:** 11 **T:** 12N **R:** 10E

LOCATION: Southeast side of Main Street between the intersections with Orleans Street and Harkness Street, in the Georgetown area.

☐ **GENERAL PLAN AMENDMENT:** **FROM:** **TO:**

☐ **REZONING:** **FROM:** **TO:**

☐ **TENTATIVE PARCEL MAP** ☐ **SUBDIVISION TO SPLIT** **ACRES INTO** **LOTS**
SUBDIVISION (NAME):

☐ **SPECIAL USE PERMIT TO ALLOW:**

☒ **OTHER:** Design review to allow construction of a 9,100 square-foot retail structure and associated improvements; a lot line adjustment-merge to create one parcel from the three project parcels, a finding of consistency with General Plan Policy 7.3.3.4 to allow reduction of a wetland setback from 50 feet to no setback, removal of three on-site canyon live oak trees which is exempt General Plan Policy 7.4.4.4 Option A, and an irrevocable offer to dedicate in fee, a 25-foot wide right away along the entire frontage of Harkness Street or an offer of dedication in the form of an easement for "road, slope, drainage, pedestrian and public utility purposes."

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 based on the Initial Study, conditions have been added to the project to avoid or mitigate to a point of insignificance the potentially significant effects of the project. It has been determined that the project will not have a significant impact on the environment. Based on this finding, Planning Services hereby prepares this MITIGATED NEGATIVE DECLARATION. A period of thirty (30) days from the date of filing this Mitigated Negative Declaration will be provided to enable public review of the project specifications and this document prior to action on the project by EL DORADO COUNTY. A copy of the project specifications is on file at El Dorado County Planning Services, 2850 Fairlane Court, Placerville, CA 95667.

This Mitigated Negative Declaration is anticipated to be adopted by the Development Services Division Director in October, 2015.

_____

Executive Secretary

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

INITIAL STUDY
ENVIRONMENTAL CHECKLIST

Project Title: DR14-0005-S/BLA 14-0055 Dollar General Georgetown

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

Contact Person: Rob Peters, Associate Planner | **Phone Number:** (530) 621-6644

Project Applicant's Name and Address: Simon CRE Abbie, LLC., 5111 N. Scottsdale Road, #200, Scottsdale, AZ 85250

Property Owners Name and Address: Denton and Carolyn Beam, P. O. Box 4420, Georgetown, CA 95634

Project Engineer's/Architect's Name and Address: TTG Engineers, 4300 N. Miller Road, Suite 122, Scottsdale, AZ 85250; MPA Architects Inc., 3578 30th Street, San Diego, CA 92104

Project Location: Southeast side of Main Street between the intersections with Orleans Street and Harkness Street in the Georgetown area.

Assessor's Parcel Numbers: 061-362-01, -02, and -04 **Acres:** 1.2 acres (total)

Zoning: Commercial-Design Community (C-DC)

Section: 11 **T:** 12N **R:** 10E

General Plan Designation: Commercial (C)

Description of Project:

1. Design review request to allow the construction of the following:
   a. 9,100 square foot retail structure with two wall identification signs;
   b. Eight-foot tall, 32 square-foot wooden monument sign;
   c. Parking lot containing 31 off-street parking spaces, including two ADA compliant spaces;
   d. Drop off and loading area;
   e. One bicycle rack containing three bicycle parking spaces;
   f. Perimeter and parking lot landscaping and irrigation;
   g. Six exterior wall mounted lantern-style lighting fixtures and three 13-foot tall pole lights, containing a total of four lighting fixtures, with a concrete base that is 2 feet above natural grade;
   h. Eight-foot high retaining wall with railing;
   i. A covered trash enclosure;
   j. Drainage improvements to accommodate both on- and off-site flows;
   k. An advanced treatment system for wastewater treatment consisting of an aerobic treatment unit and subsurface drip system;
   l. Sidewalk improvements along the project frontage on Main Street and School Zone crosswalk improvements at the intersection of Main Street and Harkness Street; and
   m. A paved driveway encroachment onto Main Street.
2. Lot line adjustment/merge request to create one parcel from the three project parcels;
3. Finding of Consistency with General Plan Policy 7.3.3.4 to allow a reduction of the wetland setback from

50 feet to no setback with construction and structures within the required setback to allow the fill of an approximately 0.05 acre wetland;

4. Site clearing and removal of three on-site existing canyon live oak trees, the removal of which would be exempt from the retention standards of General Plan Policy 7.4.4.4 Option A as the project site is greater than an acre and oak canopy covers less than one percent of the site; and
5. An irrevocable offer to dedicate in fee, a 25 foot wide (1/2 width) right-of-way along the entire frontage of Harkness Street or an offer of dedication in the form of an easement for "Road, Slope, Drainage, Pedestrian and Public Utility purposes."

Surrounding Land Uses and Setting:

	Zoning	General Plan	Land Use/Improvements
Site	C-DC	C	Undeveloped
North	C-DC	C	Historic Museum and Stamp Mill, and community park
South	CG	C	Commercial Development
East	C-DC	C	U.S. Post Office
West	C	C	Historic American River Inn and Historic Residence

Briefly Describe the environmental setting: The project site is comprised of three undeveloped lots totaling approximately 1.2 acres in size at an elevation of approximately 2,660-feet above sea level. The site is situated at the eastern edge of the Main Street commercial area in the historic town of Georgetown, on the southeast side of Main Street between Harkness Street to the North and Orleans Street to the south. The site is generally at grade or slightly lower than Main Street at the northwest corner of the site and approximately eight feet above Orleans Street at the southwest corner of the site. The majority of the site is relatively flat but includes some depressed areas, resulting from bench cut or previous fills. The depressions contain two small wetlands totaling approximately 0.05 acres associated with a seasonal drainage that runs along the eastern boundary of the site within an existing 10-foot drainage easement, and off-site drainage bisects the site in an east west orientation from a culvert across Main Street. The on-site portion of the seasonal drainage is approximately 0.01 acres and flows for approximately 107 feet, just within the eastern boundary of the northern most lot. The seasonal drainage continues south onto the adjacent parcel to the east in close proximity to the eastern boundary of the southern two lots, ultimately entering an open storm drain and draining east onto the neighboring property, with the easternmost portion of the site sloping toward the seasonal drainage. An open storm drain runs along the length of the southern boundary of the project site. The site also contains the collapsed remains of a vertical or near-vertical ventilation shaft associated with previous mining activities of the Woodside mine, an abandoned gold mine. Non-native grasses occur throughout the project site with Himilayan blackberry species abundant within the wetland areas, along with some willow thickets and a small collection of wetland vegetation of grasses and forbs. The southernmost portion of the project site contains three canyon live oak trees and other native trees of incense cedar and ponderosa pine. Also found within the southernmost portion of the site are four horseshoe pits and an associated picnic bench.

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

1. Community Development Agency – Transportation Division
2. Community Development Agency – Environmental Health Division
3. El Dorado County Air Quality Management District
4. Community Development Agency – Development Services Division, Building Services
5. Georgetown Fire District
6. El Dorado County Resource Conservation District
7. Georgetown Public Utilities District
8. U.S. Army Corps of Engineers
9. California Department of Fish and Wildlife
10. Central Valley Regional Water Quality Control Board

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		Air Quality
X	Biological Resources		Cultural Resources		Geology / Soils
	Greenhouse Gas Emissions		Hazards & Hazardous Materials		Hydrology / Water Quality
	Land Use / Planning		Mineral Resources	X	Noise
	Population / Housing		Public Services		Recreation
	Transportation/Traffic		Tribal Cultural Resources		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: 9/2/15
Printed Name: Rob Peters, Associate Planner For: El Dorado County

Signature: _____ Date: 09/03/15
Printed Name: Tiffany Schmid, Principal Planner For: El Dorado County

PROJECT DESCRIPTION

Introduction

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

Project Description

The design review and boundary line merger request to allow the construction of a retail structure and associated improvements, including:

a. 9,100 square foot retail structure with two wall identification signs;
b. Eight-foot tall, 32 square-foot wooden monument sign;
c. Parking lot containing 31 off-street parking spaces, including two ADA compliant spaces;
d. Drop off and loading area;
e. One bicycle rack containing two bicycle parking spaces;
f. Perimeter and parking lot landscaping and irrigation;
g. Six exterior wall mounted lantern-style lighting fixtures and three 13-foot tall pole lights, containing a total of four lighting fixtures, with a concrete base that is 2 feet above natural grade;
h. Eight-foot high retaining wall with railing;
i. A covered trash enclosure;
j. Drainage improvements to accommodate both on- and off-site flows;
k. An advanced treatment system for wastewater treatment consisting of an aerobic treatment unit and subsurface drip system;
l. Sidewalk improvements along the project frontage on Main Street and crosswalk improvement at the intersection of Main Street and Harkness Street; and
m. A paved driveway encroachment onto Main Street.

2. Lot line adjustment/merge request to create one parcel from the three project parcels;
3. Finding of Consistency with General Plan Policy 7.3.3.4 to allow a reduction of the wetland setback from 50 feet to no setback to allow the fill of an approximately 0.05 acre wetland with construction and structures within the required setback;
4. Site clearing and the removal of three on-site existing canyon live oak trees, the removal of which would be exempt from the retention standards of General Plan Policy 7.4.4.4 Option A as the project site is greater than an acre and oak canopy covers less than one percent of the site; and
5. An irrevocable offer to dedicate in fee, a 25 foot wide (1/2 width) right-of-way along the entire frontage of Harkness Street or an offer of dedication in the form of an easement for "Road, Slope, Drainage, Pedestrian and Public Utility purposes."

Project Location and Surrounding Land Uses

The 1.2-acre site is located on the southeast side of Main Street between Harkness Street to the north and Orleans Street to the south in the Georgetown area. The surrounding land uses include a historic museum, stamp mill, and community park to the north across Harkness Street, commercial development to the south across Orleans Street, a U.S. Post Office on the neighboring parcel to the east, and the historic American River Inn and a historic residence to the west across Main Street.

Project Characteristics

1. Transportation/Circulation/Parking

   The primary access to the site would be from an encroachment onto Main Street, a County maintained road. The El Dorado County Transportation Division (EDCTD) and the Georgetown Fire Protection District (Fire District) have reviewed the proposed access and circulation for the project. The Fire District added no conditions to the project regarding the adequacy of the safe emergency ingress/egress, access widths, or surfacing. The EDCTD analyzed the submitted focused traffic analysis and has recommended conditions of approval, including the construction of public sidewalk and school zone crosswalk to accommodate pedestrian circulation. These requirements have been incorporated into the proposed project to ensure the encroachment, sidewalks, and school zone crosswalk improvements would be constructed to County standards. The project proposes to utilize 31off-street parking spaces, which would be adequate parking in accordance with section 130.18 of the County Zoning Ordinance. The EDCTD has conditioned the project to install "No Parking Zone" signage on Main Street along the project frontage to prevent vehicles from obstructing sight distance for vehicles entering Main Street from Orleans Street, the project entrance, and Harkness Street.

2. Utilities and Infrastructure

   There are existing electrical facilities which would be extended within the parcel to the project. Domestic water service is available at the site and would be upgraded as required by the Georgetown Divide Public Utilities District (GDPUD). The project includes installation of an advanced treatment system for wastewater treatment consisting of an aerobic treatment unit and subsurface drip system or a septic system. The applicant will also install drainage improvements, including on-site bio-retention basins and underground storm drain systems, which will convey on and off-site drainage to the existing drainage swale on the eastern edge of the site.

3. Construction Considerations

   Construction of the project would consist of on-site road encroachment, sidewalks, and off-site crosswalks; site clearing; fill of on-site wetlands and incorporation of best management practices; grading improvements; utility trenching and drainage system installation; erosion control measures; and construction of facility structures, parking lot paving and landscaping, and associated improvements. Both building and grading permits will be required.

4. CEQA Section 15152. Tiering- El Dorado County 2004 General Plan EIR

   This Mitigated Negative Declaration tiers off of the El Dorado County 2004 General Plan EIR (State Clearing House Number 2001082030) in accordance with Section 15152 of the CEQA Guidelines. The El Dorado County 2004 General Plan EIR is available for review at the County web site at http://www.co.el-dorado.ca.us/Planning/GeneralPlanEIR.htm or at the El Dorado County Development Services Department located at 2850 Fairlane Court, Placerville, CA 95667. All determinations and impacts identified that rely upon the General Plan EIR analysis and all General Plan Mitigation Measures are identified herein. The following impact areas are tiering off the General Plan EIR:

   Aesthetics.

5. CEQA Section 15183. Projects Consistent with a Community Plan or Zoning:

   15183. Projects Consistent with a Community Plan or Zoning

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

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

1. Are peculiar to the project or the parcel on which the project would be located,

2. Were not analyzed as significant effects in a prior EIR on the zoning action, general plan, or community plan, with which the project is consistent,

3. Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR prepared for the general plan, community plan or zoning action, or

4. Are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR.

Project Schedule and Approvals

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 County planner indicated in the Summary section, above. Following the close of the written comment period, the Initial Study will be considered by the Lead Agency 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.

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

   a. Earlier Analysis Used. Identify and state where they are available for review.

   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c. Mitigation Measures. For effects that are "Less Than Significant With Mitigation Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. 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.

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

8. 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.

9. 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.

ENVIRONMENTAL IMPACTS

I. AESTHETICS. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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. **Scenic Vista:** The project site and vicinity is not identified by the County as a scenic view or resource (El Dorado County (EDC) Planning Services, EDC General Plan Draft EIR (DEIR; SCH #2001082030)), May 2003, Exhibit 5.3-1 and Table 5.3-1). There would be no impacts anticipated.

b. **Scenic Resources:** The project site is not visible from an officially designated State Scenic Highway or county-designated scenic highway, or any roadway that is part of a corridor protection program (CalTrans, 2013). There were no trees or historic buildings found that have been identified by submitted biological report or cultural resources study as contributing to exceptional aesthetic value at the project site. There would be no impacts anticipated.

c. **Visual Character:** The DEIR for the General Plan had identified and examined the potential impacts that implementation of the General Plan would have to the visual character of the areas of the County. Section 5.3-2 states that the County mitigate the potential significant impacts by designing new streets and roads within new developments to minimize visual impacts, preserve rural character, and ensure neighborhood quality to the maximum extent possible consistent with the needs of emergency access, on-street parking, and vehicular and pedestrian safety. The proposed project is designed to provide the General Plan designated Commercial land with adequate access for emergency ingress/egress safety, an on-site encroachment and adequate on-site circulation to facilitate on-site parking and loading, bike racks to accommodate bicycle circulation and safety, and on-site sidewalks and off-site school zone crosswalk to accommodate pedestrian circulation and safety.

The proposed project would not be anticipated to significantly degrade the visual character or quality of the site and its surroundings in ways not anticipated for lands designated by the General Plan for commercial land uses. Further, the project site is designated with a Design Community (DC) combining zone to ensure architectural supervision and consistency with the EDC Historic Design Guide (HDG), which is used to evaluate the architectural and site design for the County's Historic Gold Rush Era Districts. The project design, through incorporation of architectural features and styling, proposed constructions materials, and colors of the physical elements, were analyzed for consistency with the HDG. With the exception of the faux wood building signage and automated glass entry doors, the project was determined to be substantially consistent with the HDG.

With review for consistency with General Plan Policies as well as substantial conformance with the HDG, impacts would be less than significant. As designed and conditioned, project impacts would be less than significant.

d. **Light and Glare:** Section 5.3-3 of the DEIR for the General Plan states the potential significant impacts would be mitigated by including design features, namely directional shielding for street lighting, parking lot lighting, and other significant lighting sources, that could reduce the effects from nighttime lighting. If approved as proposed, the project would allow new lighting. These impacts would not be expected to be more than any typical and similar publicly-utilized facility lighting within a land use area designated by the General Plan for commercial uses. Use of pole lighting, security lighting and spot lighting for buildings would be required to meet the County Zoning Ordinance Section 130.14.170 (Outdoor Lighting) and must be shielded to avoid potential glare affecting day or nighttime views for those that live or travel through the area.

The project would include six wall mounted exterior lantern-style lighting fixtures. The Site Lighting Plan (Sheet A1.2, Attachment 3) identifies parking lot lighting including three 13-foot tall pole lights, containing a total of four lighting fixtures, with a concrete base that is 2 feet above natural grade. The overall height of the pole lights would be approximately 15 feet above natural grade. The project includes conditions of approval that require all on-site outdoor lighting to be full-cutoff. The photometric analysis demonstrates that the project would not create significant amounts of light outside of the parcel boundaries.

With review for consistency with General Plan Policies, impacts would be less than significant. As designed and conditioned, the projects impacts from outdoor lighting would be less than significant.

FINDING: For the "Aesthetics" category, the thresholds of significance have not been exceeded. As conditioned and with adherence to El Dorado County Code of Ordinances (County Code), applicable General Plan Policies, and the El Dorado Historic Design Guide, no significant environmental impacts to aesthetics would be anticipated to result from the project.

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 Department 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 Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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

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

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. **Conversion of Farmland:** Review of the soil data from the Important Farmland GIS map layer for EDC developed under the Farmland Mapping and Monitoring Program indicates that the project site contains BpD, (Boomer-Sites loams with 9 to 50 percent slopes). BpD soils are classified as unique and soils of local importance; however, the site is listed in the Farmland Mapping and Monitoring Program as Urban Built-up Land. The project site is designated for commercial uses, and is not located within or adjacent to lands designated with the Agricultural Districts (A) General Plan Land Use Overlay. As such, impacts would be less than significant.

b. **Zoning and Williamson Act:** The project site is not located within a Williamson Act Contract, would not conflict with existing zoning for agricultural use, and would not affect any properties under a Williamson Act Contract. There would be no impact.

c-d. **Conflict with Zoning for or Conversion of Forest/Timber Land:** The site is not designated as Timberland Preserve Zone (TPZ) or other forestland according to the EDC General Plan and Zoning Ordinance. The project site does not support significant forested areas. No conversion of forest or timber lands would occur as a result of the project. There would be no impact.

e. **Conversion of Prime Farmland or Forest Land:** The project would not result in conversion of existing lands designated by the EDC General Plan and/or zoned for agricultural uses, nor is the site designated as TPZ or other forestland according to the EDC General Plan and Zoning Ordinance. The project site is designated for commercial uses by the EDC General Plan and is zoned for commercial development. There would be no impact.

FINDING: This project would have no known significant impact on agricultural lands or forest/timber lands, would not convert agricultural lands to non-agricultural uses or timber lands to non-timber uses, and would not affect properties subject to a Williamson Act Contract. For this "Agriculture and Forest Resources" category, the thresholds of significance have not been exceeded and no impacts would be anticipated to result from the project.

III. AIR QUALITY. *Would the project:*				
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	

III. AIR QUALITY. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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: According to the El Dorado County Air Quality Management District (AQMD) Guide to Air Quality Assessment (2002) 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 (Table 3.2);
- 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.

a. **Air Quality Plan:** El Dorado County has adopted the Rules and Regulations of the El Dorado County Air Quality Management District (AQMD, 2000) establishing rules and standards for the reduction of stationary source air pollutants (ROG/VOC, NOx, and O3). The EDC/State Clean Air Act Plan has set a schedule for implementing a funding transportation contract measures to limit mobile source emissions. The project would not conflict with or obstruct implementation of either plan. Any activities associated with the grading and construction of this project would pose a less than significant impact on air quality because the EDC AQMD would require that the project implement a Fugitive Dust Mitigation Plan (DMP) 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 below a level of significance. Therefore, the potential impacts of the project would be less than significant.

b, c. **Air Quality Standards and Cumulative Impacts:** The El Dorado County AQMD reviewed the submitted Air Quality/Greenhouse Gas (GHG) Analysis that was prepared using the California Emissions Estimator Model (CalEEMod, v 2013.2.2)(Wilson, 2014) (Attachment 4). The model concluded the daily construction emissions would not exceed 25 lbs/day for Reactive Organic Gases (ROG) and 49 lbs/day for Nitrogen Oxides (NOx). This is below the 82 lbs/day threshold for each as detailed in AQMD's *Guide to Air Quality Assessment: Determining Significance of Air Quality Impacts under the California Environmental Quality Act, February 2002* ("CEQA Guide"). Additionally, the model concluded operational emissions of ROG and NOx would be less than 4 lbs/day each; which is also below the 82 lbs/day threshold from the CEQA Guide. AQMD has implemented typical conditions including adherence to Rules 223 and 223.1 (Fugitive Dust Mitigation Plan), Rule 224 (Asphalt Paving Materials), Rule 215 (Architectural Coating), and 501 and 523 (New Paint Source), which are included in the project permit, therefore, the project would have a less than significant impact in this category. The conditions would be implemented, reviewed, and approved by the AQMD prior to and concurrently with the grading, improvement, and/or building permit approvals. AQMD concurs that the air quality criteria pollutant emissions for the project would be less than significant. Therefore, the potential impacts of the project would be less than significant.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The project would create air quality impacts that may contribute to an existing or projected air quality violation during construction. The project's construction activities would include site preparation, earthmoving, land clearing and grubbing, and general construction. Earthmoving activities would include cut and fill operations, trenching, soil compaction, and grading. General construction includes adding improvements such as roadway surfaces, structures and facilities. Construction related activities would generate PM10 dust emissions that could exceed either the state or federal ambient air quality standards for PM10. However, existing regulations implemented at issuance of building and grading permits would ensure that any construction related PM10 dust emissions would be reduced to acceptable levels. Adherence to the limitations of construction and to the DMP would ensure impacts are less than significant.

d. **Sensitive Receptors:** The CEQA Guidelines (14 CCR 15000) identify sensitive receptors as facilities that house or attract children, the elderly, people with illnesses, or others that are especially sensitive to the effects of air pollutants. Hospitals, schools, and convalescent hospitals are examples of sensitive receptors. The Georgetown Elementary School is located approximately 800 feet to the east of the project site. However, as discussed above, with adherence to AQMD rules, and implementation of conditions of approval including a DMP, no sources of substantial pollutant concentrations will be emitted by the project, and no sensitive receptors would be exposed to substantial pollutant concentrations. AQMD has determined that the air quality criteria pollutant emissions for the project would be less than significant. Therefore, the potential impacts of the project would be less than significant.

e. **Objectionable Odors:** Table 3-1 of the Guide to Air Quality Assessment (AQMD, 2002) does not list the proposed commercial (retail) use as a use known to create objectionable odors. The proposed project would not be anticipated to create significant levels of odors as measured with current standards. Impacts would 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 small increases in emissions due to construction and operation; however, existing regulations would reduce these impacts to a less-than-significant level. As conditioned and with adherence to County Code, the proposed project would not be anticipated to cause substantial adverse effects to air quality, nor exceed established significance thresholds for air quality impacts.

IV. BIOLOGICAL RESOURCES. *Would the project:*				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		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		X		

IV. BIOLOGICAL RESOURCES. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
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:

- Substantially reduce or diminish habitat for native fish, wildlife or plants;
- Cause a fish or wildlife population to drop below self-sustaining levels;
- Threaten to eliminate a native plant or animal community;
- Reduce the number or restrict the range of a rare or endangered plant or animal;
- Substantially affect a rare or endangered species of animal or plant or the habitat of the species; or
- Interfere substantially with the movement of any resident or migratory fish or wildlife species.

a. **Special Status Species and Sensitive Natural Communities**: A Biological Resources Dollar General Proposed Store Site Report (Costella, 2014) and Addendum: Biological Inventory For the Dollar General Store (Costella, 2015a), Letter Regarding Public Concerns (Costella, 2015b), and Nationwide Permit Pre-Construction Notification Form, Cultural Report, Wetland Delineation Report, and Biological Report (Costella, 2015c), Attachments 5, 6, 7, and 8 respectively, were submitted for the project. These documents reported findings obtained from site assessments conducted in the fall of 2014 and May of 2015, topographic survey for the wetland delineation, wildlife habitat and species surveys, and general botanical surveys. The site assessment consisted of the biologists walking the site, recording notes of species observed or signs of their presence, and assessing the habitats existing within the project site boundaries for the potential occurrence of special status species.

According to these documents, the project site is not located on lands shown to contain Serpentine Rock or Gabbro Soils. There are no rare, threatened, or endangered species on the site and the project is not located within a sensitive natural community of the county, the state, or a federal agency, including but not limited to an Ecological Preserve or U.S. Fish and Wildlife Service (USFWS) Recovery Plan boundaries. The project is not located within a Rare Plant Mitigation site or within any major migratory wildlife corridor.

The project has the potential to impact nesting raptors or other protected migratory birds, which are protected under the Migratory Bird Treaty Act, due to construction activities such as tree and vegetation removal, ground disturbances, heavy equipment use. The project would result in the loss of approximately 325 square feet of potential oak tree canopy removal, as well as the loss of non-oak canopy. Depending on the timing of construction, site disturbance could result in disturbance of breeding and nesting activity of this species. According to the California Department of Fish and Wildlife (CDFW) Code 3503, "take" of the nest or eggs of any bird is prohibited, except upon approval from the California Department of Fish and Wildlife. Disturbance of active nests can be avoided during construction through appropriate measures. Impacts would be anticipated to be less than significant with adherence to General Plan Policies, and the following mitigation incorporated into the project description:

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

BIO-1: Pre-construction Survey Required: For construction activities between March 1 and August 31, pre-construction surveys for nesting raptors and migratory birds shall be conducted by a qualified biologist pursuant to California and Federal requirements. These surveys should be completed no sooner than 7 days prior to commencement of grading activities. If active nests are found, a quarter-mile (1320 feet) initial temporary nest disturbance buffer shall be established, which may be reduced after consultation with CDFW.

If project-related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then an on-site biologist/monitor shall be retained by the project proponent to monitor the nest, and shall, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed to proceed within the temporary nest disturbance buffer if the nesting raptors and/or migratory birds are not exhibiting agitated behavior such as defensive flights at intruders, getting up from a brooding position, or flying off the nest. The designated on-site biologist/monitor shall be on-site daily while construction related activities are taking place and shall have the authority to stop work if the birds are exhibiting agitated behavior. In consultation with CDFW and depending on the behavior of the raptors and/or migratory birds, over time it may be determined that the on-site biologist/monitor may no longer be necessary due to the birds' acclimation to construction related activities.

Any trees containing nests that must be removed as a result of the project implementation shall be removed during the non-breeding season; and the project proponent shall be responsible for off-setting the loss of any nesting trees. The extent of any necessary compensatory mitigation shall be determined by the project proponent in consultation with the CDFW.

Monitoring Responsibility: Planning Services.

Monitoring Requirement: The applicant shall conduct all construction activities outside the nesting season or perform a pre-construction survey and obtain all necessary permits prior to initiation of construction activities. This requirement shall be placed on all grading plans. Planning Services shall review the surveys prior to issuance of a grading permit and/or removal of any trees within the entire project parcel.

b, c. **Riparian Habitat, Wetlands, Potentially Jurisdictional Waters of the U.S.:** The Biological Resources Dollar General Proposed Store Site Report (Costella, 2014) and Addendum: Biological Inventory For the Dollar General Store (Costella, 2015a), and Nationwide Permit Pre-Construction Notification Form, Cultural Report, Wetland Delineation Report, and Biological Report (Costella, 2015c) submitted for the project, Attachments 5, 6, and 8 respectively, identify approximately 0.06 acres of on-site wetlands that are potentially jurisdictional waters of the United States Army Corps of Engineers (ACOE), and jurisdictional for both the CDFW and the Regional Water Quality Control Board. The wetlands are comprised of two small wetlands totaling 0.05 acres adjacent to a 0.01 acre seasonal drainage that is approximately 2 feet wide and 107 feet in length, and is located within an existing 10-foot drainage easement. The project proposes to fill the two small wetlands. No impacts are identified to the 0.01 acre seasonal drainage. Further, the project has the potential to adversely affect water quality downstream, both during construction and during operation of the project. Impacts would be less than significant with the following mitigation measures incorporated:

BIO-2: Streambed Alteration Agreement: A Streambed Alteration Agreement, pursuant to Fish and Game Code 1602, shall be obtained by the applicants, from CDFW, if applicable, for each stream crossing and any other activities affecting the bed, bank, or associated riparian vegetation of any stream on the site.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The applicant has proposed to implement the mitigations identified in the *Addendum: Biological Inventory For the Dollar General Store* (Costella, 2015a) (Attachment 6) and the *Nationwide Permit Pre-Construction Notification Form, Cultural Report, Wetland Delineation Report, and Biological Report* (Costella, 2015c) (Attachment 8) as discussed in more detail in BIO-3 below. The applicant shall incorporate these proposed mitigation measures in addition to any appropriate mitigation measures developed in coordination with CDFW in the context of the agreement process. Additional mitigation may include:

a. *Erosion Control methods or techniques that will prevent sediment from entering any watercourses during and after construction;*
b. *Protection measures to avoid or minimize impacts to fish, wildlife, and plant resources; and*
c. *Measures for mitigation or compensation of impacts to fish, wildlife, and plant resources.*

Monitoring Responsibility: Planning Services

Monitoring Requirement: The applicant shall provide a copy of the 1602 Streambed Alteration Agreement to Development Services, if applicable, prior to issuance of the grading permit. If it has been determined by CDFW that said permit does not apply after their review of the development plans for the project, the applicant shall provide Planning Services with verification from CDFW that no Agreement is needed for the project, prior to issuance of a building and/or grading permit for the project area.

BIO-3: Wetland Delineation Verification: The on-site intermittent stream (0.01 acres) and two small wetlands (0.05 acres) shall be verified by the ACOE as to whether or not they are considered waters of the U.S. If determined to be waters of the U.S., the applicant shall request a Department of the Army authorization through the Section 404 permit process prior to placement of any fill material. Along with the request, the applicants shall provide project construction and development drawings or maps including, but not limited to, wetland areas denoting all proposed improvements in relation to the Ordinary High Water Mark (OHWM).

Applicant shall strive to avoid adverse effects and minimize impacts to waters of the U.S., and to achieve a goal of no net loss of wetlands functions and values. The ACOE permit will define the terms and conditions, including mitigation, for the fill activities. The applicant has proposed the following appropriate mitigation for unavoidable losses to waters of the U.S. using ACOE mitigation guidelines and regulations, and shall incorporate these proposed mitigation measures in addition to any appropriate mitigation measures developed in coordination with ACOE in the context of the permit process:

a. *The applicant will purchase credits in the National Fish and Wildlife Foundation Fund for impacts to the stream and riparian habitat. Credits will be obtained at a minimum ratio of 1:1. This shall be done before County permits are issued.*
b. *The applicant will implement the mitigation plans identified in the Addendum: Biological Inventory For the Dollar General Store (Costella, 2015a) (Attachment 6) and the Nationwide Permit Pre-Construction Notification Form, Cultural Report, Wetland Delineation Report, and Biological Report (Costella, 2015c) (Attachment 8). Elements of those plans include, but are not limited to:*
    i. *Limiting construction near the seasonal drainage to the dry season;*
    ii. *Establishing the area surrounding the seasonal drainage as an Environmentally Sensitive Area (ESA) during construction;*
    iii. *Implementing Best Management Practices during and following construction;*

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

iv. Implementing additional Best Management Practices during grading and construction; and

v. Providing copies of the permit conditions to contractors prior to grading and construction near the ESAs and adjacent non-disturbance buffer.

Monitoring Responsibility: Planning Services

Monitoring Requirement: The applicant shall provide either a copy of the ACOE permit or no permit required letter to Planning Services prior to issuance of a building, and/or grading permit for the project.

BIO-4: Water Quality Certification: If an ACOE Section 404 permit is required, a Water Quality Certification, Section 401 permit shall be obtained by the applicant from the California Regional Water Quality Control Board (RWQCB) for applicable project improvements. Appropriate mitigation measures shall be developed in coordination with the RWQCB in the context of the agreement process.

Additionally, because the project proposes to disturb more than 1 acre of land, the project is required to obtain coverage under the California State Water Resources Control Board Construction General Permit Order Number 2009-0009-DWQ (CGP). Further, the following shall be included to the satisfaction of the RWQCB:

a. The applicant will prepare a Storm Water Pollution Prevention Plan (SWPPP) for approval. That plan will describe the methods for ensuring downstream water quality during construction and will be implemented before construction begins;

b. Work areas to be separated by buffers and orange construction fencing to delineate the preserved riparian areas (No grading will be allowed within the fenced-off buffer zones); and

c. Waste and construction materials will be placed where they will not run of into the seasonal drainage, or they will immediately be removed off-site.

Monitoring Responsibility: Planning Services

Monitoring Requirement: The applicant shall provide a copy of the Section 401 permit to Planning Services prior to issuance of the grading permit, if applicable. If, after their review of the development plans for the project, the RWQCB determines that said permit does not apply, the applicant shall provide Planning Services with confirmation of that determination prior to issuance of a building and/or grading permit for the project. The SWPPP shall be reviewed and approved by Building Services prior to issuance of a grading permit.

d. **Migration Corridors**: Review of the California Department of Fish and Game California Wildlife Habitat Relationship System indicates that there are no mapped critical deer migration corridors on the project site. The biology report found that the project would not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with any established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites. The project has the potential to impact raptors and other migratory birds and that was discussed earlier in Section "a" above. As conditioned, mitigated (BIO-1), and with adherence to County Code, impacts would be anticipated to be less than significant.

e. **Local Biological Resources Policies:** El Dorado County Code and General Plan Policies pertaining to the protection of biological resources would include protection of rare plants, setbacks to riparian areas, and mitigation of impacted oak woodlands. Rare plants were discussed above in the Special Status Species section.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

As discussed above in the wetland section, General Plan Policy 7.3.3.4 requires a minimum non-development setback of 50 feet from intermittent streams and wetlands. These standards may be modified in a particular instance if more detailed information relating to slope, soil stability, vegetation, habitat, or other site or project-specific conditions supplied as part of the review for a specific project demonstrates that a different setback is necessary or would be sufficient to protect the particular riparian area. The project includes a request to reduce the 50-foot on-site setback for seasonal drainage and wetlands for the project with no setback. The project level Wetland Delineation (Costella, 2015c) (Attachment 8) indicated that the 0.05 acre of wetland and the 0.01 acre seasonal drainage did not support plants or animals identified as threatened, endangered, or of special status on either the Federal or State lists, and the wetlands were identified to be associated with the seasonal drainage that borders the eastern property boundary. The wetlands are of low habitat value. There would be less than significant impacts to the seasonal drainage provided that appropriate storm water Best Management Practices (BMPs) are implemented. The following is a list of BMPs that the project would be required to adhere to as a part of the grading permit requirements by County Code 110.14. Additional BMPs may be required. The Building Services Plan Checker will review the submitted grading plan and verify that the plan includes BMPs consistent with the County's California SWPPP issued by the State Water Resources Control Board, prior to grading permit issuance:

Erosion Control	Sediment Control	Tracking Control	Non Storm Water Management
Hydroseeding	Silt Fence	Stabilized Construction Entrance	Water Conservation Practices
Straw Mulch	Fiber Rolls	Waste Management	Vehicle and Equipment Cleaning
Geotextiles and Mats	Gravel Bag Berm	Material Delivery and Storage	Vehicle and Equipment Maintenance
Erosion Control	Street Sweeping and Vacuuming	Material Use	Non Storm Water Management

As conditioned, mitigated, and with adherence to County Codes, the project would incorporate "Best Management Practices" and Mitigation Measures to minimize impacts on the seasonal drainage but allow reasonable use of the property through fill of the on-site wetlands, the request to reduce the required setbacks could be found to be consistent with the intent of El Dorado County General Plan Policy 7.3.3.4 and the Interim Interpretive Guidelines for that Policy.

Policy 7.4.4.4 establishes the native oak tree canopy retention and replacement standards. Impacts to oak woodlands have been addressed in the El Dorado County General Plan EIR, available for review online at http://co.el-dorado.ca.us/Planning/GeneralPlanEIR.htm or at El Dorado County Planning Services offices located at 2850 Fairlane Court, Placerville, CA, 95667. Mitigation in the form of General Plan policies has been developed to mitigate impacts to less than significant levels. In this instance, adherence to General Plan Policy 7.4.4.4 and the Interim Interpretive Guidelines for that policy would mitigate impacts to oak woodland to less than significant levels.

The submitted Oak Tree Canopy Calculations for the Dollar General Store Georgetown Site prepared by Costella Environmental Consulting dated February 9, 2015 (Costella, 2015d) (Attachment 9) identified three existing on-site canyon live oak trees totaling 325 square feet of canopy coverage, all of which would be removed by the proposed project, on the 1.2 acre (52,272 square foot) project site. In accordance with the Interim Interpretive Guidelines for Policy 7.4.4.4, oak woodlands with oak tree canopy coverage of less than one percent on parcels of land that are more than one acre in size are not subject to the oak tree canopy cover retention requirements of Policy 7.4.4.4 Option A. The total oak canopy coverage for the project site is within the one percent exemption for canopy retention standards for the General Plan Policy 7.4.4.4 Option A. Therefore, removal of the existing oak trees would

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

result in less than significant impacts. Also, the applicant has proposed to replant for the removal of these oak trees on a 1 to 1 basis within the proposed landscaping plan for the project site, resulting in the planting of three canyon live oak trees.

f. **Adopted Plans**: This project, as designed, does 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. There would be less than significant impacts in this category.

FINDING: For the "Biological Resources" category, as conditioned, mitigated and with adherence to County Code, the thresholds of significance would not be anticipated to be exceeded.

V. **CULTURAL RESOURCES.** *Would the project:*				
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 property that is historically or culturally 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. **Historic Resources:** The Archaeological Inventory Survey prepared for the project dated January 9, 2015 (Jensen, 2015) (Attachment 10) identified one historic-era site identified as "Georgetown #1" representing a collapsed, mine-related ventilation shaft. The site was recorded on a state DPR-523 Primary Record form and evaluated in relation to CEQA significance criteria. This evaluation resulted in recommending that the site is not significant per CEQA under any of the relevant evaluative criteria. No treatment or mitigation is recommended for the site. In the event sub-surface historical, cultural, or archeological sites or materials are disturbed during earth disturbances and grading activities on the site, standard Conditions of Approval (COAs) regarding the treatment of historic resources discovered during grading and construction activities would be included that would reduce impacts to a less than significant level.

b-c. **Archaeological Resource, Paleontological Resource**: According to the submitted Archaeological Inventory Survey (Jensen, 2015) (Attachment 10), no significant prehistoric or historic archaeological sites, features, or artifacts were

identified at the project site, and no paleontological sites or known fossil strata/locales were identified at the project site. In the event sub-surface historical, cultural, or archeological sites or materials are disturbed during earth disturbances and grading activities on the site, standard COAs regarding the treatment of archaeological and paleontological resources discovered during grading and construction activities would be included to reduce impacts to a less than significant level.

d. **Human Remains:** There is a small likelihood of human remains discovery on the project site. Standard COAs regarding the treatment of human remains discovered during grading and construction activities would apply during all grading activities to address accidental discovery of human remains. Impacts would be less than significant.

FINDING: No significant cultural resources have been identified on the project site. Standard COAs would apply in the event of accidental discovery during project construction. This project would be anticipated to have a less than significant impact within the "Cultural Resources" category.

VI. GEOLOGY AND SOILS. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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	

Discussion: 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;

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

- 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 fault zones within El Dorado County (DOC, 2007). 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 project area would be considered remote for the reason stated in Section i) above. Any potential impacts due to seismic impacts would be addressed through compliance with the Uniform Building Code (UBC). All 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. There are no landslide, liquefaction, or fault zones (DOC, 2007). Impacts would be less than significant impact.

iv) All on-site 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 a less than significant level.

b. **Soil Erosion:** According to the Soil Survey for El Dorado County, the project site contains BpD, (Boomer-Sites loams with 9 to 50 percent slopes). BpD soils have medium surface runoff and moderate erosion hazards. There would be the potential for erosion, changes in topography, and unstable soil conditions; however, these concerns would be addressed during the grading permit process. All grading activities exceeding 250 cubic yards of graded material or grading completed for the purpose of supporting a structure must meet the provisions contained in the Grading, Erosion, and Sediment Control Ordinance, County Code Chapter 110.14. This ordinance is designed to limit erosion, control the loss of topsoil and sediment, limit surface runoff, and ensure stable soil and site conditions for the intended use in compliance with the El Dorado County General Plan. All grading activities onsite would comply with the El Dorado County Grading, Erosion Control and Sediment Ordinance including the implementation of pre- and post-construction Best Management Practices (BMPs). The implemented BMPs are required to be consistent with the County's California Stormwater Pollution Prevention Plan issued by the State Water Resources Control Board to eliminate run-off and erosion and sediment controls. Further, adherence to the engineering recommendations and requirements for site preparation and construction activities outlined in the submitted Geotechnical Engineering Investigation dated October 10, 2014 (Dunko, 2014) (Attachment 11), along with implementation of BMPs would be anticipated to reduce potential significant impacts of soil erosion or the loss of topsoil to a less than significant level.

c. **Geologic Hazards:** Based on the Seismic Hazards Mapping Program administered by the California Geological Survey, no portion of El Dorado County is located in a Seismic Hazard Zone, or those areas prone to liquefaction and earthquake-induced landslides (DOC, 2013). Therefore, El Dorado County is not considered to be at risk from liquefaction hazards. Lateral spreading is typically associated with areas experiencing liquefaction. Because liquefaction hazards are not present in El Dorado County, the county is not at risk for lateral spreading. All grading activities would comply with the El Dorado County Grading, Erosion Control and Sediment Ordinance County

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Code Section 110.14. Further, the project site preparation and construction activity would adhere to the engineering recommendations and requirements outlined in the submitted Geotechnical Engineering Investigation dated October 10, 2014 (EAS, 2014) (Attachment 11). Impacts would be less than significant.

d. **Expansive Soils:** Expansive soils are those that greatly increase in volume when they absorb water and shrink when they dry out. When buildings are placed on expansive soils, foundations may rise each wet season and fall each dry season. This movement may result in cracking foundations, distortion of structures, and warping of doors and windows. The central portion of the county has a moderate expansiveness rating while the eastern and western portions have a low rating. Linear extensibility is used to determine the shrink-swell potential of soils. Pursuant to the Soil Report for El Dorado County, BpD soils are reported to have low shrink-swell potential (USDA, 1974). Prior to construction, a grading plan will be required to be approved in accordance with the El Dorado County Grading, Erosion Control and Sediment Ordinance County Code Section 110.14. Impacts would be less than significant.

e. **Septic Capability:** The El Dorado County Community Development Agency – Environmental Management Division (EMD) reviewed and approved the submitted Revised On-site Wastewater Treatment System (OWTS) Feasibility Study dated March 3, 2015 (Myers, 2015a) (Attachment 12) and Proposed Dollar General Domestic Waste Water Disposal System Design Plans date stamped April 2, 2015 (Sheets 1-3, Attachment 13), conditioning the project to require that the septic system be installed under permit from EMD and that the septic system and disposal fields meet the required minimum fifty foot setback from the swale (seasonal drainage). The OWTS Feasibility Study recommends that based on the sites limiting factors outlined in the study, a standard septic system design is not feasible at the subject site and that a special design system would be required. Further, the OWTS Feasibility Study recommends instillation of a Hoot ® Systems model H-600-760 aerobic treatments system with associated subsurface drip system. These recommendations have been incorporated into the project's OWTS design. Adherence to the EMD regulations and requirements, along with installation of the recommended aerobic treatments system with associated subsurface drip system would reduce impacts to a less than significant level.

FINDING: A review of the soils and geologic conditions on the project site determined that the project would not result in a substantial adverse effect. Adherence to the engineering recommendations and requirements outlined in the submitted Geotechnical Engineering Investigation and compliance of all grading activities with the El Dorado County Grading, Erosion Control and Sediment Ordinance County Code Section 110.14 would address potential impacts related to soil erosion, landslides and other geologic impacts. Future development would be required to comply with the UBC which would address potential seismic related impacts. Adherence to the EMD regulations and requirements, along with installation of the recommended aerobic treatments system with associated subsurface drip system would reduce septic capability impacts to a less than significant level. For this "Geology and Soils" category, impacts would be less than significant.

VII. GREENHOUSE GAS EMISSIONS. *Would the project:*				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

a,b) **Greenhouse Gas Emissions and Policy:**

Background/Science

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Cumulative greenhouse gases (GHG) emissions are believed to contribute to an increased greenhouse effect and global climate change, which may result in sea level rise, changes in precipitation, habitat, temperature, wildfires, air pollution levels, and changes in the frequency and intensity of weather-related events. While criteria pollutants and toxic air contaminants are pollutants of regional and local concern (see Section III. Air Quality above); GHGs are global pollutants. The primary land-use related GHG are carbon dioxide (CO_2), methane (CH_4) and nitrous oxides (N_2O). The individual pollutant's ability to retain infrared radiation represents its "global warming potential" and is expressed in terms of CO_2 equivalents; therefore CO_2 is the benchmark having a global warming potential of 1. Methane has a global warming potential of 21 and thus has a 21 times greater global warming effect per metric ton of CH_4 than CO_2. Nitrous Oxide has a global warming potential of 310. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., $MTCO_2e/yr$). The three other main GHG are Hydroflourocarbons, Perflourocarbons, and Sulfur Hexaflouride. While these compounds have significantly higher global warming potentials (ranging in the thousands), all three typically are not a concern in land-use development projects and are usually only used in specific industrial processes.

GHG Sources

The primary man-made source of CO_2 is the burning of fossil fuels; the two largest sources being coal burning to produce electricity and petroleum burning in combustion engines. The primary sources of man-made CH_4 are natural gas systems losses (during production, processing, storage, transmission and distribution), enteric fermentation (digestion from livestock) and landfill off-gassing. The primary source of man-made N_2O is agricultural soil management (fertilizers), with fossil fuel combustion a very distant second. In El Dorado County, the primary source of GHG is fossil fuel combustion mainly in the transportation sector (estimated at 70% of countywide GHG emissions). A distant second are residential sources (approximately 20%), and commercial/industrial sources are third (approximately 7%). The remaining sources are waste/landfill (approximately 3%) and agricultural (<1%).

Regulation

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the *California Climate Solutions Act of 2006* (Stats. 2006, ch. 488) (Health & Safety Code, § 38500 et seq.). AB 32 requires a statewide GHG emissions reduction to 1990 levels by the year 2020. AB 32 requires the California Air Resources Board (CARB) to implement and enforce the statewide cap. When AB 32 was signed, California's annual GHG emissions were estimated at 600 million metric tons of CO_2 equivalent ($MMTCO_2e$) while 1990 levels were estimated at 427 $MMTCO_2e$. Setting 427 $MMTCO_2e$ as the emissions target for 2020, current (2006) GHG emissions levels must be reduced by 29%. CARB adopted the AB 32 Scoping Plan[1] in December 2008 establishing various actions the state would implement to achieve this reduction. The Scoping Plan recommends a community-wide GHG reduction goal for local governments of 15%.

In June 2008, the California Governor's Office of Planning and Research's (OPR) issued a Technical Advisory[2] providing interim guidance regarding a proposed project's GHG emissions and contribution to global climate change. In the absence of adopted local or statewide thresholds, OPR recommends the following approach for analyzing GHG emissions: Identify and quantify the project's GHG emissions; assess the significance of the impact

[1] AB 32 Scoping Plan: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf
[2] OPR Technical Advisory: CEQA and Climate Change: http://opr.ca.gov/docs/june08-ceqa.pdf

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.[3]

Analysis Methodology

Kunzman Associates, Inc. prepared an Air Quality/Greenhouse Gas Analysis dated December 29, 2014 (Wilson, 2014) (Attachment 4) for the proposed project, which included the project's potential GHG emissions. The analysis was prepared using the California Emissions Estimator Model (CalEEMod, v 2013.2.2). The analysis indicated the annual construction GHG emissions would not exceed 74 metric tons of CO_2 equivalent/year ($MTCO_2e/yr$). This is below the Sacramento Regional GHG Thresholds for annual construction emissions of 1,100 $MTCO_2e/yr$. Additionally, the model concluded operational GHG emissions would be less than 455 $MTCO_2e/yr$, which is below the annual GHG operational threshold of 1,100 $MTCO_2e/yr$. AQMD is in the process of adopting these draft thresholds (currently adopted by Sacramento Metropolitan AQMD) with a target date for adoption before the end of the year. Because data from projects in El Dorado County, along with the other counties in the Sacramento region, were used to develop these thresholds, it is AQMD's opinion that these regional GHG thresholds represent "substantial evidence" for CEQA purposes and are appropriate for use as CEQA thresholds of significance.

EDC AQMD reviewed the applicant's Air Quality/Greenhouse Gas Analysis and concurs with its findings and conclusions that GHG emissions as are result of the project would be less than significant.

FINDING: The project would result in less than significant impacts to greenhouse gas emissions because of the project size and inclusion of design features to address the emissions of greenhouse gases. For this "Greenhouse Gas Emissions" category, there would be no significant adverse environmental effect as a result of the project.

VIII. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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

[3] California Energy Commission. 2006. *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004.* (Staff Final Report). http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF

VIII. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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:** The project may involve transportation, use, and disposal of hazardous materials such as construction materials, paints, fuels, landscaping materials, and building cleaning supplies. The majority of the use of these hazardous materials would occur primarily during construction. 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. Prior to any use of hazardous materials, the project would be required to obtain a Hazardous Materials Business Plan through the Environmental Management - Solid Waste and Hazardous Materials Division of El Dorado County. If the commercial facilities will store reportable quantities of hazardous materials (55 gallons) or generate hazardous waste, prior to commencing operations the owner/operator must obtain a Hazardous Materials Business Plan through the Environmental Management - Solid Waste and Hazardous Materials Division of EDC. The project includes COAs from the Division that require a Hazardous Materials Business Plan, obtaining a hazardous waste generator identification number from the California Department of Toxic Substances Control, training all employees to properly handle hazardous materials and wastes, and implementing proper hazardous materials and hazardous waste storage methods, if applicable, to insure the project follows proper procedures for any materials considered to be hazardous. The site is not located in an area of naturally occurring asbestos (El Dorado County, 2005). As such, impacts would be less than significant.

c. **Hazardous Materials near Schools:** The Georgetown Elementary School is located approximately 800 feet to the east of the project site. However, as proposed, the project would not be anticipated to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. As discussed in the previous section, the project is conditioned to assure hazardous chemicals and solid wastes are handled per County, State, and Federal regulations. As conditioned, impacts would be anticipated to be less than significant.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

d. **Hazardous Sites:** No parcels within EDC are included on the Cortese List which lists known hazardous sites in California. The project site is not included on a list of hazardous materials sites pursuant to Government Code section 65962.5 (DTSC, 2015). There would be no impact with the approval of the proposed project.

e-f. **Aircraft Hazards:** According to the EDC Zoning Map, the project site is not within any airport safety zone or airport land use plan area. The project is not located in the vicinity of a public or private airstrip. As such, the project would not be subject to any land use limitations contained within any adopted Comprehensive Land Use Plan and there would be no immediate hazard for people working in the project area or safety hazard resulting from airport operations and aircraft over-flights in the vicinity of the project site. No impacts would be anticipated to occur within these categories.

g. **Emergency Plan:** The EDCTD and Fire District reviewed the project. Project COAs address site access, adequate fire flow, vegetation and fuel modification, and sprinkler and fire alarm requirements. As conditioned, neither agency had a concern that an emergency plan would be affected by the current proposal. They determined that the commercial business would allow for adequate emergency ingress/egress and drive-aisle widths for interior circulation. The proposed structure has also been conditioned to be required to install sprinkler and fire alarms and provide adequate fire flow. Impacts would be less than significant.

h. **Wildfire Hazards:** The degree of hazard in wildland areas depends on weather variables like temperature, wind, and moisture, the amount of dryness and arrangement of vegetation, slope steepness, and accessibility to human activities, accessibility of firefighting equipment, and fuel clearance around structures. The project site is in an area of very high hazard for wildland fire pursuant to Figure 5.8-4 of the 2004 General Plan Draft EIR. The Fire District has reviewed the project and did not identify significant wildfire hazards particular to this site, and provided COAs regarding fire flow, vegetation and fuel modification, and sprinkler and fire alarm requirements, which are to be incorporated into the permit approvals. Implementation of the fire district standards and California Building Codes would reduce the impacts of wildland fire to a less than significant level.

FINDING: The project would not be anticipated to expose the area to significant hazards relating to the use, storage, transport, or disposal of hazardous materials. Any proposed future use of hazardous materials would be subject to review and approval of a Hazardous Materials Business Plan issued by the Environmental Management – Solid Waste and Hazardous Materials Division. The project would not be anticipated to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, nor is it anticipated to expose people or structures to a significant risk of loss, injury or death involving wildland fires. For this "Hazards and Hazardous Materials" category, impacts would be less than significant.

IX. 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	

IX. HYDROLOGY AND WATER QUALITY. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			X	
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:** Any grading, encroachment, and improvement plans required by EDC Transportation Division and/or Building Services would be required to be prepared and designed to meet the County of El Dorado Grading, Erosion, and Sediment Control Ordinance, County Code Section 110.14. These standards require that erosion and sediment control be implemented into the design of the project. Project related construction activities would be required to adhere to Section 110.14, which would require the implementation and execution of Best Management Practices (BMPs) to minimize degradation of water quality during construction. Storm water runoff from potential development would be directed to an engineered drainage system and would contain water quality protection features in accordance with a potential National Pollutant Discharge Elimination System (NPDES) stormwater permit, as deemed applicable. TTG submitted a Preliminary Drainage Report dated March 15, 2015 (Drainage Report) (Mizerek, 2015a) (Attachment 14) that identified that storm water flow will pass through storm

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

water quality measures prior to entering the project's detention pipes, through either above grade bio-retention basins and percolating through a series of engineered layers or be treated using a storm water interceptor. The project includes mitigation requiring review and permitting by the California Water Quality Control Board, if applicable. The project would not be anticipated to violate water quality standards. The project's proposed septic system design has been reviewed and approved by the Environmental Management Division (EMD), and future improvement plans would be further reviewed for approval by EMD to ensure waste water disposal does not impact water quality. All waste water disposal areas have been conditioned to meet the required 50-foot setback for the seasonal drainage. As conditioned, and with adherence to County Code Section 110.14, impacts would be less than significant.

b. **Groundwater Supplies:** The project is not anticipated to affect potential groundwater supplies above pre-project levels. EMD reviewed the project proposal and did not report evidence that the project would substantially reduce or alter the quantity of groundwater in the vicinity, or materially interfere with groundwater recharge. Impacts would be less than significant.

c-f. **Drainage Patterns:** As discussed in the submitted Drainage Report (Mizerek, 2015a) (Attachment 14), no adverse increase in overall runoff and flows from pre-development levels is anticipated from the post-development project design. The Drainage Report, along with the Supplemental Drainage Letter dated June 3, 2015 (Mizerek, 2015b) (Attachment 15), were reviewed by EDCTD and found to show that the preliminary plan shows proper drainage considerations. The project would be required to conform to the El Dorado County Grading, Erosion Control, and Sediment Ordinance County Code Section 110.14. This includes the use of BMPs to minimize degradation of water quality during construction. Impacts would be less than significant.

g-j. **Flood-related Hazards:** The project site is not located within any mapped 100-year flood areas as shown on Firm Panel Number 06017C0225E, revised September 26, 2008, and would not result in the construction of any structures that would impede or redirect flood flows (FEMA, 2008). No dams that would result in potential hazards related to dam failures are located in the project area. The risk of exposure to seiche, tsunami, or mudflows would be remote. Impacts would be less than significant.

FINDING: The proposed project would require an encroachment permit through the EDCTD and site improvement and grading permit through Building Services Division that would address erosion and sediment control. As conditioned and with adherence to County Code Section 110.14, no significant hydrological impacts are expected with the development of the project either directly or indirectly. For this "Hydrology" category, impacts would be less than significant.

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:

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

- 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. **Established Community:** The project would not result in the physical division of an established community as it proposes commercial uses on lands designated by the General Plan for commercial uses. The project proposes retail-related uses that would be compatible with the project site's General Plan Commercial land use designation. Impacts would be less than significant.

b. **Land Use Consistency:** The parcel is zoned Commercial with a Design Community (C-DC) combining zone. The intent of the –DC combining zone is ensure architectural supervision and consistency with the EDC Historic Design Guide (HDG), which is used to evaluate the architectural and site design for the County's Historic Gold Rush Era Districts, including the Georgetown commercial district.

As proposed, the retail structure is setback from Main Street and is separated by landscaping, sidewalk, and an on-site loading zone. Many of the commercial structures in the Georgetown Main Street Commercial area are immediately adjacent to Main Street, having front entrances oriented toward the street that are separated by diagonal parking spaces. At the request of the County, the applicant submitted two alternative site plans that identify the retail structure in a location adjacent to Main Street. These alternative site plans identify the structure in the southeast (Alternative 1, Attachment 16) and northeast (Alternative 2, Attachment 17) corners of the project site adjacent to Main Street, which would be consistent with other commercial structures in the project vicinity. The alternative site plans also include an additional entrance off of Orleans Street. However, neither alternative orients the building entrance toward Main Street.

The applicant provided documentation in the form of letters from the project engineers that address the feasibility of the two proposed site reconfigurations. The Feasibility of New Site Plan Options letter from TTG dated May 6, 2015 (Mizerek, 2015c) determined that the two alternative site plans are impractical, if not impossible, with regard to grading, grade differences, slopes, and finished floor areas (Attachment 18). In addition, based on the site's limiting factors outlined in the Revised On-site Wastewater Treatment System (OWTS) Feasibility Study dated March 3, 2015 (Myers, 2015a) (Attachment 12) and Proposed Dollar General Domestic Waste Water Disposal System Design Plans date stamped April 2, 2015 (see Sheets 1-3, Attachment 13), a standard septic system design is not feasible at the subject site and a special design system would be required. Further, the OWTS Feasibility Study recommends instillation of a Hoot ® Systems model H-600-760 aerobic treatments system with associated subsurface drip system. The New Site Layout Incompatibility with Septic Design letter from Salem Engineering Group, Inc. dated May 5, 2015 (Myers, 2015b) (Attachment 19) determines that the proposed alternatives do not appear feasible to allow sufficient area for the required subsurface drip fields to meet the septic system demand and maintain the required 50-foot setback for the intermittent stream identified in Attachment 13. Therefore, based on the limiting factors and existing environmental constraints of the project site, and the infeasibility identified in the above discussion regarding grading, grade differences, slopes, and lack of sufficient septic system disposal area, the project was not required to relocate the proposed retail structure immediately adjacent to Main Street.

The project design, through incorporation of architectural features and styling, proposed construction materials, and colors of the physical elements, were analyzed for consistency with the HDG. With the exception of the faux wood building signage and automated glass entry doors, the project was determined to be substantially consistent with the

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

HDG. As designed proposed project would be consistent with the land use development goals, objectives, and policies of the 2004 EDC General Plan, and would be consistent with the development standards contained within the EDC Zoning Ordinance. With an approved Design Review, the project would be consistent with the project site's General Plan Commercial land use designation, and the C-DC Zone District. Impacts would be less than significant.

c. **Habitat Conservation Plan:** The project site is not within the boundaries of an adopted Habitat Conservation Plan (HCP), or a Natural Community Conservation Plan (NCCP), or any other conservation plan. As such, the proposed project would not conflict with an adopted conservation plan. There would be no impact.

FINDING: The proposed use of the land would be consistent with the EDC Zoning Ordinance and General Plan with the issuance of a Design Review and Boundary Line Adjustment, and would substantially conform to the HDG. There would be no significant impact anticipated from the project due to a conflict with the General Plan or zoning designations for use of the property. As conditioned, and with adherence to County Code, no significant impacts would be expected for this "Land Use Planning" category. Impacts would be less than significant

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 in the El Dorado County General Plan, or result in land use compatibility conflicts with mineral extraction operations.

a. **Mineral Resource Loss-Region, State:** The project site is not mapped as being within a Mineral Resource Zone (MRZ) by the State of California Division of Mines and Geology or in the EDC General Plan. No impacts would be anticipated to occur.

b. **Mineral Resource Loss-Locally:** The Western portion of El Dorado County is divided into four, 15 minute quadrangles (Folsom, Placerville, Georgetown, and Auburn) mapped by the State of California Division of Mines and Geology showing the location of MRZs. Those areas which are designated MRZ-2a contain discovered mineral deposits that have been measured or indicate reserves calculated. Land in this category is considered to contain mineral resources of known economic importance to the County and/or State. Review of the mapped areas of the County indicates that this site does not contain any mineral resources of known local or statewide economic value. No impacts would be anticipated to occur.

FINDING: No impacts to any known mineral resources would be anticipated to occur as a result of the project either directly or indirectly. For this "Mineral Resources" category, there would be no impacts.

XII. NOISE. *Would the project result in:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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 60 decibel (dB) Community Noise Level Equivalent (CNEL);
- Result in long-term operational noise that creates noise exposures in excess of 60 dB CNEL at the adjoining property line of a noise sensitive land use and the background noise level is increased by 3dB, 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.

a. **Noise Exposures:** General Plan Policy 6.5.1.7 states that noise created by new non-transportation noise sources shall be mitigated so as not to exceed any of the noise level standards of Table 6.2, as measured immediately within the property line of the receiving property.

Table 6-2
Performance Standards for Non-Transportation Noise Sources
El Dorado County Noise Element – Community Areas

	Daytime (7am-7pm)	Evening (7pm-10pm)	Night (10pm-7am)
Hourly dB	55	50	45
Max. dB	70	60	55

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.

An Environmental Noise Assessment dated October 23, 2014 (Brennan, 2014) (Attachment 20) was submitted for the project. The noise analysis evaluated project-related noises and determined that the predicted delivery truck hourly noise levels including arrival, unloading, and departure are 44 dB Leq and 70 dB Lmax at the nearest residence and would comply with the daytime (7 a.m. to 7 p.m) noise level standards listed above. However,

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

delivery truck hourly noise levels are predicted to exceed the County's evening (7 p.m. to 10 p.m.) and nighttime noise level standards (10 p.m. to 7 a.m.) listed above. As a result, consideration of additional noise mitigation measures would be warranted for this aspect of the proposed project. In order to reduce potentially significant impacts to a less than significant level, the following mitigation measure is recommended:

> **NOISE-1:** The project shall comply with the noise level standards of the El Dorado County General Plan noise level criteria by ensuring that all truck deliveries are restricted to be conducted between the hours of 7:00 a.m. and 7:00 p.m.
>
> **Monitoring Responsibility:** Planning Services
>
> **Monitoring Requirement:** The applicant shall provide Planning Services with documentation that all deliveries will be conducted between the daytime hours of 7 a.m. to 7 p.m. prior to issuance of the building permit for the commercial structure.

b. **Groundborne Shaking:** The project may generate intermittent ground borne vibration or shaking events during project construction. These potential impacts would be limited to project construction. Adherence to the time limitations of construction activities from 7:00am to 7:00pm Monday through Friday and 8:00am to 5:00pm on weekends and federally recognized holidays would limit the ground shaking effects in the project area. Impacts would be anticipated to be less than significant.

c. **Permanent Increase in Ambient Noise Levels:** The Environmental Noise Assessment (Brennan, 2014) (Attachment 20) analyzed the existing ambient noise environment in the project vicinity and defined it as being primarily created by traffic noise emanating from Main Street, Harkness Street, and Orleans Street. To generally quantify background noise levels in the project vicinity, short-term ambient noise level measurements were taken at points shown in Figures 1 and 2 of the analysis. According to the Noise Analysis, both the proposed equipment noise from heating, ventilation, and air-conditioning (HVAC) systems and proposed parking lot noise would comply with the established General Plan noise thresholds.

The project would not be anticipated to increase the ambient noise levels in the area in excess of the established noise thresholds anticipated for lands designated by the General Plan for commercial uses, and that adjoin Main Street, Harkness Street, and Orleans Street. The proposed retail-related uses would not be anticipated to exceed the established General Plan noise thresholds. Impacts would be less than significant.

d. **Temporary or Periodic Increase in Ambient Noise Levels:** The project would include construction activities for the grading, construction, implementation of Best Management Practices, and stream restoration. The short-term noise increases would potentially exceed the thresholds established by the General Plan. Standard Conditions of Approval would limit the hours of construction activities to 7:00am to 7:00pm Monday through Friday and 8:00am to 5:00pm on weekends and federally recognized holidays. Adherence to the limitations of construction would be anticipated to reduce potentially significant impacts to a less than significant level.

e-f. **Aircraft Noise:** The project site is not located within an airport land use plan or in the immediate vicinity of a private air strip. There would be no impacts.

FINDING: For the "Noise" category, as conditioned and mitigated, no significant direct or indirect impacts to noise levels are expected. Impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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 project would not be anticipated to induce substantial population growth in an area which is proposed for lands designated by the General Plan for commercial uses. There would be no impacts anticipated to occur.

b. **Housing Displacement:** No existing housing stock would be anticipated to be displaced by the proposed project which is proposed for lands designated by the General Plan for commercial uses. No impacts would be anticipated to occur.

c. **Replacement Housing:** No persons would be displaced necessitating the construction of replacement housing elsewhere. No impacts would be anticipated to occur.

FINDING: The project would not displace housing. There would be no potential for a significant impact due to substantial growth either directly or indirectly as a result of the project. For this "Population and Housing" category, no impacts would be anticipated.

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

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

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 Georgetown Fire Protection District provides structural fire protection services to the project area. They did not respond with any concerns that the project would significantly affect their ability to provide adequate fire protection. Development of the project would result in a minor increase in the demand for fire protection services, but would not prevent them from meeting their response times for the project or its designated service area any more than exists today. The Fire District would review the project improvement plans for conformance with their COAs regarding adequate fire flow, vegetation and fuel modification, and sprinkler and fire alarm requirements prior to issuance of final occupancy for a building permit. Upon fulfillment of the conditions of approval, impacts would 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 would not be anticipated. Impacts would be less than significant.

c-e. **Schools, Parks, and Government Services:** There are no components of operating the proposed project that would include any permanent population-related increases that would substantially contribute to increased demand on schools, parks, or other governmental services that could, in turn, result in the need for new or expanded facilities. There would be no impact.

FINDING: Adequate public services are available to serve the project. There would be insignificant levels of increased demands to services anticipated as a result of the project. For this "Public Services" category, impacts would be less than significant.

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 implementation of the project would:

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

- 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 project does not include any increase in permanent population that would contribute to increased demand on recreation facilities or contribute to increased use of existing facilities such that physical deterioration of the facility would occur. The site contains four existing horseshoe pits and a picnic bench which are used by members of the community, especially during annual festivals and parades. However, these uses are not permanently established recreational uses, nor is the site an established neighborhood or regional park. Impacts would be less than significant.

FINDING: No significant impacts to recreation would be expected for this commercial facility either directly or indirectly. For this "Recreation" category, the thresholds of significance have not been exceeded.

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: The Transportation and Circulation Policies contained in the County General Plan establish a framework for review of thresholds of significance and identification of potential impacts of new development on the County's road system. These policies are enforced by the application of the Transportation Impact Study (TIS) Guidelines, the County Design and Improvements Standards Manual, and the County Encroachment Ordinance, with review of individual development projects by the Transportation and Long Range Planning Divisions of the Community Development Agency. A substantial adverse effect on Traffic would occur if the implementation of the project would:

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

- 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 (LOS) 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.

a, b. **Traffic Increases, Level of Service Standards:** This project lies on the southwest side of Main Street between the intersections with Orleans Street and Harkness Street. The project seeks encroachment onto Main Street, a County maintained road. Interior access and circulation roadways have been analyzed by EDCTD and the Fire District and found by both to be adequate for interior circulation as conditioned. EDCTD determined that the proposed project trips the threshold of the General Plan, therefore requiring completion of a Traffic Study.

The 2004 General Plan Transportation Policies under TC-X require projects that "worsen" traffic by two percent, or 10 peak hour trips, or 100 average daily trips construct (or ensure funding and programming) improvements to meet Level of Service standards in the General Plan Transportation and Circulation Element.

The Focused Traffic Analysis prepared by Kunzman Associates, Inc, dated March 23, 2015 (Ballard, 2015) (Attachment 21) provides analysis and conclusions relative to traffic impacts generated by the project. According to the report, the project would cause an increase in traffic on area roadways and intersections. The traffic study concluded that the project would be expected to generate 35 AM and 62 PM peak hour trips, with 583 daily trips. The proposed project would result in less than significant impacts to study area intersections which are projected to operate at acceptable Levels of Service during peak hours under the Existing Plus Project traffic conditions. These levels are less than the cumulative analysis completed by the 2004 General Plan EIR. For the Existing Plus Project traffic conditions, traffic signals are not projected to be warranted.

No mitigation measures were identified in the Focused Traffic Analysis; however, the report recommends widening of Main Street, Harkness Street, and Orleans Street to ultimate half-widths including landscaping and parkway improvements. However, EDCTD has determined that literal compliance with County Standard Plan 101A would result in roadway sections for Main Street, Orleans Street, and Harkness Street that are inconsistent with the character of the neighborhood. Therefore, EDCTD has conditioned the project to include pavement widening consisting of one 12-foot-wide lane in each direction and an 8-foot shoulder on the project side of Main Street, and construction of sidewalk or equivalent alterative pedestrian facilities subject to approval by the EDCTD along the entire frontage of Main Street. These improvements have been incorporated into the project design. As conditioned, impacts would be less than significant.

c. **Air Traffic:** The project would not result in a change in established air traffic patterns for publicly or privately operated airports or landing field in the project vicinity. No impacts would occur.

d. **Design Hazards:** The project proposal and submitted traffic analysis have been reviewed by EDCTD 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, including but not limited to "No Parking Zone" signage along Main Street to prevent vehicles from obstructing sight distance for vehicles entering Main Street from Orleans Street, the project entrance, and Harkness Street.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

e. **Emergency Access:** The project was reviewed by the Fire District for the adequacy of the interior project road circulation and availability of adequate emergency ingress and egress in the project design. The Fire District requires unobstructed widths of the apparatus access roads. The Fire District did not respond with any concerns pertaining to the proposed project's emergency ingress and egress capabilities as it was shown on the submitted site plan. Impacts would be less than significant.

f. **Alternative Transportation:** The project has been conditioned by EDCTD, and has been designed to include an 8-foot shoulder on the project side of Main Street and construction of sidewalk or equivalent alterative pedestrian facilities subject to approval by the EDCTD along the entire frontage of Main Street. The project proposes a bike rack consisting of three bicycle parking spaces located just northwest of the main entrance to the proposed retail structure. The El Dorado County Bicycle Transportation Plan - 2010 Update (EDCTC, 2010) shows a proposed Class 2 bike lane along Main Street in Georgetown. The project would not conflict with adopted plans, polices, or programs relating to alternative transportation because it provides bike racks for bicyclists and adequate improved shoulder to accommodate future potential bicycle lanes, and the project provides adequate pedestrian circulation through required sidewalks or approved alternative along the project frontage on Main Street and access to the proposed sidewalks along the project frontage. Also, the project proposes, and has been conditioned to provide, a School Zone Cross Walk across Harkness Street to provide pedestrian connectivity to the existing sidewalk on the east side of Harkness Street and the existing School Zone Cross Walk crossing Main Street just east of Harkness Street, including completion of the sidewalk on the east side of Harkness Street to connect to the existing Main Street Crosswalk. Impacts would be less than significant

FINDING: For the "Transportation/Traffic" category, the identified thresholds of significance have not been exceeded and no significant environmental impacts would be anticipated as a result from the project.

XVII. TRIBAL CULTURAL RESOURCES. *Would the project:*				
a. Cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in Section 21074?			X	

Discussion:

In general, significant impacts are those that diminish the integrity, research potential, or other characteristics that make a Tribal Cultural Resource (TCR) significant or important. To be considered a TCR, a resource must be either: (1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or: (2) a resource that the lead agency chooses, in its discretion, to treat as a TCR and meets the criteria for listing in the state register of historic resources pursuant to the criteria set forth in Public Resources Code Section 5024.1(c). A substantial adverse change to a TCR would occur if the implementation of the project would:

- Disrupt, alter, or adversely affect a TCR such that the significance of the resource would be materially impaired

a. **Tribal Cultural Resources.** To date, no California Native American Tribe has submitted a letter to the County requesting consultation under AB52 on projects within the County's jurisdiction. Further, the geographic area of the project site is not known to contain any TCRs.

FINDING: No significant TCRs are known to exist on the project site. As a result, the proposed project would not cause a substantial adverse change to a TCR and there would be no impact.

XVIII. UTILITIES AND SERVICE SYSTEMS. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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. **Wastewater Requirements:** The EDCTD has reviewed the submitted Preliminary Drainage Report (Mizerek, 2015a) (Attachment 14) and have found the proposed project would not exceed water quality standards. The project is mitigated (BIO-4) to require compliance with the County's California Stormwater Pollution Prevention Plan issued by the State Water Resources Control Board, as well as any applicable requirements of the California Water Quality Control Board. Also, no significant wastewater discharge would be anticipated to occur resulting from the proposed project. The EMD has reviewed and approved the submitted Revised On-site Wastewater Treatment System (OWTS) Feasibility Study dated March 3, 2015 (Myers, 2015a) (Attachment 12) and Proposed Dollar General Domestic Waste Water Disposal System Design Plans date stamped April 2, 2015 (Attachment 13),

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

conditioning the project to require that the septic system be installed under permit from EMD and that the septic system and disposal fields meet the required minimum fifty foot setback from the swale (seasonal drainage). Adherence to the EMD regulations and requirements, along with installation of the recommended aerobic treatment system with associated subsurface drip system would reduce impacts to a less than significant level. The project, as conditioned and mitigated, would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. Impacts would be less than significant.

b, d, e. **Construction of New/Expansion of Existing Wastewater Treatment Facilities, Sufficient Water Supply, and Adequate Capacity:** The project proposes to utilize an on-site wastewater treatment system. The EMD has reviewed and approved the submitted Revised On-site Wastewater Treatment System (OWTS) Feasibility Study dated March 3, 2015 (Myers, 2015) (Attachment 12) and Proposed Dollar General Domestic Waste Water Disposal System Design Plans date stamped April 2, 2015(Attachment 13). The system is discussed in more detail in "section a" above. The project proposes to use metered domestic water from the Georgetown Divide Public Utility District (GDPUD). The district has an active and current account for domestic water to one of the project parcels (061-362-04) and would be entitled continued service. The current meter is a 5/8 inch by 3/4 inch at 75 psi. Upgrades to the existing GDPUD system may be required to serve and meet fire flow requirements for the project. Any requested upgrades would be reviewed and approved by GDPUD and are not anticipated to result in a significant negative effect on the environment as facilities are already available at the project site. Impacts would be less than significant.

c. **Construction of New/Expansion of Existing Stormwater Drainage Facilities:** According to the submitted Preliminary Drainage Report (Mizerek, 2015a) (Attachment 14), off-site drainage would enter the site from the north via a 12-inch Corrugated Metal Pipe culvert crossing Main Street and from a road side drainage ditch on the east side of Main Street. These flows will intercept into a proposed 30-inch Nyloplast drain basin with a single 24" High Density Polyethylene storm drain outlet pipe. The on-site storm water flow will pass through storm water quality measures prior to entering the projects detention pipes, through either above grade bio-retention basins and percolating through a series of engineered layers or be treated using a storm water interceptor. No new off-site stormwater facilities would be required. All grading activities exceeding 250 cubic yards of graded material or grading completed for the purpose of supporting a structure must meet the provisions contained in the County of El Dorado Grading, Erosion, and Sediment Control Ordinance, County Code Section 110.14. All drainage facilities would be required to be constructed in compliance with standards contained in the County of El Dorado Drainage Manual. As such, impacts would be anticipated to be less than significant.

f. **Solid Waste Disposal:** 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. Impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

g. **Solid Waste Requirements:** County Ordinance No. 4319 requires that new development provide areas for adequate, accessible, and convenient storing, collecting and loading of solid waste and recyclables. Onsite solid waste collection would be handled through the local waste management contractor. The project proposes a covered trash enclosure, located adjacent to the proposed loading area. Half of the proposed trash enclosure would be used for solid waste disposal and the other half would be used for storage and collection of paper, cardboard, glass, plastics, and metals. Impacts would be less significant.

FINDING: As conditioned, adequate water, sewer system, and solid waste disposal would be available to serve the project. For this "Utilities and Service Systems" category, impacts would be anticipated to be less than significant.

XIX. MANDATORY FINDINGS OF SIGNIFICANCE. *Does the project:*				
a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?		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. No substantial evidence contained in the project record has been found that would indicate that this project would have the potential to significantly degrade the quality of the environment, with the exception of potential impacts on nesting raptors or other migratory birds, wetlands, and noise. By applying Mitigation Measures BIO-1 through BIO-4 and NOISE-1, standard conditions of approval, and with adherence to County permit requirements, this project would not have the potential to 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 California history or pre-history. Any impacts from the project would be less than significant due to the design of the project and required standards that would be implemented with the grading and building permit processes and/or any required project specific improvements on the property.

b. 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. The project would not involve development or changes in land use that would result in an excessive increase in population growth. Impacts due to increased demand for public services associated with the project would be offset by the payment of fees as required by service providers to extend the necessary infrastructure services. The project would not contribute substantially to increased traffic in the area and would not require a significant increase in the wastewater treatment capacity of the County. The project

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

would result in the generation of greenhouse gasses, which could contribute to global climate change. However, the amount of greenhouse gases generated by the project would be negligible compared to global emissions or emissions in the county, so the project would not substantially contribute cumulatively to global climate change. Due to the design of the proposed project, types of activities proposed, and site-specific environmental conditions, which have been disclosed in the Project Description and analyzed in Items I through XVIII, as conditioned, mitigated, and in compliance with County Codes, there would be no significant impacts anticipated related to agriculture resources, air quality, biological resources, cultural resources, geology/soils, hazards/hazardous materials, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, recreation, traffic/transportation, tribal cultural resources, or utilities/service systems that would combine with similar effects such that the project's contribution would be cumulatively considerable. Impacts would be less than significant

c. As outlined and discussed in this document, as conditioned, mitigated, and with compliance with County Codes, all impacts identified in this initial study would be either less than significant after mitigation or less than significant without requiring mitigation. This project would be anticipated to have a less than significant project-related environmental effect which would cause substantial adverse effects on human beings, either directly or indirectly. Based on the analysis in this study, it has been determined that the project would have less than significant cumulative impacts.

INITIAL STUDY ATTACHMENTS

Attachment 1 .....Location Map
Attachment 2 .....Site Plan, Sheet A1.0
Attachment 3 .....Site Lighting Plan, Sheet A1.2
Attachment 4 .....Air Quality/Greenhouse Gas Analysis, December 29, 2014
Attachment 5 .....Biological Resources Dollar General Proposed Store Site, December 2014
Attachment 6 .....Addendum: Biological Inventory for the Dollar General Store – Georgetown, CA, January, 2015
Attachment 7 .....Letter Regarding Public Concerns, June 2015
Attachment 8 .....Nationwide Permit Pre-Construction Notification Form, Cultural Report (Redacted), Wetland Delineation, Biological Report, April 2015
Attachment 9 .....Oak Tree Canopy Calculations, February 2015
Attachment 10 .....Archeological Inventory Survey (Redacted)
Attachment 11 .....Geotechnical Engineering Investigation, October 2014
Attachment 12 .....Revised On-Site Wastewater Treatment System (OWTS) Feasibility Study
Attachment 13 .....Domestic Waste Water Disposal System, Sheets 1 through 3, March 2015
Attachment 14 .....Preliminary Drainage Report, March 2015
Attachment 15 .....Supplemental Drainage Letter, June 2015
Attachment 16 .....Alternative Site Plan 1, April 2015
Attachment 17 .....Alternative Site Plan 2, April 2015
Attachment 18 .....Feasibility of New Site Plan Options letter, May 2015
Attachment 19 .....New Site Layout Incompatibility with Septic Design Letter, May 2015
Attachment 20 .....Environmental Noise Assessment, October 2014
Attachment 21 .....Focused Traffic Analysis, March 2015

SUPPORTING INFORMATION SOURCE LIST

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Wilson, K., and Kunzman, W. (2014, December). *Air Quality/Greenhouse Gas Analysis, Dollar General – Georgetown Project*. Orange, CA: Kunzman Associates, Inc., Consulting Engineers.

File No. DR14-0005-S/BLA14-0055
Location Map
Attachment 1

N W E S

0 100 200 300 400 Feet

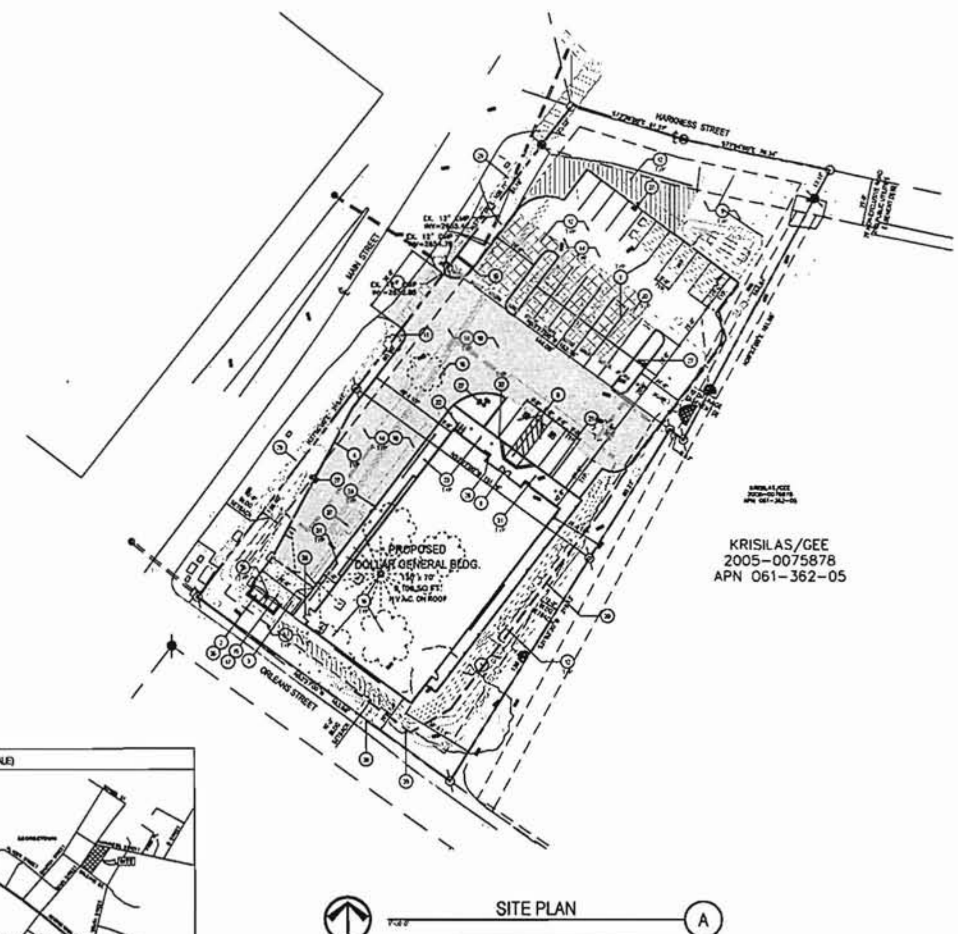
A PROPOSED COMMERCIAL DEVELOPMENT FOR:

DOLLAR GENERAL - GEORGETOWN, CA.

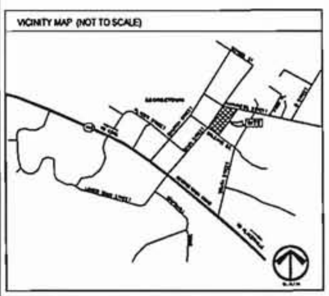
DOLLAR GENERAL

SEC MAIN ST. & HARKNESS ST., GEORGETOWN, CA 95634
STORE #

RECEIVED
JUN 09 2015
EL DORADO COUNTY
DEVELOPMENT SERVICES DEPT



SITE PLAN



SITE SUMMARY

SURVEY RELATED EXCEPTIONS - NCS-675970-PHX1

GOVERNING CODES

PLANNING NOTES

PROJECT DIRECTORY

ARCHITECT:
MPA ARCHITECTS, INC.

CIVIL ENGINEER:

PLUMBING, MECHANICAL AND ELECTRICAL DESIGN:
MPA ARCHITECTS, INC.

OWNER & LANDLORD:

TENANT:
DOLLAR GENERAL CORPORATION

GENERAL CONTRACTOR:

SITE ANALYSIS

AREA ANALYSIS

PARKING ANALYSIS

ALLOWABLE FLOOR AREA FOR NON-SEPARATED USES

SITE PLAN INDEX

MPA ARCHITECTS INC.
3578 30th Street
San Diego, CA 92104
V. 619 236 0595
F. 619 236 0557
www.mpa-architects.com

CLIENT
Simon CRE
5111 N. SCOTTSDALE ROAD
SUITE 200,
SCOTTSDALE, AZ. 85250
Contact: Joshua Simon

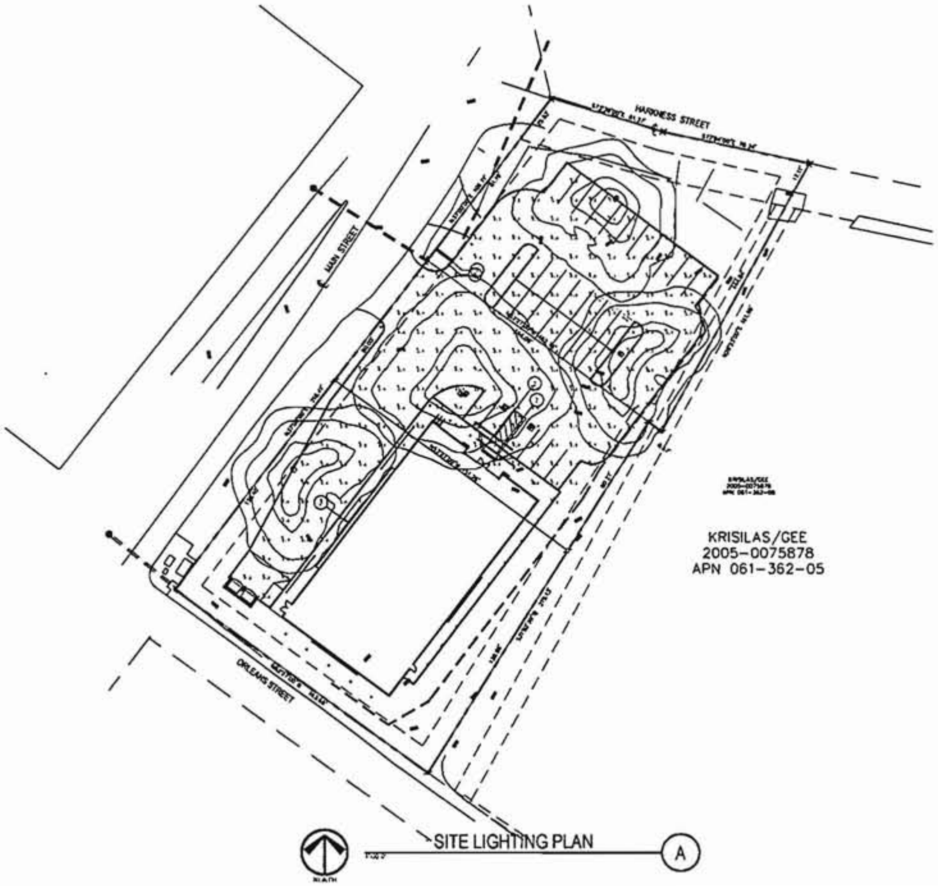
A PROPOSED COMMERCIAL DEVELOPMENT FOR:
DOLLAR GENERAL
SEC MAIN ST. & HARKNESS ST.
GEORGETOWN, CA 95634

REVISIONS

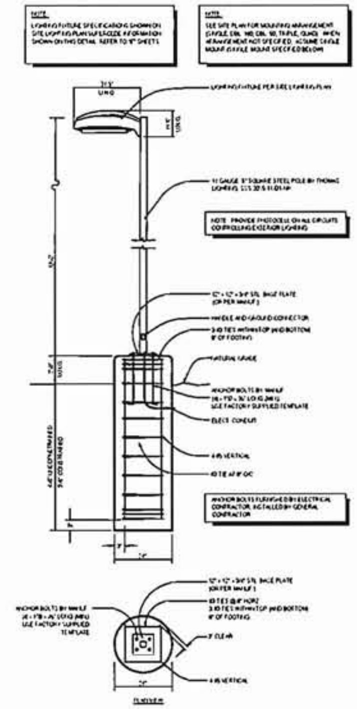
SHEET TITLE
COVER SHEET & SITE PLAN
A1.0

Attachment 2

Attachment 3



SITE LIGHTING PLAN (A)



POLE LAMP BASE DETAIL (B)

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	1	wp914-250p	SINGLE	22000	0.720	WP9L4/250PMH-EDC8
	2	wp913-250p	SINGLE	22000	0.720	WP9L3/250PMH-EDC8
	1	wp914-250p (2x50)	2 @ 90 DEGREES	22000	0.720	WP9L4/250PMH-EDC8

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Object Planar	Illuminance	Fc	1.97	13.1	0.1	19.70	131.00

NOTES:

- POLE FIXTURE MOUNTING HEIGHT: 15'-0" A.F.F.
- CALC PTS @ GROUND: 0'-0" A.F.F.

Calculations have been performed according to information provided regarding room dimensions, reflectances, furniture and architectural element placement. Some differences between measured values and calculated results may occur if the real environment conditions do not match the input data.

Photometric Data used as input for these calculations is based on established IES procedures and published lamp & ballast ratings.

Field Performance will depend on actual lamp, ballast, electrical and site characteristics.

For design reference only - All calculations should be reviewed for accuracy by a certified electrical engineer.

RECEIVED
JUN 09 2015
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CLIENT
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SCOTTSDALE, AZ 85250

PROJECT
A PROPOSED COMMERCIAL DEVELOPMENT FOR:
DOLLAR GENERAL
SEC MAIN ST. & HARKNESS ST.
GEORGETOWN, CA 95634

REVISIONS

SHEET TITLE
SITE LIGHTING PLAN
AS NOTED
A1.2

KUNZMAN ASSOCIATES, INC.

DOLLAR GENERAL - GEORGETOWN PROJECT

AIR QUALITY/GREENHOUSE GAS ANALYSIS

December 29, 2014

Traffic Engineering | Transportation Planning | Parking | Noise/Vibration | Expert Witness
Air Quality | Global Climate Change | Health Risk Assessment

Attachment 4

KUNZMAN ASSOCIATES, INC.
OVER 35 YEARS OF EXCELLENT SERVICE

December 29, 2014

Mr. Dan Biswas, VP of Development
SIMONCRE ABBIE, LLC
5111 North Scottsdale Road, Suite 200
Scottsdale, AZ 85250

Re: Air Quality/Greenhouse Gas Analysis Dollar General - Georgetown Project

The firm of Kunzman Associates, Inc. is pleased to provide this Air Quality/Greenhouse Gas Analysis for the Dollar General - Georgetown Project.

The analysis used the trip generation rate of 64.03 trips per thousand square feet (TSF) as detailed in the project-specific traffic study. The tables are shown on the following pages. Table 1 details the daily construction-related emissions, Table 2 details the daily operational emissions, and Table 3 details the annual project-related greenhouse gas emissions. Footnotes are included in the tables to explain the output values.

The CalEEMod output is attached as an appendix to this letter and shows the emissions for summer, winter, and annual. Notes are included in the CalEEMod output detailing assumptions. The construction timing for each phase is also shown in the output. The operational year was modeled as 2015.

It has been a pleasure to service your needs on this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 973-8383.

Respectfully submitted,

KUNZMAN ASSOCIATES, INC.

Katie Wilson

Katie Wilson, M.S.
Senior Associate

KUNZMAN ASSOCIATES, INC.

William Kunzman

William Kunzman, P.E.
Principal

#5833b

Table 1

Regional Construction-Related Peak Daily Emissions[1]

Activity	Pollutant Emissions (pounds/day)					
	ROG	NOx	CO	SO_2	PM10	PM2.5
Site Preparation						
On-Site[2]	1.47	16.02	12.03	0.01	3.01	1.93
Off-Site[3]	0.03	0.04	0.45	0.00	0.06	0.02
Total	**1.50**	**16.06**	**12.48**	**0.01**	**3.07**	**1.95**
Grading						
On-Site[2]	2.07	21.94	14.09	0.01	3.06	2.08
Off-Site[3]	0.04	0.07	0.72	0.00	0.10	0.03
Total	**2.11**	**22.01**	**14.81**	**0.02**	**3.16**	**2.11**
Building Construction						
On-Site	3.66	30.03	18.74	0.03	2.12	1.99
Off-Site	0.28	1.08	4.34	0.01	0.34	0.10
Total	**3.94**	**31.11**	**23.08**	**0.03**	**2.45**	**2.09**
Paving						
On-Site	1.62	14.60	9.17	0.01	0.89	0.82
Off-Site	0.08	0.11	1.16	0.00	0.17	0.05
Total	**1.69**	**14.71**	**10.33**	**0.02**	**1.06**	**0.87**
Architectural Coating						
On-Site	18.70	2.57	1.90	0.00	0.22	0.22
Off-Site	0.02	0.03	0.36	0.00	0.05	0.01
Total	**18.72**	**2.60**	**2.26**	**0.00**	**0.27**	**0.23**
Total for overlapping phases[4]	**24.35**	**48.43**	**35.68**	**0.05**	**3.79**	**3.19**

[1] Source: CalEEMod Version 2013.2.2. Highest values from either summer or winter emissions reported above

[2] On-site emissions from equipment operated on-site that is not operated on public roads.

[3] Off-site emissions from equipment operated on public roads.

[4] Construction, paving and painting phases may overlap.

Note: Mitigated values reported for site prep and grading as the project is required to comply with Fugitive Dust Rule 223-1

Table 2

Regional Operational Peak Daily Emissions[1]

Activity	Pollutant Emissions (pounds/day)					
	ROGs	NOx	CO	SO2	PM10	PM2.5
Area Sources[2]	1.22	0.00	0.00	0.00	0.00	0.00
Energy Usage[3]	0.00	0.02	0.02	0.00	0.00	0.00
Mobile Sources[4]	2.45	3.54	18.97	0.03	1.96	0.55
Total Emissions	**3.67**	**3.56**	**18.99**	**0.03**	**1.96**	**0.55**

[1] Source: CalEEMod Version 2013.2.2. Highest values from either summer or winter emissions reported above.

[2] Area sources consist of emissions from consumer products, architectural coatings, hearths and landscaping equipment.

[3] Energy usage consists of emissions from generation of electricity and on-site non-hearth natural gas usage.

[4] Mobile sources consist of emissions from vehicles and road dust.

Table 3

Project-Related Annual Operational Greenhouse Gas Emissions[1]

Category	Greenhouse Gas Emissions (Metric Tons/Year)					
	Bio-CO2	NonBio-CO_2	CO_2	CH_4	N_2O	CO_2e
Area Sources[2]	0.00	0.00	0.00	0.00	0.00	0.00
Energy Usage[3]	0.00	41.50	41.50	0.00	0.00	41.67
Mobile Sources[4]	0.00	386.15	386.15	0.02	0.00	386.59
Solid Waste[5]	7.95	0.00	7.95	0.47	0.00	17.81
Water[6]	0.21	1.48	1.70	0.02	0.00	2.32
Total Emissions	8.16	429.14	437.30	0.52	0.00	**448.39**

[1] Source: CalEEMod Version 2013.2.2. Year 2015 emissions (opening year).

[2] Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.

[3] Energy usage consist of GHG emissions from electricity and natural gas usage. Mitigated values reported as project will comply with 2013 title 24 requirements which are 30% more efficient than 2008 standards.

[4] Mobile sources consist of GHG emissions from vehicles.

[5] Solid waste includes the CO_2 and CH_4 emissions created from the solid waste placed in landfills.

[6] Water includes GHG emissions from electricity used for transport of water and processing of wastewater.

Note: Construction of the project would create a total of 73.21 $MTCO_2e$.

Georgetown Dollar General 5833b

El Dorado-Mountain County County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Free-Standing Discount Store	9.10	1000sqft	0.21	9,100.00	0
Parking Lot	31.00	Space	0.28	12,400.00	0
Other Asphalt Surfaces	0.70	Acre	0.70	30,492.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	1			**Operational Year**	2015
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total site is 1.19 acres, 9,100 SF building with 31 space parking lot and the balance of the site to be used for open space, and circulation

Construction Phase - Timing from developer

Grading - Site is 1.19 acres

Vehicle Trips - Trip generation rate of 64.03 per TSF per traffic analysis

Construction Off-road Equipment Mitigation - It is anticipated that the site will be watered 3 times per day to comply with Fugitive Dust Rule 223-1

Mobile Land Use Mitigation -

Energy Mitigation - Project is subject to 2013 Title 24 commercial requirements which are 30% more efficient than 2008 Title 24 standards.

Off-road Equipment - Mainly existing tree removal during site prep

Architectural Coating - Interior to be painted = 13,650 SF. Exterior to be painted (including parking lot) = 5,294 SF

Area Coating - Interior to be painted = 13,650 SF. Exterior to be painted (including parking lot) = 5,294 SF

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	19,982.00	5,294.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	59,946.00	13,650.00
tblAreaCoating	Area_Nonresidential_Interior	59946	13650
tblConstructionPhase	NumDays	10.00	12.00
tblConstructionPhase	NumDays	200.00	50.00
tblConstructionPhase	NumDays	4.00	5.00
tblConstructionPhase	NumDays	10.00	12.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	8/26/2015	8/25/2015
tblConstructionPhase	PhaseStartDate	8/11/2015	8/10/2015
tblGrading	AcresOfGrading	1.88	1.20
tblGrading	AcresOfGrading	0.00	1.20
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	71.07	64.03
tblVehicleTrips	SU_TR	56.36	64.03
tblVehicleTrips	WD_TR	57.24	64.03

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	20.4178	22.5460	18.6911	0.0270	5.5877	1.5010	6.4442	2.9409	1.4490	3.7288	0.0000	2,510.4443	2,510.4443	0.4907	0.0000	2,520.7484
Total	**20.4178**	**22.5460**	**18.6911**	**0.0270**	**5.5877**	**1.5010**	**6.4442**	**2.9409**	**1.4490**	**3.7288**	**0.0000**	**2,510.4443**	**2,510.4443**	**0.4907**	**0.0000**	**2,520.7484**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	20.4178	22.5460	18.6911	0.0270	2.2182	1.5010	3.1605	1.1573	1.4490	2.1079	0.0000	2,510.4443	2,510.4443	0.4907	0.0000	2,520.7484
Total	**20.4178**	**22.5460**	**18.6911**	**0.0270**	**2.2182**	**1.5010**	**3.1605**	**1.1573**	**1.4490**	**2.1079**	**0.0000**	**2,510.4443**	**2,510.4443**	**0.4907**	**0.0000**	**2,520.7484**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**60.30**	**0.00**	**50.96**	**60.65**	**0.00**	**43.47**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.2198	4.0000e-005	4.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		8.9300e-003	8.9300e-003	3.0000e-005		9.4700e-003
Energy	2.0400e-003	0.0186	0.0156	1.1000e-004		1.4100e-003	1.4100e-003		1.4100e-003	1.4100e-003		22.2624	22.2624	4.3000e-004	4.1000e-004	22.3979
Mobile	2.4504	3.1079	17.1233	0.0284	1.9233	0.0395	1.9629	0.5132	0.0362	0.5495		2,516.8987	2,516.8987	0.1256		2,519.5370
Total	**3.6722**	**3.1265**	**17.1432**	**0.0285**	**1.9233**	**0.0410**	**1.9643**	**0.5132**	**0.0377**	**0.5509**		**2,539.1700**	**2,539.1700**	**0.1261**	**4.1000e-004**	**2,541.9443**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.2198	4.0000e-005	4.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		8.9300e-003	8.9300e-003	3.0000e-005		9.4700e-003
Energy	1.4300e-003	0.0130	0.0109	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004		15.5837	15.5837	3.0000e-004	2.9000e-004	15.6785
Mobile	2.4504	3.1079	17.1233	0.0284	1.9233	0.0395	1.9629	0.5132	0.0362	0.5495		2,516.8987	2,516.8987	0.1256		2,519.5370
Total	**3.6716**	**3.1210**	**17.1386**	**0.0285**	**1.9233**	**0.0406**	**1.9639**	**0.5132**	**0.0373**	**0.5505**		**2,532.4913**	**2,532.4913**	**0.1260**	**2.9000e-004**	**2,535.2250**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.02	0.18	0.03	0.11	0.00	1.03	0.02	0.00	1.11	0.08	0.00	0.26	0.26	0.10	29.27	0.26

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2015	5/7/2015	5	5	
2	Grading	Grading	5/8/2015	5/14/2015	5	5	
3	Building Construction	Building Construction	5/15/2015	7/23/2015	5	50	
4	Paving	Paving	7/24/2015	8/10/2015	5	12	
5	Architectural Coating	Architectural Coating	8/10/2015	8/25/2015	5	12	

Acres of Grading (Site Preparation Phase): 1.2

Acres of Grading (Grading Phase): 1.2

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 13,650; Non-Residential Outdoor: 5,294 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	0	8.00	174	0.41
Paving	Pavers	1	6.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Paving	Paving Equipment	1	8.00	130	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	21.00	9.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.5239	0.0000	5.5239	2.9239	0.0000	2.9239			0.0000			0.0000
Off-Road	1.4744	16.0208	12.0300	0.0109		0.8560	0.8560		0.7875	0.7875		1,144.6775	1,144.6775	0.3417		1,151.8539
Total	**1.4744**	**16.0208**	**12.0300**	**0.0109**	**5.5239**	**0.8560**	**6.3798**	**2.9239**	**0.7875**	**3.7114**		**1,144.6775**	**1,144.6775**	**0.3417**		**1,151.8539**

3.2 Site Preparation - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0295	0.0344	0.4480	8.1000e-004	0.0639	5.2000e-004	0.0644	0.0169	4.7000e-004	0.0174		68.9669	68.9669	3.5800e-003		69.0420
Total	**0.0295**	**0.0344**	**0.4480**	**8.1000e-004**	**0.0639**	**5.2000e-004**	**0.0644**	**0.0169**	**4.7000e-004**	**0.0174**		**68.9669**	**68.9669**	**3.5800e-003**		**69.0420**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1543	0.0000	2.1543	1.1403	0.0000	1.1403			0.0000			0.0000
Off-Road	1.4744	16.0208	12.0300	0.0109		0.8560	0.8560		0.7875	0.7875	0.0000	1,144.6775	1,144.6775	0.3417		1,151.8539
Total	**1.4744**	**16.0208**	**12.0300**	**0.0109**	**2.1543**	**0.8560**	**3.0103**	**1.1403**	**0.7875**	**1.9278**	**0.0000**	**1,144.6775**	**1,144.6775**	**0.3417**		**1,151.8539**

3.2 Site Preparation - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0295	0.0344	0.4480	8.1000e-004	0.0639	5.2000e-004	0.0644	0.0169	4.7000e-004	0.0174		68.9669	68.9669	3.5800e-003		69.0420
Total	**0.0295**	**0.0344**	**0.4480**	**8.1000e-004**	**0.0639**	**5.2000e-004**	**0.0644**	**0.0169**	**4.7000e-004**	**0.0174**		**68.9669**	**68.9669**	**3.5800e-003**		**69.0420**

3.3 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.7711	0.0000	4.7711	2.5102	0.0000	2.5102			0.0000			0.0000
Off-Road	2.0666	21.9443	14.0902	0.0141		1.1968	1.1968		1.1011	1.1011		1,479.8000	1,479.8000	0.4418		1,489.0774
Total	**2.0666**	**21.9443**	**14.0902**	**0.0141**	**4.7711**	**1.1968**	**5.9679**	**2.5102**	**1.1011**	**3.6112**		**1,479.8000**	**1,479.8000**	**0.4418**		**1,489.0774**

3.3 Grading - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0472	0.0551	0.7168	1.2900e-003	0.1022	8.3000e-004	0.1030	0.0271	7.5000e-004	0.0279		110.3470	110.3470	5.7200e-003		110.4672
Total	**0.0472**	**0.0551**	**0.7168**	**1.2900e-003**	**0.1022**	**8.3000e-004**	**0.1030**	**0.0271**	**7.5000e-004**	**0.0279**		**110.3470**	**110.3470**	**5.7200e-003**		**110.4672**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8607	0.0000	1.8607	0.9790	0.0000	0.9790			0.0000			0.0000
Off-Road	2.0666	21.9443	14.0902	0.0141		1.1968	1.1968		1.1011	1.1011	0.0000	1,479.8000	1,479.8000	0.4418		1,489.0774
Total	**2.0666**	**21.9443**	**14.0902**	**0.0141**	**1.8607**	**1.1968**	**3.0575**	**0.9790**	**1.1011**	**2.0800**	**0.0000**	**1,479.8000**	**1,479.8000**	**0.4418**		**1,489.0774**

3.3 Grading - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0472	0.0551	0.7168	1.2900e-003	0.1022	8.3000e-004	0.1030	0.0271	7.5000e-004	0.0279		110.3470	110.3470	5.7200e-003		110.4672
Total	**0.0472**	**0.0551**	**0.7168**	**1.2900e-003**	**0.1022**	**8.3000e-004**	**0.1030**	**0.0271**	**7.5000e-004**	**0.0279**		**110.3470**	**110.3470**	**5.7200e-003**		**110.4672**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6000	21.5642	15.0041	0.0220		1.4851	1.4851		1.4344	1.4344		2,055.6247	2,055.6247	0.4741		2,065.5812
Total	**3.6000**	**21.5642**	**15.0041**	**0.0220**		**1.4851**	**1.4851**		**1.4344**	**1.4344**		**2,055.6247**	**2,055.6247**	**0.4741**		**2,065.5812**

3.4 Building Construction - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1270	0.8373	1.8054	1.6600e-003	0.0525	0.0137	0.0663	0.0149	0.0126	0.0275		165.1587	165.1587	1.5300e-003		165.1909
Worker	0.1240	0.1446	1.8815	3.3900e-003	0.2682	2.1700e-003	0.2704	0.0711	1.9800e-003	0.0731		289.6609	289.6609	0.0150		289.9763
Total	**0.2510**	**0.9819**	**3.6870**	**5.0500e-003**	**0.3208**	**0.0159**	**0.3367**	**0.0860**	**0.0146**	**0.1007**		**454.8196**	**454.8196**	**0.0166**		**455.1672**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6000	21.5642	15.0041	0.0220		1.4851	1.4851		1.4344	1.4344	0.0000	2,055.6247	2,055.6247	0.4741		2,065.5812
Total	**3.6000**	**21.5642**	**15.0041**	**0.0220**		**1.4851**	**1.4851**		**1.4344**	**1.4344**	**0.0000**	**2,055.6247**	**2,055.6247**	**0.4741**		**2,065.5812**

3.4 Building Construction - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1270	0.8373	1.8054	1.6600e-003	0.0525	0.0137	0.0663	0.0149	0.0126	0.0275		165.1587	165.1587	1.5300e-003		165.1909
Worker	0.1240	0.1446	1.8815	3.3900e-003	0.2682	2.1700e-003	0.2704	0.0711	1.9800e-003	0.0731		289.6609	289.6609	0.0150		289.9763
Total	**0.2510**	**0.9819**	**3.6870**	**5.0500e-003**	**0.3208**	**0.0159**	**0.3367**	**0.0860**	**0.0146**	**0.1007**		**454.8196**	**454.8196**	**0.0166**		**455.1672**

3.5 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4041	14.5959	9.1695	0.0133		0.8919	0.8919		0.8215	0.8215		1,382.4703	1,382.4703	0.4054		1,390.9826
Paving	0.2140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6181**	**14.5959**	**9.1695**	**0.0133**		**0.8919**	**0.8919**		**0.8215**	**0.8215**		**1,382.4703**	**1,382.4703**	**0.4054**		**1,390.9826**

3.5 Paving - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0895	1.1648	2.1000e-003	0.1661	1.3500e-003	0.1674	0.0440	1.2200e-003	0.0453		179.3139	179.3139	9.3000e-003		179.5091
Total	**0.0767**	**0.0895**	**1.1648**	**2.1000e-003**	**0.1661**	**1.3500e-003**	**0.1674**	**0.0440**	**1.2200e-003**	**0.0453**		**179.3139**	**179.3139**	**9.3000e-003**		**179.5091**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4041	14.5959	9.1695	0.0133		0.8919	0.8919		0.8215	0.8215	0.0000	1,382.4703	1,382.4703	0.4054		1,390.9826
Paving	0.2140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6181**	**14.5959**	**9.1695**	**0.0133**		**0.8919**	**0.8919**		**0.8215**	**0.8215**	**0.0000**	**1,382.4703**	**1,382.4703**	**0.4054**		**1,390.9826**

3.5 Paving - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0895	1.1648	2.1000e-003	0.1661	1.3500e-003	0.1674	0.0440	1.2200e-003	0.0453		179.3139	179.3139	9.3000e-003		179.5091
Total	**0.0767**	**0.0895**	**1.1648**	**2.1000e-003**	**0.1661**	**1.3500e-003**	**0.1674**	**0.0440**	**1.2200e-003**	**0.0453**		**179.3139**	**179.3139**	**9.3000e-003**		**179.5091**

3.6 Architectural Coating - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.2928					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209		281.4481	281.4481	0.0367		282.2177
Total	**18.6994**	**2.5703**	**1.9018**	**2.9700e-003**		**0.2209**	**0.2209**		**0.2209**	**0.2209**		**281.4481**	**281.4481**	**0.0367**		**282.2177**

3.6 Architectural Coating - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0236	0.0275	0.3584	6.5000e-004	0.0511	4.1000e-004	0.0515	0.0136	3.8000e-004	0.0139		55.1735	55.1735	2.8600e-003		55.2336
Total	**0.0236**	**0.0275**	**0.3584**	**6.5000e-004**	**0.0511**	**4.1000e-004**	**0.0515**	**0.0136**	**3.8000e-004**	**0.0139**		**55.1735**	**55.1735**	**2.8600e-003**		**55.2336**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.2928					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209	0.0000	281.4481	281.4481	0.0367		282.2177
Total	**18.6994**	**2.5703**	**1.9018**	**2.9700e-003**		**0.2209**	**0.2209**		**0.2209**	**0.2209**	**0.0000**	**281.4481**	**281.4481**	**0.0367**		**282.2177**

3.6 Architectural Coating - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0236	0.0275	0.3584	6.5000e-004	0.0511	4.1000e-004	0.0515	0.0136	3.8000e-004	0.0139		55.1735	55.1735	2.8600e-003		55.2336
Total	**0.0236**	**0.0275**	**0.3584**	**6.5000e-004**	**0.0511**	**4.1000e-004**	**0.0515**	**0.0136**	**3.8000e-004**	**0.0139**		**55.1735**	**55.1735**	**2.8600e-003**		**55.2336**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.4504	3.1079	17.1233	0.0284	1.9233	0.0395	1.9629	0.5132	0.0362	0.5495		2,516.8987	2,516.8987	0.1256		2,519.5370
Unmitigated	2.4504	3.1079	17.1233	0.0284	1.9233	0.0395	1.9629	0.5132	0.0362	0.5495		2,516.8987	2,516.8987	0.1256		2,519.5370

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Free-Standing Discount Store	582.67	582.67	582.67	910,907	910,907
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	582.67	582.67	582.67	910,907	910,907

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Free-Standing Discount Store	14.70	6.60	6.60	12.20	68.80	19.00	47.5	35.5	17
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.455780	0.078333	0.189232	0.163096	0.075602	0.010805	0.009660	0.001020	0.001371	0.000788	0.008641	0.000749	0.004924

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.4300e-003	0.0130	0.0109	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004		15.5837	15.5837	3.0000e-004	2.9000e-004	15.6785
NaturalGas Unmitigated	2.0400e-003	0.0186	0.0156	1.1000e-004		1.4100e-003	1.4100e-003		1.4100e-003	1.4100e-003		22.2624	22.2624	4.3000e-004	4.1000e-004	22.3979

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Free-Standing Discount Store	189.23	2.0400e-003	0.0186	0.0156	1.1000e-004		1.4100e-003	1.4100e-003		1.4100e-003	1.4100e-003		22.2624	22.2624	4.3000e-004	4.1000e-004	22.3979
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.0400e-003**	**0.0186**	**0.0156**	**1.1000e-004**		**1.4100e-003**	**1.4100e-003**		**1.4100e-003**	**1.4100e-003**		**22.2624**	**22.2624**	**4.3000e-004**	**4.1000e-004**	**22.3979**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Free-Standing Discount Store	0.132461	1.4300e-003	0.0130	0.0109	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004		15.5837	15.5837	3.0000e-004	2.9000e-004	15.6785
Total		**1.4300e-003**	**0.0130**	**0.0109**	**8.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.9000e-004**	**9.9000e-004**		**15.5837**	**15.5837**	**3.0000e-004**	**2.9000e-004**	**15.6785**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.2198	4.0000e-005	4.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		8.9300e-003	8.9300e-003	3.0000e-005		9.4700e-003
Unmitigated	1.2198	4.0000e-005	4.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		8.9300e-003	8.9300e-003	3.0000e-005		9.4700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1068					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.3000e-004	4.0000e-005	4.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		8.9300e-003	8.9300e-003	3.0000e-005		9.4700e-003
Total	**1.2198**	**4.0000e-005**	**4.3100e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**8.9300e-003**	**8.9300e-003**	**3.0000e-005**		**9.4700e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1068					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.3000e-004	4.0000e-005	4.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		8.9300e-003	8.9300e-003	3.0000e-005		9.4700e-003
Total	**1.2198**	**4.0000e-005**	**4.3100e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**8.9300e-003**	**8.9300e-003**	**3.0000e-005**		**9.4700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Georgetown Dollar General 5833b

El Dorado-Mountain County County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Free-Standing Discount Store	9.10	1000sqft	0.21	9,100.00	0
Parking Lot	31.00	Space	0.28	12,400.00	0
Other Asphalt Surfaces	0.70	Acre	0.70	30,492.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	1			**Operational Year**	2015
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total site is 1.19 acres, 9,100 SF building with 31 space parking lot and the balance of the site to be used for open space, and circulation

Construction Phase - Timing from developer

Grading - Site is 1.19 acres

Vehicle Trips - Trip generation rate of 64.03 per TSF per traffic analysis

Construction Off-road Equipment Mitigation - It is anticipated that the site will be watered 3 times per day to comply with Fugitive Dust Rule 223-1

Mobile Land Use Mitigation -

Energy Mitigation - Project is subject to 2013 Title 24 commercial requirements which are 30% more efficient than 2008 Title 24 standards.

Off-road Equipment - Mainly existing tree removal during site prep

Architectural Coating - Interior to be painted = 13,650 SF. Exterior to be painted (including parking lot) = 5,294 SF

Area Coating - Interior to be painted = 13,650 SF. Exterior to be painted (including parking lot) = 5,294 SF

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	19,982.00	5,294.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	59,946.00	13,650.00
tblAreaCoating	Area_Nonresidential_Interior	59946	13650
tblConstructionPhase	NumDays	10.00	12.00
tblConstructionPhase	NumDays	200.00	50.00
tblConstructionPhase	NumDays	4.00	5.00
tblConstructionPhase	NumDays	10.00	12.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	8/26/2015	8/25/2015
tblConstructionPhase	PhaseStartDate	8/11/2015	8/10/2015
tblGrading	AcresOfGrading	1.88	1.20
tblGrading	AcresOfGrading	0.00	1.20
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	71.07	64.03
tblVehicleTrips	SU_TR	56.36	64.03
tblVehicleTrips	WD_TR	57.24	64.03

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	20.4111	22.6484	19.3410	0.0266	5.5877	1.5013	6.4442	2.9409	1.4493	3.7288	0.0000	2,477.2670	2,477.2670	0.4907	0.0000	2,487.5721
Total	**20.4111**	**22.6484**	**19.3410**	**0.0266**	**5.5877**	**1.5013**	**6.4442**	**2.9409**	**1.4493**	**3.7288**	**0.0000**	**2,477.2670**	**2,477.2670**	**0.4907**	**0.0000**	**2,487.5721**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	20.4111	22.6484	19.3410	0.0266	2.2182	1.5013	3.1605	1.1573	1.4493	2.1079	0.0000	2,477.2670	2,477.2670	0.4907	0.0000	2,487.5721
Total	**20.4111**	**22.6484**	**19.3410**	**0.0266**	**2.2182**	**1.5013**	**3.1605**	**1.1573**	**1.4493**	**2.1079**	**0.0000**	**2,477.2670**	**2,477.2670**	**0.4907**	**0.0000**	**2,487.5721**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**60.30**	**0.00**	**50.96**	**60.65**	**0.00**	**43.47**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.2198	4.0000e-005	4.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		8.9300e-003	8.9300e-003	3.0000e-005		9.4700e-003
Energy	2.0400e-003	0.0186	0.0156	1.1000e-004		1.4100e-003	1.4100e-003		1.4100e-003	1.4100e-003		22.2624	22.2624	4.3000e-004	4.1000e-004	22.3979
Mobile	2.3116	3.5418	18.9723	0.0259	1.9233	0.0398	1.9632	0.5132	0.0365	0.5497		2,297.7997	2,297.7997	0.1257		2,300.4385
Total	**3.5334**	**3.5604**	**18.9922**	**0.0260**	**1.9233**	**0.0413**	**1.9646**	**0.5132**	**0.0379**	**0.5512**		**2,320.0710**	**2,320.0710**	**0.1261**	**4.1000e-004**	**2,322.8458**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.2198	4.0000e-005	4.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		8.9300e-003	8.9300e-003	3.0000e-005		9.4700e-003
Energy	1.4300e-003	0.0130	0.0109	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004		15.5837	15.5837	3.0000e-004	2.9000e-004	15.6785
Mobile	2.3116	3.5418	18.9723	0.0259	1.9233	0.0398	1.9632	0.5132	0.0365	0.5497		2,297.7997	2,297.7997	0.1257		2,300.4385
Total	**3.5328**	**3.5549**	**18.9875**	**0.0260**	**1.9233**	**0.0409**	**1.9642**	**0.5132**	**0.0375**	**0.5507**		**2,313.3923**	**2,313.3923**	**0.1260**	**2.9000e-004**	**2,316.1265**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.02	0.16	0.02	0.12	0.00	1.02	0.02	0.00	1.11	0.08	0.00	0.29	0.29	0.10	29.27	0.29

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2015	5/7/2015	5	5	
2	Grading	Grading	5/8/2015	5/14/2015	5	5	
3	Building Construction	Building Construction	5/15/2015	7/23/2015	5	50	
4	Paving	Paving	7/24/2015	8/10/2015	5	12	
5	Architectural Coating	Architectural Coating	8/10/2015	8/25/2015	5	12	

Acres of Grading (Site Preparation Phase): 1.2

Acres of Grading (Grading Phase): 1.2

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 13,650; Non-Residential Outdoor: 5,294 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	0	8.00	174	0.41
Paving	Pavers	1	6.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Paving	Paving Equipment	1	8.00	130	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	21.00	9.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.5239	0.0000	5.5239	2.9239	0.0000	2.9239			0.0000			0.0000
Off-Road	1.4744	16.0208	12.0300	0.0109		0.8560	0.8560		0.7875	0.7875		1,144.6775	1,144.6775	0.3417		1,151.8539
Total	**1.4744**	**16.0208**	**12.0300**	**0.0109**	**5.5239**	**0.8560**	**6.3798**	**2.9239**	**0.7875**	**3.7114**		**1,144.6775**	**1,144.6775**	**0.3417**		**1,151.8539**

3.2 Site Preparation - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0276	0.0428	0.4094	7.2000e-004	0.0639	5.2000e-004	0.0644	0.0169	4.7000e-004	0.0174		61.4583	61.4583	3.5800e-003		61.5334
Total	**0.0276**	**0.0428**	**0.4094**	**7.2000e-004**	**0.0639**	**5.2000e-004**	**0.0644**	**0.0169**	**4.7000e-004**	**0.0174**		**61.4583**	**61.4583**	**3.5800e-003**		**61.5334**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1543	0.0000	2.1543	1.1403	0.0000	1.1403			0.0000			0.0000
Off-Road	1.4744	16.0208	12.0300	0.0109		0.8560	0.8560		0.7875	0.7875	0.0000	1,144.6775	1,144.6775	0.3417		1,151.8539
Total	**1.4744**	**16.0208**	**12.0300**	**0.0109**	**2.1543**	**0.8560**	**3.0103**	**1.1403**	**0.7875**	**1.9278**	**0.0000**	**1,144.6775**	**1,144.6775**	**0.3417**		**1,151.8539**

3.2 Site Preparation - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0276	0.0428	0.4094	7.2000e-004	0.0639	5.2000e-004	0.0644	0.0169	4.7000e-004	0.0174		61.4583	61.4583	3.5800e-003		61.5334
Total	**0.0276**	**0.0428**	**0.4094**	**7.2000e-004**	**0.0639**	**5.2000e-004**	**0.0644**	**0.0169**	**4.7000e-004**	**0.0174**		**61.4583**	**61.4583**	**3.5800e-003**		**61.5334**

3.3 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.7711	0.0000	4.7711	2.5102	0.0000	2.5102			0.0000			0.0000
Off-Road	2.0666	21.9443	14.0902	0.0141		1.1968	1.1968		1.1011	1.1011		1,479.8000	1,479.8000	0.4418		1,489.0774
Total	**2.0666**	**21.9443**	**14.0902**	**0.0141**	**4.7711**	**1.1968**	**5.9679**	**2.5102**	**1.1011**	**3.6112**		**1,479.8000**	**1,479.8000**	**0.4418**		**1,489.0774**

3.3 Grading - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0441	0.0684	0.6551	1.1500e-003	0.1022	8.3000e-004	0.1030	0.0271	7.5000e-004	0.0279		98.3332	98.3332	5.7200e-003		98.4534
Total	**0.0441**	**0.0684**	**0.6551**	**1.1500e-003**	**0.1022**	**8.3000e-004**	**0.1030**	**0.0271**	**7.5000e-004**	**0.0279**		**98.3332**	**98.3332**	**5.7200e-003**		**98.4534**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8607	0.0000	1.8607	0.9790	0.0000	0.9790			0.0000			0.0000
Off-Road	2.0666	21.9443	14.0902	0.0141		1.1968	1.1968		1.1011	1.1011	0.0000	1,479.8000	1,479.8000	0.4418		1,489.0774
Total	**2.0666**	**21.9443**	**14.0902**	**0.0141**	**1.8607**	**1.1968**	**3.0575**	**0.9790**	**1.1011**	**2.0800**	**0.0000**	**1,479.8000**	**1,479.8000**	**0.4418**		**1,489.0774**

3.3 Grading - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0441	0.0684	0.6551	1.1500e-003	0.1022	8.3000e-004	0.1030	0.0271	7.5000e-004	0.0279		98.3332	98.3332	5.7200e-003		98.4534
Total	**0.0441**	**0.0684**	**0.6551**	**1.1500e-003**	**0.1022**	**8.3000e-004**	**0.1030**	**0.0271**	**7.5000e-004**	**0.0279**		**98.3332**	**98.3332**	**5.7200e-003**		**98.4534**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6000	21.5642	15.0041	0.0220		1.4851	1.4851		1.4344	1.4344		2,055.6247	2,055.6247	0.4741		2,065.5812
Total	**3.6000**	**21.5642**	**15.0041**	**0.0220**		**1.4851**	**1.4851**		**1.4344**	**1.4344**		**2,055.6247**	**2,055.6247**	**0.4741**		**2,065.5812**

3.4 Building Construction - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1610	0.9047	2.6173	1.6500e-003	0.0525	0.0141	0.0666	0.0149	0.0129	0.0278		163.5176	163.5176	1.5800e-003		163.5508
Worker	0.1157	0.1795	1.7196	3.0200e-003	0.2682	2.1700e-003	0.2704	0.0711	1.9800e-003	0.0731		258.1248	258.1248	0.0150		258.4402
Total	**0.2767**	**1.0842**	**4.3369**	**4.6700e-003**	**0.3208**	**0.0162**	**0.3370**	**0.0860**	**0.0149**	**0.1009**		**421.6423**	**421.6423**	**0.0166**		**421.9909**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6000	21.5642	15.0041	0.0220		1.4851	1.4851		1.4344	1.4344	0.0000	2,055.6247	2,055.6247	0.4741		2,065.5812
Total	**3.6000**	**21.5642**	**15.0041**	**0.0220**		**1.4851**	**1.4851**		**1.4344**	**1.4344**	**0.0000**	**2,055.6247**	**2,055.6247**	**0.4741**		**2,065.5812**

3.4 Building Construction - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1610	0.9047	2.6173	1.6500e-003	0.0525	0.0141	0.0666	0.0149	0.0129	0.0278		163.5176	163.5176	1.5800e-003		163.5508
Worker	0.1157	0.1795	1.7196	3.0200e-003	0.2682	2.1700e-003	0.2704	0.0711	1.9800e-003	0.0731		258.1248	258.1248	0.0150		258.4402
Total	**0.2767**	**1.0842**	**4.3369**	**4.6700e-003**	**0.3208**	**0.0162**	**0.3370**	**0.0860**	**0.0149**	**0.1009**		**421.6423**	**421.6423**	**0.0166**		**421.9909**

3.5 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4041	14.5959	9.1695	0.0133		0.8919	0.8919		0.8215	0.8215		1,382.4703	1,382.4703	0.4054		1,390.9826
Paving	0.2140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6181**	**14.5959**	**9.1695**	**0.0133**		**0.8919**	**0.8919**		**0.8215**	**0.8215**		**1,382.4703**	**1,382.4703**	**0.4054**		**1,390.9826**

3.5 Paving - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0716	0.1111	1.0645	1.8700e-003	0.1661	1.3500e-003	0.1674	0.0440	1.2200e-003	0.0453		159.7915	159.7915	9.3000e-003		159.9868
Total	**0.0716**	**0.1111**	**1.0645**	**1.8700e-003**	**0.1661**	**1.3500e-003**	**0.1674**	**0.0440**	**1.2200e-003**	**0.0453**		**159.7915**	**159.7915**	**9.3000e-003**		**159.9868**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4041	14.5959	9.1695	0.0133		0.8919	0.8919		0.8215	0.8215	0.0000	1,382.4703	1,382.4703	0.4054		1,390.9826
Paving	0.2140					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6181**	**14.5959**	**9.1695**	**0.0133**		**0.8919**	**0.8919**		**0.8215**	**0.8215**	**0.0000**	**1,382.4703**	**1,382.4703**	**0.4054**		**1,390.9826**

3.5 Paving - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0716	0.1111	1.0645	1.8700e-003	0.1661	1.3500e-003	0.1674	0.0440	1.2200e-003	0.0453		159.7915	159.7915	9.3000e-003		159.9868
Total	**0.0716**	**0.1111**	**1.0645**	**1.8700e-003**	**0.1661**	**1.3500e-003**	**0.1674**	**0.0440**	**1.2200e-003**	**0.0453**		**159.7915**	**159.7915**	**9.3000e-003**		**159.9868**

3.6 Architectural Coating - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.2928					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209		281.4481	281.4481	0.0367		282.2177
Total	**18.6994**	**2.5703**	**1.9018**	**2.9700e-003**		**0.2209**	**0.2209**		**0.2209**	**0.2209**		**281.4481**	**281.4481**	**0.0367**		**282.2177**

3.6 Architectural Coating - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0220	0.0342	0.3275	5.8000e-004	0.0511	4.1000e-004	0.0515	0.0136	3.8000e-004	0.0139		49.1666	49.1666	2.8600e-003		49.2267
Total	**0.0220**	**0.0342**	**0.3275**	**5.8000e-004**	**0.0511**	**4.1000e-004**	**0.0515**	**0.0136**	**3.8000e-004**	**0.0139**		**49.1666**	**49.1666**	**2.8600e-003**		**49.2267**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.2928					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209	0.0000	281.4481	281.4481	0.0367		282.2177
Total	**18.6994**	**2.5703**	**1.9018**	**2.9700e-003**		**0.2209**	**0.2209**		**0.2209**	**0.2209**	**0.0000**	**281.4481**	**281.4481**	**0.0367**		**282.2177**

3.6 Architectural Coating - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0220	0.0342	0.3275	5.8000e-004	0.0511	4.1000e-004	0.0515	0.0136	3.8000e-004	0.0139		49.1666	49.1666	2.8600e-003		49.2267
Total	**0.0220**	**0.0342**	**0.3275**	**5.8000e-004**	**0.0511**	**4.1000e-004**	**0.0515**	**0.0136**	**3.8000e-004**	**0.0139**		**49.1666**	**49.1666**	**2.8600e-003**		**49.2267**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3116	3.5418	18.9723	0.0259	1.9233	0.0398	1.9632	0.5132	0.0365	0.5497		2,297.7997	2,297.7997	0.1257		2,300.4385
Unmitigated	2.3116	3.5418	18.9723	0.0259	1.9233	0.0398	1.9632	0.5132	0.0365	0.5497		2,297.7997	2,297.7997	0.1257		2,300.4385

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Free-Standing Discount Store	582.67	582.67	582.67	910,907	910,907
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	582.67	582.67	582.67	910,907	910,907

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Free-Standing Discount Store	14.70	6.60	6.60	12.20	68.80	19.00	47.5	35.5	17
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.455780	0.078333	0.189232	0.163096	0.075602	0.010805	0.009660	0.001020	0.001371	0.000788	0.008641	0.000749	0.004924

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.4300e-003	0.0130	0.0109	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004		15.5837	15.5837	3.0000e-004	2.9000e-004	15.6785
NaturalGas Unmitigated	2.0400e-003	0.0186	0.0156	1.1000e-004		1.4100e-003	1.4100e-003		1.4100e-003	1.4100e-003		22.2624	22.2624	4.3000e-004	4.1000e-004	22.3979

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Free-Standing Discount Store	189.23	2.0400e-003	0.0186	0.0156	1.1000e-004		1.4100e-003	1.4100e-003		1.4100e-003	1.4100e-003		22.2624	22.2624	4.3000e-004	4.1000e-004	22.3979
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.0400e-003**	**0.0186**	**0.0156**	**1.1000e-004**		**1.4100e-003**	**1.4100e-003**		**1.4100e-003**	**1.4100e-003**		**22.2624**	**22.2624**	**4.3000e-004**	**4.1000e-004**	**22.3979**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Free-Standing Discount Store	0.132461	1.4300e-003	0.0130	0.0109	8.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004		15.5837	15.5837	3.0000e-004	2.9000e-004	15.6785
Total		**1.4300e-003**	**0.0130**	**0.0109**	**8.0000e-005**		**9.9000e-004**	**9.9000e-004**		**9.9000e-004**	**9.9000e-004**		**15.5837**	**15.5837**	**3.0000e-004**	**2.9000e-004**	**15.6785**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.2198	4.0000e-005	4.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		8.9300e-003	8.9300e-003	3.0000e-005		9.4700e-003
Unmitigated	1.2198	4.0000e-005	4.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		8.9300e-003	8.9300e-003	3.0000e-005		9.4700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1068					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.3000e-004	4.0000e-005	4.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		8.9300e-003	8.9300e-003	3.0000e-005		9.4700e-003
Total	**1.2198**	**4.0000e-005**	**4.3100e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**8.9300e-003**	**8.9300e-003**	**3.0000e-005**		**9.4700e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1068					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.3000e-004	4.0000e-005	4.3100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		8.9300e-003	8.9300e-003	3.0000e-005		9.4700e-003
Total	**1.2198**	**4.0000e-005**	**4.3100e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**8.9300e-003**	**8.9300e-003**	**3.0000e-005**		**9.4700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Georgetown Dollar General 5833b

El Dorado-Mountain County County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Free-Standing Discount Store	9.10	1000sqft	0.21	9,100.00	0
Parking Lot	31.00	Space	0.28	12,400.00	0
Other Asphalt Surfaces	0.70	Acre	0.70	30,492.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	1			**Operational Year**	2015
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total site is 1.19 acres, 9,100 SF building with 31 space parking lot and the balance of the site to be used for open space, and circulation

Construction Phase - Timing from developer

Grading - Site is 1.19 acres

Vehicle Trips - Trip generation rate of 64.03 per TSF per traffic analysis

Construction Off-road Equipment Mitigation - It is anticipated that the site will be watered 3 times per day to comply with Fugitive Dust Rule 223-1

Mobile Land Use Mitigation -

Energy Mitigation - Project is subject to 2013 Title 24 commercial requirements which are 30% more efficient than 2008 Title 24 standards.

Off-road Equipment - Mainly existing tree removal during site prep

Architectural Coating - Interior to be painted = 13,650 SF. Exterior to be painted (including parking lot) = 5,294 SF

Area Coating - Interior to be painted = 13,650 SF. Exterior to be painted (including parking lot) = 5,294 SF

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	19,982.00	5,294.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	59,946.00	13,650.00
tblAreaCoating	Area_Nonresidential_Interior	59946	13650
tblConstructionPhase	NumDays	10.00	12.00
tblConstructionPhase	NumDays	200.00	50.00
tblConstructionPhase	NumDays	4.00	5.00
tblConstructionPhase	NumDays	10.00	12.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	8/26/2015	8/25/2015
tblConstructionPhase	PhaseStartDate	8/11/2015	8/10/2015
tblGrading	AcresOfGrading	1.88	1.20
tblGrading	AcresOfGrading	0.00	1.20
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2015
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblVehicleTrips	ST_TR	71.07	64.03
tblVehicleTrips	SU_TR	56.36	64.03
tblVehicleTrips	WD_TR	57.24	64.03

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.2278	0.7645	0.6161	8.5000e-004	0.0351	0.0494	0.0844	0.0161	0.0472	0.0633	0.0000	72.8914	72.8914	0.0154	0.0000	73.2147
Total	**0.2278**	**0.7645**	**0.6161**	**8.5000e-004**	**0.0351**	**0.0494**	**0.0844**	**0.0161**	**0.0472**	**0.0633**	**0.0000**	**72.8914**	**72.8914**	**0.0154**	**0.0000**	**73.2147**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.2278	0.7645	0.6161	8.5000e-004	0.0194	0.0494	0.0687	7.8100e-003	0.0472	0.0550	0.0000	72.8913	72.8913	0.0154	0.0000	73.2147
Total	**0.2278**	**0.7645**	**0.6161**	**8.5000e-004**	**0.0194**	**0.0494**	**0.0687**	**7.8100e-003**	**0.0472**	**0.0550**	**0.0000**	**72.8913**	**72.8913**	**0.0154**	**0.0000**	**73.2147**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	44.75	0.00	18.60	51.46	0.00	13.09	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2226	0.0000	3.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.3000e-004	7.3000e-004	0.0000	0.0000	7.7000e-004
Energy	3.7000e-004	3.3900e-003	2.8400e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	47.4697	47.4697	2.0500e-003	4.8000e-004	47.6607
Mobile	0.3968	0.6187	3.1878	4.8000e-003	0.3356	7.2100e-003	0.3428	0.0899	6.6100e-003	0.0965	0.0000	386.1546	386.1546	0.0207	0.0000	386.5898
Waste						0.0000	0.0000		0.0000	0.0000	7.9451	0.0000	7.9451	0.4695	0.0000	17.8054
Water						0.0000	0.0000		0.0000	0.0000	0.2139	1.4817	1.6956	0.0220	5.3000e-004	2.3233
Total	**0.6198**	**0.6221**	**3.1910**	**4.8200e-003**	**0.3356**	**7.4700e-003**	**0.3431**	**0.0899**	**6.8700e-003**	**0.0967**	**8.1589**	**435.1068**	**443.2657**	**0.5143**	**1.0100e-003**	**454.3799**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2226	0.0000	3.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.3000e-004	7.3000e-004	0.0000	0.0000	7.7000e-004
Energy	2.6000e-004	2.3700e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	41.5035	41.5035	1.8100e-003	4.1000e-004	41.6691
Mobile	0.3968	0.6187	3.1878	4.8000e-003	0.3356	7.2100e-003	0.3428	0.0899	6.6100e-003	0.0965	0.0000	386.1546	386.1546	0.0207	0.0000	386.5898
Waste						0.0000	0.0000		0.0000	0.0000	7.9451	0.0000	7.9451	0.4695	0.0000	17.8054
Water						0.0000	0.0000		0.0000	0.0000	0.2139	1.4817	1.6956	0.0220	5.3000e-004	2.3229
Total	**0.6197**	**0.6210**	**3.1902**	**4.8100e-003**	**0.3356**	**7.3900e-003**	**0.3430**	**0.0899**	**6.7900e-003**	**0.0967**	**8.1589**	**429.1406**	**437.2995**	**0.5141**	**9.4000e-004**	**448.3880**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.02	0.16	0.03	0.21	0.00	1.07	0.02	0.00	1.16	0.08	0.00	1.37	1.35	0.05	6.93	1.32

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2015	5/7/2015	5	5	
2	Grading	Grading	5/8/2015	5/14/2015	5	5	
3	Building Construction	Building Construction	5/15/2015	7/23/2015	5	50	
4	Paving	Paving	7/24/2015	8/10/2015	5	12	
5	Architectural Coating	Architectural Coating	8/10/2015	8/25/2015	5	12	

Acres of Grading (Site Preparation Phase): 1.2

Acres of Grading (Grading Phase): 1.2

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 13,650; Non-Residential Outdoor: 5,294 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	0	8.00	174	0.41
Paving	Pavers	1	6.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Paving	Paving Equipment	1	8.00	130	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	21.00	9.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0138	0.0000	0.0138	7.3100e-003	0.0000	7.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6900e-003	0.0401	0.0301	3.0000e-005		2.1400e-003	2.1400e-003		1.9700e-003	1.9700e-003	0.0000	2.5961	2.5961	7.8000e-004	0.0000	2.6124
Total	**3.6900e-003**	**0.0401**	**0.0301**	**3.0000e-005**	**0.0138**	**2.1400e-003**	**0.0160**	**7.3100e-003**	**1.9700e-003**	**9.2800e-003**	**0.0000**	**2.5961**	**2.5961**	**7.8000e-004**	**0.0000**	**2.6124**

3.2 Site Preparation - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	1.0000e-004	1.0100e-003	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1428	0.1428	1.0000e-005	0.0000	0.1429
Total	**7.0000e-005**	**1.0000e-004**	**1.0100e-003**	**0.0000**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1428**	**0.1428**	**1.0000e-005**	**0.0000**	**0.1429**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3900e-003	0.0000	5.3900e-003	2.8500e-003	0.0000	2.8500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6900e-003	0.0401	0.0301	3.0000e-005		2.1400e-003	2.1400e-003		1.9700e-003	1.9700e-003	0.0000	2.5961	2.5961	7.8000e-004	0.0000	2.6124
Total	**3.6900e-003**	**0.0401**	**0.0301**	**3.0000e-005**	**5.3900e-003**	**2.1400e-003**	**7.5300e-003**	**2.8500e-003**	**1.9700e-003**	**4.8200e-003**	**0.0000**	**2.5961**	**2.5961**	**7.8000e-004**	**0.0000**	**2.6124**

3.2 Site Preparation - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	1.0000e-004	1.0100e-003	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1428	0.1428	1.0000e-005	0.0000	0.1429
Total	**7.0000e-005**	**1.0000e-004**	**1.0100e-003**	**0.0000**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1428**	**0.1428**	**1.0000e-005**	**0.0000**	**0.1429**

3.3 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0119	0.0000	0.0119	6.2800e-003	0.0000	6.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1700e-003	0.0549	0.0352	4.0000e-005		2.9900e-003	2.9900e-003		2.7500e-003	2.7500e-003	0.0000	3.3561	3.3561	1.0000e-003	0.0000	3.3772
Total	**5.1700e-003**	**0.0549**	**0.0352**	**4.0000e-005**	**0.0119**	**2.9900e-003**	**0.0149**	**6.2800e-003**	**2.7500e-003**	**9.0300e-003**	**0.0000**	**3.3561**	**3.3561**	**1.0000e-003**	**0.0000**	**3.3772**

3.3 Grading - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	1.6000e-004	1.6100e-003	0.0000	2.4000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2284	0.2284	1.0000e-005	0.0000	0.2287
Total	**1.0000e-004**	**1.6000e-004**	**1.6100e-003**	**0.0000**	**2.4000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2284**	**0.2284**	**1.0000e-005**	**0.0000**	**0.2287**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.6500e-003	0.0000	4.6500e-003	2.4500e-003	0.0000	2.4500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1700e-003	0.0549	0.0352	4.0000e-005		2.9900e-003	2.9900e-003		2.7500e-003	2.7500e-003	0.0000	3.3561	3.3561	1.0000e-003	0.0000	3.3772
Total	**5.1700e-003**	**0.0549**	**0.0352**	**4.0000e-005**	**4.6500e-003**	**2.9900e-003**	**7.6400e-003**	**2.4500e-003**	**2.7500e-003**	**5.2000e-003**	**0.0000**	**3.3561**	**3.3561**	**1.0000e-003**	**0.0000**	**3.3772**

3.3 Grading - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	1.6000e-004	1.6100e-003	0.0000	2.4000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2284	0.2284	1.0000e-005	0.0000	0.2287
Total	**1.0000e-004**	**1.6000e-004**	**1.6100e-003**	**0.0000**	**2.4000e-004**	**0.0000**	**2.5000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2284**	**0.2284**	**1.0000e-005**	**0.0000**	**0.2287**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0900	0.5391	0.3751	5.5000e-004		0.0371	0.0371		0.0359	0.0359	0.0000	46.6208	46.6208	0.0108	0.0000	46.8466
Total	**0.0900**	**0.5391**	**0.3751**	**5.5000e-004**		**0.0371**	**0.0371**		**0.0359**	**0.0359**	**0.0000**	**46.6208**	**46.6208**	**0.0108**	**0.0000**	**46.8466**

3.4 Building Construction - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5900e-003	0.0223	0.0562	4.0000e-005	1.2700e-003	3.5000e-004	1.6100e-003	3.6000e-004	3.2000e-004	6.8000e-004	0.0000	3.7301	3.7301	4.0000e-005	0.0000	3.7308
Worker	2.7500e-003	4.1600e-003	0.0423	8.0000e-005	6.4300e-003	5.0000e-005	6.4800e-003	1.7100e-003	5.0000e-005	1.7600e-003	0.0000	5.9954	5.9954	3.4000e-004	0.0000	6.0026
Total	**6.3400e-003**	**0.0265**	**0.0985**	**1.2000e-004**	**7.7000e-003**	**4.0000e-004**	**8.0900e-003**	**2.0700e-003**	**3.7000e-004**	**2.4400e-003**	**0.0000**	**9.7255**	**9.7255**	**3.8000e-004**	**0.0000**	**9.7334**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0900	0.5391	0.3751	5.5000e-004		0.0371	0.0371		0.0359	0.0359	0.0000	46.6207	46.6207	0.0108	0.0000	46.8465
Total	**0.0900**	**0.5391**	**0.3751**	**5.5000e-004**		**0.0371**	**0.0371**		**0.0359**	**0.0359**	**0.0000**	**46.6207**	**46.6207**	**0.0108**	**0.0000**	**46.8465**

3.4 Building Construction - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5900e-003	0.0223	0.0562	4.0000e-005	1.2700e-003	3.5000e-004	1.6100e-003	3.6000e-004	3.2000e-004	6.8000e-004	0.0000	3.7301	3.7301	4.0000e-005	0.0000	3.7308
Worker	2.7500e-003	4.1600e-003	0.0423	8.0000e-005	6.4300e-003	5.0000e-005	6.4800e-003	1.7100e-003	5.0000e-005	1.7600e-003	0.0000	5.9954	5.9954	3.4000e-004	0.0000	6.0026
Total	**6.3400e-003**	**0.0265**	**0.0985**	**1.2000e-004**	**7.7000e-003**	**4.0000e-004**	**8.0900e-003**	**2.0700e-003**	**3.7000e-004**	**2.4400e-003**	**0.0000**	**9.7255**	**9.7255**	**3.8000e-004**	**0.0000**	**9.7334**

3.5 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4200e-003	0.0876	0.0550	8.0000e-005		5.3500e-003	5.3500e-003		4.9300e-003	4.9300e-003	0.0000	7.5249	7.5249	2.2100e-003	0.0000	7.5713
Paving	1.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.7000e-003**	**0.0876**	**0.0550**	**8.0000e-005**		**5.3500e-003**	**5.3500e-003**		**4.9300e-003**	**4.9300e-003**	**0.0000**	**7.5249**	**7.5249**	**2.2100e-003**	**0.0000**	**7.5713**

3.5 Paving - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	6.2000e-004	6.2800e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8908	0.8908	5.0000e-005	0.0000	0.8918
Total	**4.1000e-004**	**6.2000e-004**	**6.2800e-003**	**1.0000e-005**	**9.5000e-004**	**1.0000e-005**	**9.6000e-004**	**2.5000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.8908**	**0.8908**	**5.0000e-005**	**0.0000**	**0.8918**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4200e-003	0.0876	0.0550	8.0000e-005		5.3500e-003	5.3500e-003		4.9300e-003	4.9300e-003	0.0000	7.5249	7.5249	2.2100e-003	0.0000	7.5713
Paving	1.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.7000e-003**	**0.0876**	**0.0550**	**8.0000e-005**		**5.3500e-003**	**5.3500e-003**		**4.9300e-003**	**4.9300e-003**	**0.0000**	**7.5249**	**7.5249**	**2.2100e-003**	**0.0000**	**7.5713**

3.5 Paving - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	6.2000e-004	6.2800e-003	1.0000e-005	9.5000e-004	1.0000e-005	9.6000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8908	0.8908	5.0000e-005	0.0000	0.8918
Total	**4.1000e-004**	**6.2000e-004**	**6.2800e-003**	**1.0000e-005**	**9.5000e-004**	**1.0000e-005**	**9.6000e-004**	**2.5000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.8908**	**0.8908**	**5.0000e-005**	**0.0000**	**0.8918**

3.6 Architectural Coating - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1098					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4400e-003	0.0154	0.0114	2.0000e-005		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	1.5320	1.5320	2.0000e-004	0.0000	1.5361
Total	**0.1122**	**0.0154**	**0.0114**	**2.0000e-005**		**1.3300e-003**	**1.3300e-003**		**1.3300e-003**	**1.3300e-003**	**0.0000**	**1.5320**	**1.5320**	**2.0000e-004**	**0.0000**	**1.5361**

3.6 Architectural Coating - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.9000e-004	1.9300e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2741	0.2741	2.0000e-005	0.0000	0.2744
Total	**1.3000e-004**	**1.9000e-004**	**1.9300e-003**	**0.0000**	**2.9000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2741**	**0.2741**	**2.0000e-005**	**0.0000**	**0.2744**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1098					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4400e-003	0.0154	0.0114	2.0000e-005		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	1.5320	1.5320	2.0000e-004	0.0000	1.5361
Total	**0.1122**	**0.0154**	**0.0114**	**2.0000e-005**		**1.3300e-003**	**1.3300e-003**		**1.3300e-003**	**1.3300e-003**	**0.0000**	**1.5320**	**1.5320**	**2.0000e-004**	**0.0000**	**1.5361**

3.6 Architectural Coating - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.9000e-004	1.9300e-003	0.0000	2.9000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2741	0.2741	2.0000e-005	0.0000	0.2744
Total	**1.3000e-004**	**1.9000e-004**	**1.9300e-003**	**0.0000**	**2.9000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2741**	**0.2741**	**2.0000e-005**	**0.0000**	**0.2744**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3968	0.6187	3.1878	4.8000e-003	0.3356	7.2100e-003	0.3428	0.0899	6.6100e-003	0.0965	0.0000	386.1546	386.1546	0.0207	0.0000	386.5898
Unmitigated	0.3968	0.6187	3.1878	4.8000e-003	0.3356	7.2100e-003	0.3428	0.0899	6.6100e-003	0.0965	0.0000	386.1546	386.1546	0.0207	0.0000	386.5898

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Free-Standing Discount Store	582.67	582.67	582.67	910,907	910,907
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	582.67	582.67	582.67	910,907	910,907

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Free-Standing Discount Store	14.70	6.60	6.60	12.20	68.80	19.00	47.5	35.5	17
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.455780	0.078333	0.189232	0.163096	0.075602	0.010805	0.009660	0.001020	0.001371	0.000788	0.008641	0.000749	0.004924

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	38.9235	38.9235	1.7600e-003	3.6000e-004	39.0733
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	43.7839	43.7839	1.9800e-003	4.1000e-004	43.9525
NaturalGas Mitigated	2.6000e-004	2.3700e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5801	2.5801	5.0000e-005	5.0000e-005	2.5958
NaturalGas Unmitigated	3.7000e-004	3.3900e-003	2.8400e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6858	3.6858	7.0000e-005	7.0000e-005	3.7082

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Free-Standing Discount Store	69069	3.7000e-004	3.3900e-003	2.8400e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	3.6858	3.6858	7.0000e-005	7.0000e-005	3.7082
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.7000e-004**	**3.3900e-003**	**2.8400e-003**	**2.0000e-005**		**2.6000e-004**	**2.6000e-004**		**2.6000e-004**	**2.6000e-004**	**0.0000**	**3.6858**	**3.6858**	**7.0000e-005**	**7.0000e-005**	**3.7082**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Free-Standing Discount Store	48348.3	2.6000e-004	2.3700e-003	1.9900e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5801	2.5801	5.0000e-005	5.0000e-005	2.5958
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.6000e-004**	**2.3700e-003**	**1.9900e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**2.5801**	**2.5801**	**5.0000e-005**	**5.0000e-005**	**2.5958**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Free-Standing Discount Store	139594	40.6095	1.8400e-003	3.8000e-004	40.7658
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	10912	3.1744	1.4000e-004	3.0000e-005	3.1867
Total		**43.7839**	**1.9800e-003**	**4.1000e-004**	**43.9525**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Free-Standing Discount Store	122886	35.7491	1.6200e-003	3.3000e-004	35.8867
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	10912	3.1744	1.4000e-004	3.0000e-005	3.1867
Total		**38.9235**	**1.7600e-003**	**3.6000e-004**	**39.0733**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2226	0.0000	3.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.3000e-004	7.3000e-004	0.0000	0.0000	7.7000e-004
Unmitigated	0.2226	0.0000	3.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.3000e-004	7.3000e-004	0.0000	0.0000	7.7000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0195					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2031					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	3.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.3000e-004	7.3000e-004	0.0000	0.0000	7.7000e-004
Total	**0.2226**	**0.0000**	**3.9000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.3000e-004**	**7.3000e-004**	**0.0000**	**0.0000**	**7.7000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0195					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2031					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	3.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.3000e-004	7.3000e-004	0.0000	0.0000	7.7000e-004
Total	**0.2226**	**0.0000**	**3.9000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.3000e-004**	**7.3000e-004**	**0.0000**	**0.0000**	**7.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.6956	0.0220	5.3000e-004	2.3229
Unmitigated	1.6956	0.0220	5.3000e-004	2.3233

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Free-Standing Discount Store	0.67406 / 0.413134	1.6956	0.0220	5.3000e-004	2.3233
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**1.6956**	**0.0220**	**5.3000e-004**	**2.3233**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Free-Standing Discount Store	0.67406 / 0.413134	1.6956	0.0220	5.3000e-004	2.3229
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**1.6956**	**0.0220**	**5.3000e-004**	**2.3229**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.9451	0.4695	0.0000	17.8054
Unmitigated	7.9451	0.4695	0.0000	17.8054

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Free-Standing Discount Store	39.14	7.9451	0.4695	0.0000	17.8054
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**7.9451**	**0.4695**	**0.0000**	**17.8054**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Free-Standing Discount Store	39.14	7.9451	0.4695	0.0000	17.8054
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**7.9451**	**0.4695**	**0.0000**	**17.8054**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

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BIOLOGICAL RESOURCES
DOLLAR GENERAL PROPOSED STORE SITE

El Dorado County, California

December, 2014

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Attachment 5

TABLE OF CONTENTS

INTRODUCTION

This report presents the findings of a fall survey for special status plant and wildlife species and other protected resources at the proposed Dollar General Store project site. The project site includes three small parcels, APNs 06-136-201, -202, and -204. . These parcels are currently not developed, are zoned as commercial, and are aligned to each other along Wentworth Springs Road (Main Street) in Georgetown, CA. The planned development will involve removal of the existing vegetation at the site and its replacement by landscaping and horticultural plants.

The study area (proposed project site) is surrounded by existing development. Adjacent land uses include commercial businesses to the east and south, a park and playground to the northeast, and residential homes situated to the west and north west.

El Dorado County land use regulations require a site-specific biological inventory and analysis of major deer habitat, rare and endangered species and their habitat, trees, watercourses, wetlands and riparian areas as a condition of approval for site development projects. This evaluation must also include recommended mitigation and/or alternatives necessary to avoid or lessen impacts to protected resources.

In summary, no special-status plant or animal species were observed at the site. A discussion of special-status plant and animal species that could potentially occur at the site is included in this Biological Inventory. Also included are lists of the flora and wildlife observed on site. There are three small canyon live oak trees with less than 1% canopy coverage that will be impacted and for which mitigation will be required on one parcel. At the corner of Orleans and Main Streets is an open drain leading to an underground storm drain that goes under that property along its boundary. This drain is not connected to the parcels but may require delineation and permitting. Within another parcel are small isolated wetlands totaling less than 0.1 acre. It is not anticipated that any other protected resources will be impacted for this development, and thus there are no other mitigation plans or protective measures required at this time.

Project Location

The proposed project site is located at the lower elevation of the western Sierra Nevada Mountains. The property lies on Main Street/Wentworth Springs Road, between Orleans and Harkness Streets, in the City of Georgetown. The planned store site currently consists of three undeveloped parcels. No physical address was given for the proposed study area. The specific site location is northwest 1/4 of Section 11 of Township 12 North, and Range 10 East, on the Georgetown, California 7.5 minute USGS quadrangle. Average elevation is 2,660 feet. A topographic map is included as Appendix A.

Projection Description

The three parcels sit at a northwest orientation along Main Street within the town/city limits. The proposed project includes the site development and construction of a 9,100 square footage Dollar General retail store with convenient parking slots, bike parking, and landscaping around the perimeter; egress/ingress is on Main Street. The store site will be constructed on three parcels designated as commercial, and is considered an in-fill development within the City of Georgetown.

Dollar General Retail Store Information

The project includes the site development and construction for a 9,100 square foot Dollar General retail location for Dollar General Corporation, a discount retailer that engages in the provision of various merchandise products in the United States. The company offers various consumable products, including paper and cleaning products such as paper towels, bath tissue, paper dinnerware, trash and storage bags, laundry, and other home cleaning supplies; packaged food, comprising cereals, canned soups and vegetables, condiments, spices, sugar, and flour; perishables consisting of milk, eggs, bread, frozen meals, beer, and wine; snacks that include candies, cookies, crackers, salty snacks, and carbonated beverages; over-the-counter medicines and personal care products, such as soap, body wash, shampoo, dental hygiene and foot care products; and pet supplies and pet food products. It also provides seasonal products, including decorations, toys, batteries, small electronics, greeting cards, stationery, prepaid phones and accessories, gardening supplies, hardware, automotive, and home office supplies; and home products comprising kitchen supplies, cookware, small appliances, light bulbs, storage containers, frames, candles, craft supplies and kitchen, bed, and bath soft goods. In addition, the company offers casual everyday apparel for infants, toddlers, girls, boys, women, and men, as well as socks, underwear, disposable diapers, shoes, and accessories. As of May 2, 2013, it operated 10,662 stores in 40 states. The company was formerly known as J.L. Turner & Son, Inc. and changed its name to Dollar General Corporation in 1968. Dollar General Corporation was founded in 1939 and is based in Goodlettsville, Tennessee.

METHODS

Pre-field Survey

The purpose of the pre-field investigation was to review existing information and to prepare a list of special status species with potential to occur in the vicinity of the project area. Sources of information included are as follows:

- *California Natural Diversity Data Base* (CNDDB; November 2014).

- *California Native Plant Society Inventory of Rare and Endangered Plants of California* (CNPS 2003).
- *Federal Endangered and Threatened Species that occur in or may be affected by Projects in the Georgetown USFS 7.5 minute Quadrangle*, updated November 11, 2014).
- *Jepson Manual: Higher Plants of California* (Edited by B. G. Baldwin, *et al.* 2012).
- *California Wildlife Habitat Relationships System* (California Department of Fish and Game http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx).
- *El Dorado County General Plan - Conservation and Open Space Element,* Adopted July 14, 2004.

FIELD SURVEYS

Plants

Special-status plant species surveys were performed in fall 2014. Surveys were conducted in a manner to identify any rare or endangered species that may be present. Survey protocols that were followed include Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities, Department of Fish and Game, December 9, 1983 (Revised May 8, 2000) and Guidelines for Conduction and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants, USFWS, January 2000.

The surveys were conducted using systematic field techniques in all habitats of the site to ensure a reasonably thorough coverage of potential impact areas. A meandering pattern was walked through each habitat to ensure that all areas were viewed. All plants at the site were identified to the level necessary to ascertain whether they were special status species.

Wildlife

A wildlife habitat assessment was performed in coordination with the plant surveys. Surveys were conducted to determine if habitats supported special-status animal species and raptor nest searches were performed during these surveys. Protocol level surveys for potentially occurring special-status animals were not conducted. The determination of presence for animal species that could possibly occur was based on habitat assessments, literature review, and queries through CNDDB.

EXISTING CONDITIONS

Environmental Setting

The study area is situated within the commercial area of the city of Georgetown and is considered an in-fill site. This area of El Dorado County exhibits both oak woodlands and low-

elevation montane forest. The three parcels that make up the proposed store site exhibit some different characteristics, to be discussed below. Their common characteristics are that they all have a shrub layer consisting mostly of an impermeable layer of blackberry, an invasive species found through the lower elevations of the Sierra Nevada Mountains. Additionally, none of the parcels have been managed for many years, as is especially indicated by the overgrown blackberry thickets found throughout the parcels.

The differences are as follows. First, the property adjacent to Orleans Street is used as a permanent horseshoe site with four horseshoe pits built and used during Founders Day and at other times during the year. This parcel has three-canyon live oak trees that will be removed and mitigated for with the planting of this species of tree within the store's landscape at a 1:1 ratio. There are several other native trees of incense cedar and Ponderosa Pine on this parcel, none greater than thirty feet or so in height, that will also be removed. An underground storm drain runs parallel to Orleans Street along the southeast side of the parcel. Currently, on-site storm waters are not collected into this system.

The mid-parcel appears to have several small "patches" of isolated wetland areas. A bench cut can be observed on the north and south boundary, measuring approximately 3-feet deep across the entire parcel, that appears to have been cut at some earlier time, perhaps to be used as a borrow pit.

The third parcel appears to have been a homestead site at one time, with remnants of a fence around the perimeter and a few fruit trees still remaining. In the northeast corner, now fenced off, is an air shaft, the historic details of which are unknown. On-site photographs are included as Appendix B and Biological Resources Map as Appendix C.

RESULTS

Natural Communities and Habitats

The majority of the site has been subject to modifications from the historical use of the site as a homestead, pastureland, and orchards; the exact usage can only be conjectured from the remaining evidence showing degradation of the parcel sites, the dense blackberry vegetation, and other remnant features. Adjacent lands are either residential, commercial, or parklands.

What actually remains are non-native annual grasses and forbs, a few isolated wetlands, some willow thickets, a storm water drainage system, and a small area of coniferous trees, the origin of which is uncertain as to whether planted or naturally occurring, since their growth appears to be stunted, with small diameter trunks and height reaching 30 feet at most. Refer to Appendix D for Flora Observed at the Site and Appendix E for Wildlife Observed at the Site.

Non-native Annual Grasses and Forbs

Non-native grasses occur throughout the study area. Non-native grasses' phenology is such that they are able to out complete most native grasses and forbs. They were prevalent within wetland areas on site, probably due to full-sun exposure, and throughout. The dominant species were rip-gut brome (*Bromus diandrus*), soft chess (*Broom's hordeaceus*), yellow starthistle (*Centaurea solstitialis*), and non native forbs of Queen Anne's lace (*Daucus carota*). Also occurring on site is the invasive Scotch broom, that once was widely planted along roadways in the Sierra Nevada Mountains.

Wetlands and Drainages

There are a few mature willow trees, and willow thickets infested with Himalayan blackberry, located along the east boundary and other areas (within the middle parcel) that have seasonal irrigation from two-small culverts entering this parcel from the residential area directly across Main Street, coupled with irrigation water directly to the east from the local Post Office. The drainage pattern of green vegetation can be recognized easily on the aerial map. The small east boundary drainage appears to either flow into an open air shaft at the northeast corner of the property or it may connect (?) off site to the south storm water drainage which flows off property via a storm drain. Although at this juncture the storm drain is underground and does not appear to collect on-site storm water flows. Most storm water appears to flow into a air shaft located at the northeast side of the property.

SPECIAL STATUS SPECIES

Special-status species were considered for this analysis based on field survey results, a review of the California Natural Diversity Database (CNDDB), CNPS literature, database information provided by the U. S. Fish and Wildlife Service (USFWS) (Georgetown 7 ½ Minute quad), and the El Dorado County General Plan. The table and listings are included in Appendix F Special Status Plants and Appendix G Special Status Wildlife. Explanations are given within the plant and wildlife tables as to why there is no potential for these species to occur within the boundaries of the project site.

Significance Criteria

The determination of significance of impacts to biological resources involves an evaluation of the context in which the impact may occur and the intensity and extent of the impact's effect.

Potential direct and indirect impacts to the biological resources were evaluated with respect to mandatory findings of significance of Section 15065 of CEQA and Appendix G of the

State CEQA Guidelines. In accordance with these Guidelines a project's effect on biological resources would be considered significant if the project results in:

- Alteration of unique characteristics of the area, such as sensitive plant communities and habitats (i.e. wetlands, riparian habitats).
- Adverse impacts to special-status species, including species identified as candidate and/or sensitive species.
- Adverse impacts to important or vulnerable resources as determined by scientific opinion or resource agency concerns (i.e. special status habitats, e.g. wetlands).
- Interference with migratory routes.

REGULATORY CONTEXT

A number of state and federal agencies, including the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), U.S. Fish and Wildlife Services (USFWS), and the California Department of Fish and Game (CDFG) have regulatory authority over special status species and sensitive habitats.

The regulatory aspects include:

- **U.S. Army Corps of Engineers:** Section 404 of the Clean Water Act requires approval prior to discharging dredge or fill material into the waters of the United States. Waters of the United States includes essentially all surface waters such as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters. Wetlands are areas characterized by growth of wetland vegetation (bulrush, cattails, rushes, sedges and willows) where the soil is saturated during a portion of the growing season or the surface is flooded during some part of most years. Wetlands generally include swamps, marshes, bogs and similar areas.

- **U.S. Fish and Wildlife Service:** The USFWS has jurisdiction over species that are formally listed as threatened or endangered under the Federal Endangered Species Act (FESA). The Endangered Species Act provides broad protection for species of fish, wildlife and plants that are listed as threatened or endangered in the U.S. or elsewhere. Provisions are made for listing species, as well as for recovery plans and the designation of critical habitat for listed species. The Act outlines procedures for federal agencies to follow when taking actions that may jeopardize listed species, and contains exceptions and exemptions.

- **California Department of Fish and Game:** It is state policy to conserve, protect, restore and enhance any endangered or threatened species and its habitat. The CDFG has jurisdiction over species that are formally listed as threatened or endangered under the California Endangered Species Act (CESA). The Endangered Species Act provides broad protection for species of fish, wildlife and plants that are listed as threatened or endangered in the state. In addition to CESA, the California Native Plant Protection Act (NPPA) provides protection to endangered and rare plant species. The CDFG also maintains an informal list of species of special concern to be considered as well.

- **California Native Plant Society:** CNPS is a non-profit group dedicated to preserving the state's native flora. It has developed lists of plants of special concern in California (online version 2005), including List 1A. Presumed Extinct in California (no treat ranks), List 1B. Rare or Endangered in California and Elsewhere, List 2. Rare or Endangered in California. More common Elsewhere, List 3. Need More Information, and List 4. Plants of Limited Distribution. Included within List 1B to List 4 are Threat Ranks which are included with the descriptions in Table 1 of this report.

- **Regional Water Quality Control Board:** Under Section 401 of the Clean Water Act, projects that apply for a Corps permit for discharge of dredge or fill material, and projects that qualify for a Nationwide Permit, must obtain water quality certification from the RWQCB confirming that the project will uphold state water quality standards.

POTENTIAL IMPACT ASSESSMENT AND RECOMMENDED MITIGATION

Special Status Species and Sensitive Natural Communities

Review of the Natural Resources Conservation Service soil data for the study area demonstrates that the project site is not located on lands shown to contain Serpentine Rock or Gabbro soils. Search of the California Natural Diversity database indicates there are no rare, threatened, or endangered species on the site. The project is not located within a sensitive natural community of the County, state, or any federal agency, including but not limited to an Ecological Preserve or USFWS Recovery Plan boundaries. The project site (study area) is not located within a Rare Plant Mitigation site, nor is it within any major migratory wildlife corridor (Refer to Appendix H. Important Migratory Deer Habitat and Other Protected/Sensitive Habitat within El Dorado County). Because of the small size, and the fact it is an in-fill site, no impacts would be anticipated.

Riparian Habitat, Wetlands, Potentially Jurisdictional Waters of the U.S.

There are isolated wetlands, less than 0.1 acre, a small drainage along the south to east boundary, and an underground storm water drainage pipeline along the south boundary of the

study area. It is uncertain if the on-site water flows collect into this underground drainage pipeline at all. The storm drain conveys water from the adjacent streets via culverts into a larger, off site intermittent tributary system. On-site storm water flows along the east boundary and drains primarily, if not completely, into an open air shaft located on the northeast corner of the parcel, adjacent to Harkness Road. This site may be determined to be jurisdictional for both the CA Department of Fish and Wildlife and the Regional Water Quality Control Board, and possibly for the Army Corps of Engineers.

The study area then may require Standard USACE wetland delineation procedures as described in the USACE Wetlands Delineation Manual (Environmental Laboratory, 1987) and as supplemented by the Interim Regional Supplement - Arid West Region (ACOE Research & Development Center, 2006). Detailed application of the three-parameter approach (vegetation, hydrology and soils) would then be applied to all areas that could potentially be considered "jurisdictional."

Under Section 401 of the Clean Water Act, projects that apply for a Corps permit for discharge of dredge or fill material, and projects that qualify for a Nationwide Permit, must obtain water quality certification from the RWQCB confirming that the project will uphold state water quality standards.

A California Department of Fish and Game Code section 1602 requires an entity to notify the Department before: 1) substantially diverting or obstructing the natural flow of a river, stream, or lake; 2) substantially changing the bed, channel, or bank of a river, stream, or lake; 3) using any material from the bed, channel, or bank of a river, stream, or lake; and/or 4) depositing or disposing of debris, waste, material containing crumbled, flaked, or ground pavement where it may pass into a river, stream, or lake. Bed, bank and channel includes the shoreline, associated riparian vegetation and floodplain.

Oak Tree Canopy Retention and Replacement Standards

El Dorado County Policy 7.4.4.4 establishes the relevant native oak tree canopy retention and replacement standards. There are no impacts to oak woodlands in the study area; however, there are three canyon live oaks, each with 3-trunks and DBH less than 20 inches per tree. These trees are in fair to good condition, although rather small in stature, and all will be removed. The proposed project will require removal of these trees for the construction of the infrastructure. **These three oak trees will be replaced with three canyon live oak trees within the landscape design.** Removal of these three trees will have no significant effect on the quality of habitat in and around the project area.

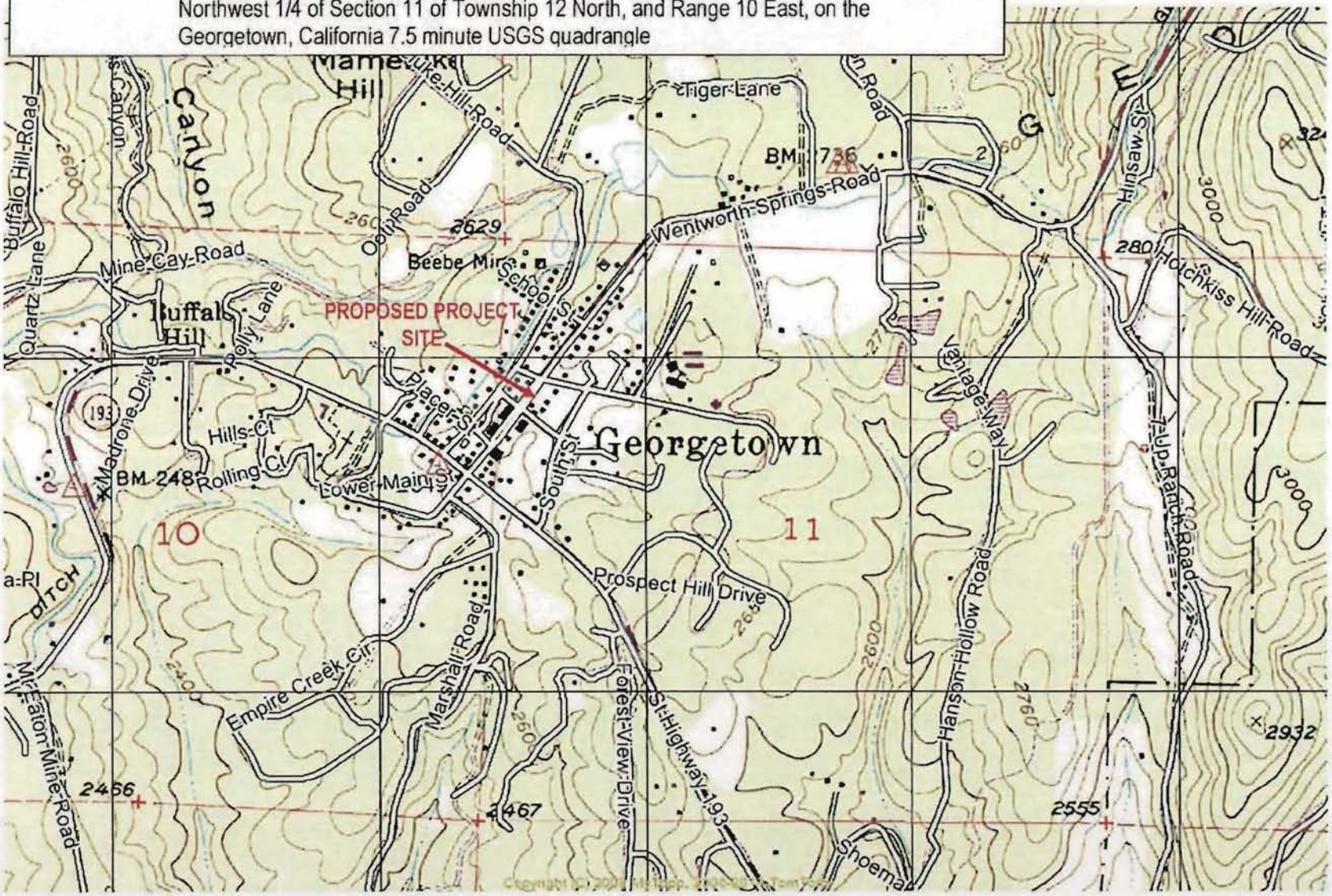
Impacts to Nesting Raptors and Migratory Birds

The potential exists for impacts to raptors and other migratory birds which are protected under the Migratory Bird Treaty Act Fish and Game Code of California (FG&C) to occur on, or in the vicinity of the site through the construction activities of tree and vegetation removal, ground disturbances, heavy equipment use, and various other noises that could impact nesting migratory birds.

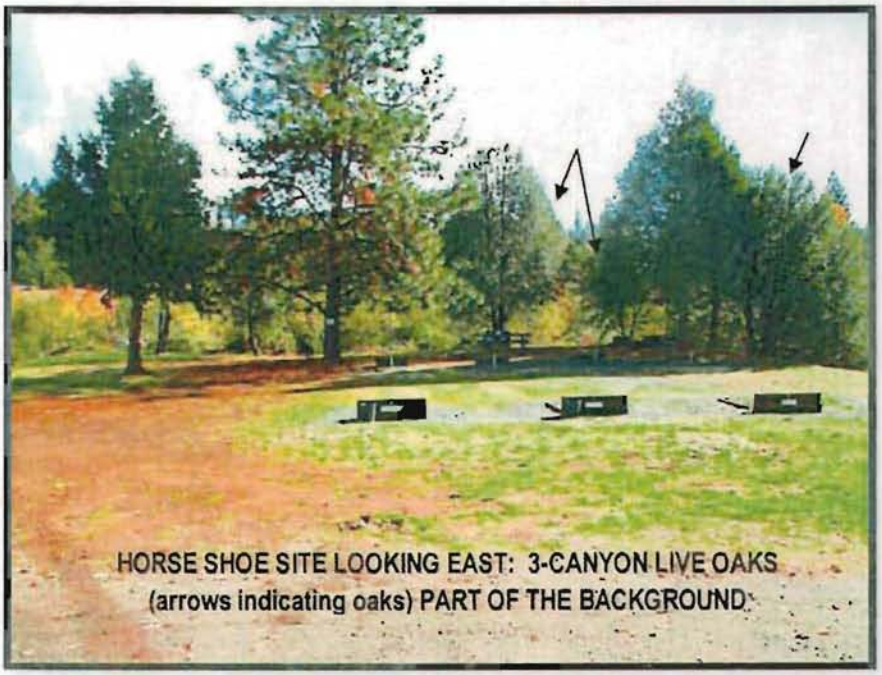
Mitigation for Nesting Raptors and Migratory Birds

For construction activities between March 1 and August 31, pre-construction surveys for nesting raptors and migratory birds should be conducted pursuant to California and Federal requirements. These surveys should be accomplished within 7 days prior to commencement of grading activities. An approved biologist should conduct all surveys if active nests are found, a quarter-mile (1320 feet) initial temporary nest disturbance buffer shall be established. If project-related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then an on-site biologist/monitor experienced with raptor behavior shall be retained by the project proponent to monitor the nest, and shall along with the project proponent, consult with the CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed to proceed within the temporary nest disturbance buffer if raptors are not exhibiting agitated behavior such as defensive flights at intruders, getting up from a brooding position, or flying off the nest. The designated on-site biologist/monitor shall be on-site daily while construction related activities are taking place and shall have the authority to stop work if raptors are exhibiting agitated behavior. In consultation with the CDFGW and depending on the behavior of the raptors, over time it may be determined that the on-site biologist/monitor may no longer be necessary due to the raptors' acclimation to construction related activities. Any trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season, however the project proponent shall be responsible for off-setting the loss of any raptor nesting trees. The extent of any necessary compensatory mitigation shall be determined by the project proponent in consultation with the CDFW. Past recommended mitigation for the loss of nesting trees has been at a ratio of three trees for each nest tree removed during the non-nesting season. Recommendations for migratory birds are similar, although the buffer areas can be smaller, since the birds may tolerate disturbance from a closer distance. Buffer areas may start at 200 feet and be reduced according to the guidelines above.

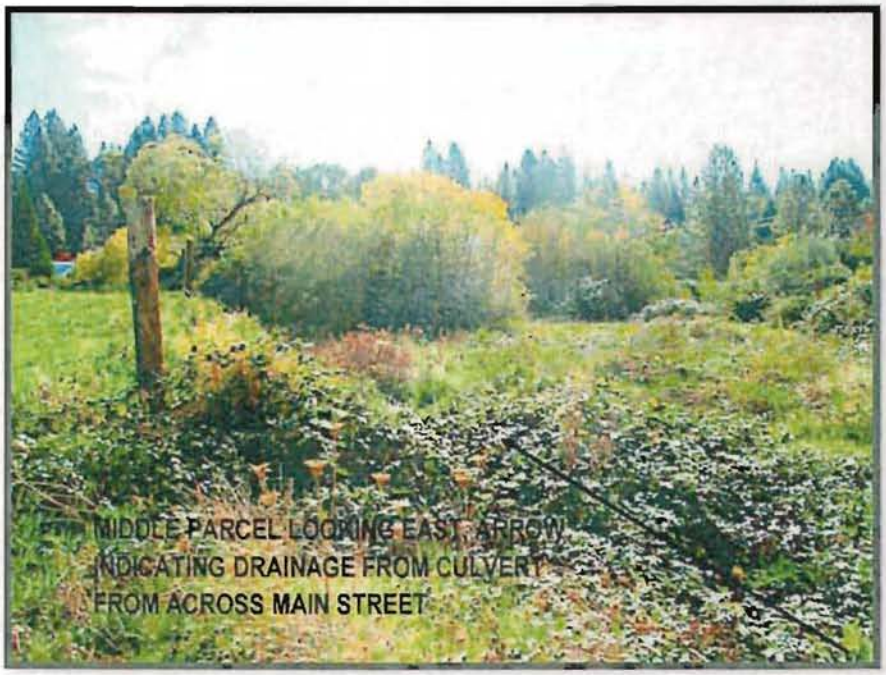
APPENDIX A. TOPOGRAPHIC MAP OF THE PROPOSED SITE - GEORGETOWN DOLLAR GENERAL
Northwest 1/4 of Section 11 of Township 12 North, and Range 10 East, on the Georgetown, California 7.5 minute USGS quadrangle



PHOTOGRAPHS



HORSE SHOE SITE LOOKING EAST: 3-CANYON LIVE OAKS (arrows indicating oaks) PART OF THE BACKGROUND.



MIDDLE PARCEL LOOKING EAST, ARROW INDICATING DRAINAGE FROM CULVERT FROM ACROSS MAIN STREET

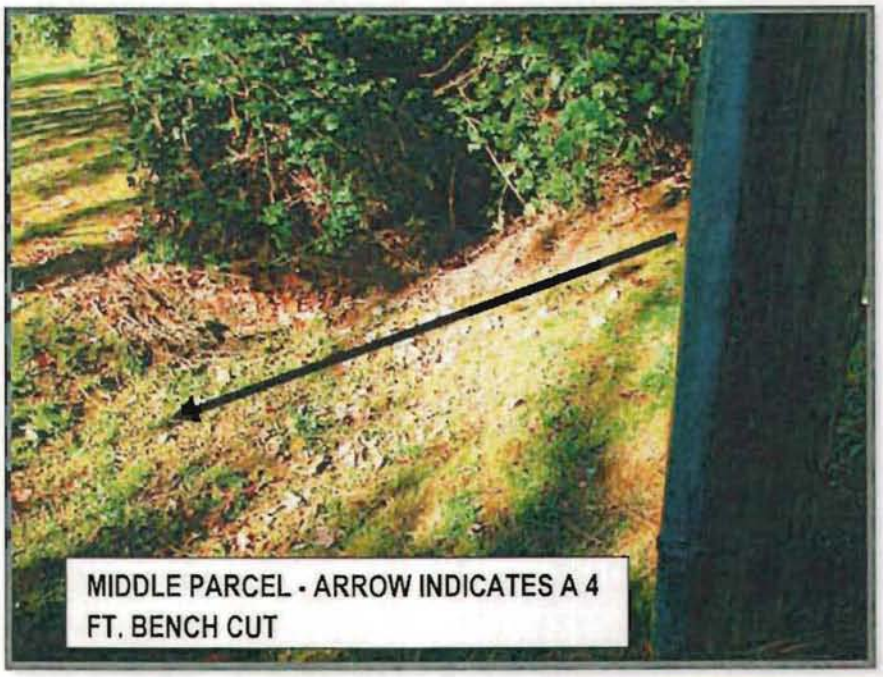
Costella Environmental Consulting
Tina Costella, M.S.
P.O. Box 215
Nevada City, CA 95959
tcostella@metrailer.com
Phone: (530) 265-6969

GEORGETOWN PROPOSED DOLLAR STORE

Photo Plate 1 of 3
Photos taken by T. Costella
2014

PHOTOGRAPHS

MIDDLE PARCEL LOOKING EAST SHOWING 1. TREE OF HEAVEN, 2. WILLOW 3. HIMALAYAN BLACKBERRY THICKETS



MIDDLE PARCEL - ARROW INDICATES A 4 FT. BENCH CUT

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GEORGETOWN PROPOSED DOLLAR STORE

Photo Plate 2 of 3
Photos taken by T. Costella
2014

PHOTOGRAPHS

LOOKING NORTH FROM ORLEANS STREET BEHIND HORSE SHOE SITE - BLACKBERRY THICKETS WITH SOME WILLOWS - MECHANICAL CUT IN THE THICKET

LOOKING TO THE EAST - PARCEL IS ADJACENT TO HARKNESS ST - ARROW INDICATES OPEN AIR SHAFT UNDER VEGETATION

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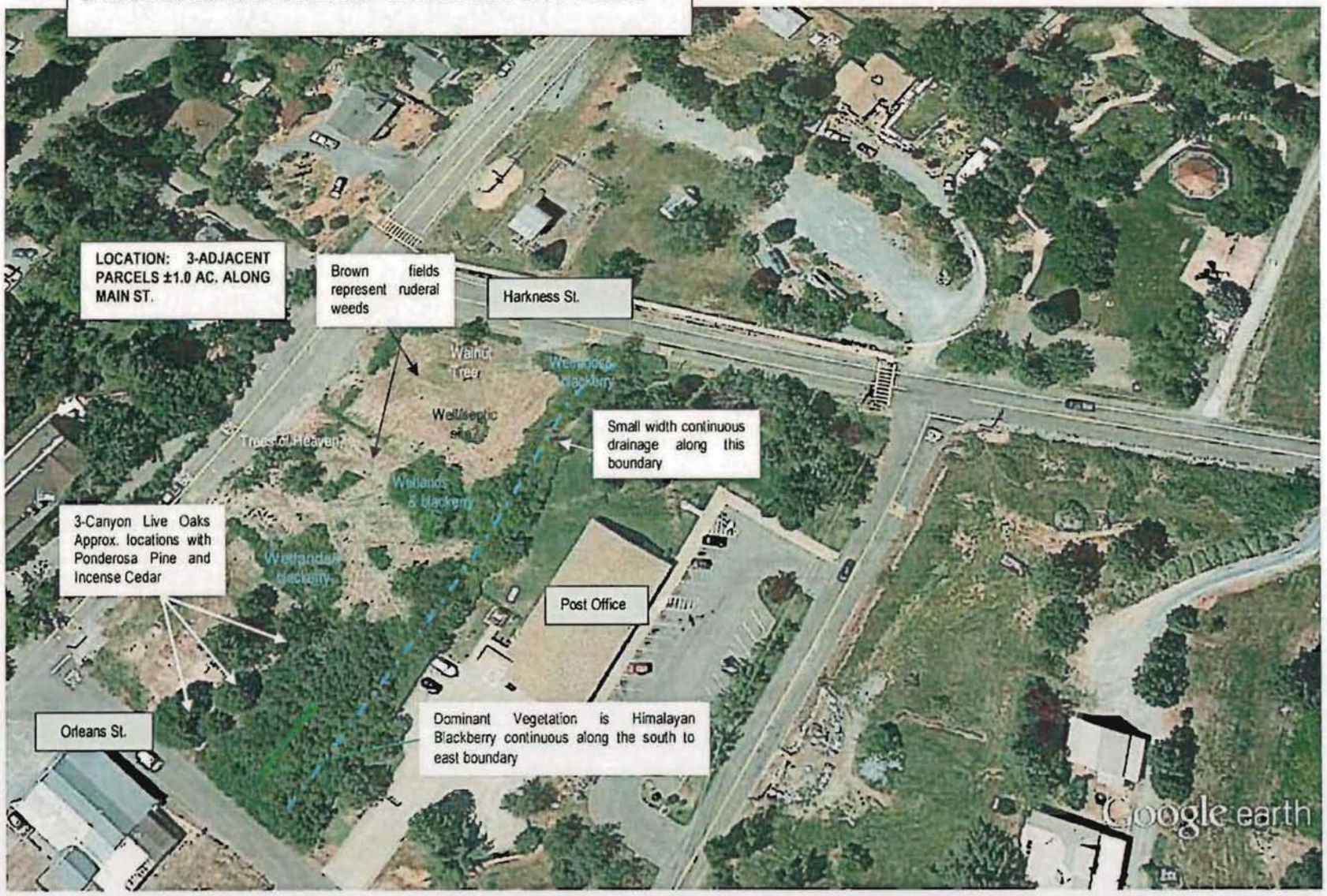
GEORGETOWN PROPOSED DOLLAR STORE

Photo Plate 3 of 3
Photos taken by T. Costella
2014

APPENDIX C. BIOLOGICAL RESOURCES FOR THE DOLLAR GENERAL STORE PROPOSED LOCATION



Enclosure D. Flora of the Dollar General Proposed Store Site Georgetown, CA

Family	Scientific Name	Common Name	Native = N Introduced = I
Apiaceae		Carrot Family	
	Daucus carota	Queen Anne's lace	I
Apocynaceae		Dogbane Family	
	Vinca major	Periwinkle	I
Asteraceae		Sunflower Family	
	Centaurea solstitialis	Yellow starthistle	I
	Cichorium intybus	Chicory	I
	Lactuca serriola	Prickly lettuce	I
	Leontodon taraxacoides	False dandelion	N
	Xanthium spinosum	Spiny cocklebur	I
Brassicaceae		Mustard Family	
	Brassica rapa	Field mustard	I
Cupressaceae		Cypress Family	
	Calocedrus decurrens	Common juniper	N
Cyperaceae		Sedge Family	
	Cyperus eragrostis	Nutsedge	N
Fabaceae		Legume Family	
	Cytisis scoparius	Scotch broom	I
	Lathyrus latifolius	Perrenial sweetpea	I
	Robina pseudoacacia	Black locus	I
	Vicia sativa ssp. *sativa*	Spring vetch	I
Fagaceae		Oak Family	
	Quercus chrysolepis	Canyon live oak	N
Geraniaceae		Geranium Family	
	Erodium botrys	Filaree	I
	Erodium cicutarium	Redstem filaree	I
Juglandaceae		Walnut Family	
	Juglans nigra	Black walnut	I
Juncaceae		Rush Family	
	Juncus effuses var. *pacificus*	Pacific bog rush	N

Lamiaceae		Mint Family	
	Mentha sp.	Mint	I
Liliaceae		Lily Family	
	Chlorogalum pomeridianum	Soap plant	N
Oleaceae		Olive Family	
	Ligustrum vulgare	Common privet	I
Pinaceae		Pine Family	
	Pinus ponderosa	Ponderosa pine	N
Plantaginaceae		Plantain Family	
	Plantago lanceolata	English plantain	I
Poaceae		Grass Family	
	Avena fatua	Slender wild oats	I
	Bromus diandrus	Rip-gut brome	I
	Broomus hordeaceus	Soft chess	I
	Cynodon dactylon	Bermuda grass	I
	Cynosurus eichinatus	Hedgehog dogtail grass	I
	Hordeum marinum ssp. *gussoneanum*	Mediterranean barley	I
	Hordeum murinum ssp. *leporinum*	Barley	I
	Muhlenbergia rigens	Deergrass	N
Polygonaceae		Buckwheat Family	
	Rumex crispus	Curly dock	I
Rosaceae		Rose Family	
	Rosa californica	California rose	N
	Rubus armenicus (R.discolor)	Himalayan blackberry	I (highly invasive)
Salicaceae		Willow Family	
	Salix lasiolepis	Arroyo willow	N
Scrophulariaceae		Figwort Family	
	Verbascum thapsus	Wooly mullein	I
Simaroubaceae		Quassia or Simarouba Family	
	Ailanthus altissima	Tree-of-Heaven	I (highly invasive)

Appendix E. Birds Observed at the Dollar General Proposed Store Site Georgetown, CA

Common Name	Scientific Name
Turkey vulture	*Cathartes aura*
Red-shouldered Hawk	*Buteo lineatus*
Northern Flicker (red shafted)	*Colaptes auratus*
Acorn Woodpecker	*Melanerpes formicivorus*
Western Scrub Jay	*Aphelocoma californica*
European starling	*Sturnus vulgaris*

Reference Source: 2014 The American Ornithologists' Union.

Appendix E. Other Wildlife Observed at the Dollar General Site

Common Name	Scientific Name
Botta's Pocket Gopher – pockets observed	*Thomomoys bottae*
Feral cat	*Felis catus*

APPENDIX F. SPECIAL STATUS PLANTS
GEORGETOWN PROPOSED DOLLAR GENERAL STORE
GEORGETOWN QUAD

SCIENTIFIC/ COMMON NAME	COMMUNITIES	BLOOMING	FEDERAL STATE CNPS	POTENTIAL TO OCCUR WITHIN PROJECT SITE
Arctostaphylos nissenana/ Nissenan manzanita	closed-cone coniferous forest, chaparral. **micro:** usually on metamorphics, associated w/ other chaparral species.	Feb - Mar	-- -- 1B.2	No potential; no specialized soils within project site.
Chlorogalum grandiflorum/ Red Hills soaproot	cismontane woodland, chaparral, lower montane coniferous forest. **micro:** occurs frequently on serpentine or gabbro, but also on non-ultramafic substrates; often on "historically disturbed" sites	May - Jun	-- -- 1B.2	Not observed during surveys; no specialized soils within project site.
Horkelia parryi/ Parry's horkelia	chaparral, cismontane woodland. **micro:** openings in chaparral or woodland; especially known from the lone formation in Amador County.	Apr - Sep	-- -- 1B.2	No potential; no specialized soils nor habitat found on the project site.
Packera layneae (Senecio layneae)/ Layne's ragwort	chaparral, cismontane woodland **micro:** ultramafic soil; occasionally along streams	Apr - Aug	FT SR 1B.2	No potential; no specialized soils within project site.

California Native Plant Society Rare and Endangered Plant Lists

1A. Presumed Extinct in California
1B. Rare or Endangered in California and elsewhere
- 1B.1 - Seriously Threatened in California
- 1B.2 - Fairly Threatened in California
- 1B.3 - Not Very Threatened in California

2. Rare or Endangered in California, more common elsewhere
- 2.1 - Seriously Threatened in California
- 2.2 - Fairly Threatened in California
- 2.3 - Not Very Threatened in California

3. Need More Information (threat ranks not always present)
- 3.1 - Seriously Threatened in California
- 3.2 - Fairly Threatened in California
- 3.3 - Not Very Threatened in California

4. Plants of Limited Distribution (threat ranks not always present)
- 4.2 - Moderate Degree of Threats
- 4.3 - Low Degree of Threats or Unknown Threats

APPENDIX G. SPECIAL STATUS ANIMAL SPECIES
GEORGETOWN PROPOSED DOLLAR GENERAL STORE
GEORGETOWN QUAD

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	CDFG	HABITAT TYPES	POTENTIAL TO OCCUR WITHIN PROJECT SITE
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	Threatened	None	None	Associated with its host plant the blue elderberry shrub (*Sambucus mexicana*).	No suitable habitat within the project site. No host plants found within the project boundaries.
Hypomesus transpacificus	Delta smelt	Threatened	Threatened	None	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Micro: seldom found in salinities > 10PPT. Most often at salinities < 2PPT.	No suitable habitat within the project site.
Laterallus jamaicensis coturniculus	California Black Rail	None	Threatened	None	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Micro: Needs water depths of about one inch that does not fluctuate during the year and dense vegetation for nesting habitat.	No suitable habitat within the project site.
Oncorhynchus mykiss	Central Valley steelhead and critical habitat	Threatened	None	None	Populations in the Sacramento and San Joaquin Rivers and their tributaries.	No suitable habitat within the project site.
Oncorhynchus tshawytscha	Central Valley spring-run Chinook salmon and critical habitat	Threatened	None	None	Adult numbers dependent on pool depth and volume, amount of cover, and proximity to gravel. Water temperatures > 27° C lethal to adults. Micro: federal listing refers to populations spawning in the Sacramento River and tributaries.	No suitable habitat within the project site.
Oncorhynchus tshawytscha	Winter-run Chinook salmon, Sacramento River and critical habitat	Endangered	None	None	Sacramento River below Keswick Dam. Spawning in Sacramento River but not in tributaries. Micro: requires, cold water over gravel bed with water temperatures between 6 and 14° C for spawning.	No suitable habitat within the project site.
Phrynosoma coronatum (frontale population)	Coast (California) horned lizard	Threatened	None	SC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Micro: open areas for sunning, bushes for cover, patches of loose soil for burial and abundant supply of ants and other insects.	No potential; no suitable habitat within the project boundaries.
Rana aurora draytonii	California red-legged frog	Threatened	None	SC	Lowlands and foothills in or near permanent sources of deep water with dense shrubby or emergent riparian vegetation. Micro: requires 11-20 weeks of permanent water for larval development, must have access to estivation habitat.	No habitat within the project boundaries.

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	CDFG	HABITAT TYPES	POTENTIAL TO OCCUR WITHIN PROJECT SITE
Rana boylii	Foothill yellow-legged frog	None	None	SC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Micro: needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	No habitat within the project boundaries.

Federal Status Definitions

Endangered (FE)
Any species which is in danger of extinction throughout all or a significant portion of its range.

Threatened (FT)
Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Candidate (FC)
Taxa for which the Service currently has sufficient information on biological vulnerability and threats on hand to support the issuance of a proposed rule to list but issuance of the proposed rule is precluded. Only those species for which there is enough information to support a listing proposal will be called "candidates." These were formerly known as "Category 2 Candidates." There are species for which the Service does not have enough scientific information to support a listing proposal. Both Category 2 and Category 3 no longer exist. The former Category 3 was a mix of non-candidate species either thought to be extinct (3A), taxonomically invalid (3B), or too widespread to be considered at risk (3C).

State Status Definitions

Endangered (CE)
A native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

Threatened (CT)
A native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant that, although not presently threatened with extinction, is likely to become endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter (Chapter 1.4 of the California Fish and Game Code).

Rare (CR)
A species, or subspecies or variety is rare when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens.

Candidate (CC)
A native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list.

Species of Special Concern (SSC)
Native species or subspecies that have become vulnerable to extinction because of declining population levels, limited ranges, or rarity. The goal is to prevent these animals from becoming endangered by addressing the issues of concern early enough to secure long term viability for these species. Bird Species of Special Concern appear in Remsen, 1978.

CP = CDFG "fully protected" species (Sec. 4700, Chapt. 6, Sec 5050, Chapt. 2; Div. 5, Chapt. 1 Sec. 5515).

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Portrait

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	*Arctostaphylos nissenana* Nissenan manzanita	PDERI040V0			G1	S1	1B.2
2	*Chlorogalum grandiflorum* Red Hills soaproot	PMLIL0G020			G3	S3	1B.2
3	*Horkelia parryi* Parry's horkelia	PDROS0W0C0			G2	S2.2	1B.2
4	*Packera layneae* Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
5	*Rana boylii* foothill yellow-legged frog	AAABH01050			G3	S2S3	SC
6	*Rana draytonii* California red-legged frog	AAABH01022	Threatened		G2G3	S2S3	SC

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 141111042417

Current as of: November 11, 2014

Quad Lists

Listed Species

Invertebrates

- Desmocerus californicus dimorphus
  - valley elderberry longhorn beetle (T)

Fish

- Hypomesus transpacificus
  - delta smelt (T)

- Oncorhynchus mykiss
  - Central Valley steelhead (T) (NMFS)

Amphibians

- Rana draytonii
  - California red-legged frog (T)

Plants

- Senecio layneae
  - Layne's butterweed (=ragwort) (T)

Quads Containing Listed, Proposed or Candidate Species:

GEORGETOWN (526A)

County Lists

Amphibians

- Ambystoma californiense
  - California tiger salamander, central population (T)

- Rana draytonii
  - California red-legged frog (T)
  - Critical habitat, California red-legged frog (X)

- Rana sierrae
  - Mountain yellow legged frog (PX)

Reptiles

- Thamnophis gigas
  - giant garter snake (T)

Plants

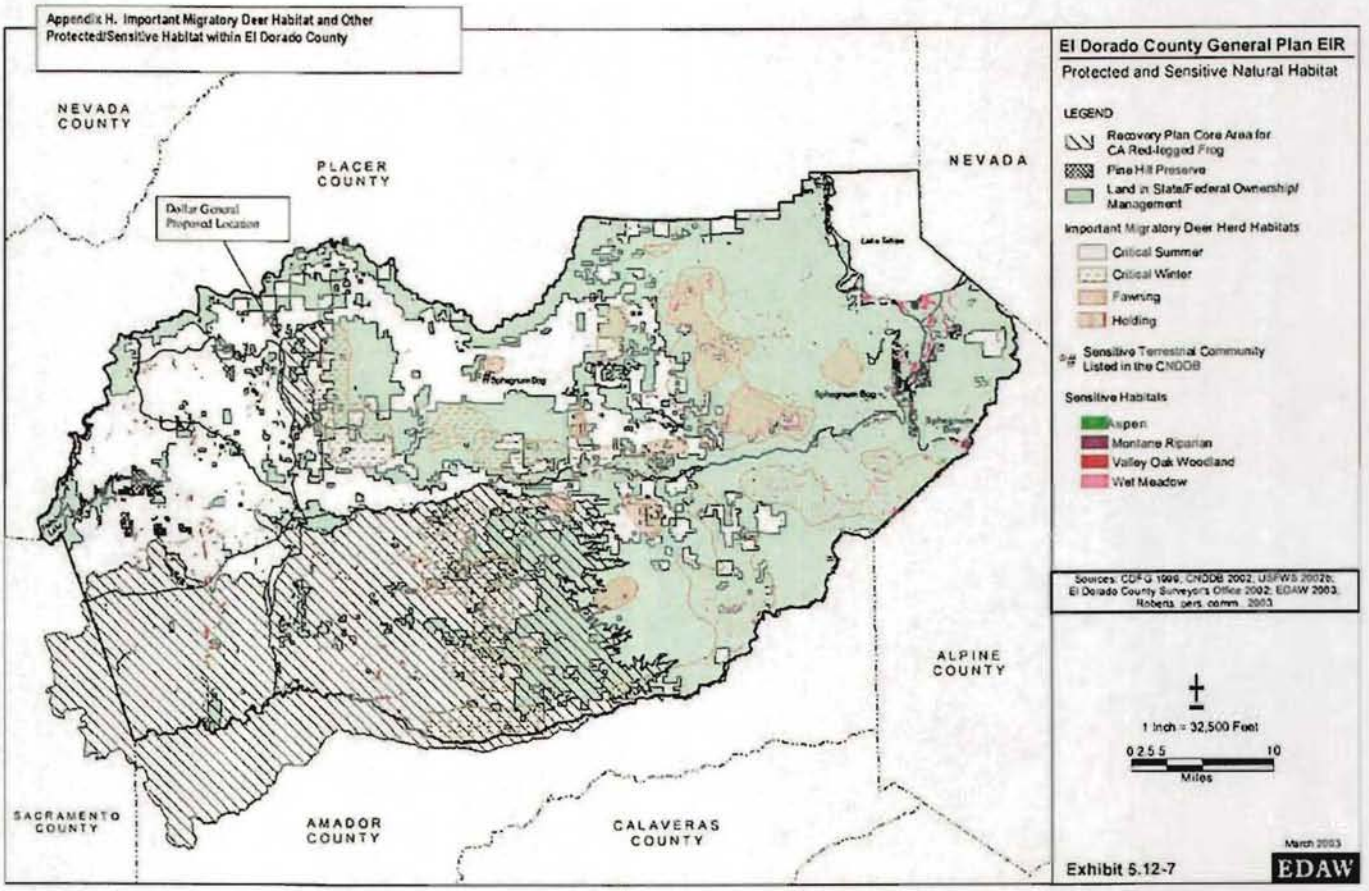
- Calystegia stebbinsii
  - Stebbins's morning-glory (E)

- Ceanothus roderickii
  - Pine Hill ceanothus (E)

- Fremontodendron californicum ssp. decumbens
  - Pine Hill flannelbush (E)

- Galium californicum ssp. sierrae
  - El Dorado bedstraw (E)

- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species


Appendix H. Important Migratory Deer Habitat and Other Protected/Sensitive Habitat within El Dorado County
NEVADA COUNTY
PLACER COUNTY
NEVADA
Dollar General Proposed Location
ALPINE COUNTY
SACRAMENTO COUNTY
AMADOR COUNTY
CALAVERAS COUNTY
El Dorado County General Plan EIR
Protected and Sensitive Natural Habitat
LEGEND
Recovery Plan Core Area for CA Red-legged Frog
Pine Hill Preserve
Land in State/Federal Ownership/ Management
Important Migratory Deer Herd Habitats
Critical Summer
Critical Winter
Fawning
Holding
Sensitive Terrestrial Community Listed in the CNDDB
Sensitive Habitats
Aspen
Montane Riparian
Valley Oak Woodland
Wet Meadow
Sources: CDFG 1999; CNDDB 2002; USFWS 2002b; El Dorado County Surveyor's Office 2002; EDAW 2003; Roberts, pers. comm., 2003
1 Inch = 32,500 Feet
0 2.5 5 10
Miles
March 2003
Exhibit 5.12-7
EDAW

EXHIBITS

A. OAK CANOPY SITE ASSESSMENT FORM (SIGNED)

B. SOIL REPORT FOR THE GEORGETOWN SITE

C. COSTELLA'S CURRICULUM VITAE

OAK/CANOPY SITE ASSESSMENT FORM

El Dorado County

OAK/CANOPY SITE ASSESSMENT FORM

Qualified Professional & Contact Information: *(attach qualifications)*	Tina Costella, MS 0Costella Environmental Consulting PO Box 215, Nevada City, CA 95959 530-265-6969 office, 530-265-0601 fax
Property Owner's Name/APN(s):	Denton A. & Carolyn Gravelle Beam APN: 061-362-01-100, 061-362-02-100, 061-362-04-100
Address:	SE Corner of Main and Wentworth Springs Rd, Georgetown, CA
General Plan Designation:	
Zoning:	C-DC
Project Description: *(attach site photos)*	Dollar General Commercial Retail

Would the project, directly or indirectly, have the potential to cause any impact, conflict with, or disturbance to:	**YES**	**NO**
a) Individual landmark or heritage trees (of any species) subject to review under General Plan Policy 7.4.5.2?	☐	☑
c) Oak woodland corridor continuity (General Plan Policy 7.4.4.5)?	☐	☑
d) Sensitive or important oak woodland habitat as defined in the Guidelines?	☐	☑
e) Movement of Wildlife and/or Any Wildlife Migration Corridor?	☐	☑
f) Any Candidate, Listed or Special Status Plant or Animal Species observed or expected to occur on or adjacent to the project site?	☐	☑
g) Is the affected area of oak canopy within or directly adjacent to an Important Biological Corridor or Ecological Preserve overlay?	☐	☑
h) Does the removal of oak canopy comply with the retention requirements of Policy 7.4.4.4?	☐	☑
i) Was project subject to prior County approval? (If yes, provide Tentative Map # and environmental documents if available)	☐	☑
j) For Discretionary Projects, would the project have the potential to cause a significant environmental impact on biological resources?	☐	☑

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.

Qualified Professional: _____ Date: 11/26/14

Applicant/Owner: Don Beam Date: 11/25/14

Required Attachments: 1) Qualified Professional Qualifications; 2) Site Photos; 3) Required Tree Survey, Preservation, and Replacement Plan or Biological Resources Study and Important Habitat Mitigation Program (see Interim Interpretive Guidelines for El Dorado County Policy 7.4.4.4 Option A)

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for El Dorado Area, California

Dollar Store Georgetown CA

November 13, 2014

for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Dorado Area, California
Survey Area Data: Version 7, Sep 15, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 12, 2010—Apr 29, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Metabasic residuum weathered from metasedimentary rock

Typical profile

H1 - 0 to 14 inches: loam
H2 - 14 to 21 inches: clay loam
H3 - 21 to 53 inches: clay
H4 - 53 to 69 inches: clay loam
H5 - 69 to 73 inches: weathered bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 69 to 73 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

Minor Components

Mariposa

Percent of map unit: 5 percent
Landform: Ridges, mountain slopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainflank
Down-slope shape: Concave
Across-slope shape: Convex, concave

Josephine

Percent of map unit: 5 percent

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Costella Environmental Consulting
Tina Costella, M.S.
Caltrans DBE/SWBE #37798

Consulting Environmental Botanist/Biologist

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Nevada City, CA 95959
E-mail tcostella@metrailer.com

Phone 530-265-6969
Cell 530-263-7617
Fax 530-265-0601

CURRICULUM VITAE

Summary of Qualifications

- Masters degree in Botany at CSU Chico, December 2004; thesis published Fall 2004 entitled "Seed Dormancy and Germination in *Sidalcea hirsuta* (Malvaceae): A species Endemic to Vernal Pools"
- Eleven years conducting botanical, avian, and other wildlife surveys
- Thirteen years conducting wetland delineations
- Experience with writing CEQA documentation
- Trained in Wetland Delineation (Wetland Training Institute 6/2001)
- Trained in Federal Wetland/Waters Regulatory Policy (Wetland Training Institute 2/2006)
- Nevada County-approved Environmental Consulting list

Summary of Related Field Experience

2004 – Present Independent contractor with conducting rare plant surveys, avian and animal surveys

1999 – Present Assisted Ramona Robison with rare plant surveys on 35 - 40 projects in Northern and Central California

1999 – Present Conducted avian surveys and wrote reports/assessments of results

1999 – Present Conducted wetland delineation assessments in Northern and Central California

1999 – Present Conducted CEQA/Initial Studies for instream gravel mining operations and other streambed alterations in Northern California

Squaw Valley Ski Resort – Placer County, 2010
Beazer-Ottoman Hills, Sacramento County, 2008
East Land Park Development, Sacramento County, 2004
Lesher Keys, Contra Costa County, 2004
Elverta Water District, 2004
Elkhorn Development, 2003
Willow Creek Bike Trail, City of Folsom, 2003
Lake Francis Dam, Plumas County, 2004
Deer Creek Development, Sacramento County, 2005
San Juan Ridge Mine - Nevada County, 2012
Sheldon Lake Development, Sacramento County, 2004
Silver Springs, Sacramento County, 2004
Stock Ranch Development, Sacramento County, 2005
Windsor Downs, Solano County, 2006
Fiddyment Development, Sacramento County, 2002
Tooby Development, Solano County, 2005

Plant and/or Wildlife Surveys – Partial List

Pine Meadows, Nevada County
Camp Del Oro, Nevada County
Hollander Property, Nevada County
Sacher Property, Nevada County
CHP Project, Nevada County
Camp Augusta, Nevada County
Sugar Bowl, Placer County
Camelot Equestrian Park, Butte County
Eastside Ranch, Yolo County
Gateway Property, Merced County
Gold Rush Property, Amador County
Ukiah Airport, Mendocino County
Paint Ball Park, Shasta County
Brunswick One Property, Nevada County
Cambridge Park Property, El Dorado County
National Cemetery, Yolo Cunty
Powell Property, Yolo County
Sycamore Lane Property, Yolo County
Somerset School, Placer County
Beazer-Ottoman Hills, Sacramento County
South Pointe, Sacramento County
Lesher Keys, Sacramento County
East Land Park, Sacramento County
Solano Airport, Solano County
Knighton Road, Shasta County

Ecological-Risk Assessment for Gold Mining Operations (Nevada County, California)

Rattlesnake Gates Property
Empire Meadows Property
La Barr Meadows Property
Winds Aloft Property
Osborne Hill Property
Loma Rica Property

Other Mining Operations (Nevada County, California)

San Juan Ridge Mine – Biological Inventory
RidgeRock Quarry – Biological Inventory, Management Plan for Week Abatement, and Reclamation Plan
French Corral Mine - Biological Inventory, Management Plan for Week Abatement, and Rehabilitation/Reclamation Plan

Other Projects

Awareness Training for the California Redlegged Frog – Downieville River Bank Project, Camp Augusta, Gorges Property
Deer Creek Park II Special Status Animal Surveys
White River, Arkansas - Prothonotary Warbler Nesting Bird Surveys
USFS - Tahoe NF - Spotted Owl Surveys
Consumnes River Preserve - Surveys for multiple migratory birds nesting within the riparian corridor
Wetland Restoration Monitoring: Squaw Valley Ski Corporation, Truckee; Peterson Ranch, Fairfield; Bridgefield, Citrus Heights.
Ethno-Botany: California Indian Museum and Cultural Center, Sacramento County
Rare Plant Monitoring: The Views Property Development, Butte County

Professional Organizations

American Ornithologists' Union
Association of Field Ornithologists
Audubon Society
California Native Plant Society
Fire Safe Council of Nevada County, Board of Directors
Friends of CSU, Chico Arboretum
Sierra Club
Wilson Ornithological Society

ADDENDUM: BIOLOGICAL INVENTORY FOR THE DOLLAR GENERAL STORE - GEORGETOWN, CA.

POTENTIAL JURISDICTIONAL WETLANDS IMPACT ASSESSMENT AND RECOMMENDED MITIGATION

This analysis of impacts and recommendations for mitigation for the onsite wetlands and drainage for the Dollar General Store - Georgetown site, El Dorado County, is based on the topographic survey prepared by Andregg Geomatics, dated July 28, 30, August 1, and December 31, 2014.

The survey(s) concluded that there are currently ± 0.06 acres of wetlands on the subject ± 1.2 acre project site. The wetlands are potential "waters of the United States" and are comprised of two small wetlands adjacent to a seasonal drainage, approximately 2 feet wide by 107 in length, totaling less than 0.01 acres; vegetation within these features is dominated by Himalayan blackberry. If the wetlands and drainage are deemed jurisdictional, then all operations will be coordinated with the United States Army Corps of Engineers (ACOE) and the California Department of Fish and Wildlife.

Mitigation, if determined by ACOE/CDFW to be required for the lost functions and values of the wetlands, will be complied with by SimonCre, property owner/developer. The preferred mitigation option would be to construct an on-site retention pond equal to or greater that the 0.06 acres of impacted wetlands, planted with native wetland vegetation and including the construction of a solvent separator, energy dissipaters, etc., maintained in perpetuity by the property owners. Another option would be to pay in lieu fees, following a ratio that is typically 2:1, to the National Fish and Wildlife Foundation, a non-profit agency that manages mitigation funds. The fees are used to fund local (within the same watershed unless otherwise authorized) wetland and stream creation and restoration projects.

Impacts to the 0.06 wetlands will be complete, however, no impacts will occur to the seasonal drainage, which will have a predetermined set-back requirement coordinated with El Dorado County and the developer, SimonCre. Mitigation for encroachment within the non-disturbance buffer of the drain is discussed below.

MITIGATION FOR ENCROACHMENT WITHIN THE NON-DISTURBANCE BUFFER OF A SEASONAL DRAINAGE

The mitigation plan for encroachment within the non-disturbance buffer of a seasonal drainage, as detailed below, includes measures for minimizing impacts to the drainage during and after construction, and also measures for minimizing direct and indirect impacts to water quality during and following construction. This will be accomplished as follows:

- Limiting construction near the seasonal drainage to the dry season;
- Establishing the area surrounding the seasonal drainage as an Environmentally Sensitive Area (ESA) during construction; and
- Implementing Best Management Practices during and following construction.

Limit Grading and Construction to the Dry Season

To avoid impacts to water quality within the drainage and other possible aquatic resources from contaminated storm water runoff, construction within and immediately adjacent to the seasonal drainage shall occur only during the dry season, typically May 15 to October 14. At no time shall equipment operate in flowing water or in saturated soils.

Establish The Seasonal Drainage And Non-Disturbance Buffer As Environmentally Sensitive Areas (ESAS) During Construction And After Construction

Prior to construction and/or grading, establish the seasonal drainage and the non-disturbance buffer as Environmentally Sensitive Areas (ESAs) during construction. In addition to these areas, the undisturbed area should be well marked at 25 feet from the drainage. Work shall not begin until the ESAs are delineated on the ground with storm wattles, silt fencing or other sediment catching materials, along with orange construction fencing to prevent disturbance of these areas, and they will be routinely managed to prevent disturbances. The boundaries of the ESAs shall be clearly shown on all final plans and specifications.

To minimize pedestrian traffic from entering the seasonal drainage and the non-disturbance buffer, fencing should be approximately 3 feet high and be placed securely around the perimeter to divert pedestrian traffic to designated areas. Signage could be placed requesting no admittance nor disturbance to this ESA.

Implement Best Management Practices During Construction

To protect the seasonal drainage and the non-disturbance buffer, water quality and downstream wetland resources, the contractor shall implement standard Best Management Practices during and after construction. These measures include, but are not limited to:

- Minimize the number and size of the work areas (e.g. equipment staging areas and spoil storage sites) in the vicinity of the seasonal drainage. Place staging areas and other work areas away from the drainage. Field reconnaissance should be conducted during the planning stage to identify work areas and clearly mark those areas on all final grading and construction drawings.

- Prior to the start of work, including any grading, install silt-fencing, straw wattles, or other sediment barriers to keep erodible soils and other pollutants from entering the drainage. Before the first heavy rains and prior to removing the barriers, soil or other

sediments or debris that accumulated behind the barriers shall be removed and transported away for disposal.

- The contractor shall exercise every reasonable precaution to protect the drainage and adjacent non-disturbance buffer from pollution with fuels, oils, and other harmful materials. Construction byproducts and pollutants such as oil, cement, and wash water shall be prevented from discharging into or near these resources and shall be collected for removal off the site. No slash or other natural debris shall be placed in or adjacent to these areas. All construction debris and associated materials and litter shall be removed from the work site immediately upon completion.

- No equipment or vehicle maintenance or refueling shall occur within 50 feet of the seasonal drainage. The contractor shall immediately contain and clean up any petroleum or other chemical spills with absorbent materials such as sawdust or kitty litter. For other hazardous materials, follow the cleanup instruction on the label.

Provide Copies Of Permit Conditions And Mitigation Measures To Contractors

To ensure the proper and timely implementation of all mitigation measures contained in this report, as well as the terms and conditions of any other required permits, the applicant shall distribute copies of these mitigation measures and permit requirements to the contractors prior to grading and construction near the seasonal drainage and adjacent non-disturbance buffer. All contractors shall be completely familiar with the mitigation measures contained above and with the terms and conditions of all permits.

Costella Environmental Consulting
Tina Costella, M.S.
Tax ID Number 26-4120920
Caltrans DBE/SWBE #37798

Consulting Environmental Botanist/Biologist

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Cell 530-263-7617
Fax 530-265-0601

June 3, 2015

To: Rob Peters, Associate Planner
County of El Dorado, Community Development Agency
Development Services Division, Planning Services

Re: Public Concerns about Townsends Big-eared Bat, Rare Plant Spring Survey, and Special Status Species within the Adjacent quads of the Georgetown Quad

The following observations and comments address the public concerns regarding surveys completed in the Fall, 2014 and my additional survey done May 28, 2015.

Plant Species

The spring survey yielded what was already suspected about the site, namely, that the annual grasslands occur throughout the project site, blanketing the site in a thick understory of "thatch." This thicket essentially has choked out any native species that may have existed at an earlier time. Commonly, non-native grasses' phenology is such that they are able to out-compete most native grasses and forbs throughout the valley and foothill region. What remains at the site are ruderal weeds. Typical grasses and forbs observed were hedgehog dogtail (*Cynosurus eichinatus*), rip-gut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and other ruderal weeds found in disturbed sites.

Bats

Typically, there are four general roost types used by bats: those for hibernation, maternity, day, and night. Hibernation roosts typically have stable temperatures above freezing; maternity roosts are those where young bats are born and reared (usually April through August, depending on species and elevation), and are usually warm; day roosts are typically dark and provide protection from high temperatures and predators; and night roosts may be in open areas and are usually used temporarily, between periods of foraging activity. Bats may use a different roost site for each of these purposes. This letter summarizes the results of my bat roost survey of the mine shaft on the property.

A search of the California Department of Fish and Game (CDFG) Natural Diversity Data Base (2015) was conducted to determine where special status bat species have been documented in Georgetown quad. This literature search was conducted to assist in determining those species that are most likely to roost within the property boundary. The search revealed that there are no special status bat species reported as found within the quad of the study area, specifically, the Townsend's Big-eared Bat.

The two known species that have occurred within this quad, neither of which is protected, are the silver-haired bat (*Lasionycteris noctivagans*), and the Yuma myotis (*Myotis yumanensis*). Silver-haired bat is primarily a coastal and montane forest dweller feeding over streams, ponds and open brushy areas. The micro-habitat for this bat species is that it roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes and rarely under rocks, and requires drinking water near roost sites. Yuma myotis optimal habitats are open forests and woodlands with sources of water over which to feed. Their micro-habitat is distributed and closely tied to bodies of water. Their maternity colonies occur in caves, mines, buildings or crevices. These two species were not observed during the site surveys in the Fall, 2014 and Spring, 2015.

The majority of the project site has been subjected to modifications from the historical use of the site as a homestead, pastureland, orchards (?) and one mine shaft, enclosed with cyclone fencing. The exact usage can only be conjectured from the remaining evidence that shows degradation of the parcel sites, the dense blackberry vegetation, and other remnant features. It should be noted here that the mine shaft opening is heavily covered in vegetation, namely Himalayan blackberry (*Rubus armeniacus*), an invasive plant that for many years was misidentified as *Rubus discolor*. It would be improbable that a bat species would be able to navigate through this dense cover in order to utilize the possible remaining shaft, and it is unknown if this would even provide roosting habitat. Adjacent lands are either residential, commercial, or parklands. In addition, the evidence of anthropogenic activities in and around these 3- small parcels and the immediate area may have a direct bearing on the lack of Townsend's bats' use of this site, since this species is known to be extremely sensitive to human activity/disturbance. This lack of use could also be attributed to the fact that this species occurs very infrequently in the central Sierra Nevada Mountains. In conclusion, it is my opinion, based on the survey and species habitat records, that there are no Townsend's big-eared bats utilizing this site. Photographs of the mine shaft are included with this letter. Also, attached are the special status species lists for the adjacent quads. These quads did not reveal species that would have the potential to occur within the proposed Dollar General Store location.

Please contact me if you have any further questions after reviewing this letter and the attachments.

Tina Costella, M.S.
enclosures

SPECIAL STATUS SPECIES
CALIFORNIA NATURAL DIVERSITY DATA BASE AND U.S. FISH AND WILDLIFE SERVICE

Adjacent Quads to the Georgetown Quad
Colfax, Foresthill, Michigan Bluff, Greenwood, Tunnel Hill, Coloma, Garden Valley, And Slate Mountain

SCIENTIFIC NAME/COMMON NAME	STATUS FEDERAL STATE CDFW	HABITAT TYPES	POTENTIAL TO OCCUR GEORGETOWN SITE
ANTHRPODS			
Margaritifera falcata/Western pearlshell	-- -- --	aquatic. micro: prefers lower velocity waters.	No potential, requires perennial waters.
INSECTS			
Cosumnoperla hypocrene/Conumnes spring stonefly	-- -- --	known only an intermittent tributary of the Cosumnes River in el dorado county.	No potential, only location is along tributary to Cosumnes River.
Desmocerus californicus dimporphus/valley elderberry longhorn beetle	FT -- --	associated with its host plant the blue elderberry shrub (*Sambucus mexicana*).	No potential, no host plant(s) within the study area.
Megaleuctra sierra/Shirttail Creek stonefly	-- -- --	stenothermic and found in spring-like areas.	No potential, requires perennial waters and temperature with limited variation.
Orobittacus obscurus/Gold rush hanging scorpionsly	-- -- --	known only from a small area on the western slopes of the Central Sierra Nevada . micro: darkly shaded crannies w/ high humidity, i.e. under tree roots, in overhanging banks, below rock outcrops, along streams.	No potential, limited area where this species occurs.
Rhyacophila spinata/Spiny rhyacophilan caddisfly	-- -- --	Rhyacophilids generally prefer cool, running water.	No potential, requires perennial waters.
AMPHIBIANS & REPTILES			
Emys marmorata/Western pond turtle	-- -- SC	a thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation. micro: need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	No potential; requires perennial waters.
Phrynosoma blainvillii/Coast horned lizard	-- -- SC	frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. micro: open areas for sunning, bushes for cover, patches of loose soil for burial, & abundant supply of ants & other insects.	No potential; no specialize habitat of gravelly soils with limited grass and forb vegetation.

BIRDS			
Accipiter gentilis/Northern Goshawk	-- SC --	within, and in vicinity of, coniferous forest. uses old nests, and maintains alternate sites. micro: usually nests on north slopes, near water. red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	Typically occurs at higher elevations than the study area.
Agelaius tricolor/Tricolored black bird	-- -- SC	highly colonial species, most numerous in central valley & vicinity. largely endemic to California. micro: requires open water, protected nesting substrate, & foraging area with insect prey within a few km of the colony.	Potential very low, highly unusual to occur at this elevation.
Cypseloides niger/Black swift	-- -- SC	coastal belt of Santa Cruz & Monterey Co; Central & Southern Sierra Nevada; San Bernardino & San Jacinto Mountains. micro: breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf,	No potential, requires bluffs for breeding, usually found in the southern Sierra Nevada Mtns.
Riparia riparia/Bank swallow	-- ST --	colonial nester; nests primarily in riparian and other lowland habitats west of the desert. micro: requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole..	No potential, selected habitat not found in the study area.
MAMMALS			
Lasionycteris noctivagans/silver-haired bat	-- -- --	primarily a coastal & montane forest dweller feeding over streams, ponds & open brushy areas. .micro: roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes & rarely under rocks. needs drinking water.	Very low potential, breeding and roosting sites not found in the study area; could forage in the area.
Martes pennanti/fisher	FC ST C SC	intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent of canopy closure. micro: uses cavities, snags, logs and rocky areas for cover and denning, needs large areas of mature, dense forest.	No potential, fishers select forests with high canopy closure, large trees, and a high percentage of conifers. Known locations are in Northern and Southern Sierra Nevada Mtns.
Myotis yumanensis/Yuma myotis	-- -- --	optimal habitats are open forests and woodlands with sources of water over which to feed. micro: distribution is closely tied to bodies of water. maternity colonies in caves, mines, buildings or crevices.	Very low potential, could use the study area for foraging (?).
Vulpes vulpes necator/Sierra Nevada red fox	-- ST --	found from the Cascades down to the Sierra Nevada. found in a variety of habitats from wet meadows to forested areas. micro: uses dense vegetation and rocky areas for cover and den sites. prefers forests interspersed with meadows or alpine fell-fields.	Very low potential, currently (2013) only 2 populations of Sierra Nevada red fox are known to exist: near Lassen Peak & Near Sonora Pass.

Federal Status Definitions	State Status Definitions
Endangered (FE) Any species which is in danger of extinction throughout all or a significant portion of its range. **Threatened (FT)** Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. **Candidate (FC)** Taxa for which the Service currently has sufficient information on biological vulnerability and threats on hand to support the issuance of a proposed rule to list but issuance of the proposed rule is precluded. Only those species for which there is enough information to support a listing proposal will be called "candidates." These were formerly known as "Category 2 Candidates." There are species for which the Service does not have enough scientific information to support a listing proposal. Both Category 2 and Category 3 no longer exist. The former Category 3 was a mix of non-candidate species either thought to be extinct (3A), taxonomically invalid (3B), or too widespread to be considered at risk (3C).	**Endangered (CE)** A native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease. **Threatened (CT)** A native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant that, although not presently threatened with extinction, is likely to become endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter (Chapter 1.4 of the California Fish and Game Code). **Rare (CR)** A species, or subspecies or variety is rare when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens. **Candidate (CC)** A native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list. **Species of Special Concern (SSC)** Native species or subspecies that have become vulnerable to extinction because of declining population levels, limited ranges, or rarity. The goal is to prevent these animals from becoming endangered by addressing the issues of concern early enough to secure long term viability for these species. Bird Species of Special Concern appear in Remsen, 1978. **CP = CDFG "fully protected" species** (Sec. 4700, Chapt. 6, Sec 5050, Chapt. 2; Div. 5, Chapt. 1 Sec. 5515).

SCIENTIFIC NAME/COMMON NAME	COMMUNITIES	BLOOMING	FEDERAL STATE CNPS	POTENTIAL TO OCCUR
PLANTS				
Arctostaphylos nissenana/Nissenan manzanita	CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL. MICRO: USUALLY ON METAMORPHICS, ASSOCIATED W/ OTHER CHAPARRAL SPECIES.	Feb-Mar	1B.2	very low potential since these species usually found on specialized soils with composed of ferromagnesian silicates per soil report do not occur in the study area.
Calystegia stebbinsii/Stebbin's morning glory	CHAPARRAL, CISMONTANE WOODLAND. MICRO: ON RED CLAY SOILS OF THE PINE HILL FORMATION; GABBRO OR SERPENTINE; OPEN AREAS.	Apr-Jul	FE	very low potential since these species usually found on specialized soils with composed of ferromagnesian silicates per soil report do not occur in the study area.
Ceanothus roderickí/Pine Hil ceanothus	CHAPARRAL, FOOTHILL WOODLANDS MICRO: GABBROIC SOILS; OFTEN IN "HISTORICALLY DISTURBED" AREAS WITH AN ENSEMBLE OF OTHER RARE PLANTS.	Apr-Jun	FT	very low potential since these species usually found on specialized soils with composed of ferromagnesian silicates per soil report do not occur in the study area.
Chlorogalum grandiflorum/Red Hills soap root	CISMONTANE WOODLAND, CHAPARRAL, LOWER MONTANE CONIFEROUS FOREST. MICCRO: OCCURS FREQUENTLY ON SERPENTINE OR GABBRO, BUT ALSO ON NON-ULTRAMAFIC SUBSTRATES; OFTEN ON "HISTORICALLY DISTURBED" SITE	May-Jun	1B.2	very low potential since these species usually found on specialized soils with composed of ferromagnesian silicates per soil report do not occur in the study area.
Clarkia Biloba ssp.brandegeeae/Brandegee 's clarkia	CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST. MICRO: OFTEN IN ROADCUTS.	May-Jul	4.2	Very low potential, usually found in road cuts where there is little competition for resources.
Fritillaria eastwoodiae/Butte County fritillary	CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE USUALLY ON DRY SLOPES BUT ALSO FOUND IN WET PLACES; SOILS CAN BE SERPENTINE, RED CLAY, OR SANDY LOAM.CONIFEROUS FOREST. MICRO:	Mar-Jun	3.2	No potential, study area is too degraded, and typically requires specialized soils composed of ferromagnesian silicates.
Lewisia serrata/Saw-toothed lewisia	USUALLY ON DRY SLOPES BUT ALSO FOUND IN WET PLACES; SOILS CAN BE SERPENTINE, RED CLAY, OR SANDY LOAM.	May-Jun	1B.2	No potential special soils do not occur within the study area.
Packera layneae/Layne's butterweed (=ragwort)	CHAPARRAL, CISMONTANE WOODLAND. MICRO: . ULTRAMAFIC SOIL; OCCASIONALLY ALONG STREAMS.	Apr-Aug		No potential special soils do not occur within the study area.
Phacelia stebbinsii/Stebbins phacelia	LOWER MONTANE CONIFEROUS FOREST, CISMONTANE WOODLAND, MEADOWS AND SEEPS, RIPARIAN WOODLAND. MICRO: AMONG ROCKS AND RUBBLE ON METAMORPHIC ROCK BENCHES.	May-Jul	1B.2	No potential requires perennial waters.
Poa sierrae/Sierra blue	LOWER MONTANE CONIFEROUS FOREST. MICRO: SHADY, MOIST,	Apr-Jun	1B.3	No potential, habitat not found within the

grass	ROCKY SLOPES. OFTEN IN CANYONS.			study area.
Viburnum ellipticum/Oval-leaved viburnum	CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.	May-Jun	2B.3	No potential, not observed during the surveys.
Wyethia reticulata/El Dorado mule ears	CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST. MICRO: STONY RED CLAY AND GABBROIC SOILS; OFTEN IN OPENINGS IN GABBRO CHAPARRAL.	Apr-Aug	1B.2	very low potential since these species usually found on specialized soils with composed of ferromagnesian silicates per soil report do not occur in the study area.

California Native Plant Society Rare and Endangered Plant Lists

1A. Presumed Extinct in California
1B. Rare or Endangered in California and elsewhere 1B.1 - Seriously Threatened in California 1B.2 - Fairly Threatened in California 1B.3 - Not Very Threatened in California
2. Rare or Endangered in California, more common elsewhere
2.1 - Seriously Threatened in California
2.2 - Fairly Threatened in California 2.3 - Not Very Threatened in California

3. Need More Information (threat ranks not always present)
3.1 - Seriously Threatened in California
3.2 - Fairly Threatened in California
3.3 - Not Very Threatened in California
4. Plants of Limited Distribution (threat ranks not always present)
4.2 - Moderate Degree of Threats
4.3 - Low Degree of Threats or Unknown Threats

Photographs

Aspect: looking east

MINE SHAFT ENCLOSED \WITH
CYCLONE FENCING

BLACKBERRY THICKET
SURROUNDING THE MINE SHAFT

Costella Environmental Consulting
Tina Costella, M.S.
P.O. Box 215
Nevada City, CA 95959
tcostella@metrailer.com
Phone: (530) 265-6969

Photo Plate
Dollar General Store Proposed Site
Georgetown

Photos taken by T.Costella
May, 2015

DOLLAR GENERAL STORE

GEORGETOWN, CA

NATIONWIDE PERMIT PRE-CONSTRUCTION NOTIFICATION FORM

CULTURAL REPORT

WETLAND DELINEATION

BIOLOGICAL REPORT

Prepared for:
Dan Biswas
CJS Development II, LLC
5111 N. Scottsdale Road, Suite 200
Scottsdale, AZ 85250

Prepared by:
Tina Costella M.S.
Costella Environmental Consulting
P.O. Box 215
Nevada City, CA 95959

Attachment 8

U.S. Army Corps of Engineers

South Pacific Division

Nationwide Permit Pre-Construction Notification (PCN) Form

This form integrates requirements of the U.S. Army Corps of Engineers Nationwide Permit Program within the South Pacific Division (SPD), including General and Regional Conditions. You MUST fill out all boxes related to the work being done. Fillable boxes in this form expand if additional space is needed.

Box 1 Project Name Georgetown, CA - Dollar General			
Applicant Name Joshua Simon		**Applicant Title** Manager	
Applicant Company, Agency, etc. SimonCRE Abbie, LLC		Applicant's internal tracking number (if any) Georgetown - DG	
Mailing Address 5111 N. Scottsdale Rd., Ste. 200, Scottsdale, AZ 85250			
Work Phone with area code 480.745.1956	Mobile Phone with area code 602.672.4559	Home Phone with area code NA	Fax # with area code NA
E-mail Address joshua@simoncre.com	Relationship of applicant to property: ☐ Owner ☒ Purchaser ☐ Lessee ☐ Other:		
Application is hereby made for verification that subject regulated activities associated with subject project qualify for authorization under a U.S. Army Corps of Engineers Nationwide Permit or Permits as described herein. I certify that I am familiar with the information contained in this application and, that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I hereby grant to the agency to which this application is made the right to enter the above-described location to inspect the proposed, in-progress or completed work. I agree to start work only after all necessary permits have been received and to comply with all terms and conditions of the authorization.			
Signature of applicant			Date (mm/dd/yyyy) 04/01/15

If anyone other than the person named as the Applicant will be in contact with the U.S. Army Corps of Engineers representing the Applicant regarding this project during the permit process, Box 2 MUST be filled out.

Box 2 Authorized Agent/Operator Name Tina Costella		**Agent/Operator Title** Owner	
Agent/Operator Company, Agency, etc. Costella Environmental Services		E-mail Address tcostella@metrailer.com	
Mailing Address P.O. Box 215			
Work Phone with area code 530.265.6969	Mobile Phone with area code NA	Home Phone with area code NA	Fax # with area code 530.265.6001
I hereby authorize the above named authorized agent to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application. I understand that I am bound by the actions of my agent and I understand that if a federal or state permit is issued, I, or my agent, must sign the permit.			
Signature of applicant			Date (mm/dd/yyyy) 04/01/15
I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete, and accurate.			
Signature of authorized agent Tina Costella			Date (mm/dd/yyyy) 4/2/15

Revised March 21, 2012. For the most recent version of this form, visit your Corps District's Regulatory website.

Box 3 Name of Property Owner(s), if other than Applicant: Denton Beam & Carolyn Gravelle Beam		
Owner Title Owner	**Owner Company, Agency, etc.** NA	
Mailing Address P.O. Box 4420, Georgetown, CA 95634		
Work Phone with area code NA	Mobile Phone with area code 530.306.5153 or 916.296.7430	Home Phone with area code NA

Box 4 Name of Contractor(s) (if known): Daniel Litzinger		
Contractor Title Owner	**Contractor Company, Agency, etc.** Monza Construction Company, Inc.	
Mailing Address 325 N. Austin Drive, Ste. #2, Chandler, AZ 85226		
Work Phone with area code 480.425.8200	Mobile Phone with area code 480.797.8815	Home Phone with area code NA

Box 5 Site Number 1 of 1. Project location(s), including street address, city, county, state, zip code where proposed activity will occur:

Harkness and Main Streets in Georgetown, CA 95634

Waterbody (if known, otherwise enter "an unnamed tributary to"): an unnamed tributary to

Tributary to what known, downstream waterbody: American River

Latitude & Longitude (D/M/S, DD, or UTM with Zone): 38.907241° -120.837633°	Section, Township, Range: S11 T12N R10E
County Assessor Parcel Number (Include County name): 0613620110, 0613620210, 0613620410	USGS Quadrangle map name: S11 T12N R10E
Watershed (HUC and watershed name[1]): 18020128 -- North Fork [1]http://water.usgs.gov/GIS/regions.html	Size of permit area or project boundary: 0.05 acres 60 linear feet

Directions to the project location and other location descriptions, if known:

From Sacramento take I-80 East to Elm Ave in Auburn. approx. 30 ml.
Follow CA-193 E to Main St/Wentworth Springs Rd in Georgetown 30 min (18.5 ml)

Nature of Activity (Description of the project, include all features):

The three parcels sit at a northwest orientation along Main Street within the town/city limits. The proposed project includes the site development and construction of a 9,100 square footage Dollar General retail store with convenient parking slots, bike parking, and landscaping around the

Project Purpose (Description of the reason or purpose of the project):

Development of a 9,100 sf Dollar General store with associated parking

Box 6 Reason(s) for discharge into Waters of the United States (Description of why dredged and/or fill material needs to be placed in Waters of the United States):

There will be no discharge into the tributary from the proposed project activity.

Proposed discharge of dredge and/or fill material. Indicate total surface area in **acres** and **linear feet** (where appropriate) of the proposed impacts to Waters of the United States, indicate water body type (tidal wetland, non-tidal wetland, riparian wetland, ephemeral stream/river, intermittent stream/river, perennial stream/river, pond/lake, vegetated shallows, bay/harbor, lagoon, ocean, etc.), and identify the impact(s) as permanent and/or temporary for each requested Nationwide Permit[1]:

[1] Enter the intended permit number(s). See Nationwide Permit regulations for permit numbers and qualification information: http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/NationwidePermits.aspx

Water Body Type	Requested NWP Number:				Requested NWP Number:				Requested NWP Number:			
	Permanent		Temporary		Permanent		Temporary		Permanent		Temporary	
	Area	Length	Area	Length	Area	Length	Area	Length	Area	Length	Area	Length
Pick One												
Pick One												
Pick One												
Pick One												
Pick One												
Total:												

Total volume (in cubic yards) and type(s) of material proposed to be dredged from or discharged into Waters of the United States:

Material Type	Total Volume Dredged	Total Volume Discharged
Rock Slope Protection (RSP)		
Clean spawning gravel		
River rock		
Soil/Dirt/Silt/Sand/Mud		
Concrete		
Structure		
Stumps/Root wads		
Other:		
Total:		

Activity requires a written waiver to exceed specified limits of the Nationwide Permit? ☐ Yes ☐ No
If yes, provide Nationwide Permit number and name, limit to be exceeded, and rationale for each requested waiver:

Activity will result in the loss of greater than ½-acre of Waters of the United States? ☐ Yes ☐ No
If yes, provide an electronic copy (compact disc) or multiple hard copies (7) of the complete PCN for appropriate Federal and State Pre-discharge Notification (See General Condition #31, Pre-construction Notification, Agency Coordination, Section 2 and 4).

Describe direct and indirect effects caused by the activity and how the activity has been designed (or modified) to have minimal adverse effects on the aquatic environment (See General Condition #31, Pre-construction Notification, District Engineer's Decision, Section 1):

Potential indirect and/or cumulative impacts could be as follows: accidental impacts to water quality during cut and fill. These actions of grading a could result in temporary and localized increases in

Potential cumulative impacts of proposed activity(if any):
None are anticipated with this action.

Required drawings and figures (see each U.S. Army Corps of Engineers District's Minimum Standards Guidance):
Vicinity map: ☒ Attached (or mail copy separately if applying electronically)
To-scale Plan view drawing(s): ☒ Attached (or mail copy separately if applying electronically)
To-scale elevation and/or Cross Section drawing(s): ☒ Attached (or mail copy separately if applying electronically)
Numbered and dated pre-project color photographs: ☒ Attached (or mail copy separately if applying electronically)
Sketch drawing(s) or map(s): ☒ Attached (or mail copy separately if applying electronically)

Has a wetlands/waters of the U.S. delineation been completed?
☒ Yes, Attached[2] (or mail copy separately if applying electronically) ☐ No
If a delineation has been completed, has it been verified in writing by the Corps?
☐ Yes, Date of preliminary or approved jurisdictional determination (mm/dd/yyyy): Corps file number: ☐ No
[2]If available, provide ESRI shapefiles (NAD83) for delineated waters

For proposed discharges of dredged material resulting from navigation dredging into inland or near-shore waters of the U.S. (including beach nourishment), please attach[3] a proposed Sampling and Analysis Plan (SAP) prepared according to Inland Testing Manual (ITM) guidelines (including Tier I information, if available), or if disposed offshore, a proposed SAP prepared according to the Ocean Disposal Manual. ☐ Attached (or mail copy separately if applying electronically)
[3]Or mail copy separately if applying electronically

Is any portion of the work already complete? ☐ YES ☒ NO
If yes, describe the work:

Box 7 Authority:
Is Section 10 of the Rivers and Harbors Act applicable?: ☐ YES ☒ NO
Is Section 404 of the Clean Water Act applicable?: ☐ YES ☐ NO

Is the project located on U.S. Army Corps of Engineers property or easement?: ☐ YES ☒ NO
If yes, has Section 408 process been initiated?: ☐ YES ☐ NO
Would the project affect a U.S. Army Corps of Engineers structure?: ☐ YES ☒ NO
If yes, has Section 408 process been initiated?: ☐ YES ☐ NO

Is the project located on other Federal Lands (USFS, BLM, etc.)?: ☐ YES ☒ NO
Is the project located on Tribal Lands?: ☐ YES ☒ NO

Box 8 Is the discharge of fill or dredged material for which Section 10/404 authorization is sought part of a larger plan of development?: ☐ YES ☒ NO

If discharge of fill or dredged material is part of development, name and proposed schedule for that larger development (start-up, duration, and completion dates):

Location of larger development (if discharge of fill or dredged material is part of a plan of development, a map of suitable quality and detail of the entire project site should be included):
N/A

Box 9 Measures taken to avoid and minimize impacts to waters of the United States:
Refer to attached BMPs.

Box 10 Proposed Compensatory Mitigation related to fill/excavation and dredge activities. Indicate in **acres** and **linear feet** (where appropriate) the total quantity of Waters of the United States proposed to be created, restored, enhanced and/or preserved for purposes of providing compensatory mitigation. Indicate water body type (tidal wetland, non-tidal wetland, riparian wetland, ephemeral stream/river, intermittent stream/river, perennial stream/river, pond/lake, vegetated shallows, bay/harbor, lagoon, ocean, etc.) or non-jurisdictional (uplands[1]). Indicate mitigation type (permittee-responsible on-site/off-site, mitigation bank, or in-lieu fee program). If the mitigation is purchase of credits from a mitigation bank, indicate the bank to be used, if known:
[1] For uplands, please indicate if designed as an upland buffer.

Site Number	Water Body Type	Created		Restored		Enhanced		Preserved		Mitigation Type
		Area	Length	Area	Length	Area	Length	Area	Length	
1	Riparian Wetland							0.05	60	In-Lieu Fee Program
	Pick One									Pick One
	Pick One									Pick One
	Pick One									Pick One
	Pick One									Pick One
Total:								0.05	60	Pick One

If no mitigation is proposed, provide detailed explanation of why no mitigation would be necessary:
In-lieu fees will be paid to the National Fish and Wildlife Foundation.

If permittee-responsible mitigation is proposed, provide justification for not utilizing a Corps-approved mitigation bank or in-lieu fee program:

Has a draft/conceptual mitigation plan been prepared in accordance with the April 10, 2008, Final Mitigation Rule[2] and District Guidelines?
[2] http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/mitig_info.aspx
[3] **Sacramento and San Francisco Districts**-http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pdf/Mitigation_Monitoring_Guidelines.pdf
[4] **Los Angeles District**-http://www.spl.usace.army.mil/regulatory/mmg_2004.pdf
[5] **Albuquerque District**-http://www.spa.usace.army.mil/reg/mitigation/SPA%20Final%20Mitigation%20Guidelines_OLD.pdf
☐ Yes, Attached (or mail copy separately if applying electronically) ☒ No
If no, a mitigation plan must be prepared and submitted, if applicable.

Mitigation site(s) Latitude & Longitude (D/M/S, DD, or UTM with Zone):	USGS Quadrangle map name(s):
Assessor Parcel Number(s):	Section(s), Township(s), Range(s):

Other location descriptions, if known:

Directions to the mitigation location(s):

Box 11 Threatened or Endangered Species

Please list any federally-listed (or proposed) threatened or endangered species or critical habitat (or proposed critical habitat) within the project area (include scientific names (e.g., Genus species), if known):

a. See Bio.Inventory attached b.
c. d.
e. f.

Have surveys, using U.S. Fish and Wildlife Service/NOAA Fisheries protocols, been conducted?
☐ Yes, Report attached (or mail copy separately if applying electronically) ☒ No

If a federally-listed species would be impacted, please provide a description of the impactand a biological evaluation, if available.
☐ Yes, Report attached (or mail copy separately if applying electronically) ☒ Not attached

Has Section 7 consultation been initiated by another federal agency?
☐ Yes, Initiation letter attached (or mail copy separately if applying electronically) ☒ No

Has Section 10 consultation been initiated for the proposed project?
☐ Yes, Initiation letter attached (or mail copy separately if applying electronically) ☒ No

Has the USFWS/NOAA Fisheries issued a Biological Opinion?
☐ Yes, Attached (or mail copy separately if applying electronically) ☒ No
If yes, list date Opinion was issued (m/d/yyyy):

Box 12 Historic properties and cultural resources:

Are any cultural resources of any type known to exist on-site? ☒ Yes ☐ No

Please list any known historic properties listed, or eligible for listing, on the National Register of Historic Places:

a. b.
c. d.
e. f.

Has a cultural resource records search been conducted?
☒ Yes, Report attached (or mail copy separately if applying electronically) ☐ No

Has a cultural resource pedestrian survey been conducted for the site?
☒ Yes, Report attached (or mail copy separately if applying electronically) ☐ No

Has another federal agency been designated the lead federal agency for Section 106 consultation?
☐ Yes, Designation letter/email attached (or mail copy separately if applying electronically) ☒ No

Has Section 106 consultation been initiated by another federal agency?
☐ Yes, Initiation letter attached (or mail copy separately if applying electronically) ☒ No

Has a Section 106 MOA or PA been signed by another federal agency and the SHPO?
☐ Yes, Attached (or mail copy separately if applying electronically) ☒ No
If yes, list date MOA or PA was signed (m/d/yyyy):

Box 13 Section 401 Water Quality Certification:
Applying for certification? ☐ Yes, Attached (or mail copy separately if applying electronically) ☒ No

Certification issued? ☐ Yes, Attached (or mail copy separately if applying electronically) ☒ No
Certification waived? ☐ Yes, Attached (or mail copy separately if applying electronically) ☒ No
Certification denied? ☐ Yes, Attached (or mail copy separately if applying electronically) ☒ No

Exempted activity? ☐ Yes ☒ No
Agency concurrence? ☐ Yes, Attached ☒ No
If exempt, state why:

Box 14 Coastal Zone Management Act:
Is the project located within the Coastal Zone? ☐ Yes ☒ No

If yes, applying for a coastal commission-approved Coastal Development Permit?
☐ Yes, Attached (or mail copy separately if applying electronically) ☐ No

If no, applying for separate CZMA-consistency certification?
☐ Yes, Attached (or mail copy separately if applying electronically) ☐ No

Permit/Consistency issued? ☐ Yes, Attached (or mail copy separately if applying electronically) ☐ No

Exempt? ☐ Yes ☐ No
Agency concurrence? ☐ Yes, Attached ☒ No
If exempt, state why:

Box 15 List of other certifications or approvals/denials received from other federal, state, or local agencies for work described in this application:

Agency	Type of Approval[4]	Identification Number	Date Applied	Date Approved	Date Denied

[4] Would include but is not restricted to zoning, building, and flood plain permits

Revised March 21, 2012. For the most recent version of this form, visit your Corps District's Regulatory website.

Nationwide Permit General Conditions (GC) checklist:

(http://www.gpo.gov/fdsys/pkg/FR-2012-02-21/pdf/2012-3687.pdf)

Check	General Condition	Rationale for compliance with General Condition
☒	1. Navigation	Project activity will have no effect on navigation.
☒	2. Aquatic Life Movements	Activity will not affect aquatic life movements
☒	3. Spawning Areas	There are no known spawning areas along the stream; all activities will occur in the fall when flows are < 1 cfs
☒	4. Migratory Bird Breeding Areas	There are no shellfish beds in the project vicinity.
☒	5. Shellfish Beds	There are no shellfish beds in the project vicinity.
☒	6. Suitable Material	The action will not use or discharge unsuitable material(s).
☒	7. Water Supply Intakes	N/A
☒	8. Adverse Effects from Impoundments	N/A
☒	9. Management of Water Flows	N/A
☒	10. Fills Within 100-Year Floodplains	No permanent fills.
☒	11. Equipment	D4 Dozer, 10 yard bucket loader, Vibratory compactor, 10 yard dump truck, H130 Grader, 5000 Gallon Water Truck
☒	12. Soil Erosion and Sediment Controls	Hydroseeding and Mechanical stormwater separator
☒	13. Removal of Temporary Fills	N/A
☒	14. Proper Maintenance	Activity will comply with the general condition.

☒	15. Single and Complete Project	This is a "complete" project.
☒	16. Wild and Scenic Rivers	There are no Special Status Rivers in the project area.
☒	17. Tribal Rights	No tribal rights will be impaired by the activity. The project is not within Tribal Lands.
☒	18. Endangered Species	See Box 11 above.
☒	19. Migratory Bird and Bald and Golden Eagle Permits	Not applicable.
☒	20. Historic Properties	See Box 12 above.
☒	21. Discovery of Previously Unknown Remains and Artifacts	Activity will comply with the general condition.
☒	22. Designated Critical Resource Waters	Activity will not affect Critical Resource Waters.
☒	23. Mitigation	See Box 10 above.
☒	24. Safety of Impoundment Structures	Activity will comply with the General Condition.
☒	25. Water Quality	See Box 13 above.
☒	26. Coastal Zone Management	See Box 14 above.
☒	27. Regional and Case-by-Case Conditions	Activity will comply with the General Condition.
☒	28. Use of Multiple Nationwide Permits	N/A
☒	29. Transfer of Nationwide Permit Verifications	Permittee will comply with the General Condition.
☒	30. Compliance Certification	Permittee understands and will comply with the General Conditions and the compliance requirements
☒	31. Pre-Construction Notification	Permittee understands and will comply with the General Condition.

Sacramento District
Nationwide Permit Program
Regional Conditions Checklist for California

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG ®**

On March 18, 2012, the U.S. Army Corps of Engineers' South Pacific Division approved 26 regional conditions for the 2012 Nationwide Permits (NWP) in California, excluding the Lake Tahoe Basin, within the Sacramento District. This checklist is intended to assist applicants with completing the South Pacific Division Pre-Construction Notification Checklist and to ensure compliance with the regional conditions. This checklist does not include the full text of each regional condition.

Please refer to the *Final Sacramento District Nationwide Permit Regional Conditions for California, excluding the Lake Tahoe Basin* (http://www.spk.usace.army.mil/Portals/12/documents/regulatory/nwp/2012_nwps/2012-NWP-RC-CA.pdf) and the *List of Additional Information Required for Complete Pre-Construction Notification for California, Nevada and Utah*, when completing this checklist.

Please check the box to indicate you have read and have/will comply with the regional condition and provide a rationale on how you have/will comply with the condition.

Check	Regional Condition	Compliance Rationale
☒	**1. Pre-construction Notification.** PCN must include: ☒ Avoidance & minimization statement. ☒ Plan & cross-section drawings. ☒ Pre-project photos.	The information has been submitted with the PCN design. The project has incorporated engineer recommendations for avoidance and minimization included on the site plan.
☒	**2. Pre-construction Notification.** PCN must be submitted for: ☐ Activities in a vernal pool. ☐ Activities in the Primary or Secondary Zone of the Legal Delta, Sacramento River, and San Joaquin River, and immediate tributaries. ☐ Crossings of perennial or intermittent waters. ☐ Activities within 100 feet of a natural spring. ☐ Activities located in areas designated as EFH.	The project design will require the fill of approximately 0.05 acres of a perennial stream and associated embankment wetland vegetation; it will not impact other features noted in this question.
☒	**3. Recordation.** Permittee will record the NWP verification.	Permittee understands and will comply with this condition.
☒	**4. Avoided Waters.** Permittee shall: ☐ Establish & maintain a preserve. ☐ Place avoided waters & buffers into a separate parcel; and ☐ Establish permanent legal protection.	Permittee understands and will comply with this condition.
☒	**5. Temporary Fill.** PCN must include: ☐ Avoidance practicability statement. ☐ Description of the fill. ☐ Plan for restoration and/or revegetation. **Permittee will:** ☐ Use clean & washed gravel, ☐ Place a horizontal marker. ☐ Remove all temporary fill within 30 days.	N/A

Check	Regional Condition	Compliance Rationale
☒	**6. Stream Crossings.** ☐ For Federally-listed fish species habitat, span the stream or river, or use bottomless arch culvert. ☐ Ensure only minor impacts would occur to fish and wildlife passage or expected high flows. ☐ No work within standing or flowing waters. ☐ Dewatering plans must be approved by the Corps. ☐ Will comply with Regional Condition 19; ☐ Will not result in a reduction of bankfull width or depth of streams or negatively alter the flood control capacity.	No federally listed fish or other aquatic species occur on-site. All work will occur during the dry season, typically from May to October of each year; dewatering will not be required.
☒	**7. Lead Federal Agency.** Must submit documentation pertaining to the Corps Permit Area for ESA and Area of Potential Effect for NHPA.	Permittee understands and will comply with this condition.
☒	**8. Compliance Certificate.** Must submit: ☐ As-built drawings. ☐ Post-construction photographs.	I agree to submit as-built drawings and post-construction photographs as required by this condition.
☒	**9. Permittee Responsible Mitigation.** Must submit a final compensatory mitigation & monitoring plan.	Permittee understands and will comply with this condition.
☒	**10. Mitigation.** Must complete mitigation construction before or concurrent with commencement of project construction and/or submit proof of mitigation bank or ILF payment.	Permittee understands and will comply with this condition.
☒	**11. Contractor Awareness.** Responsible for awareness and shall ensure permit & drawing availability.	Permittee understands and will comply with this condition. including permit and drawings
☒	**12. Limits of Disturbance.** Must clearly identify & ensure no work takes place outside of limits.	Permittee understands and will comply with this condition with the project limits identified
☒	**13. Notification.** Must notify 10 days prior to initiation of project construction.	Permittee understands and will comply with this condition.
☒	**14. Inspections.** Must allow inspection of activity(s).	IPermittee agrees to allow Corps
☒	**15. Mather Core Recovery Area (Sacramento County).** NWPs (see list) revoked from use in vernal pools.	The activity does not involve impacts to vernal pools in the Mather Core Recovery Area. OR
☒	**16. Legal Delta.** NWPs (see list) revoked.	The activity does not involve impacts in the
☒	**17. Secondary Zone.** Impacts must be mitigated within the Secondary Zone of the Legal Delta.	The activity would not occur within the Secondary Zone of the Legal Delta
☒	**18. NWP 12 (Utility Lines).** ☐ Activity will not drain wetlands or waters. ☐ Permittee will stockpile top 6-12" of topsoil. ☐ Permittee will replace topsoil, and then re-seed. **PCN be submitted when a utility line:** ☐ Results in a discharge of fill into perennial or intermittent waters, or special aquatic sites ☐ Results in a discharge of fill into greater than 100 linear feet of ephemeral waters; ☐ Includes construction of an access road, substation or foundation within waters; or ☐ Does not involve restoration of trenches to pre-project contours and conditions.	The proposed project does not require a NWP #12.

Check	Regional Condition	Compliance Rationale
☒	**19. NWPs 13 & 14.** For bank stabilization activity(s): ☐ Activity will use native vegetation, bioengineering design techniques, or a combination thereof. **PCN be submitted when stabilization:** ☐ Involves hard-armoring or non-vegetated/non-bioengineered technique.	The proposed project does not require a NWP #13 or 14.
☒	**20. NWP 23 (Categorical Exclusions).** ☐ Submit a PCN for all activities. ☐ Include a copy of the CE. ☐ Include final agency determinations for ESA, EFH, and NHPA.	The proposed project does not require a NWP #23.
☒	**21. NWP 27 (Aquatic Habitat Restoration).** PCN must be submitted when the activity: ☐ Results in a discharge of fill into perennial or intermittent waters, or special aquatic sites; or ☐ Results in a discharge of fill into greater than 100 linear feet of ephemeral waters.	The proposed project does not require a NWP #27.
☒	**22. NWPs 29 and 39 (Residential & Commercial Development).** Channelization or relocation of intermittent or perennial drainages is not authorized, except when relocation would result in a net increase in functions.	The proposed activity will not involve channelization or relocation of intermittent or perennial drainages.
☒	**23. Waivers (300 & 500 linear foot):** PCN must include: ☐ A narrative description; ☐ An analysis of the proposed impacts; ☐ Measures taken to avoid and minimize losses to waters; and ☐ A compensatory mitigation plan.	The proposed activity will not require these waivers.
☒	**24. NWPs 29, 39, 40, 42, and 43:** Must establish and maintain upland vegetated buffers.	Permittee understands and will comply with this condition
☒	**25. NWP 46 (Discharge in Ditches):** Will not cause the loss of greater than 0.5 acres of waters or the loss of more than 300 linear feet of ditch.	The proposed project does not require a NWP #45.
☒	**26. All NWPs.** All NWPs except (see list) are revoked for activities in histosols, fens, bogs and peatlands, and in wetlands contiguous with fens.	The activity would not occur in a histosols, fen, bog, peatland or wetland contiguous with a fen.

DOLLAR GENERAL STORE PROJECT - GEORGETOWN

Best Management Practices During Construction

To protect the waterway and the non-disturbance buffer, water quality and downstream aquatic and wetland resources, the contractor shall implement standard Best Management Practices during and after construction work on the Dollar General Store Project. These measures include, but are not limited to:

- Limiting all construction to the dry season, typically in the Sierra Nevada Foothills/Mountains is May 1 to October 1 of any given year.

- Minimize the number and size of the work areas (e.g. equipment staging areas and spoil storage sites) in the vicinity of the riparian zone and the stream). Place staging areas and other work areas at least 30 feet from the these mentioned areas. Field reconnaissance should be conducted during the planning stage to identify work areas and clearly mark those areas on all final grading and construction drawings.

- Prior to the start of work, including any grading, install silt-fencing, straw wattles, or other sediment barriers to keep erodible soils and other pollutants from entering the seasonal stream and the off-site storm drain, known as the: Environmentally Sensitive Areas (ESAs). At the completion of the project and before the first heavy rains and prior to removing the barriers, soil or other sediments or debris that accumulated behind the barriers shall be removed and transported away for disposal.

- The contractor shall exercise every reasonable precaution to protect the stream and adjacent non-disturbance buffers from pollution with fuels, oils, and other harmful materials. Construction byproducts and pollutants such as oil, cement, and wash water shall be prevented from discharging into or near these resources and shall be collected for removal off the site. No slash or other natural debris shall be placed in or adjacent to these areas. All construction debris and associated materials and litter shall be removed from the work site immediately upon completion.

- The contractor shall immediately contain and clean up any petroleum or other chemical spills with absorbent materials such as sawdust or kitty litter. For other hazardous materials, follow the cleanup instruction on the label.

Provide Copies of the Permit Conditions to Contractors

To ensure the proper and timely implementation of all permit conditions contained in this report, as well as the terms and conditions of any other required permits, the applicant shall distribute copies of these conditions and permit requirements to the contractors prior to

grading and construction near the ESAs and adjacent non-disturbance buffer. All contractors shall be completely familiar with the terms and conditions of all permits.

ADDITIONAL (BMPS) DURING GRADING AND CONSTRUCTION

To protect the environmentally sensitive areas (ESAs) and down-stream aquatic life and off-site wetland resources, the contractor shall implement BMPs during and after construction.

- Minimize the number and size of the work areas, i.e. staging areas and spoil storage sites in the vicinity of protected resources.
- Place staging areas and other work areas at least 50 feet from protected resources.
- Field reconnaissance should be conducted during the planning stage to identify work areas and clearly mark those areas on all final grading and construction drawings.
- Erosion control and sediment detention devices, i.e. silt fencing, straw bales, or silt fencing be securely placed around the construction area(s). These devices should be in placed prior to any construction activities.
- Periodic inspection of these devices should be completed at least once each day during construction.
- Construction material storage areas containing hazardous or potentially toxic materials shall have an impermeable membrane between the ground and the hazardous material and placed outside of the non-disturbance buffer to the active stream - approximately 100 feet.
- Good housekeeping practices, use of safer alternative products, such as biodegradable hydraulic fluids, shall be utilized where feasible.
- An employee training program shall be implemented. Employees shall be trained to prevent or reduce the discharge of pollutants from construction activities to waters and of the appropriate measures to take should spills occur.

SPECIAL STATUS PLANTS
GEORGETOWN PROPOSED DOLLAR GENERAL STORE
GEORGETOWN QUAD

SCIENTIFIC/ COMMON NAME	COMMUNITIES	BLOOMING	FEDERAL STATE CNPS	POTENTIAL TO OCCUR WITHIN PROJECT SITE
Arctostaphylos nissenana/ Nissenan manzanita	closed-cone coniferous forest, chaparral. **micro**: usually on metamorphics, associated w/ other chaparral species.	Feb - Mar	-- -- 1B.2	No potential; no specialized soils within project site.
Chlorogalum grandiflorum/ Red Hills soaproot	cismontane woodland, chaparral, lower montane coniferous forest. **micro:** occurs frequently on serpentine or gabbro, but also on non-ultramafic substrates; often on "historically disturbed" sites	May - Jun	-- -- 1B.2	Not observed during surveys; no specialized soils within project site.
Horkelia parryi Parry's horkelia	chaparral, cismontane woodland. **micro**: openings in chaparral or woodland; especially known from the lone formation in Amador County.	Apr - Sep	-- -- 1B.2	No potential; no specialized soils nor habitat found on the project site.
Packera layneae (Senecio layneae)/ Layne's ragwort	chaparral, cismontane woodland **micro:** ultramafic soil; occasionally along streams	Apr - Aug	FT SR 1B.2	No potential; no specialized soils within project site.

California Native Plant Society Rare and Endangered Plant Lists

1A. Presumed Extinct in California
1B. Rare or Endangered in California and elsewhere
- 1B.1 - Seriously Threatened in California
- 1B.2 - Fairly Threatened in California
- 1B.3 - Not Very Threatened in California

2. Rare or Endangered in California, more common elsewhere
- 2.1 - Seriously Threatened in California
- 2.2 - Fairly Threatened in California
- 2.3 - Not Very Threatened in California

3. Need More Information (threat ranks not always present)
- 3.1 - Seriously Threatened in California
- 3.2 - Fairly Threatened in California
- 3.3 - Not Very Threatened in California

4. Plants of Limited Distribution (threat ranks not always present)
- 4.2 - Moderate Degree of Threats
- 4.3 - Low Degree of Threats or Unknown Threats

SPECIAL STATUS ANIMAL SPECIES
GEORGETOWN PROPOSED DOLLAR GENERAL STORE
GEORGETOWN QUAD

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	CDFG	HABITAT TYPES	POTENTIAL TO OCCUR WITHIN PROJECT SITE
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	Threatened	None	None	Associated with its host plant the blue elderberry shrub (*Sambucus mexicana*).	No suitable habitat within the project site. No host plants found within the project boundaries.
Hypomesus transpacificus	Delta smelt	Threatened	Threatened	None	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Micro: seldom found in salinities > 10PPT. Most often at salinities < 2PPT.	No suitable habitat within the project site.
Laterallus jamaicensis coturniculus	California Black Rail	None	Threatened	None	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Micro: Needs water depths of about one inch that does not fluctuate during the year and dense vegetation for nesting habitat.	No suitable habitat within the project site.
Oncorhynchus mykiss	Central Valley steelhead and critical habitat	Threatened	None	None	Populations in the Sacramento and San Joaquin Rivers and their tributaries.	No suitable habitat within the project site.
Oncorhynchus tshawytscha	Central Valley spring-run Chinook salmon and critical habitat	Threatened	None	None	Adult numbers dependent on pool depth and volume, amount of cover, and proximity to gravel. Water temperatures > 27° C lethal to adults. Micro: federal listing refers to populations spawning in the Sacramento River and tributaries.	No suitable habitat within the project site.
Oncorhynchus tshawytscha	Winter-run Chinook salmon, Sacramento River and critical habitat	Endangered	None	None	Sacramento River below Keswick Dam. Spawning in Sacramento River but not in tributaries. Micro: requires, cold water over gravel bed with water temperatures between 6 and 14° C for spawning.	No suitable habitat within the project site.
Phrynosoma coronatum (frontale population)	Coast (California) horned lizard	Threatened	None	SC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. **Micro**: open areas for sunning, bushes for cover, patches of loose soil for burial and abundant supply of ants and other insects.	No potential; no suitable habitat within the project boundaries.
Rana aurora draytonii	California red-legged frog	Threatened	None	SC	Lowlands and foothills in or near permanent sources of deep water with dense shrubby or emergent riparian vegetation. **Micro**: requires 11-20 weeks of permanent water for larval development, must have access to estivation habitat.	No habitat within the project boundaries.

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	CDFG	HABITAT TYPES	POTENTIAL TO OCCUR WITHIN PROJECT SITE
Rana boyliii	Foothill yellow-legged frog	None	None	SC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Micro: needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	No habitat within the project boundaries.

Federal Status Definitions

Endangered (FE)
Any species which is in danger of extinction throughout all or a significant portion of its range.

Threatened (FT)
Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Candidate (FC)
Taxa for which the Service currently has sufficient information on biological vulnerability and threats on hand to support the issuance of a proposed rule to list but issuance of the proposed rule is precluded. Only those species for which there is enough information to support a listing proposal will be called "candidates." These were formerly known as "Category 2 Candidates." There are species for which the Service does not have enough scientific information to support a listing proposal. Both Category 2 and Category 3 no longer exist. The former Category 3 was a mix of non-candidate species either thought to be extinct (3A), taxonomically invalid (3B), or too widespread to be considered at risk (3C).

State Status Definitions

Endangered (CE)
A native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

Threatened (CT)
A native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant that, although not presently threatened with extinction, is likely to become endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter (Chapter 1.4 of the California Fish and Game Code).

Rare (CR)
A species, or subspecies or variety is rare when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens.

Candidate (CC)
A native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list.

Species of Special Concern (SSC)
Native species or subspecies that have become vulnerable to extinction because of declining population levels, limited ranges, or rarity. The goal is to prevent these animals from becoming endangered by addressing the issues of concern early enough to secure long term viability for these species. Bird Species of Special Concern appear in Remsen, 1978.

CP = CDFG "fully protected" species (Sec. 4700, Chapt. 6, Sec 5050, Chapt. 2; Div. 5, Chapt. 1 Sec. 5515).

ARCHAEOLOGICAL INVENTORY SURVEY

**Georgetown Dollar General Development Project,
circa 1.2-acres, Georgetown,
El Dorado County, California.**

Prepared for

Simon CRE
5111 N. Scottsdale Road, Suite 200
Scottsdale, AZ 85250

Author

Sean Michael Jensen, M. A.

Keywords *for Information Center Use:*
Archaeological Inventory Survey, circa 1.2-acres, El Dorado County, CEQA, USGS Georgetown, Ca. 7.5' Quad., No Significant Historical Resources, No Unique Archaeological Resources.

January 9, 2015

GENESIS SOCIETY

ARCHAEOLOGICAL - HISTORICAL - CULTURAL RESOURCE MANAGEMENT SERVICES

WETLAND DELINEATION REPORT

Dollar General Store Proposed Site - Georgetown, CA
Regulatory Division: ACOE SPK -2015-00122

INTRODUCTION

This report represents the findings of a formal delineation of "waters of the United States" for the Dollar General Store proposed site in Georgetown. Surveys were conducted during November and December 2014. The study limit is defined as a undeveloped 3- parcels, 1.2 acres, with a small seasonal drainage, with associated wetlands. No street address is given for this parcel, however, it is situated on Main Street/Wentworth Springs Road, between Orleans and Harkness Streets, in the City of Georgetown, CA.

This delineation was conducted by Tina Costella, Wetland Scientist/Botanist. The delineation methodologies employed were developed in conjunction with the US Army Corps of Engineers (ACOE) and are based on the *1987 Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987), as supplemented by the *Interim Regional Supplement - Arid West Region* (ACOE Research & Development Center, 2006). The report is hereby submitted to the ACOE for verification of the findings. For purposes of this document, it is assumed that the delineated feature could be wetlands or "other waters of the United States" pursuant to 33 CFR 328.3 (a); 40 CFR 230.3 (s).

The survey(s) determined that there are currently ± 0.06 acres of wetlands on the subject ± 1.2 acre project site. The wetlands are potential "waters of the United States" and are comprised of two small wetlands adjacent to a seasonal drainage, approximately 2 feet wide by 107 feet in length running along the boundary of the property of the north most parcel; the middle and south parcel boundary jogs to the west slightly while the seasonal drainage runs off-site, this drainage totals less than 0.01 acres. The storm drain is situated just off-site from the south boundary and runs parallel and adjacent to Orleans Street. This drainage will not be impacted by the construction activities and will be protected by Best Management Practices (BMPs) during all phases of construction.

The seasonal drainage and the storm water drainage collect into a storm system off site and to the southeast of the property. It appears that storm water conveys underground (?) into Empire Creek, which eventually flows into the American River, which is Jurisdictional Waters of the U.S.

Current project design calls for impacts only to the two small wetlands totaling 0.05 acres. All operations will be coordinated with the ACOE through a Nationwide Permit designated by ACOE. Mitigation for the lost functions and values to the wetlands adjacent to the seasonal

drainage, totaling 0.05 acres, will be made through an In-Lieu Fee paid to the ACOE for the National Fish and Wildlife Foundation, a non-profit agency that manages mitigation funds. The fees are used to fund local (within the same watershed unless otherwise authorized) wetland and stream creation and restoration projects.

Project Location

The proposed project site is located at the lower elevation of the western Sierra Nevada Mountains. The property lies on Main Street/Wentworth Springs Road, between Orleans and Harkness Streets, in the City of Georgetown. The planned store site currently consists of three undeveloped parcels. No physical address was given for the proposed study area. The specific site location is northwest 1/4 of Section 11 of Township 12 North, and Range 10 East, on the Georgetown, California 7.5 minute USGS quadrangle. Average elevation is 2,660 feet.

Project Description

The three parcels sit at a northwest orientation along Main Street within the town/city limits. The proposed project includes the site development and construction of a 9,100 square footage Dollar General retail store with convenient parking slots, bike parking, and landscaping around the perimeter; egress/ingress is on Main Street. The store site will be constructed on three parcels designated as commercial, and is considered an in-fill development within the City of Georgetown.

SITE CONDITIONS

VEGETATION

Non-native Annual Grasses and Forbs

Non-native grasses occur throughout the study area. Non-native grasses' phenology is such that they are able to out complete most native grasses and forbs. They were prevalent within wetland areas on site, probably due to full-sun exposure, and throughout. The dominant species were rip-gut brome (*Bromus diandrus*), soft chess (*Broom's hordeaceus*), yellow starthistle (*Centaurea solstitialis*), and non native forbs of Queen Anne's lace (*Daucus carota*). Also occurring on site is the invasive Scotch broom, a species that once was widely planted along roadways in the Sierra Nevada Mountains.

Wetlands and Drainages

The two small wetland areas associated with the seasonal drainage will be impacted by the construction and development of the site. These two areas are respectively 0.02 and 0.03 acres. Current on-site vegetation consists of willow thickets and a few species of native grasses and forbs. There are a few mature willow trees, interspersed with heavily infested Himalayan blackberry, located along the east boundary and other areas (within the middle parcel) that have occasional seasonal irrigation from two small culverts entering this parcel from the

residential area directly across Main Street, coupled with occasional irrigation water directly to the east from the local Post Office. The drainage pattern of green vegetation can be recognized easily on the aerial map.

Conditions observed on site indicate that all water flows originate on site during storm events. Storm flows within this seasonal drainage do not flow from a drainage/stream system to the north, but appear to be associated with a mine/air shaft at the northeast corner of the property. Only once ground water fills the shaft does water flow from the air shaft into the small seasonal drainage.

The seasonal drainage along the east boundary only flows on site for approximately 107 feet, corresponding with the boundary of the northern most parcel. The boundaries of the middle and south parcels jog to the west, where the drainage actually flows off site but is in close proximity to these properties. BMPs will be installed to protect this drainage from grading and other construction impacts. NOTE: This small east boundary drainage appears to flow into the open air shaft at the northeast corner of the property. Then, as noted, once the air shaft is inundated with storm water, the drainage flows along the eastern boundary to the south, entering the ditch (open storm drain) off site onto the property to the south (Post Office).

The open storm drain runs for approximately the length of the property boundary for 165 feet, running parallel and adjacent to Orleans Street and off-site from the property. This drain does not appear to collect on-site storm water flows and will not be impacted by the construction activities. It will be protected by Best Management Practices (BMPs) during all phases of construction. As noted, most storm water appears to flow into the air shaft located at the northeast side of the property.

SOILS

Soil survey information was obtained from the United States Department of Agriculture Web Soil Survey website. Soils described for this area are as follows: Boomer-Sites loams, 15 to 30 percent slopes. Elevation: 600 to 5,500 feet; Map Unit Composition is Boomer and similar soils at 55 percent, Sites and similar soils at 35 percent, Minor components at 10 percent including Mariposa and Josephine. See Appendix A Soils Report.

Description of Boomer soils: Landform is mountains; Parent material: Residuum weathered from greenstone and/or residuum weathered from schist. Typical profile is H1 - 0 to 13 inches: loam, H2 - 13 to 37 inches: sandy clay loam, H3 - 37 to 52 inches: gravelly sandy clay loam, and H4 - 52 to 56 inches: weathered bedrock.

Description of Sites soils: Landform is mountain slopes; Parent material: Residuum weathered from greenstone and/or residuum weathered from schist. Typical profile is H1 - 0 to 14 inches: loam, H2 - 14 to 21 inches: clay loam, H3 - 21 to 53 inches: clay, H4 - 53 to 69 inches: clay loam, H5 - 69 to 73 inches: weathered bedrock.

Climate

On average, there are 243 sunny days per year in Georgetown, CA. This area of California has a Mediterranean climate with warm to hot, dry summers, and wet, cool, rainy winters. Summer is very dry but thunderstorms may occur. The area receives an annual average of 50.97 inches of rain each year and an average of 15.5 inches of snowfall, with 2 inches of snow depth each year. Average maximum temperature (f) is 68.8°, and average minimum temperature is 46.0° (Western Regional Climate Center http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3384).

SPECIAL STATUS SPECIES

Special-status species were considered for this analysis based on field survey results, a review of the California Natural Diversity Database (CNDDB), CNPS literature, database information provided by the U. S. Fish and Wildlife Service (USFWS) (Georgetown 7 ½ Minute quad), and the El Dorado County General Plan. The table and listings are included in Appendix B Special Status Plants and Appendix C Special Status Wildlife. Explanations are given within the plant and wildlife tables as to why there is no potential for these species to occur within the boundaries of the project site.

SURVEY METHODOLOGY

A three-parameter approach (vegetation, soils and hydrology) as described in *The 1987 Corps of Engineers Wetlands Delineation Manual, as supplemented by the* ***Interim Regional Supplement - Arid West Region*** *(ACOE Research & Development Center, 2006),* was used to identify and delineate the boundaries of jurisdictional waters/wetlands. To be considered a wetland, all three positive wetland parameters must be present. These parameters include (1) a dominance of wetland vegetation, (2) a presence of hydric soils, and (3) hydrologic conditions that result in periods of inundation or saturation on the surface from flooding or ponding.

Hydrophytic Vegetation

Riparian vegetation was easily delineated from the upland vegetation. The presence of hydrophytic vegetation was determined using indicators stated in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual. The primary indicator of hydrophytic vegetation is an area having more than 50 percent of the dominant species being obligate wetland plants (OBL), facultative wetland plants (FACW), or facultative plants (FAC).

Hydric Soils

Soil samples were examined in the field during the delineation, and the data forms are included with this report. Notably, the soils along the seasonal drainage/wetlands did not show hydric soil indicators, viz. low chroma and mottling within the soil matrix that are common indicators in soils within El Dorado County. This is likely a result of cut and fill materials being incorporated in the soils at an earlier time.

Hydrology

The determination of wetland hydrology was based on observed inundation and saturation in the upper ± 12 inches of soil and/or watermarks, if any, along the seasonal drainage.

Wetland Boundaries

Wetland boundaries were determined based on the presence or inference of wetland vegetation and inference from where the season drainage is located These boundaries could easily be identified visually using abrupt vegetative community changes and topographic divisions, such as where the drainage was located, for delineating.

RESULTS

Wetland boundaries are defined and described in the Wetland Delineation Map included with this report. Photographs of the data points are included with this report at Appendix D.

Vegetation

As noted, the most abundant species within the wetland areas and identified seasonal drainage is Himalayan blackberry, considered an upland species. Other species located there are willow thickets, including a few mature trees, and a small collection of wetland vegetation of grasses and forbs.

Hydrology

No sediment deposits were observed, and conditions at the site indicate that water flows within the drainage appear to originate on site only during storm events. Storm flows within this seasonal drainage do not flow from a drainage/stream system to the north, but appear to be associated with the mine/air shaft, and only once ground water fills the shaft does water flow from the air shaft into the small seasonal drainage. The seasonal drainage is not shown on the USGS Georgetown topographic map. See Appendix E Georgetown Topographic Map.

Soils

Four soil data points were taken, two within the seasonal drainage/stream and two corresponding upland points well outside of the stream. The soils did not show hydric soil indicators, but these two data points were still identified as a "wetlands" since they occur within the ordinary high watermark of the drainage.

JURISDICTIONAL DETERMINATION SUMMARY

A total of 0.05 acres of pre-jurisdictional Waters of the U.S. were delineated within the survey area. The types of Waters of the U.S. identified in the survey area are distinguished as a seasonal drainage with associated wetlands, an area primarily composed of willow thickets and massive brambles of Himalayan blackberries. Table 1 presents the acreage and the aquatic/wetland features. The wetland delineation map features are mapped at a 1" to 30'scale and are presented as an attachment; see the ACOE Potential Jurisdictional Wetland Map.

Acreages of Waters of the U.S. presented in this report should be considered preliminary, subject to review and modification by the ACOE during the wetland delineation verification process, if required. There are no further anticipated impacts to these areas except for the construction of the store and related features.

Table 1. Potential Jurisdictional Habitats

Water of the United States	Size Acres	Total Impacts Acres
Wetlands	0.03 + 0.02	0.05
Seasonal Drainage	0.01	- 0 -
TOTAL	0.06	0.05

Driving Directions

1. From Sacramento take I-80 East to Elm Ave in Auburn (approx. 30 ml.)

2. Follow CA-193 E to Main St/Wentworth Springs Rd in Georgetown 30 min (18.5 ml)

3. Take a right on Main St/Wentworth Springs Rd. drive approximately 750 ft. (0.14 ml); the project is located on the south side of Main Street between the cross streets Orleans and Harkness.

REFERENCES

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Georgetown Dollar General Store City/County Georgetown, El Dorado County Sampling Date: 12/2014

Applicant/Owner SimonCRE, Abbie, LLC State: California Sampling Point: 1

Investigator(s): Tina Costella & Sandra Brown Section, Township, Range:

Landform (hillslope, terrace, etc.): flat terrain Local relief (concave, convex, none): _____ Slope (%):

Subregion (LRR): _____ Lat: 038°54'1388" Long: 120°50'4.6542 " Datum: NAD27

Soil Map Unit Name: Boomer-Sites 15 to 30 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil (?), or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No	**Is the Sampled Area within a Wetland?** Yes x No
Hydric Soil Present?	Yes _____ No x	
Wetland Hydrology Present?	Yes x No	

Remarks: Seasonal drainage with only blackberry thickets present.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
Total Cover:			
Sapling/Shrub Stratum			
1. Rubus armenicus	25%	Yes	
2.			
3.			
Total Cover:			
Herb Stratum			
1. Ruderal grasses	70%	Yes	Upl
2. Juncus balticus	5%	No	FACW
3.			
4.			
5.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum -0- % Cover of Biotic Crust -0-

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 =
FACW species _____	x 2 =
FAC species _____	x 3 =
FACU species _____	x 4 =
UPL species _____	x 5 =
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes _____ No

Remarks: directly adjacent to the seasonal drainage.

SOIL

Sampling Point:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 12"	7YR 5/4	100					loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes _____ No __X__

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- _x_ Surface Water (A1)
- ___ High Water Table (A2)
- _x_ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches):

Water Table Present? Yes _____ No _____ Depth (inches):

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches):

Wetland Hydrology Present? Yes __x__ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Georgetown Dollar General Store City/County Georgetown, El Dorado County Sampling Date: 12/2014

Applicant/Owner SimonCRE, Abbie, LLC State: California Sampling Point: 2

Investigator(s): Tina Costella & Sandra Brown Section, Township, Range:

Landform (hillslope, terrace, etc.): flat terrain Local relief (concave, convex, none): _____ Slope (%):

Subregion (LRR): _____ Lat: 038°54'1388" Long: 120°50'4.6542" Datum: NAD27

Soil Map Unit Name: Boomer-Sites 15 to 30 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil (?), or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No x	**Is the Sampled Area within a Wetland?** Yes _____ **No x**
Hydric Soil Present?	Yes _____ No x	
Wetland Hydrology Present?	Yes _____ No x	

Remarks: upland data point corresponds to #1.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
	Total Cover:		
Sapling/Shrub Stratum			
1.			
2.			
3.			
	Total Cover:		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
	Total Cover:		
Woody Vine Stratum			
1.			
2.			
	Total Cover:		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 =
FACW species _____	x 2 =
FAC species _____	x 3 =
FACU species _____	x 4 =
UPL species _____	x 5 =
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes _____ No

Remarks:

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 9	7YR 6/6	100					loam with 2%sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes _____ No _x_

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches):

Water Table Present? Yes _____ No _____ Depth (inches):

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches):

Wetland Hydrology Present? Yes _____ No _x_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Georgetown Dollar General Store City/County Georgetown, El Dorado County Sampling Date: 12/2014

Applicant/Owner SimonCRE, Abbie, LLC State: California Sampling Point: 3

Investigator(s): Tina Costella & Sandra Brown Section, Township, Range:

Landform (hillslope, terrace, etc.): flat terrain Local relief (concave, convex, none): _____ Slope (%):

Subregion (LRR): _____ Lat: 038°54'1388" Long: 120°50'4.6542" Datum: NAD27

Soil Map Unit Name: Boomer-Sites 15 to 30 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil (?), or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes 3 No	**Is the Sampled Area**
Hydric Soil Present?	Yes _____ No x	**within a Wetland?** **Yes x No**
Wetland Hydrology Present?	Yes x No	

Remarks: Data point occurs adjacent to the seasonal drainage.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
Total Cover:			
Sapling/Shrub Stratum			
1. Rubus armenicus	25%	Yes	FACU
2.			
3.			
Total Cover:			
Herb Stratum			
1. Ruderal grasses	40%	Yes	UPL
2. Juncus balticus	10%	No	FACW
3.			
4.			
5.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 25% % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? **Yes _____ No**

Remarks:

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7YR 5/5	100					loam with 5% sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes _____ No x

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches):

Water Table Present? Yes _____ No _____ Depth (inches):

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches):

Wetland Hydrology Present? Yes x No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Georgetown Dollar General Store City/County Georgetown, El Dorado County Sampling Date: 12/2014

Applicant/Owner SimonCRE, Abbie, LLC State: California Sampling Point: 4

Investigator(s): Tina Costella & Sandra Brown Section, Township, Range:

Landform (hillslope, terrace, etc.): flat terrain Local relief (concave, convex, none): _____ Slope (%):

Subregion (LRR): _____ Lat: 038°54'1388" Long: 120°50'4.6542" Datum: NAD27

Soil Map Unit Name: Boomer-Sites 15 to 30 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil (?), or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____ No	
Wetland Hydrology Present?	Yes _____ No	

Remarks: Data Point 4 corresponds to Data Point 3 adjacent to the stream; this point taken 15 ft. from #3.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
Total Cover:			
Sapling/Shrub Stratum			
1. Rubus armenicus	50%	Yes	FACU
2.			
3.			
Total Cover:			
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 50% % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 =
FACW species _____	x 2 =
FAC species _____	x 3 =
FACU species _____	x 4 =
UPL species _____	x 5 =
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes _____ No

Remarks:

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	7YR 4/6	100					loam with 2% sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes _____ No x

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
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- ___ Hydrogen Sulfide Odor (C1)
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- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches):

Water Table Present? Yes _____ No _____ Depth (inches):

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches):

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for El Dorado Area, California

Dollar Store Georgetown CA

November 13, 2014

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Dorado Area, California
Survey Area Data: Version 7, Sep 15, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 12, 2010—Apr 29, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

El Dorado Area, California (CA624)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BpD	Boomer-Sites loams, 15 to 30 percent slopes	1.4	100.0%
Totals for Area of Interest		1.4	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

El Dorado Area, California

BpD—Boomer-Sites loams, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hhz2
Elevation: 600 to 5,500 feet
Mean annual precipitation: 30 to 85 inches
Mean annual air temperature: 50 to 59 degrees F
Frost-free period: 120 to 260 days
Farmland classification: Farmland of local importance

Map Unit Composition

Boomer and similar soils: 55 percent
Sites and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boomer

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from greenstone and/or residuum weathered from schist

Typical profile

H1 - 0 to 13 inches: loam
H2 - 13 to 37 inches: sandy clay loam
H3 - 37 to 52 inches: gravelly sandy clay loam
H4 - 52 to 56 inches: weathered bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 52 to 56 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

Description of Sites

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Metabasic residuum weathered from metasedimentary rock

Typical profile

H1 - 0 to 14 inches: loam
H2 - 14 to 21 inches: clay loam
H3 - 21 to 53 inches: clay
H4 - 53 to 69 inches: clay loam
H5 - 69 to 73 inches: weathered bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 69 to 73 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

Minor Components

Mariposa

Percent of map unit: 5 percent
Landform: Ridges, mountain slopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainflank
Down-slope shape: Concave
Across-slope shape: Convex, concave

Josephine

Percent of map unit: 5 percent

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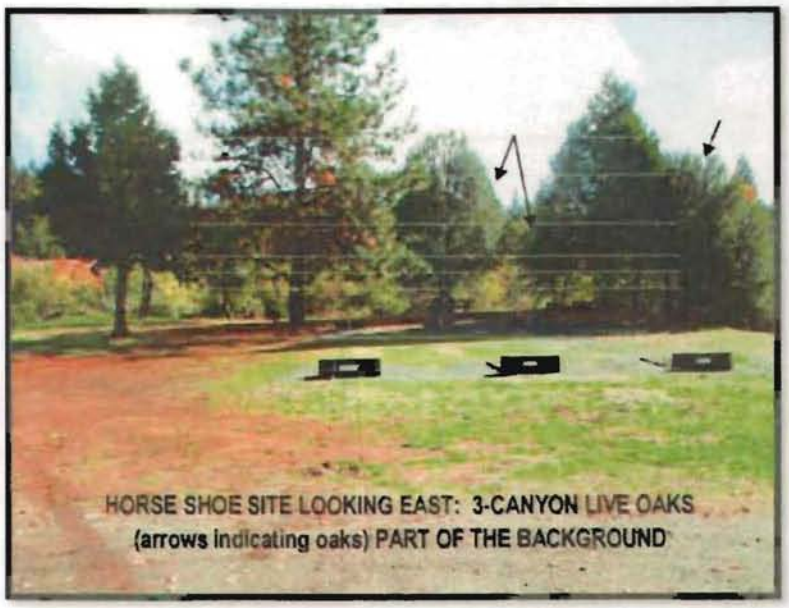
PHOTOGRAPHS



HORSE SHOE SITE LOOKING EAST: 3-CANYON LIVE OAKS (arrows indicating oaks) PART OF THE BACKGROUND

MIDDLE PARCEL LOOKING EAST, ARROW INDICATING DRAINAGE FROM CULVERT FROM ACROSS MAIN STREET

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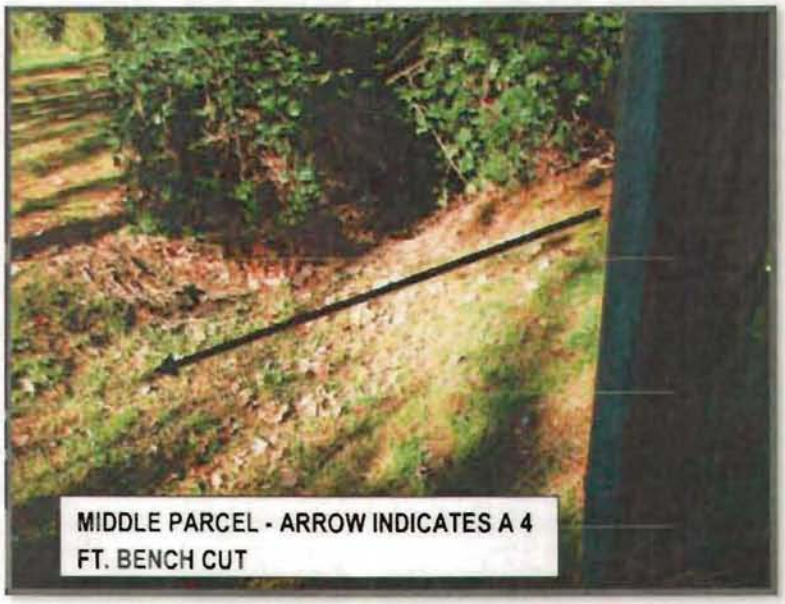
GEORGETOWN PROPOSED DOLLAR STORE

Photo Plate 1 of 3
Photos taken by T. Costella
2014

PHOTOGRAPHS

MIDDLE PARCEL LOOKING EAST SHOWING 1. TREE OF HEAVEN, 2. WILLOW 3. HIMALAYAN BLACKBERRY THICKETS



MIDDLE PARCEL - ARROW INDICATES A 4 FT. BENCH CUT

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GEORGETOWN PROPOSED DOLLAR STORE

Photo Plate 2 of 3
Photos taken by T. Costella
2014

PHOTOGRAPHS

LOOKING NORTH FROM ORLEANS STREET BEHIND HORSE SHOE SITE - BLACKBERRY THICKETS WITH SOME WILLOWS - MECHANICAL CUT IN THE THICKET

LOOKING TO THE EAST - PARCEL IS ADJACENT TO HARKNESS ST - ARROW INDICATES OPEN AIR SHAFT UNDER VEGETATION

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GEORGETOWN PROPOSED DOLLAR STORE

Photo Plate 3 of 3
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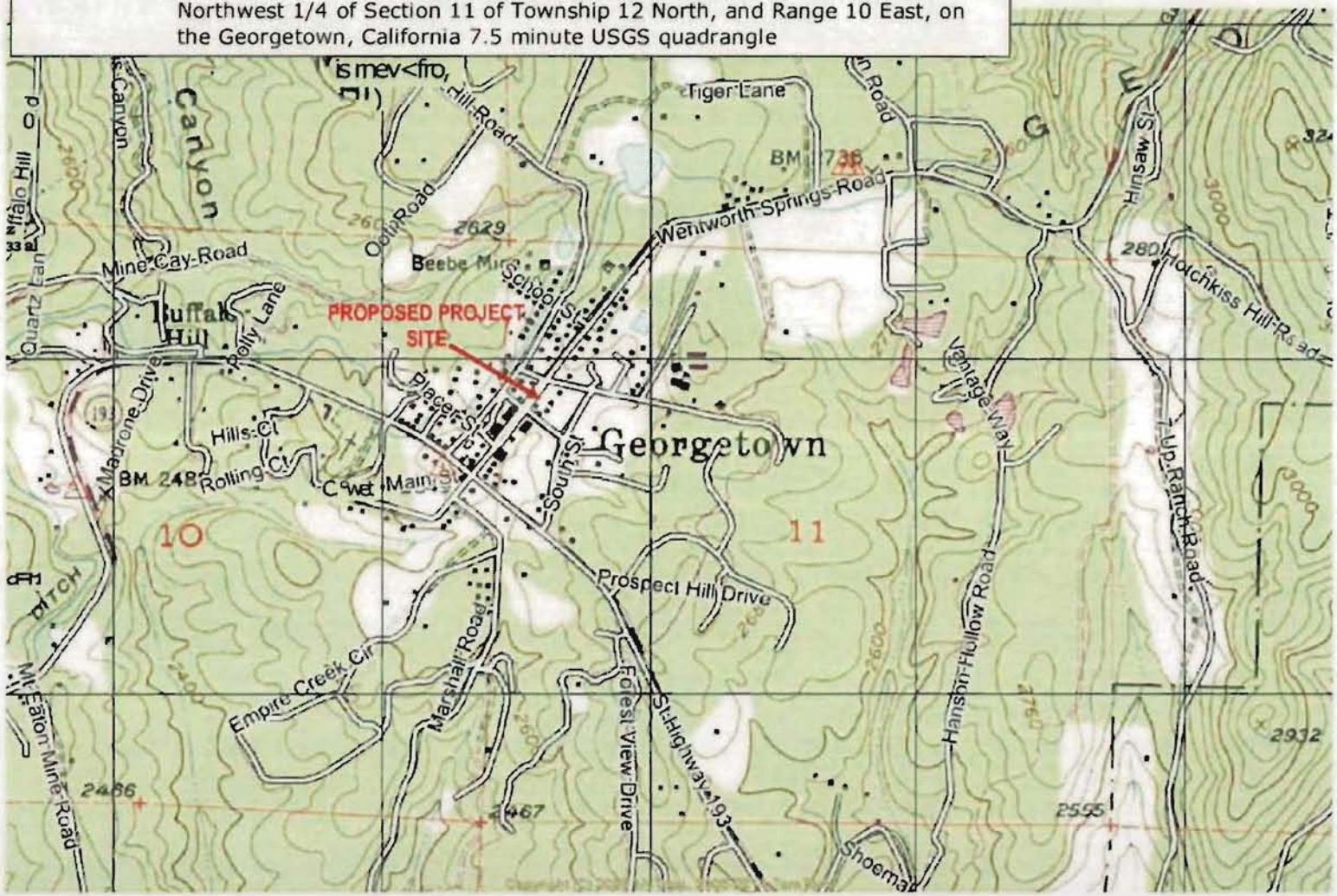
APPENDIX A. TOPOGRAPHIC MAP OF THE PROPOSED SITE - GEORGETOWN DOLLAR GENERAL
Northwest 1/4 of Section 11 of Township 12 North, and Range 10 East, on the Georgetown, California 7.5 minute USGS quadrangle



BIOLOGICAL RESOURCES
DOLLAR GENERAL PROPOSED STORE SITE

El Dorado County, California

December, 2014

Prepared for:
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TABLE OF CONTENTS

INTRODUCTION

This report presents the findings of a fall survey for special status plant and wildlife species and other protected resources at the proposed Dollar General Store project site. The project site includes three small parcels, APNs 06-136-201, -202, and -204. . These parcels are currently not developed, are zoned as commercial, and are aligned to each other along Wentworth Springs Road (Main Street) in Georgetown, CA. The planned development will involve removal of the existing vegetation at the site and its replacement by landscaping and horticultural plants.

The study area (proposed project site) is surrounded by existing development. Adjacent land uses include commercial businesses to the east and south, a park and playground to the northeast, and residential homes situated to the west and north west.

El Dorado County land use regulations require a site-specific biological inventory and analysis of major deer habitat, rare and endangered species and their habitat, trees, watercourses, wetlands and riparian areas as a condition of approval for site development projects. This evaluation must also include recommended mitigation and/or alternatives necessary to avoid or lessen impacts to protected resources.

In summary, no special-status plant or animal species were observed at the site. A discussion of special-status plant and animal species that could potentially occur at the site is included in this Biological Inventory. Also included are lists of the flora and wildlife observed on site. There are three small canyon live oak trees with less than 1% canopy coverage that will be impacted and for which mitigation will be required on one parcel. At the corner of Orleans and Main Streets is an open drain leading to an underground storm drain that goes under that property along its boundary. This drain is not connected to the parcels but may require delineation and permitting. Within another parcel are small isolated wetlands totaling less than 0.1 acre. It is not anticipated that any other protected resources will be impacted for this development, and thus there are no other mitigation plans or protective measures required at this time.

Project Location

The proposed project site is located at the lower elevation of the western Sierra Nevada Mountains. The property lies on Main Street/Wentworth Springs Road, between Orleans and Harkness Streets, in the City of Georgetown. The planned store site currently consists of three undeveloped parcels. No physical address was given for the proposed study area. The specific site location is northwest 1/4 of Section 11 of Township 12 North, and Range 10 East, on the Georgetown, California 7.5 minute USGS quadrangle. Average elevation is 2,660 feet. A topographic map is included as Appendix A.

Projection Description

The three parcels sit at a northwest orientation along Main Street within the town/city limits. The proposed project includes the site development and construction of a 9,100 square footage Dollar General retail store with convenient parking slots, bike parking, and landscaping around the perimeter; egress/ingress is on Main Street. The store site will be constructed on three parcels designated as commercial, and is considered an in-fill development within the City of Georgetown.

Dollar General Retail Store Information

The project includes the site development and construction for a 9,100 square foot Dollar General retail location for Dollar General Corporation, a discount retailer that engages in the provision of various merchandise products in the United States. The company offers various consumable products, including paper and cleaning products such as paper towels, bath tissue, paper dinnerware, trash and storage bags, laundry, and other home cleaning supplies; packaged food, comprising cereals, canned soups and vegetables, condiments, spices, sugar, and flour; perishables consisting of milk, eggs, bread, frozen meals, beer, and wine; snacks that include candies, cookies, crackers, salty snacks, and carbonated beverages; over-the-counter medicines and personal care products, such as soap, body wash, shampoo, dental hygiene and foot care products; and pet supplies and pet food products. It also provides seasonal products, including decorations, toys, batteries, small electronics, greeting cards, stationery, prepaid phones and accessories, gardening supplies, hardware, automotive, and home office supplies; and home products comprising kitchen supplies, cookware, small appliances, light bulbs, storage containers, frames, candles, craft supplies and kitchen, bed, and bath soft goods. In addition, the company offers casual everyday apparel for infants, toddlers, girls, boys, women, and men, as well as socks, underwear, disposable diapers, shoes, and accessories. As of May 2, 2013, it operated 10,662 stores in 40 states. The company was formerly known as J.L. Turner & Son, Inc. and changed its name to Dollar General Corporation in 1968. Dollar General Corporation was founded in 1939 and is based in Goodlettsville, Tennessee.

METHODS

Pre-field Survey

The purpose of the pre-field investigation was to review existing information and to prepare a list of special status species with potential to occur in the vicinity of the project area. Sources of information included are as follows:

- *California Natural Diversity Data Base* (CNDDB; November 2014).

- *California Native Plant Society Inventory of Rare and Endangered Plants of California* (CNPS 2003).
- *Federal Endangered and Threatened Species that occur in or may be affected by Projects in the Georgetown USFS 7.5 minute Quadrangle*, updated November 11, 2014).
- *Jepson Manual: Higher Plants of California* (Edited by B. G. Baldwin, *et al.* 2012).
- *California Wildlife Habitat Relationships System* (California Department of Fish and Game http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx).
- *El Dorado County General Plan - Conservation and Open Space Element*, Adopted July 14, 2004.

FIELD SURVEYS

Plants

Special-status plant species surveys were performed in fall 2014. Surveys were conducted in a manner to identify any rare or endangered species that may be present. Survey protocols that were followed include Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities, Department of Fish and Game, December 9, 1983 (Revised May 8, 2000) and Guidelines for Conduction and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants, USFWS, January 2000.

The surveys were conducted using systematic field techniques in all habitats of the site to ensure a reasonably thorough coverage of potential impact areas. A meandering pattern was walked through each habitat to ensure that all areas were viewed. All plants at the site were identified to the level necessary to ascertain whether they were special status species.

Wildlife

A wildlife habitat assessment was performed in coordination with the plant surveys. Surveys were conducted to determine if habitats supported special-status animal species and raptor nest searches were performed during these surveys. Protocol level surveys for potentially occurring special-status animals were not conducted. The determination of presence for animal species that could possibly occur was based on habitat assessments, literature review, and queries through CNDDB.

EXISTING CONDITIONS

Environmental Setting

The study area is situated within the commercial area of the city of Georgetown and is considered an in-fill site. This area of El Dorado County exhibits both oak woodlands and low-

elevation montane forest. The three parcels that make up the proposed store site exhibit some different characteristics, to be discussed below. Their common characteristics are that they all have a shrub layer consisting mostly of an impermeable layer of blackberry, an invasive species found through the lower elevations of the Sierra Nevada Mountains. Additionally, none of the parcels have been managed for many years, as is especially indicated by the overgrown blackberry thickets found throughout the parcels.

The differences are as follows. First, the property adjacent to Orleans Street is used as a permanent horseshoe site with four horseshoe pits built and used during Founders Day and at other times during the year. This parcel has three-canyon live oak trees that will be removed and mitigated for with the planting of this species of tree within the store's landscape at a 1:1 ratio. There are several other native trees of incense cedar and Ponderosa Pine on this parcel, none greater than thirty feet or so in height, that will also be removed. An underground storm drain runs parallel to Orleans Street along the southeast side of the parcel. Currently, on-site storm waters are not collected into this system.

The mid-parcel appears to have several small "patches" of isolated wetland areas. A bench cut can be observed on the north and south boundary, measuring approximately 3-feet deep across the entire parcel, that appears to have been cut at some earlier time, perhaps to be used as a borrow pit.

The third parcel appears to have been a homestead site at one time, with remnants of a fence around the perimeter and a few fruit trees still remaining. In the northeast corner, now fenced off, is an air shaft, the historic details of which are unknown. On-site photographs are included as Appendix B and Biological Resources Map as Appendix C.

RESULTS

Natural Communities and Habitats

The majority of the site has been subject to modifications from the historical use of the site as a homestead, pastureland, and orchards; the exact usage can only be conjectured from the remaining evidence showing degradation of the parcel sites, the dense blackberry vegetation, and other remnant features. Adjacent lands are either residential, commercial, or parklands.

What actually remains are non-native annual grasses and forbs, a few isolated wetlands, some willow thickets, a storm water drainage system, and a small area of coniferous trees, the origin of which is uncertain as to whether planted or naturally occurring, since their growth appears to be stunted, with small diameter trunks and height reaching 30 feet at most. Refer to Appendix D for Flora Observed at the Site and Appendix E for Wildlife Observed at the Site.

Non-native Annual Grasses and Forbs

Non-native grasses occur throughout the study area. Non-native grasses' phenology is such that they are able to out complete most native grasses and forbs. They were prevalent within wetland areas on site, probably due to full-sun exposure, and throughout. The dominant species were rip-gut brome (*Bromus diandrus*), soft chess (*Broom's hordeaceus*), yellow starthistle (*Centaurea solstitialis*), and non native forbs of Queen Anne's lace (*Daucus carota*). Also occurring on site is the invasive Scotch broom, that once was widely planted along roadways in the Sierra Nevada Mountains.

Wetlands and Drainages

There are a few mature willow trees, and willow thickets infested with Himalayan blackberry, located along the east boundary and other areas (within the middle parcel) that have seasonal irrigation from two-small culverts entering this parcel from the residential area directly across Main Street, coupled with irrigation water directly to the east from the local Post Office. The drainage pattern of green vegetation can be recognized easily on the aerial map. The small east boundary drainage appears to either flow into an open air shaft at the northeast corner of the property or it may connect (?) off site to the south storm water drainage which flows off property via a storm drain. Although at this juncture the storm drain is underground and does not appear to collect on-site storm water flows. Most storm water appears to flow into a air shaft located at the northeast side of the property.

SPECIAL STATUS SPECIES

Special-status species were considered for this analysis based on field survey results, a review of the California Natural Diversity Database (CNDDB), CNPS literature, database information provided by the U. S. Fish and Wildlife Service (USFWS) (Georgetown 7 ½ Minute quad), and the El Dorado County General Plan. The table and listings are included in Appendix F Special Status Plants and Appendix G Special Status Wildlife. Explanations are given within the plant and wildlife tables as to why there is no potential for these species to occur within the boundaries of the project site.

Significance Criteria

The determination of significance of impacts to biological resources involves an evaluation of the context in which the impact may occur and the intensity and extent of the impact's effect.

Potential direct and indirect impacts to the biological resources were evaluated with respect to mandatory findings of significance of Section 15065 of CEQA and Appendix G of the

State CEQA Guidelines. In accordance with these Guidelines a project's effect on biological resources would be considered significant if the project results in:

- Alteration of unique characteristics of the area, such as sensitive plant communities and habitats (i.e. wetlands, riparian habitats).
- Adverse impacts to special-status species, including species identified as candidate and/or sensitive species.
- Adverse impacts to important or vulnerable resources as determined by scientific opinion or resource agency concerns (i.e. special status habitats, e.g. wetlands).
- Interference with migratory routes.

REGULATORY CONTEXT

A number of state and federal agencies, including the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), U.S. Fish and Wildlife Services (USFWS), and the California Department of Fish and Game (CDFG) have regulatory authority over special status species and sensitive habitats.

The regulatory aspects include:

- **U.S. Army Corps of Engineers:** Section 404 of the Clean Water Act requires approval prior to discharging dredge or fill material into the waters of the United States. Waters of the United States includes essentially all surface waters such as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters. Wetlands are areas characterized by growth of wetland vegetation (bulrush, cattails, rushes, sedges and willows) where the soil is saturated during a portion of the growing season or the surface is flooded during some part of most years. Wetlands generally include swamps, marshes, bogs and similar areas.
- **U.S. Fish and Wildlife Service:** The USFWS has jurisdiction over species that are formally listed as threatened or endangered under the Federal Endangered Species Act (FESA). The Endangered Species Act provides broad protection for species of fish, wildlife and plants that are listed as threatened or endangered in the U.S. or elsewhere. Provisions are made for listing species, as well as for recovery plans and the designation of critical habitat for listed species. The Act outlines procedures for federal agencies to follow when taking actions that may jeopardize listed species, and contains exceptions and exemptions.

- **California Department of Fish and Game:** It is state policy to conserve, protect, restore and enhance any endangered or threatened species and its habitat. The CDFG has jurisdiction over species that are formally listed as threatened or endangered under the California Endangered Species Act (CESA). The Endangered Species Act provides broad protection for species of fish, wildlife and plants that are listed as threatened or endangered in the state. In addition to CESA, the California Native Plant Protection Act (NPPA) provides protection to endangered and rare plant species. The CDFG also maintains an informal list of species of special concern to be considered as well.

- **California Native Plant Society:** CNPS is a non-profit group dedicated to preserving the state's native flora. It has developed lists of plants of special concern in California (online version 2005), including List 1A. Presumed Extinct in California (no treat ranks), List 1B. Rare or Endangered in California and Elsewhere, List 2. Rare or Endangered in California. More common Elsewhere, List 3. Need More Information, and List 4. Plants of Limited Distribution. Included within List 1B to List 4 are Threat Ranks which are included with the descriptions in Table 1 of this report.

- **Regional Water Quality Control Board:** Under Section 401 of the Clean Water Act, projects that apply for a Corps permit for discharge of dredge or fill material, and projects that qualify for a Nationwide Permit, must obtain water quality certification from the RWQCB confirming that the project will uphold state water quality standards.

POTENTIAL IMPACT ASSESSMENT AND RECOMMENDED MITIGATION

Special Status Species and Sensitive Natural Communities

Review of the Natural Resources Conservation Service soil data for the study area demonstrates that the project site is not located on lands shown to contain Serpentine Rock or Gabbro soils. Search of the California Natural Diversity database indicates there are no rare, threatened, or endangered species on the site. The project is not located within a sensitive natural community of the County, state, or any federal agency, including but not limited to an Ecological Preserve or USFWS Recovery Plan boundaries. The project site (study area) is not located within a Rare Plant Mitigation site, nor is it within any major migratory wildlife corridor (Refer to Appendix H. Important Migratory Deer Habitat and Other Protected/Sensitive Habitat within El Dorado County). Because of the small size, and the fact it is an in-fill site, no impacts would be anticipated.

Riparian Habitat, Wetlands, Potentially Jurisdictional Waters of the U.S.

There are isolated wetlands, less than 0.1 acre, a small drainage along the south to east boundary, and an underground storm water drainage pipeline along the south boundary of the

study area. It is uncertain if the on-site water flows collect into this underground drainage pipeline at all. The storm drain conveys water from the adjacent streets via culverts into a larger, off site intermittent tributary system. On-site storm water flows along the east boundary and drains primarily, if not completely, into an open air shaft located on the northeast corner of the parcel, adjacent to Harkness Road. This site may be determined to be jurisdictional for both the CA Department of Fish and Wildlife and the Regional Water Quality Control Board, and possibly for the Army Corps of Engineers.

The study area then may require Standard USACE wetland delineation procedures as described in the USACE Wetlands Delineation Manual (Environmental Laboratory, 1987) and as supplemented by the Interim Regional Supplement - Arid West Region (ACOE Research & Development Center, 2006). Detailed application of the three-parameter approach (vegetation, hydrology and soils) would then be applied to all areas that could potentially be considered "jurisdictional."

Under Section 401 of the Clean Water Act, projects that apply for a Corps permit for discharge of dredge or fill material, and projects that qualify for a Nationwide Permit, must obtain water quality certification from the RWQCB confirming that the project will uphold state water quality standards.

A California Department of Fish and Game Code section 1602 requires an entity to notify the Department before: 1) substantially diverting or obstructing the natural flow of a river, stream, or lake; 2) substantially changing the bed, channel, or bank of a river, stream, or lake; 3) using any material from the bed, channel, or bank of a river, stream, or lake; and/or 4) depositing or disposing of debris, waste, material containing crumbled, flaked, or ground pavement where it may pass into a river, stream, or lake. Bed, bank and channel includes the shoreline, associated riparian vegetation and floodplain.

Oak Tree Canopy Retention and Replacement Standards

El Dorado County Policy 7.4.4.4 establishes the relevant native oak tree canopy retention and replacement standards. There are no impacts to oak woodlands in the study area; however, there are three canyon live oaks, each with 3-trunks and DBH less than 20 inches per tree. These trees are in fair to good condition, although rather small in stature, and all will be removed. The proposed project will require removal of these trees for the construction of the infrastructure. **These three oak trees will be replaced with three canyon live oak trees within the landscape design.** Removal of these three trees will have no significant effect on the quality of habitat in and around the project area.

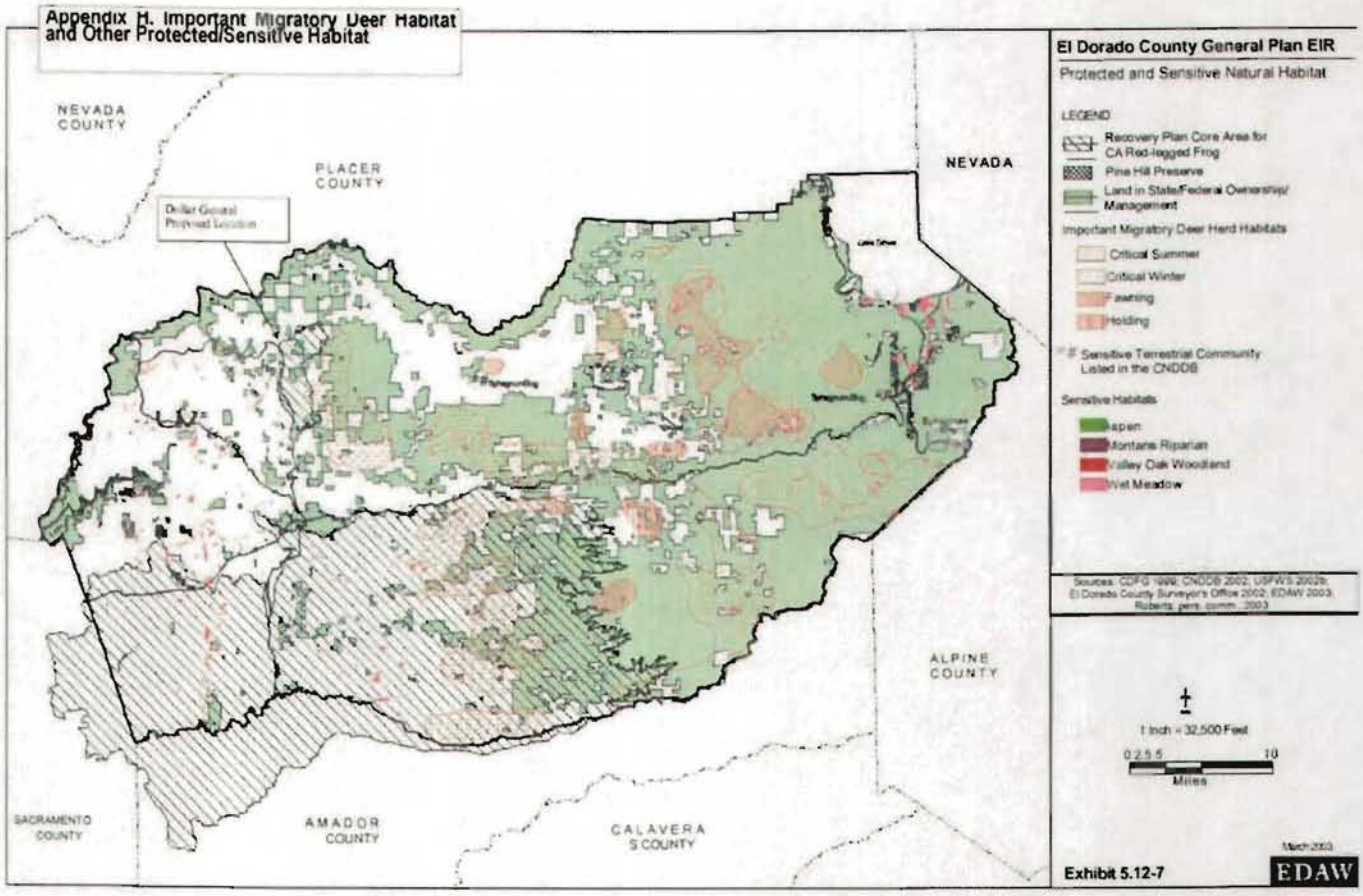
Impacts to Nesting Raptors and Migratory Birds

The potential exists for impacts to raptors and other migratory birds which are protected under the Migratory Bird Treaty Act Fish and Game Code of California (FG&C) to occur on, or in the vicinity of the site through the construction activities of tree and vegetation removal, ground disturbances, heavy equipment use, and various other noises that could impact nesting migratory birds.

Mitigation for Nesting Raptors and Migratory Birds

For construction activities between March 1 and August 31, pre-construction surveys for nesting raptors and migratory birds should be conducted pursuant to California and Federal requirements. These surveys should be accomplished within 7 days prior to commencement of grading activities. An approved biologist should conduct all surveys if active nests are found, a quarter-mile (1320 feet) initial temporary nest disturbance buffer shall be established. If project-related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then an on-site biologist/monitor experienced with raptor behavior shall be retained by the project proponent to monitor the nest, and shall along with the project proponent, consult with the CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed to proceed within the temporary nest disturbance buffer if raptors are not exhibiting agitated behavior such as defensive flights at intruders, getting up from a brooding position, or flying off the nest. The designated on-site biologist/monitor shall be on-site daily while construction related activities are taking place and shall have the authority to stop work if raptors are exhibiting agitated behavior. In consultation with the CDFGW and depending on the behavior of the raptors, over time it may be determined that the on-site biologist/monitor may no longer be necessary due to the raptors' acclimation to construction related activities. Any trees containing nests that must be removed as a result of project implementation shall be removed during the non-breeding season, however the project proponent shall be responsible for off-setting the loss of any raptor nesting trees. The extent of any necessary compensatory mitigation shall be determined by the project proponent in consultation with the CDFW. Past recommended mitigation for the loss of nesting trees has been at a ratio of three trees for each nest tree removed during the non-nesting season. Recommendations for migratory birds are similar, although the buffer areas can be smaller, since the birds may tolerate disturbance from a closer distance. Buffer areas may start at 200 feet and be reduced according to the guidelines above.

Appendix H. Important Migratory Deer Habitat and Other Protected/Sensitive Habitat



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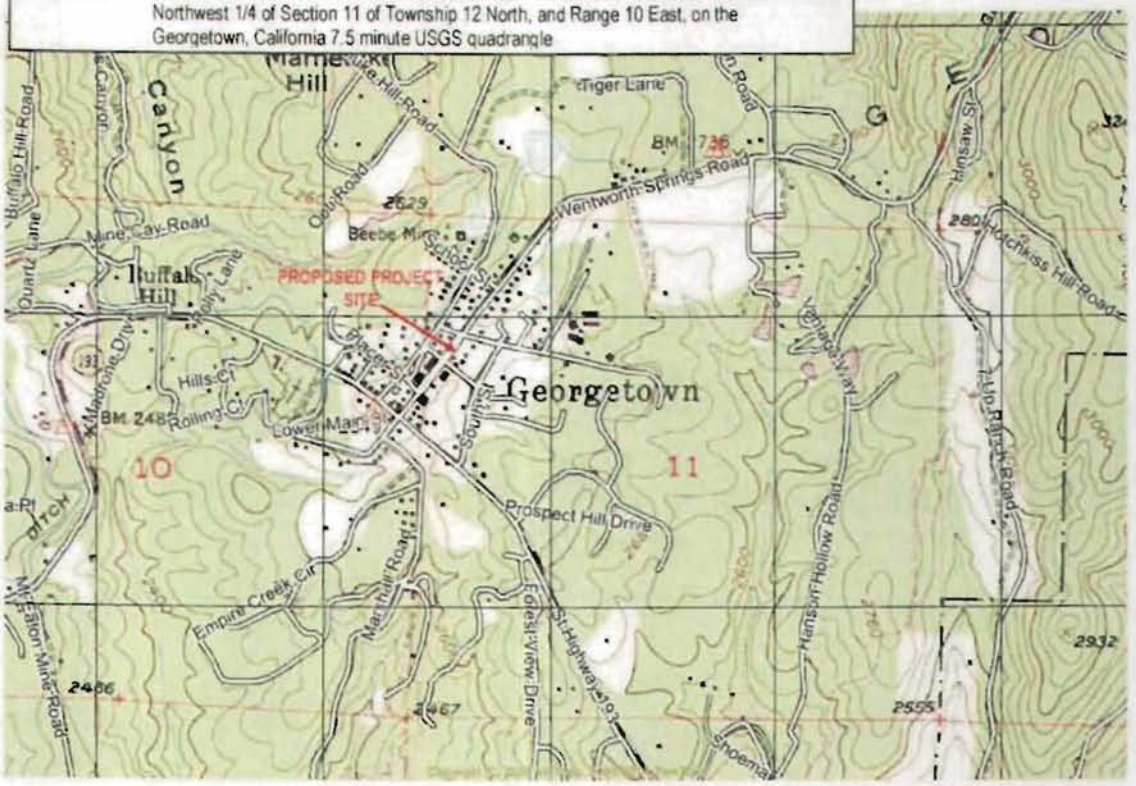
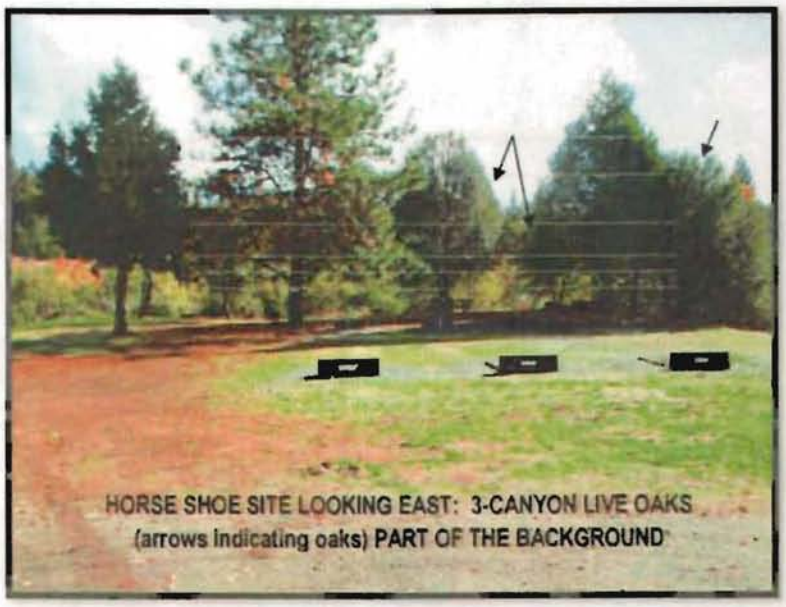


PHOTOGRAPHS



HORSE SHOE SITE LOOKING EAST: 3-CANYON LIVE OAKS (arrows indicating oaks) PART OF THE BACKGROUND

MIDDLE PARCEL LOOKING EAST, ARROW INDICATING DRAINAGE FROM CULVERT FROM ACROSS MAIN STREET

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GEORGETOWN PROPOSED DOLLAR STORE

Photo Plate 1 of 3
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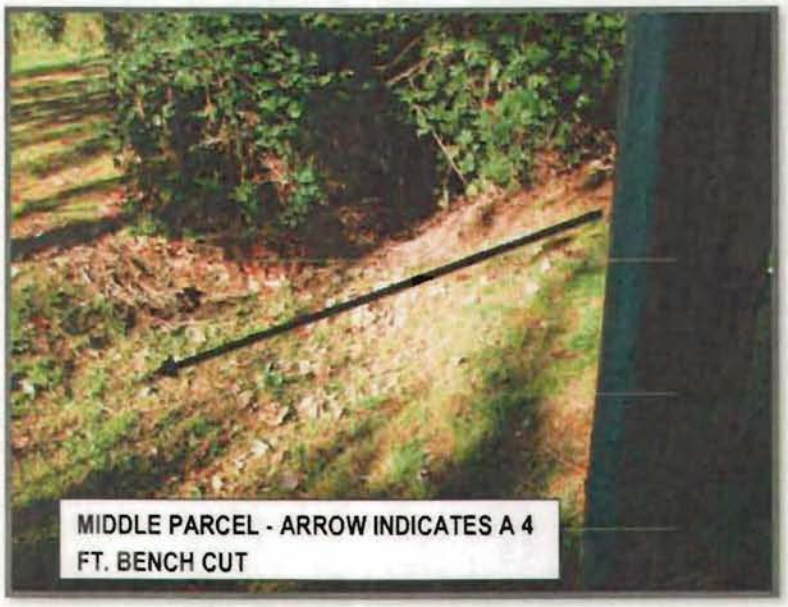
2014

PHOTOGRAPHS

MIDDLE PARCEL LOOKING EAST SHOWING 1. TREE OF HEAVEN, 2. WILLOW 3. HIMALAYAN BLACKBERRY THICKETS



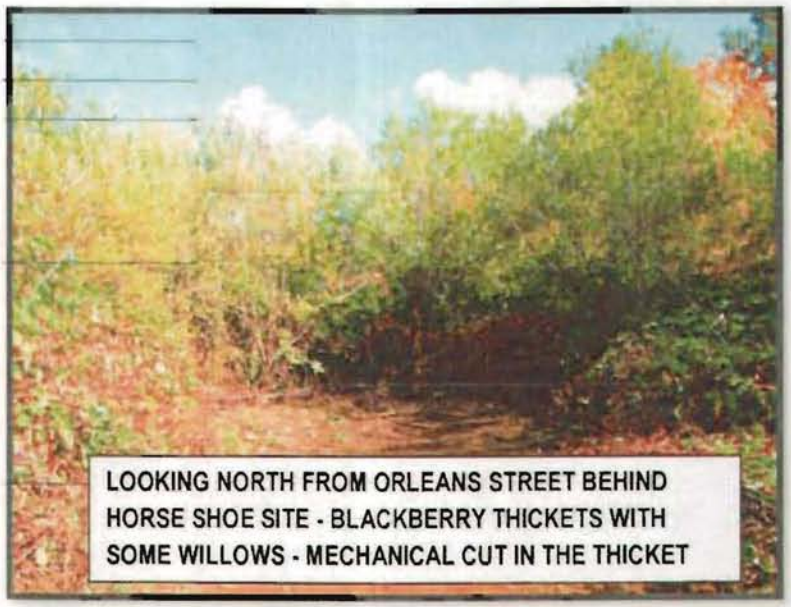
MIDDLE PARCEL - ARROW INDICATES A 4 FT. BENCH CUT

Costella Environmental Consulting
Tina Costella, M.S.
P.O. Box 215
Nevada City, CA 95959
tcostella@metrailer.com
Phone: (530) 265-6969

GEORGETOWN PROPOSED DOLLAR STORE

Photo Plate 2 of 3
Photos taken by T. Costella
2014

PHOTOGRAPHS



LOOKING NORTH FROM ORLEANS STREET BEHIND HORSE SHOE SITE - BLACKBERRY THICKETS WITH SOME WILLOWS - MECHANICAL CUT IN THE THICKET

LOOKING TO THE EAST ON TO PARCEL ADJACENT TO HARKNESS ST - ARROW INDICATES OPEN AIR SHAFT UNDER VEGETATION

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Tina Costella, M.S.
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Nevada City, CA 95959
tcostella@metrailer.com
Phone: (530) 265-6969

GEORGETOWN PROPOSED DOLLAR STORE

Photo Plate 3 of 3
Photos taken by T. Costella
2014

APPENDIX C. BIOLOGICAL RESOURCES FOR THE DOLLAR GENERAL STORE PROPOSED LOCATION

Enclosure D. Flora of the Dollar General Proposed Store Site
Georgetown, CA

Family	Scientific Name	Common Name	Native = N Introduced = I
Apiaceae		Carrot Family	
	Daucus carota	Queen Anne's lace	I
Apocynaceae		Dogbane Family	
	Vinca major	Periwinkle	I
Asteraceae		Sunflower Family	
	Centaurea solstitialis	Yellow starthistle	I
	Cichorium intybus	Chicory	I
	Lactuca serriola	Prickly lettuce	I
	Leontodon taraxacoides	False dandelion	N
	Xanthium spinosum	Spiny cocklebur	I
Brassicaceae		Mustard Family	
	Brassica rapa	Field mustard	I
Cupressaceae		Cypress Family	
	Calocedrus decurrens	Common juniper	N
Cyperaceae		Sedge Family	
	Cyperus eragrostis	Nutsedge	N
Fabaceae		Legume Family	
	Cytisis scoparius	Scotch broom	I
	Lathyrus latifolius	Perrenial sweetpea	I
	Robina pseudoacacia	Black locus	I
	Vicia sativa ssp. *sativa*	Spring vetch	I
Fagaceae		Oak Family	
	Quercus chrysolepis	Canyon live oak	N
Geraniaceae		Geranium Family	
	Erodium botrys	Filaree	I
	Erodium cicutarium	Redstem filaree	I
Juglandaceae		Walnut Family	
	Juglans nigra	Black walnut	I
Juncaceae		Rush Family	
	Juncus effuses var. *pacificus*	Pacific bog rush	N

Lamiaceae		Mint Family	
	Mentha sp.	Mint	I
Liliaceae		Lily Family	
	Chlorogalum pomeridianum	Soap plant	N
Oleaceae		Olive Family	
	Ligustrum vulgare	Common privet	I
Pinaceae		Pine Family	
	Pinus ponderosa	Ponderosa pine	N
Plantaginaceae		Plantain Family	
	Plantago lanceolata	English plantain	I
Poaceae		Grass Family	
	Avena fatua	Slender wild oats	I
	Bromus diandrus	Rip-gut brome	I
	Broomus hordeaceus	Soft chess	I
	Cynodon dactylon	Bermuda grass	I
	Cynosurus eichinatus	Hedgehog dogtail grass	I
	Hordeum marinum ssp. *gussoneanum*	Mediterranean barley	I
	Hordeum murinum ssp. *leporinum*	Barley	I
	Muhlenbergia rigens	Deergrass	N
Polygonaceae		Buckwheat Family	
	Rumex crispus	Curly dock	I
Rosaceae		Rose Family	
	Rosa californica	California rose	N
	Rubus armenicus (R.discolor)	Himalayan blackberry	I (highly invasive)
Salicaceae		Willow Family	
	Salix lasiolepis	Arroyo willow	N
Scrophulariaceae		Figwort Family	
	Verbascum thapsus	Wooly mullein	I
Simaroubaceae		Quassia or Simarouba Family	
	Ailanthus altissima	Tree-of-Heaven	I (highly invasive)

Appendix E. Birds Observed at the Dollar General Proposed Store Site Georgetown, CA

Common Name	Scientific Name
Turkey vulture	*Cathartes aura*
Red-shouldered Hawk	*Buteo lineatus*
Northern Flicker (red shafted)	*Colaptes auratus*
Acorn Woodpecker	*Melanerpes formicivorus*
Western Scrub Jay	*Aphelocoma californica*
European starling	*Sturnus vulgaris*

Reference Source: 2014 The American Ornithologists' Union.

Appendix D. Other Wildlife Observed at the

Common Name	Scientific Name
Botta's Pocket Gopher – pockets observed	*Thomomoys bottae*
Feral cat	*Felis catus*

APPENDIX F. SPECIAL STATUS PLANTS
GEORGETOWN PROPOSED DOLLAR GENERAL STORE
GEORGETOWN QUAD

SCIENTIFIC/ COMMON NAME	COMMUNITIES	BLOOMING	FEDERAL STATE CNPS	POTENTIAL TO OCCUR WITHIN PROJECT SITE
Arctostaphylos nissenana/ Nissenan manzanita	closed-cone coniferous forest, chaparral. **micro:** usually on metamorphics, associated w/ other chaparral species.	Feb - Mar	-- -- 1B.2	No potential; no specialized soils within project site.
Chlorogalum grandiflorum/ Red Hills soaproot	cismontane woodland, chaparral, lower montane coniferous forest. **micro:** occurs frequently on serpentine or gabbro, but also on non-ultramafic substrates; often on "historically disturbed" sites	May - Jun	-- -- 1B.2	Not observed during surveys; no specialized soils within project site.
Horkelia parryi/ Parry's horkelia	chaparral, cismontane woodland. **micro:** openings in chaparral or woodland; especially known from the lone formation in Amador County.	Apr - Sep	-- -- 1B.2	No potential; no specialized soils nor habitat found on the project site.
Packera layneae (Senecio layneae)/ Layne's ragwort	chaparral, cismontane woodland **micro:** ultramafic soil; occasionally along streams	Apr - Aug	FT SR 1B.2	No potential; no specialized soils within project site.

California Native Plant Society Rare and Endangered Plant Lists

1A. Presumed Extinct in California
1B. Rare or Endangered in California and elsewhere
- 1B.1 - Seriously Threatened in California
- 1B.2 - Fairly Threatened in California
- 1B.3 - Not Very Threatened in California

2. Rare or Endangered in California, more common elsewhere
- 2.1 - Seriously Threatened in California
- 2.2 - Fairly Threatened in California
- 2.3 - Not Very Threatened in California

3. Need More Information (threat ranks not always present)
- 3.1 - Seriously Threatened in California
- 3.2 - Fairly Threatened in California
- 3.3 - Not Very Threatened in California

4. Plants of Limited Distribution (threat ranks not always present)
- 4.2 - Moderate Degree of Threats
- 4.3 - Low Degree of Threats or Unknown Threats

APPENDIX G. SPECIAL STATUS ANIMAL SPECIES
GEORGETOWN PROPOSED DOLLAR GENERAL STORE
GEORGETOWN QUAD

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	CDFG	HABITAT TYPES	POTENTIAL TO OCCUR WITHIN PROJECT SITE
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	Threatened	None	None	Associated with its host plant the blue elderberry shrub (*Sambucus mexicana*).	No suitable habitat within the project site. No host plants found within the project boundaries.
Hypomesus transpacificus	Delta smelt	Threatened	Threatened	None	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Micro: seldom found in salinities > 10PPT. Most often at salinities < 2PPT.	No suitable habitat within the project site.
Laterallus jamaicensis coturniculus	California Black Rail	None	Threatened	None	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Micro: Needs water depths of about one inch that does not fluctuate during the year and dense vegetation for nesting habitat.	No suitable habitat within the project site.
Oncorhynchus mykiss	Central Valley steelhead and critical habitat	Threatened	None	None	Populations in the Sacramento and San Joaquin Rivers and their tributaries.	No suitable habitat within the project site.
Oncorhynchus tshawytscha	Central Valley spring-run Chinook salmon and critical habitat	Threatened	None	None	Adult numbers dependent on pool depth and volume, amount of cover, and proximity to gravel. Water temperatures > 27° C lethal to adults. Micro: federal listing refers to populations spawning in the Sacramento River and tributaries.	No suitable habitat within the project site.
Oncorhynchus tshawytscha	Winter-run Chinook salmon, Sacramento River and critical habitat	Endangered	None	None	Sacramento River below Keswick Dam. Spawning in Sacramento River but not in tributaries. Micro: requires, cold water over gravel bed with water temperatures between 6 and 14° C for spawning.	No suitable habitat within the project site.
Phrynosoma coronatum (frontale population)	Coast (California) horned lizard	Threatened	None	SC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. **Micro**: open areas for sunning, bushes for cover, patches of loose soil for burial and abundant supply of ants and other insects.	No potential; no suitable habitat within the project boundaries.
Rana aurora draytonii	California red-legged frog	Threatened	None	SC	Lowlands and foothills in or near permanent sources of deep water with dense shrubby or emergent riparian vegetation. **Micro**: requires 11-20 weeks of permanent water for larval development, must have access to estivation habitat.	No habitat within the project boundaries.

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	CDFG	HABITAT TYPES	POTENTIAL TO OCCUR WITHIN PROJECT SITE
Rana boylii	Foothill yellow-legged frog	None	None	SC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Micro: needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	No habitat within the project boundaries.

Federal Status Definitions

Endangered (FE)
Any species which is in danger of extinction throughout all or a significant portion of its range.

Threatened (FT)
Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Candidate (FC)
Taxa for which the Service currently has sufficient information on biological vulnerability and threats on hand to support the issuance of a proposed rule to list but issuance of the proposed rule is precluded. Only those species for which there is enough information to support a listing proposal will be called "candidates." These were formerly known as "Category 2 Candidates." There are species for which the Service does not have enough scientific information to support a listing proposal. Both Category 2 and Category 3 no longer exist. The former Category 3 was a mix of non-candidate species either thought to be extinct (3A), taxonomically invalid (3B), or too widespread to be considered at risk (3C).

State Status Definitions

Endangered (CE)
A native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

Threatened (CT)
A native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant that, although not presently threatened with extinction, is likely to become endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter (Chapter 1.4 of the California Fish and Game Code).

Rare (CR)
A species, or subspecies or variety is rare when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens.

Candidate (CC)
A native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list.

Species of Special Concern (SSC)
Native species or subspecies that have become vulnerable to extinction because of declining population levels, limited ranges, or rarity. The goal is to prevent these animals from becoming endangered by addressing the issues of concern early enough to secure long term viability for these species. Bird Species of Special Concern appear in Remsen, 1978.

CP = CDFG "fully protected" species (Sec. 4700, Chapt. 6, Sec 5050, Chapt. 2; Div. 5, Chapt. 1 Sec. 5515).

OAK/CANOPY SITE ASSESSMENT FORM

El Dorado County

OAK/CANOPY SITE ASSESSMENT FORM

Qualified Professional & Contact Information: *(attach qualifications)*	Tina Costella, MS 0Costella Environmental Consulting PO Box 215, Nevada City, CA 95959 530-265-6969 office, 530-265-0601 fax
Property Owner's Name/APN(s):	Denton A. & Carolyn Gravelle Beam APN: 061-362-01-100, 061-362-02-100, 061-362-04-100
Address:	SE Corner of Main and Wentworth Springs Rd, Georgetown, CA
General Plan Designation:	
Zoning:	C-DC
Project Description: *(attach site photos)*	Dollar General Commercial Retail

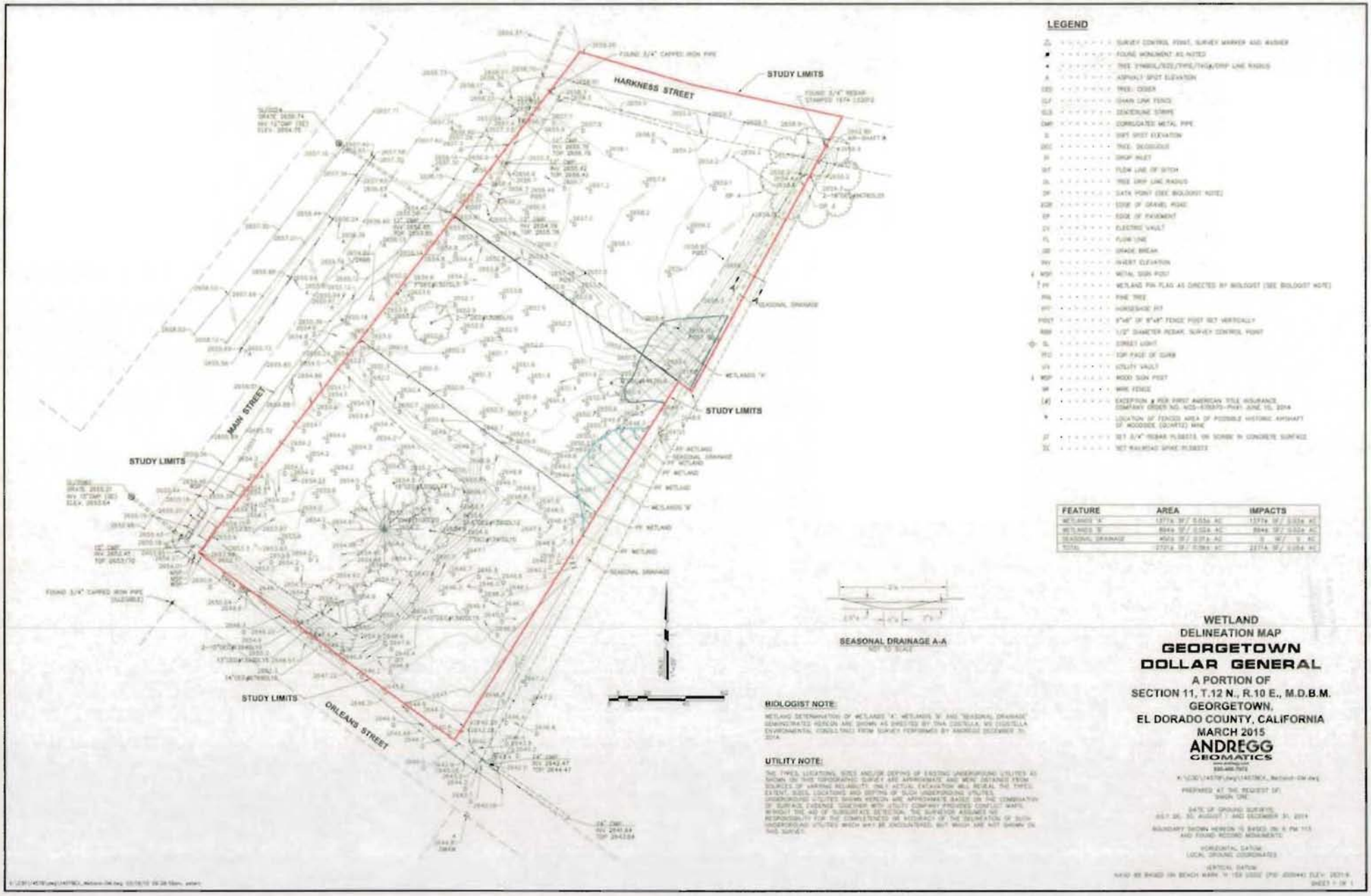
Would the project, directly or indirectly, have the potential to cause any impact, conflict with, or disturbance to:	**YES**	**NO**
a) Individual landmark or heritage trees (of any species) subject to review under General Plan Policy 7.4.5.2?	☐	☑
c) Oak woodland corridor continuity (General Plan Policy 7.4.4.5)?	☐	☑
d) Sensitive or important oak woodland habitat as defined in the Guidelines?	☐	☑
e) Movement of Wildlife and/or Any Wildlife Migration Corridor?	☐	☑
f) Any Candidate, Listed or Special Status Plant or Animal Species observed or expected to occur on or adjacent to the project site?	☐	☑
g) Is the affected area of oak canopy within or directly adjacent to an Important Biological Corridor or Ecological Preserve overlay?	☐	☑
h) Does the removal of oak canopy comply with the retention requirements of Policy 7.4.4.4?	☐	☑
i) Was project subject to prior County approval? (If yes, provide Tentative Map # and environmental documents if available)	☐	☑
j) For Discretionary Projects, would the project have the potential to cause a significant environmental impact on biological resources?	☐	☑

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.

Qualified Professional: _____ **Date:** 11/26/14

Applicant/Owner: _____ **Date:** 11/25/14

Required Attachments: 1) Qualified Professional Qualifications; 2) Site Photos; 3) Required Tree Survey, Preservation, and Replacement Plan *or* Biological Resources Study and Important Habitat Mitigation Program (see Interim Interpretive Guidelines for El Dorado County Policy 7.4.4.4 Option A)



FEATURE	AREA	IMPACTS
WETLAND 'A'	1371± SF / 0.031± AC	1371± SF / 0.031± AC
WETLAND 'B'	9944± SF / 0.228± AC	9944± SF / 0.228± AC
SEASONAL DRAINAGE	4024± SF / 0.092± AC	0 SF / 0 AC
TOTAL	15239± SF / 0.350± AC	11315± SF / 0.259± AC

Costella Environmental Consulting
Tina Costella, M.S.
Tax ID Number 26-4120920
Caltrans DBE/SWBE #37798

Consulting Environmental Botanist/Biologist

P.O. Box 215
Nevada City, CA 95959
E-mail tcostella@metrailer.com

Phone 530-265-6969
Cell 530-263-7617
Fax 530-265-0601

February 9, 2015

Rob Peters
Associate Planner
County of El Dorado
Community Development Agency
Development Services Division
Planning Services

RE: OAK TREE CANOPY CALCULATIONS FOR THE DOLLAR GENERAL STORE GEORGETOWN SITE

Dear Rob:

Per our phone conversation today, I have formally calculated the oak/canopy coverage for the above mentioned project site and now have an accurate accounting of the oak canopy coverage on the three parcels, totaling 1.2 acres, that make up the project site. I have included the calculations on Exhibit 1, attached with this email.

In summary, the total coverage for the 3- oak trees is 325 square feet; total acreage for the 1.2 acre parcel(s) is 52,272 sq. ft. Thus the total coverage is well within the 1% exemption for the Oak Canopy retention standards for the General Plan Policy 7.4.4.4. Option A.

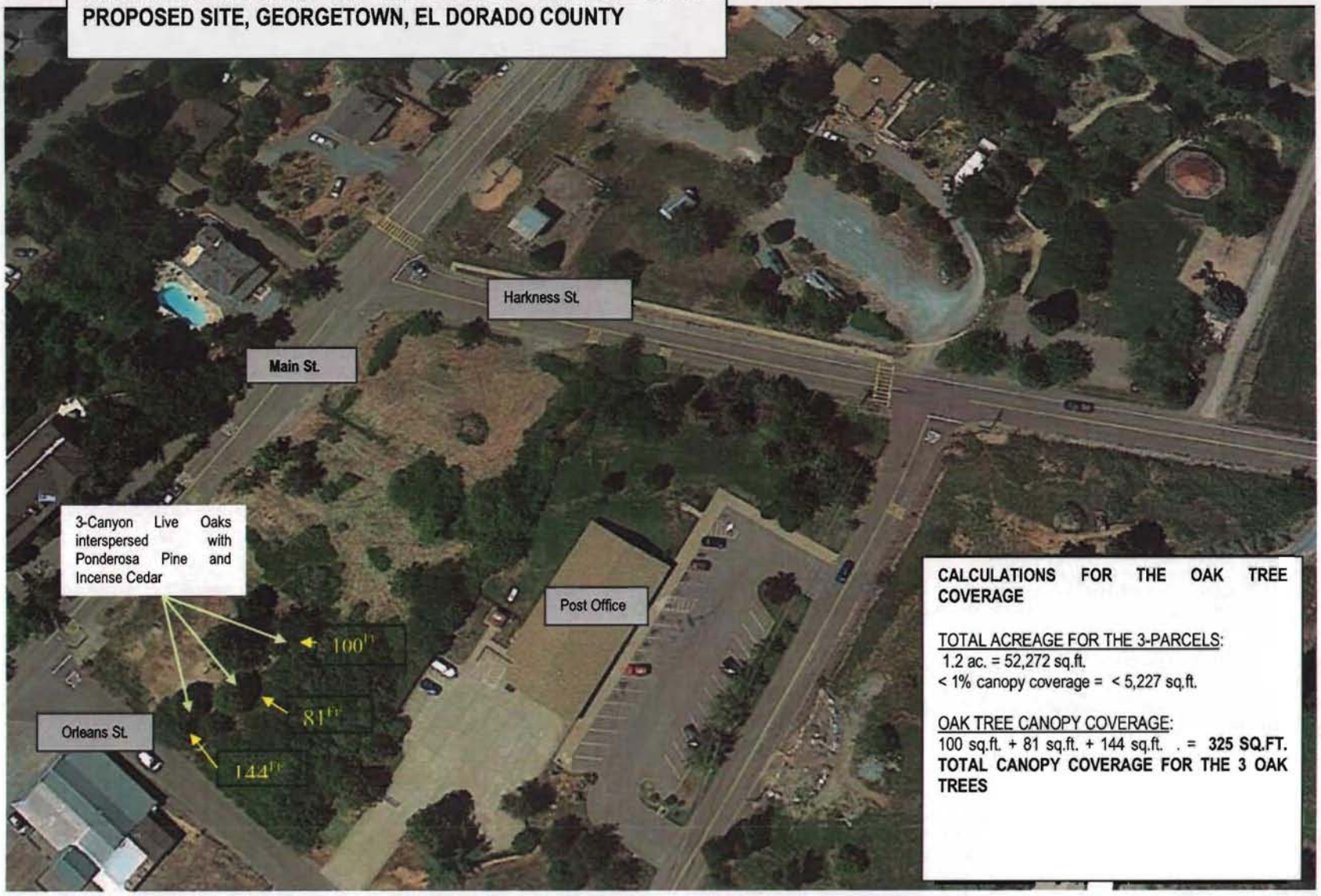
As I understand the standard, per your instructions, if the oak coverage is less than one percent of the square footage of this property, then the project is exempt from retaining the oak trees. Accordingly, this project is exempt from the retention requirement, since there exists on site less than one percent of oak tree canopy coverage.

Please contact me if you have any further questions after reviewing this letter and the attached Exhibit.

Yours truly,

Tina Costella
CC: Dan Biswas
Enc.

EXHIBIT 1. CANOPY COVERAGE CALCULATIONS FOR THE 3-OAK TREES LOCATED ON THE DOLLAR GENERAL STORE PROPOSED SITE, GEORGETOWN, EL DORADO COUNTY



CALCULATIONS FOR THE OAK TREE COVERAGE

TOTAL ACREAGE FOR THE 3-PARCELS:
1.2 ac. = 52,272 sq.ft.
< 1% canopy coverage = < 5,227 sq.ft.

OAK TREE CANOPY COVERAGE:
100 sq.ft. + 81 sq.ft. + 144 sq.ft. . = **325 SQ.FT. TOTAL CANOPY COVERAGE FOR THE 3 OAK TREES**

ARCHAEOLOGICAL INVENTORY SURVEY

**Georgetown Dollar General Development Project,
circa 1.2-acres, Georgetown,
El Dorado County, California.**

Prepared for

Simon CRE
5111 N. Scottsdale Road, Suite 200
Scottsdale, AZ 85250

Author

Sean Michael Jensen, M. A.

Keywords *for Information Center Use:*
Archaeological Inventory Survey, circa 1.2-acres, El Dorado County, CEQA, USGS Georgetown, Ca. 7.5' Quad., No Significant Historical Resources, No Unique Archaeological Resources.

January 9, 2015

1-13-15 scanned jas
1-13-15 needs to be re-scanned. jas

GENESIS SOCIETY

ARCHAEOLOGICAL - HISTORICAL - CULTURAL RESOURCE MANAGEMENT SERVICES

S11 | T12N | R10E
061-362-01
DR 14-0005

Attachment 10

EAS PROFESSIONALS

GEOTECHNICAL ENGINEERING INVESTIGATION

PROPOSED DOLLAR GENERAL MARKET STORE

SEC MAIN STREET & HARKNESS STREET
GEORGETOWN, CALIFORNIA
EAS-14-406

Prepared For:

MR. DAN BISWAS
SIMONCRE ABBIE, LLC
5111 N. Scottsdale Road, Suite 200
Scottsdale, AZ 85250
Phone: (480) 745-1956

and

DOLLAR GENERAL CORPORATION
100 Mission Ridge
Goodlettsville, TN 37072

Subcontracted Engineering Services By:

SALEM ENGINEERING GROUP, INC.
4729 W. Jacquelyn Avenue
Fresno, California 93722
Phone: (559) 271-9700

October 10, 2014

Attachment 11

EAS PROFESSIONALS

153 Brozzini Court, Suite C
Greenville, SC 29615
Phone (864) 234-7368
Fax (864) 234-7369

October 10, 2014

SimonCRE Abbie, LLC
5111 N. Scottsdale Road, Suite 200
Scottsdale, AZ 85250
(480) 745-1956
dan@simoncre.com

Attention: Mr. Dan Biswas

Reference: Geotechnical Engineering Investigation
Proposed Dollar General Market Store
SEC Main Street & Harkness Street
Georgetown, California
EAS Project No.: EAS-14-406

Mr. Biswas:

The purpose of this report is to present the results of the subsurface exploration program and geotechnical engineering analyses undertaken by Engineering and Surveying Professionals, Inc. (EAS) in connection with the above referenced project in Georgetown, California. The attached report presents our understanding of the project information provided to EAS, reviews our exploration procedures, describes existing site and general subsurface conditions, and presents our evaluations, conclusions, and recommendations.

We have enjoyed working with you on this project, and we are prepared to assist you with the recommended quality assurance monitoring and testing services during construction. Please do not hesitate to contact us if you have any questions regarding this report or if we may be of further service.

Respectfully Submitted,
EAS PROFESSIONALS, INC.

Josue A. Montes, PE, GE
Geotechnical Manager
Fresno / Central Valley

REGISTERED PROFESSIONAL ENGINEER
JOSUE A. MONTES JR.
No. GE2904
Exp. 12-31-14
GEOTECHNICAL
STATE OF CALIFORNIA

R. Sammy Salem, MS, PE, GE, REA
Principal Engineer
RCE 52762 / RGE 2549

REGISTERED PROFESSIONAL ENGINEER
R. SAMMY SALEM
No. 2549
Exp. Dec. 31, 2014
GEOTECHNICAL
STATE OF CALIFORNIA

Senior Engineering Review/Report Preparation by: Douglas R. Dunko, VP, EAS

EAS PROFESSIONALS

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY OUTLINE

The executive summary is provided solely for purpose of overview. Any party who relies on this report must read the full report. The executive summary omits a number of details, any one of which could be critical to the proper application of this report.

1.1. SUBSURFACE CONDITIONS

- The soil test borings within the development area generally encountered upper layers of medium dense gravelly silty sands (fill), medium dense gravelly clayey sands (fill), medium dense clayey silty sands, medium dense gravelly clayey silty sands (fill), underlined by stiff to hard clayey sandy silts, firm sandy silts with some gravel, stiff sandy clayey silts, firm sandy silts with clay, medium dense gravelly clayey sands, very stiff sandy silts, very stiff sandy silts with clay, stiff sandy clayey silts, medium dense gravelly silty sands with clay, dense gravelly silty sands, to the maximum depth explored, at 50 feet below existing site grades. Fill soil may be present on-site between our test boring locations. Verification of encountered soils by the geotechnical engineer, whether it is consistent with soils encountered during our investigation, should be determined during site grading. Field and laboratory tests suggest that the encountered soils included soils that has potential for detrimental settlement and medium expansion potential (Expansion Index of 63), underlain by moderately to highly strong soil deposits (i.e. bedrock).

- Groundwater was <u>not</u> encountered during drilling activities. Available State Water Resources Control Board groundwater data (May 2012) from a property approximately 0.2 mile southwesterly of the site indicated water table depths that ranged from approximately 23 to 32 feet below existing grade at the site. (Ground surface elevations at the referenced site were 2647 feet to 2650 feet AMSL.) In reference, the proposed Dollar General site grade elevations are in the range of 2644± feet to 2653± AMSL, as indicated on a provided topography plan. It should be recognized that groundwater table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

1.2. SITE PREPARATION

- Initial site preparation will require clearing and grubbing of thick vegetation, the abandonment/removal of any existing utilities (*e.g.*, storm water lines, water lines, sewer lines, etc.) that are encountered within the proposed development area. Open pipes or

conduits, if any, left in-place adjacent to the construction area should be bulkheaded and grouted as they might serve as conduits for subsurface erosion.

- Based on the results of the soil test borings, it is recommended that at least 24 inches below the existing ground elevation be excavated, moisture-conditioned to near 3 percent over optimum moisture, and recompacted to a minimum of 90 percent of maximum density based on ASTM D1557 Test Method. Existing fill should be tested for compaction and approved if acceptable, during grading.

- It is anticipated that fill will extend towards the rear property line. Cut and fill within the proposed building area is anticipated at the site. In order to minimize post-construction differential settlement, all structures that are in a cut/fill transition zones should be cut a minimum of 2 feet below foundation depth. Additional cut is required for cut/fill transition zones greater than 4 feet. All structures that are in cut/fill transition zones greater than 4 feet should be cut ½ the thickness of the fill placed on the "fill" portion (10 feet maximum). This excavation should extend a minimum of 5 feet beyond structural elements or to a minimum distance equal to the depth of over-excavation, whichever is greater.

- It is recommended that the proposed cut and fill slopes be constructed to 2:1 (horizontal to vertical). In lieu of those slopes, a retaining wall may be used. Cut and fill slopes for the building pad should not exceed 2:1 (horizontal to vertical). Cut and fill slopes may be revised as recommended by the Soils Engineer upon his review of a more definite site plan.

1.3. Structural Fill

- Based on the observed site grade during the field exploration, it is anticipated that maximum structural fill thickness will be nearly 10 feet, and will be minimum 24 inches below foundation bottom, and/or up to the required thickness to achieve planned grade. To minimize the foundation settlement due to potentially compressible soils, it is recommended that the upper 18 inches of soil beneath the foundation areas be removed and replaced with Engineered Fill. If proofrolling reveals unstable conditions, **the grading contractor should be prepared to undercut and/or re-work the bottom subgrade to depths of at least 24 inches below the existing subgrades to provide a stable subgrade for any structural fill, building slab-on-grade or pavements, especially where minimal structural fill is required to achieve finish subgrade elevations.**

1.4. Foundations

- Foundations can be designed for a maximum bearing pressure of 3,000 psf for dead-plus-live-load. Continuous wall footings should have a minimum width of 18 inches and extend

to a minimum depth of 18 inches below the lowest adjacent grade. Isolated column footings should have a minimum width of 24 inches and extend a minimum depth of 18 inches below the lowest adjacent grade. Lowest adjacent grade is defined herein as sub-slab soil grade or exterior grade, whichever is lower.

1.5. Site Seismic Classification

- Based upon the subsurface conditions encountered at the soil test borings and in accordance with Chapter 16 of 2013 California Building Code (CBC), the site is classified as a Seismic Site Class D.

1.6. Pavements

- Based on laboratory testing performed by EAS, a design R-value of 28 was used for onsite subgrade materials in the pavement areas.

2. SCOPE OF SERVICES

The purposes of our involvement on this project were as follows: 1) provide general descriptions of the subsurface conditions encountered at the project site, 2) provide shallow foundation and pavement design recommendations, and 3) comment on geotechnical aspects of the proposed construction. In order to accomplish the above objectives, we undertook the following scope of services:

1. Visited the site to observe existing surface conditions and to field locate the soil test boring locations.
2. Coordinated utility clearance with applicable utility services.
3. Reviewed readily available geologic and subsurface information relative to the project site.
4. Executed a subsurface exploration consisting of nine soil test borings with Modified California Sampler (MCS) and Standard Penetration Test (SPT): five borings within the proposed building footprint (B-1, B-2, B-3, B-4, and B-5) and four borings within planned pavement areas (B-6, B-7, B-8, and B-9). The borings were drilled to depths ranging from 10 feet to 50 feet below existing site grades.
5. Evaluated the findings of the soil test borings relative to general subsurface characterization, foundation and pavement support, and other geotechnical aspects of the project.
6. Prepared this written report summarizing our services for the project, and providing descriptions of the subsurface conditions encountered, foundation and pavement design recommendations, as well as geotechnical considerations for construction. Copies of the boring logs are provided in Appendix A.

3. SITE AND PROJECT DESCRIPTION

We understand that SimonCRE Abbie, LLC is considering construction of a new Dollar General Market Store building on a rectangular parcel located on the southeasterly corner of the intersection of Main Street and Harkness Street, in Georgetown, El Dorado County, California. At the time of our field exploration, the parcel was mostly undeveloped, with an area being utilized for recreational purposes. Most of the property is occupied by trees and grass vegetation. Site features and a topo map indicate that a level pad area (which included the recreational area) was constructed with fill soils. Based on provided topographic plan, the site has elevations of 2657 feet to 2676 feet AMSL. The proposed building will be a prototype "B" design and will cover an area of approximately 9,026 square-feet. The Dollar General development will cover a total site area of approximately 1.2± acre gross. On-site parking and landscaping are planned to be associated with the development.

Structural loads were not provided to us; however, based upon previous similar projects, it is assumed that the building will likely require shallow foundations with column and continuous wall footings that have loads of up to approximately 75 kips and 3 kips per linear foot, respectively. Concrete and asphaltic concrete pavement for parking area, customers travel lanes, and truck lanes will be designed for standard duty and heavy-duty traffic loading based on an Equivalent Single Axle Load (ESAL) of 18 kips, a maximum load of 60,000 ESAL, and a design life of 20 years. The pavement design recommendations will be based upon the State of California Department of Transportation design manual.

The information presented in this section was used in our evaluation for the planned development. Estimated loads and corresponding foundation sizes have a direct effect on the recommendations, including the type of foundation, the allowable bearing pressure, and settlement due to foundation loads. In addition, estimated finish subgrade elevations and assumed cut/fill grading quantities can have a direct effect on the provided recommendations. If any of the noted/assumed information is incorrect or has changed, please inform EAS so that we may amend the recommendations presented in this report, if necessary.

4. SUBSURFACE EXPLORATION

Nine (9) soil test borings were drilled for this project to depths of up to a maximum depth of 50 feet below existing site grades. The borings were located in the field based on the provided site plan by an EAS representative by making tape measurements from known site features. Given the method of determination, the boring locations should only be considered approximate. The approximate test boring locations are indicated on the Boring Location Plan (Figure No. 2) enclosed in the Appendix to this report.

The soil test borings were advanced using hollow stem augers for borehole stabilization. Representative soil samples were obtained using a standard 3-inch outside diameter (O.D.) MCS

and a standard 2-inch SPT sampler in general compliance with ASTM Standards. The number of blows required to drive the sampler three consecutive 6-inch increments was recorded, and the blows of the last two 6-inch increments were added to obtain the SPT N-values representing the penetration resistance of the soil. Penetration tests were performed at frequent intervals to evaluate the consistency and general engineering properties of the subsurface soils. Test borings were backfilled with cement grout upon completion of the subsurface exploration.

Representative portions of the soil samples obtained from test intervals were sealed in containers, labeled, and transported to our laboratory for final classification by our geotechnical staff. The soil samples were visually classified in general accordance with the Unified Soil Classification System (USCS), using visual-manual identification procedures (ASTM Method D 2488). Copies of the Boring Logs are enclosed in Appendix A.

4.1. Regional Geology

The subject site is located on the northern half of the Sierra Nevada Geomorphic Province of California. The Sierra Nevada Geomorphic Province is bordered to the north by the Cascade and Basin and Ranges, to the west by the Great Valley, to the east by the Basin and Range, and to the south by the Transverse Ranges and the Mojave Desert. The Sierra Nevada is nearly 400 miles in length and averages about 50 miles wide. Formation of the Sierra Nevada occurred by tectonic shifting of the Sierran Block; the western side dropping to form the Great Valley and the eastern side being uplifted to form the Sierra Nevada.

The Sierra Nevada batholith in the vicinity of Georgetown includes is a complex assemblage of individual plutons representing magma bodies emplaced mostly between 140 million and 80 million years ago. The Sierra Nevada batholith represents the deep roots of a Mesozoic volcanic arc that developed along the western margin of North America above the Farallon subduction zone. The magma that formed the Sierra Nevada batholith was emplaced into older Paleozoic Era rocks. These old rocks were deformed and metamorphosed during several different accretionary events. Metamorphic rocks such as marble, slate, schist, serpentinite, and greenstone are common in the pre-batholithic terranes of the Sierra Nevada. In addition, these rocks are commonly folded and faulted by the compressional stress generated along ancient convergent plate boundaries.

The nearest active fault to the site is the Battle Creek Fault located approximately 21.16 miles to the south. Based on the proximity of seismic sources to the subject site and their maximum probable events, it appears that a maximum probable event along the nearest fault zones could produce a peak horizontal acceleration of approximately 0.265g. The proposed structures should be designed in accordance with the site coefficients shown in Section 5.6.

Accordingly, the project area is not within an Earthquake Fault Zone (Special Studies Zone) and will not require a special site investigation by an Engineering Geologist. Liquefaction potential (sudden loss of shear strength in a saturated cohesionless soil) should be low since ground shaking intensities are not strong enough to generate this type of failure.

4.2. Subsurface Conditions

This section of the report provides a general discussion of the subsurface conditions encountered within areas of proposed construction at the project site. The subsurface conditions discussed in the following paragraphs and those shown on the boring logs represent an estimate of the subsurface conditions based on interpretation of the boring data using normally accepted geotechnical engineering judgments. The transitions between different soil strata are usually less distinct than those shown on the boring logs. Although individual test borings are representative of the subsurface conditions at the boring locations on the dates shown, they are not necessarily indicative of subsurface conditions at other locations or at other times.

The soil test borings were performed within grassed and exposed soil areas across the planned development area. The soil test borings generally encountered interbedded layers of medium dense to dense silty sands with trace of clay, some loose to very dense gravelly silty sands, very stiff sandy silts, underlain by interchanging layers of dense to very dense gravelly silty sands, with trace of clay, medium dense gravelly clayey sands, stiff to hard silty sandy clay with trace of gravel. The materials encountered in our soil test borings are generally discussed in the following paragraphs. The following discussion of the subsurface conditions has been simplified for ease of report interpretation. More detailed descriptions of the subsurface conditions at the individual boring locations are presented on the Boring Logs in the Appendix.

4.2.1. Surficial/Organic Laden Soils (Topsoil)

Surficial soils typically contain root mat and/or other fibrous organic matter and are generally unsuitable for engineering purposes. Surficial soils containing significant root and organic content were generally observed to depths of approximately 3 to 6 inches at all of the boring locations. Actual surficial soil depths may vary in unexplored areas of the site. For stripping estimates, we do not anticipate that the surficial soil depths will vary greatly from those encountered at the boring locations.

4.2.2. Fill Soils

Undocumented fill soils were encountered in Borings B-4, B-5, B-6 and B-9, up to 8 feet thick. Based on the site features during our field exploration, it appears that site fill is present in areas outside the borings. This does not preclude that deeper fill soils be present onsite between our test boring locations. When encountered during construction, verification of the extent of the fill should be determined during site grading. Undocumented fill materials should be replaced with Engineered Fill.

Encountered fill soils indicated favorable strength characteristics for anticipated foundation loading. All fill encountered during construction and exposed bottom should be evaluated by the EAS prior to placing compacted fill.

4.2.3. Residual Soils

Residual soils were encountered up to the maximum depth explored 50 feet below ground surface. Sampled soils were generally described as medium dense gravelly silty sands (fill), medium dense gravelly clayey sands (fill), medium dense clayey silty sands, medium dense gravelly clayey silty sands (fill), underlined by stiff to hard clayey sandy silts, firm sandy silts with some gravel, stiff sandy clayey silts, firm sandy silts with clay, medium dense gravelly clayey sands, very stiff sandy silts, very stiff sandy silts with clay, stiff sandy clayey silts, medium dense gravelly silty sands with clay, dense gravelly silty sands, to the maximum depth explored, at 50 feet below existing site grades. Standard Penetration Resistance (SPT) N-values of the sampled residual soils underlying the upper 2 feet indicated suitable foundation support for the proposed building.

Field and laboratory tests suggest that the residual soils include potentially collapsible/compressible soils in the upper layers and potentially expansive soils (Expansion Index 63), underlain by moderately to very strong soil deposits.

4.2.4. Groundwater

Groundwater was not encountered during the drilling activities at the project site. Available State Water Resources Control Board groundwater data (May 2012) from a property approximately 0.2 mile southwesterly of the site indicated water table depths that ranged from approximately 23 to 32 feet below existing grade at the site. (Ground surface elevations at the referenced site were 2647 feet to 2650 feet AMSL.) In reference, the proposed Dollar General site grade elevations are in the range of 2644± feet to 2653± AMSL, as indicated on a provided topography plan. Based on this groundwater data and assumptions regarding site grading outlined in this report, **shallow groundwater should not affect site grading or foundation and utility excavations**.

We note that the elevation of the groundwater table is dependent upon seasonal factors, such as precipitation and temperature. Therefore, the elevation of the groundwater table may be different at other times of the year and from the elevations presented in this report. Generally, the highest groundwater levels occur in late winter and early spring; and the lowest levels in late summer and early fall. If earthwork, foundation construction, or pavement construction are performed soon after periods of significant precipitation, the subgrade soils may become saturated (pump) and require undercutting and/or remediation measures to provide a stable subgrade for structural fill, building and pavement loads. Typical remediation measures include: disking and aerating the soil during dry weather; mixing the soil with drier materials; removing

and replacing the soil with an approved fill material; or mixing the soil with an approved lime or cement product.

5. ENGINEERING EVALUATION AND RECOMMENDATIONS

The following evaluations and recommendations contained in this section of the report are based on the results of the soil test borings, site observations, interpretation of the field data obtained during this exploration, and information provided regarding the proposed development. Provided our recommendations are strictly followed throughout the design and construction phases of this project the project site is suitable for the proposed construction.

Soil penetration data have been used to estimate an allowable bearing pressure range and settlement using established correlations. Subsurface conditions in unexplored locations may vary from those encountered. If structure locations, loadings, or elevations are changed, we request that we be advised so that we may re-evaluate our recommendations.

Determination of an appropriate foundation system for a given structure is dependent on the proposed structural loads, soil conditions, and construction constraints such as proximity to other structures. The subsurface exploration aids the geotechnical engineer in determining the soil stratum appropriate for structural support. This determination includes considerations with regard to both allowable bearing capacity and compressibility of the soil strata. In addition, since the method of construction greatly affects the soils intended for structural support, consideration must be given to the implementation of suitable methods of site preparation, fill compaction, and other aspects of construction.

5.1. Site Preparation Recommendations

Initial site preparation should include demolition of structures that are in conflict with the planned construction, removal of all existing organic laden soils, vegetation, surface soils containing other deleterious materials, undocumented fill soils, and buried organic laden soils. If any existing utilities (e.g., storm water lines, septic tanks, etc.) are encountered within the proposed development area, they should be abandoned and/or removed. The resulting excavations should be backfilled with controlled structural fill placed in accordance with the recommendations presented in subsequent sections of this report. Open pipes or conduits, if any, left in-place adjacent to the construction area should be bulkheaded and grouted as they might serve as conduits for subsurface erosion. **During the clearing and stripping operations, positive surface drainage should be maintained to prevent the accumulation of water in construction areas.** EAS's geotechnical engineer or qualified engineering technician working under the supervision of our geotechnical engineer should observe site preparation activities on a full time basis.

Following initial site preparation activities, we recommend that at least 24 inches below the exiting ground elevations be excavated, moisture-conditioned to near 3 percent over optimum moisture, and recompacted to a minimum of 90 percent of maximum density based on ASTM D1557 Test Method. All areas to receive engineered fill, foundations, slab-on-grade, or pavements shall be proofrolled with a loaded tandem axle dump truck, scraper, or other similar heavy construction equipment to confirm the stability of the subgrade soils and detect the presence of any near surface soft or unstable areas. EAS's geotechnical engineer or his representative should observe the proofrolling operations. Proofrolling should be performed during a time of good weather and not while the site is wet, frozen, or severely desiccated. The proofrolling observation is a good opportunity for the geotechnical engineer to locate inconsistencies intermediate of our boring locations in the existing subgrade. Based on the results of the soil test borings, we do not anticipate that widespread areas of unstable subgrade will be encountered within the existing fill soils across the site. However, if proofrolling reveals unstable conditions, **the grading contractor should be prepared to undercut and/or re-work the existing subgrade to depths of at least two (2) feet below finished subgrades to provide a stable subgrade for any structural fill, building slab-on-grade, or pavements, especially where minimal structural fill is required to achieve finish subgrade elevations.** Depending on the condition of the soils encountered at the undercut excavation bottom, the grading contractor should be prepared to stabilize the undercut excavation by using stabilization geotextiles (Mirafi 500x) or geogrids (Tensar TX-140) and/or select materials to allow for proper compaction of the re-compacted structural fill. EAS's geotechnical engineer or his representative should observe the undercut bottom to determine if additional stabilization efforts are needed.

The on-site upper soils encountered mostly consist of silty sands, with some clay and gravel, can be moisture sensitive depending on the content of fine grained soils, and can become unstable during normal construction traffic and activities when wet. As such, during earthwork and construction activities, surface water runoff should be drained away from the construction areas to prevent water from ponding on or saturating the soils within excavations or on subgrades. However, if the subgrade should become desiccated, the soils should be removed and replaced or the materials should be scarified, moisture conditioned (wetted) and recompacted prior to placement of additional fill, slabs, or pavements, etc. It is imperative to maintain the specified moisture levels in the soils prior to placement of concrete or asphalt pavements. **Earthwork construction during seasonally cold/wet times of the year (typically October to May) may result in soft subgrade conditions, difficulties in properly placing and compacting the on-site soils and possible undercutting in excess than would otherwise be expected.** The presence of EAS's geotechnical engineer during site preparation activities will aid in limiting any unnecessary undercutting of otherwise suitable soils.

5.2. Structural Fill Placement and Compaction

Final grading information was not provided to us; however, based on our site observations we anticipate that significant grading will be required to construct a level building pad and to achieve finish subgrade elevations for the planned development area. Any imported fill soils should be approved by EAS's project geotechnical engineer. Generally, structural fill should consist of non-to-low-expansive soils, and be free of organic and other deleterious materials. To minimize the potential soil movement due to expansive soil conditions, it is recommended that the upper 18 inches of soil beneath the required granular aggregate subbase within slab on grade and exterior flatwork areas be removed and replaced with non-to-low-expansive Engineered Fill. We recommend that our geotechnical engineer or his representative help identify the best-suited engineering fill soils.

Cut and fill within the proposed building area is anticipated at the site. In order to minimize post-construction differential settlement, all structures that are in a cut/fill transition zones should be cut a minimum of 2 feet below foundation depth. Additional cut is required for cut/fill transition zones greater than 4 feet. All structures that are in cut/fill transition zones greater than 4 feet should be cut ½ the thickness of the fill placed on the "fill" portion (10 feet maximum). This excavation should extend a minimum of 5 feet beyond structural elements or to a minimum distance equal to the depth of over-excavation, whichever is greater.

It is recommended that the proposed cut and fill slopes be constructed to 2:1 (horizontal to vertical). In lieu of those slopes, a retaining wall may be used. Cut and fill slopes for the building pad should not exceed 2:1 (horizontal to vertical). Cut and fill slopes may be revised as recommended by the Soils Engineer upon his review of a more definite site plan.

EAS recommends that earthwork operations be performed during the seasonally drier months (typically May to October) when weather conditions are more conducive to soil moisture conditioning (*e.g.* drying) and achieving proper compaction of structural fill. It should also be noted that any excavated soils that are intended to be used as structural fill may be wet of optimum conditions, which will also require adequate drying time prior to use as structural fill. **If earthwork is performed during the seasonally wet months, it may be more difficult to properly compact structural fill and additional subgrade undercutting and repair will likely be required.**

New fill should be adequately keyed into existing subgrade soils that have been stripped and scarified, exposing acceptable subgrade soils. All structural earth fill should be placed in loose lifts not exceeding 8 inches and be compacted to at least 90 percent of the standard Proctor maximum dry density as determined by ASTM D1557. EAS recommends that all structural fill native material be compacted at a moisture content near optimum moisture content (as determined by ASTM Test Method D1557). Aggregate base course (underlying the building floor slab and pavement areas) should be compacted to least 95 percent of the material's maximum

dry density as determined by ASTM Test Method D1557. All structural fill should be placed under the **full-time** control and supervision of EAS's geotechnical engineer or engineering technician working under the direction of our geotechnical engineer. The placement and compaction of all fill material should be tested frequently in order to confirm that the recommended degree of compaction is obtained.

We recommend that the contractor have equipment on site during earthwork for both drying and wetting of fill soils. The grading contractor should be prepared to moisture condition (wet and/or dry) the structural fill soils. Moisture control may be difficult during winter months or extended periods of rain. As previously discussed, EAS recommends that earthwork operations be performed during the seasonally drier months (typically May to October) when weather conditions are more conducive to soil moisture conditioning (*e.g.* drying) and achieving proper compaction of structural fill. During fill operations, positive surface drainage should be maintained to prevent the accumulation of water. Attempts to work the soils when wet can be expected to result in deterioration of otherwise suitable soil conditions or of previously placed and properly compacted fill. Where construction traffic or weather has disturbed the subgrade, the upper 8 inches of soils intended for structural support should be scarified and re-compacted.

5.3. FOUNDATIONS

Based on the results of the soil test borings, and the anticipated foundation loads, shallow foundations as described in this section may be used to support the planned construction.

Spread foundations constructed in accordance with the recommendations presented in this report can be proportioned for **net allowable soil bearing pressure of 3,000 psf**. For design purposes, total settlement on the order of 1 inch may be assumed for shallow foundations. Differential settlement, along a 20-foot exterior wall footing or between adjoining column footings, should be on the order of ½ inch, producing an angular distortion of 0.002. All exterior foundations should bear at least 18 inches below the adjacent finished grade for bearing capacity considerations or to the minimum depth required by the local building code. Interior foundations should bear at a nominal depth of at least 18 inches. Wall and column foundations should have minimum widths of 18 and 24 inches, respectively. The project structural engineer should determine final foundation sizes and minimum foundation excavation depths based on the actual design loads, building code requirements, and other structural considerations.

Spread foundations may be designed to resist lateral earth pressures using friction on the base of the foundation and passive earth pressures on the sides of foundations bearing on competent native soils or compacted fill. Allowable design values of 350 pcf (Equivalent Fluid Pressure, EFP) and 0.35 may be used for passive earth pressures and friction coefficient, respectively. Active pressures of 35 pcf EFP may be used in design.

The undercut excavations must be maintained in a drained/de-watered condition throughout the foundation reinforcement construction process. If the foundation excavations must remain open overnight, or if rainfall becomes imminent while the bearing soils are exposed, we recommend that a 2 to 4 inch thick "mud mat" of lean concrete (1,500 psi) be placed on the exposed subgrade or additional undercutting/mucking of soft, saturated subgrade soils will be required. In addition, EAS stresses the need for positive perimeter surface drainage around the building area to direct all runoff water away from the building and foundations.

5.4. Floor Slabs

Ground floor slabs may be designed as a free-floating slab-on-grade supported by approved existing fill soils or reworked/properly compacted structural fill soils placed in accordance with structural fill recommendations within this report.

A modulus of subgrade reaction (k) of 190 pounds per cubic inch (pci) can be used for slab design for slabs placed on structural fill compacted to at least 90% of the soil's maximum dry density as determined by ASTM test method D1557 within the upper 18 inches of finish subgrade elevation. Slab-on-grade support is contingent upon completion of site preparation activities and properly placed structural fill as described in Sections 5.1 Site Preparation Recommendations and 5.2 Structural Fill Placement and Compaction of this report. Although not anticipated, some subgrade undercutting and/or in-place stabilization may be necessary in soil-supported slab areas underlain by low-consistency soils. The floor slab should be supported on at least 4 inches of ABC stone (aggregate base course) compacted to 95 percent of the material's modified Proctor maximum dry density value to provide a uniform well-compacted material immediately beneath the slab.

A minimum 15-mil thick vapor barrier should be used directly beneath ground floor slabs that will be covered by tile, wood, carpet, impermeable floor coatings, and/or if other moisture-sensitive equipment or materials will be in contact with the floor. However, the use of vapor retarders may result in excessive curling of floor slabs during curing. We refer the floor slab designer to ACI 302.1R-96, Sections 4.1.5 and 11.11, for further discussion on vapor retarders, curling, and the means to minimize concrete shrinkage and curling.

After finishing operations have been completed, immediately after free water has evaporated, and before jointing begins, the surface of the slab and any exposed edges should be uniformly coated with a high-solids curing compound meeting ASTM C309 or C1315 (Type II) requirements. The application rate should be at least that recommended by the manufacturer. A second application at 90 degrees offset is recommended on windy days or whenever a single application results in coverage that is not uniform. Other acceptable curing methods and materials can be used and are described in more detail in ACI 308R-01, Section 2.4.2.3.

Proper jointing of the ground floor slab is of key importance to minimize cracking. Contraction joints pre-determine the location of cracks caused by restrained shrinkage of the concrete and by the effects of loads and warping or curling. The purpose of contraction joints are to create planes of weakness that subsequently produce, and control the location of, cracks as the concrete shrinks. ACI suggests that unreinforced, plain concrete slabs may be jointed at spacings of 24 to 36 times the slab thickness, up to a maximum of 18 feet for standard concrete mixtures. Saw-cutting of contraction joints should begin as soon as the concrete has hardened sufficiently to avoid raveling of the coarse aggregate. The early-entry dry-cut process should be used so that joints can be placed before development of tensile stresses that are great enough to initiate cracking, thus increasing the probability of cracks forming at the joint. The time of cut is immediately after initial set of the concrete in that joint location, which will typically vary from 1 hour after finishing in hot weather, to 4 hours after finishing in cold weather. The sawing of any joint should be discontinued or omitted if a crack occurs at or near the joint location before or during sawing. For additional jointing guidance, refer to "Concrete Intersections – A Guide for Design and Construction" (American Concrete Pavement Association 2007).

Floor slab construction should incorporate isolation joints around any fixed objects including columns, utility penetrations and along bearing walls, to allow for minor differential movement of the slab without damage to the floor. Utility or other construction excavations in the prepared floor slab subgrade should be backfilled in accordance with previously referenced structural fill criteria to aid in providing uniform floor support.

5.5. Soil Corrosivity

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or stucco) and the soil. HUD/FHA and ACI have developed criteria for evaluation of sulfate and chloride levels and how they relate to cement reactivity with soil and/or water.

The water-soluble sulfate concentration in the saturation extract from the soil samples at 0-5 feet below ground surface was 50 mg/kg (equivalent to ACI 318-11 S0 Exposure Category). This concentration is indicative of a low exposure to sulfate attack. Type I or II cement with a minimum content of 470 pounds with water-cement ratio of 0.55 has been shown to adequately resist the soil sulfate concentration. The water-soluble chloride concentration detected in saturation extract from the soil sample was 42 mg/kg. This level of chloride concentration is considered low.

EAS does not practice corrosion engineering and therefore recommends that a qualified corrosion engineer be consulted regarding protection of buried steel or, as a minimum, that buried steel pipe or conduit be protected from salt attack by protective coatings, or, that manufacturer's recommendations for corrosion protection be closely followed. A concrete cover of 3 inches is considered adequate to provide protection for reinforcing steel. The soil sample tested indicated pH levels of approximately 7.3, which indicate a low or non-reactive condition.

Soil or water with a pH of 5.5 or less can react with the lime in concrete resulting in a more porous weaker concrete.

5.6. Site Seismic Classification

The following recommendations are based on Section 1613.3 of the 2013 California Building Code (CBC). Our scope of services did not include a seismic conditions survey to determine site-specific shear wave velocity information. ASCE 7-10 provides a methodology for interpretation of Standard Penetration Test resistance values (N-values) to determine a Site Classification Definition. However, this method requires an averaging of N values over the top 100 feet of the subsurface profile. We note that the soil test borings for this project were extended to planned depths of up to approximately 50 feet, below existing site grades in order to characterize soils within the zone of influence for anticipated new foundation and pavement loads.

Based upon the subsurface conditions described herein, and in accordance with appropriate sections of the 2013 CBC, the subject site currently meets the conditions for a **Site Classification D**. Based on a Site Class D determination, the geographical site location, and the mapped Maximum Considered Earthquake (MCE) ground motion for 0.2 and 1.0-second spectral response acceleration, we have estimated the following design spectral response coefficients:

Period (sec)	Mapped MCE Spectral Response Acceleration (g)		Site Coefficients		Adjusted MCE Spectral Response Acceleration (g)		Design Spectral Response Acceleration (g)	
0.2	S_S	0.523	F_a	1.381	S_{MS}	0.723	S_{DS}	0.482
1.0	S_1	0.234	F_v	1.932	S_{M1}	0.452	S_{D1}	0.301

The Seismic Design Category for a structure is based on the structure's seismic use group and the design spectral response acceleration, S_{DS} and S_{D1}, determined in accordance with Section 1613.3.5 and the most severe seismic design category in accordance with Table 1613.3.5(1) or 1613.3.5(2). Based on the above design spectral response accelerations and the structure's seismic use group (assumed as Use Group II), the site is assigned a **Seismic Design Category D for S_{DS} and S_{D1}** in general accordance with the procedures outlined in Chapter 16 of the 2013 CBC. *The project architect and/or structural engineer should verify the above information taking into account the appropriate Seismic Use Group and other code specific requirements.*

5.7. Pavement Recommendations

5.7.1. Assumed Traffic for Pavement Design

For the purpose of evaluating the proposed flexible (asphalt) pavement section, an 18-kip equivalent single axle load (ESAL) was used for the design of the travel lanes. Our evaluation assumes a daily traffic count of approximately 500 cars and 3 light dual-wheel trucks and/or

heavy tractor-trailers or other similar heavy truck traffic (1% truck traffic) over a 20-year design life.

For the purpose of evaluating the proposed rigid (concrete) pavement section, EAS utilized the PCA design methodology employed by the ACI 330R design procedure. When using the ACI design procedure, the expected vehicle types to use the facility are categorized from A to D. The assumed traffic type (light vehicles such as cars, SUV's, and light trucks) for the standard duty pavement correspond to a traffic category of A, while the heavy vehicles using the heavy duty section correspond to traffic Category C. Category C uses a minimum 100 applications per day, while only 20 per day are expected (to correlate with the equivalent number of ESALs over a 20-year design life).

5.7.2. Pavement Subgrade Conditions and Preparation

All pavement areas should be proofrolled and inspected as recommended within this report. Structural fill and/or in-situ soils for rigid pavements placed within pavement and drive areas should be compacted to a minimum of 95 percent of the material's standard Proctor maximum dry density as determined by ASTM D1557 within the upper eighteen inches below planned finish subgrade elevations.

Density testing should be performed at a sufficient frequency to verify that the fill has been compacted in accordance with the guidelines of this report or project specification requirements.

Proper drainage may be aided by grading the site such that surface water is directed away from pavements and by construction of swales adjacent to the pavements. All pavements should be graded such that surface water is directed towards the outer limits of the paved area or to catch basins located such that surface water does not remain on the pavement. A minimum pavement grade of 2 percent is recommended.

5.7.3. Recommended Pavement Sections

Based on the anticipated subgrade soil conditions upon completion of appropriate subgrade preparation activities, the recommended minimum values found in the table below for rigid (concrete) pavements may be used. Laboratory test results yielded R-Values of 35 and 28. The minimum Dollar General pavement section thickness requirements, meet the EAS minimum thickness design, and are presented below.

EAS Designed Minimum Flexible (Asphalt) Pavement Sections[1][2]

Traffic Area	Material Thickness			Total Pavement Section (inches)
	Aggregate Base Course (ABC) (inches)	Asphalt Course Binder (inches)	Asphalt Course Surface (inches)	
Standard Duty TI=5	6.0	1.5	1.5	8.5
Heavy Duty TI=6	8.0	2.0	2.0	11.0

(1) Recommendation based on EAS's engineers and/or technician being retained to provide the recommended laboratory testing and observation and testing during construction.

(2) This design is based on an R-Value of at least 28 for structural fill similar to the encountered site soils at the site. A laboratory R-Value test may be performed prior to construction (note: test requires 2 to 3 days to perform) that may reduce recommended pavement sections. EAS should be retained to perform an alternate pavement design if more suitable structural fill soils are used.

EAS Designed Minimum Rigid (Concrete) Pavement Sections [3][4][5][6]

Traffic Area	Material Thickness			Total Pavement Section (inches)
	Aggregate Sub-Base (inches)	Aggregate Base Course (ABC) (inches)	Portland Cement Concrete (inches)	
Standard Duty TI=5	0	4.0	5.5	9.5
Heavy Duty TI=6	0	6.0	6.0	12.0

(3) Recommendation based on EAS's engineers and/or technician being retained to provide the recommended laboratory testing and observation and testing during construction.

(4) This design is based on an R-Value of at least 28 for structural fill similar to the encountered site soils at the site. A laboratory R-Value test may be performed prior to construction (note: test requires 2 to 3 days to perform) that may reduce recommended pavement sections. EAS should be retained to perform an alternate pavement design if more suitable structural fill soils are used.

(5) Recommendation based on EAS's engineers be retained to prepare a comprehensive concrete jointing plan and EAS's engineer and/or engineering technician observation and testing during construction.

(6) Recommendation based on 4,000-psi (570 psi flexural strength) air-entrained Portland cement concrete with micro-fiber overlying a properly prepared/approved soil subgrade. All non-curbed and/or confined outside pavement edges must be thickened 2 inches to increase edge support. The store entrance apron area, dumpster pad and dumpster approach area should be a minimum 7 inches thick. Jointed concrete panels that have a length to width ratio greater than 1.25 shall include crack control reinforcement consisting of #4 rebar placed 24 inches on-center both directions at approximately 2 inches below the finished concrete surface. The crack control reinforcement should not overlap into adjacent concrete panels.

We recommend that a detailed concrete jointing plan, construction details and specifications be prepared for any/all planned concrete pavements. The jointing of the concrete pavement should incorporate design guidelines in general accordance with ACI 330R. If EAS's engineers are not

retained to prepare the comprehensive concrete jointing plan and specifications, then we recommend that we are at least retained to **review the final jointing plan prior to construction.**

5.7.4. General Asphalt and Concrete Pavement Guidelines

In general, long-term pavement performance requires good drainage, performance of periodic maintenance activities, and particular attention to subgrade preparation. EAS recommends that rigid concrete pavement be used in loading dock areas, dumpster and dumpster approach areas or any other area subjected to concentrated truck loading.

Flexible asphalt pavements and bases should be constructed in accordance with the guidelines of the latest applicable California Department of Transportation Specifications. Materials, weather limitations, placement and compaction are specified under appropriate sections of these publications. While the flexible pavement sections are designed utilizing a life of 20 years, routine maintenance, including seal-coating and re-surfacing, will be required due to normal wear and tear of the asphalt surface if a 20 year pavement life is desired.

Rigid concrete pavement construction should be in accordance with applicable American Concrete Institute (ACI) guidelines, in particular the latest version of ACI 330.1 in print at time of construction. The jointing of the concrete pavement should incorporate design guidelines in general accordance with ACI 330R. Recent pavement studies by the American Concrete Pavement Association (ACPA) have indicated that jointed plain concrete pavements perform at least as well as, and usually somewhat better than, jointed reinforced concrete pavements. These studies also conclude that transverse joint spacing has a very significant effect on pavement performance. Decreasing the longitudinal joint spacing to more equally spaced transverse and longitudinal joints and square sections has the following beneficial effects:

- Decreases thermal curl stress
- Decreases transverse cracking
- Decreases upward curling of slab at joint
- Decreases joint spalling
- Decreases seasonal and daily joint opening (which increases joint load transfer effectiveness and reduces sealant extension)

5.8. Temporary Excavation Recommendations

Mass excavations and other excavations required for construction of this project must be performed in accordance with the United States Department of Labor, Occupational Safety and Health Administration (OSHA) guidelines (29 CFR 1926, Subpart P, Excavations) or other applicable jurisdictional codes for permissible temporary side-slope ratios and/or shoring requirements. The OSHA guidelines require daily inspections of excavations, adjacent areas and protective systems by a "competent person" for evidence of situations that could result in cave-ins, indications of failure of a protective system, or other hazardous conditions.

6. CONSTRUCTION OBSERVATIONS AND TESTING

We recommend that a review of plans and specifications, with regard to foundations and earthwork, be completed by EAS Professionals, Inc. prior to construction bidding. Our continued involvement on the project will aid in the proper implementation of the recommendations discussed herein.

As previously discussed, the Geotechnical Engineer of record should be retained to monitor and test earthwork activities, and subgrade preparations for foundations, floor slabs and pavements. It should be noted that the actual soil conditions at the various subgrade levels and foundation bearing grades will vary across this site and thus the presence of EAS's Geotechnical Engineer and/or his representative during construction will serve to validate the subsurface conditions and recommendations presented in this report. EAS's representative(s) should be present at the site on a part-time to full-time basis during site preparation to observe site clearing, preparation of exposed surfaces after clearing, and on a full time basis during placement, treatment and compaction of all site structural (building and parking lot) fill materials. EAS's observations should be supplemented with periodic compaction tests to establish substantial conformance with these recommendations. Moisture content of the building pad (footings and slab subgrade) should be tested immediately prior to concrete placement.

EAS should observe the recommended foundation stabilization prior to placement of reinforcing steel or concrete to confirm the proper installation of the stabilization geotextile and compacted stone as outlined in this report. EAS should also observe placement of all foundation, slab and or pavement concrete on a full-time basis.

The following is a list of generally accepted criteria for minimum construction inspection requirements. The site construction contractor is responsible to schedule EAS's representative/technical staff for the testing and observation of ALL the following:

1. **Pre-construction meeting** (detail scheduling, review geotechnical data, plans and specifications)

2. **Site work**

   a. Subgrade proofroll with a loaded tandem axle truck; undercut and replace unsuitable material as required by EAS's Geotechnical representative.

   b. Soil sample of proposed structural fill. The types of tests needed per sample are: Standard Proctor (ASTM D698- maximum dry density) or Modified Proctor (ASTM D1557), Atterberg Limits (soil classification) and Moisture Content (in-situ condition). The material

must meet the requirements for structural fill as specified in this geotechnical report and will be verified on site by EAS's engineering technician.

c. Fill Density testing (full-time observation, documentation and testing): Nuclear Density Testing of each lift of compacted fill: 8" maximum compacted lifts, 1 test per 5,000 SF in building, 1 test per 10,000 SF in paved areas, or a minimum of five tests per lift throughout site. Determines percent compaction as compared to maximum dry density determined per soil sample required.

d. Utility pipe backfill density testing (full-time observation, documentation and testing): Nuclear Density Testing, a minimum of 1 test per structure, or 1 test per 100 lineal feet per 8" lift. Test results should comply with recommendation of Geotechnical Report and will be verified on site by EAS's engineering technician.

3. **Foundation Inspection**

Required inspections are: Reinforcing Steel Observation (Inspect for clean, dry footing bottom; size and spacing of reinforcing steel; size and depth of footing; clearances from sides and bottom of footing) and Stability Testing of Foundation Sub-grade. Test results should comply with recommendation of Geotechnical Report and will be verified on site by EAS's engineering technician.

4. **Concrete Testing**

Compressive Strength Testing of Concrete (full-time observation, documentation and testing): Number and frequency of tests are as follows: 1 Set of 4 Concrete Cylinders per 100 Placed Yards, Compression testing at (1) at 7 Days, (2) at 28 Days of Curing, and (1) Hold. A minimum of 3 Sets per Project (footings, slab, dumpster pad). Test results will be verified by testing lab/EAS and provided to the client.

5. **Structural Steel Inspection**

Observe all welds and bolted connections for compliance with AISC, AWS and/or metal building project specifications. Welding tolerances are determined by requiring all welds and bolted connection to adhere to AISC (American National Standards Institute/American Institute of Steel Construction) and AWS (American Welding Society) Standards. Test results should comply with recommendation of onsite structural engineering representative.

6. **Floor Flatness Testing**

Testing for floor flatness and floor level should reflect the following values: FF – 35, FL – 30. Floor flatness can be no lower than 30, Floor Levelness no lower than 25 for any test set grouping.

7. **Asphalt Pavement Testing**

   a. Base course density testing and thickness measurements.

   b. Full-time observation, documentation and testing during placement. Coring of Asphalt Parking Lot for thickness testing. A minimum of three cores will be required spaced evenly throughout parking area. Cores are measured for compliance with project paving profiles recommended in Geotechnical Report and bulk specific gravity tests conducted for density (minimum of 93% compaction based on design unit weight).

8. **Concrete Pavement Testing**

   a. Base course density testing and thickness measurements.

   b. Compressive Strength Testing of Concrete (full-time observation, documentation and testing): Number and frequency of tests are as follows: 1 Set of 4 Concrete Cylinders per 100 Placed Yards, Compression testing at (1) at 7 Days, (2) at 28 Days of Curing, and (1) Hold. Minimum 3 Sets Per Project (footings, slab, dumpster pad). Test results will be verified by testing lab/EAS and provided to the client.

   c. A detailed concrete jointing plan shall be prepared for any/all planned concrete pavements. The Jointing of the concrete pavement should incorporate design guidelines in general accordance with ACI 330R. If EAS's engineers are not retained to prepare the concrete jointing plan, then we recommend that EAS is retained to review the final plan prior to construction.

7. LIMITATIONS

This report has been prepared for the exclusive use of SimonCRE Abbie, LLC for specific application to the referenced property in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made. Our conclusions and recommendations are based on design information furnished to us; the data obtained from the previously described subsurface exploration program, and generally accepted geotechnical engineering practice. The conclusions and recommendations do not reflect variations in subsurface conditions which could exist intermediate of the boring locations or in unexplored areas of the site. Should such variations become apparent during construction, it will be necessary to re-evaluate our conclusions and recommendations based upon on-site observations of the conditions.

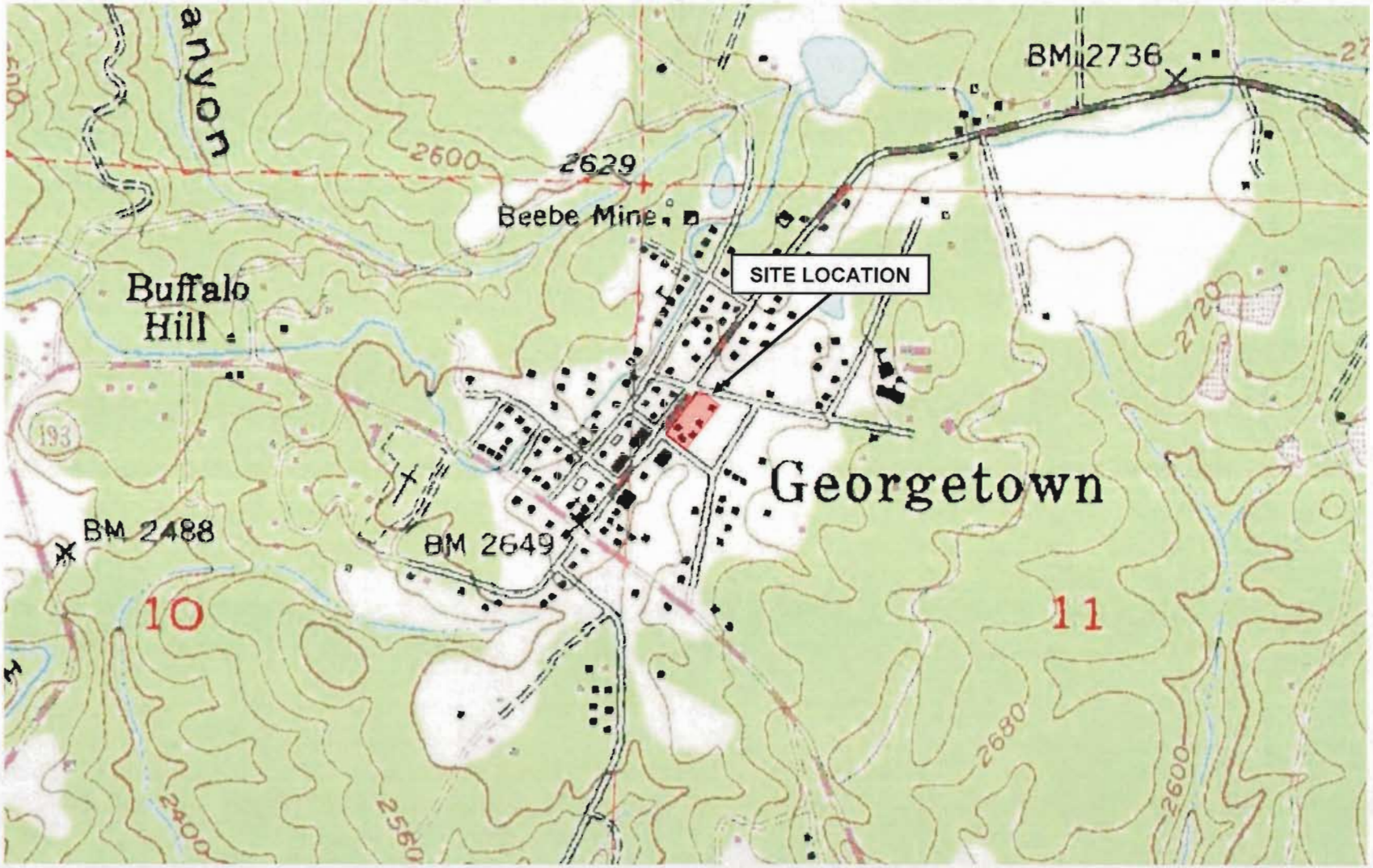
Regardless of the thoroughness of a subsurface exploration, there is the possibility that conditions between borings will differ from those at the boring locations, that conditions are not as anticipated by the designers, or that the construction process has altered the soil conditions. Therefore, experienced geotechnical engineers should evaluate earthwork, pavement, and foundation construction to verify that the conditions anticipated in design actually exist.

Otherwise, we assume no responsibility for construction compliance with the design concepts, specifications, or recommendations.

In the event that changes are made in the design or location of the proposed structure, the recommendations presented in the report shall not be considered valid unless the changes are reviewed by our firm and conclusions of this report modified and/or verified in writing. Prior to final design, EAS should be afforded the opportunity to review the site grading and layout plans to determine if additional or modified recommendations are necessary. If this report is copied or transmitted to a third party, it must be copied or transmitted in its entirety, including text, attachments, and enclosures. Interpretations based on only a part of this report may not be valid.

FIGURES

Site Vicinity Map
Boring Location Map



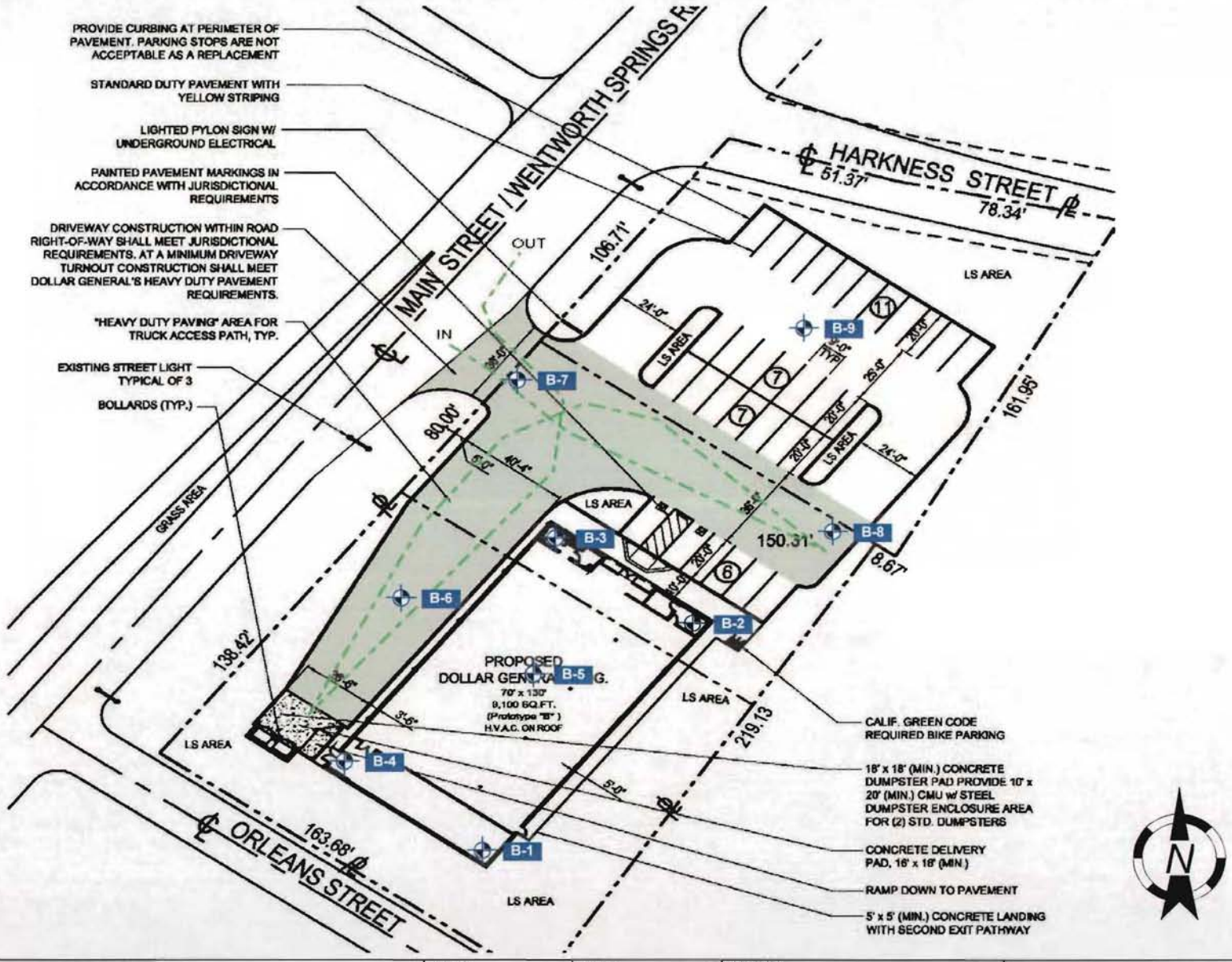
Source Image: U.S. Geological Survey, Georgetown, Calif. 7.5' Quadrangle, 1949 (Photorevised 1973)

VICINITY MAP

GEOTECHNICAL ENGINEERING INVESTIGATION
Proposed Dollar General Market
SEC Main Street & Harkness Street
Georgetown, California

SCALE:	DATE:
NOT TO SCALE	9/28/2014
DRAWN BY:	APPROVED BY:
KL	JM
PROJECT NO.	FIGURE NO.
4-214-0831	1

EAS PROFESSIONALS



SITE PLAN

GEOTECHNICAL ENGINEERING INVESTIGATION
Proposed Dollar General Retail Market
SEC Main Street & Harkness Street
Georgetown, California

SCALE:	DATE:
NOT TO SCALE	10/09/2014
DRAWN BY:	APPROVED BY:
SG	JM
PROJECT NO.	FIGURE NO.
4-214-0831	2

LEGEND:

B-1 Soil Boring Location

All Locations Approximate

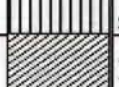
EAS PROFESSIONALS

APPENDIX

SUBSURFACE INVESTIGATION

Key to Soil Classification Chart /
Unified Soil Classification System (USCS)
Boring Logs

Unified Soil Classification System

Major Divisions			Letter	Symbol	Description
Coarse-grained Soils More than ½ retained on the No. 200 Sieve	**Gravels** More than ½ coarse fraction retained on the No. 4 sieve	Clean Gravels	GW		Well-graded gravels and gravel-sand mixtures, little or no fines.
			GP		Poorly-graded gravels and gravel-sand mixtures, little or no fines.
		Gravels With Fines	GM		Silty gravels, gravel-sand-silt mixtures.
			GC		Clayey gravels, gravel-sand-clay mixtures.
	Sands More than ½ passing through the No. 200 sieve	Clean Sands	SW		Well-graded sands and gravelly sands, little or no fines.
			SP		Poorly-graded sands and gravelly sands, little or no fines.
		Sands With Fines	SM		Silty sands, sand-silt mixtures
			SC		Clayey sands, sandy-clay mixtures.
Fine-grained Soils More than ½ passing through the No. 200 Sieve	**Silts and Clays** Liquid Limit less than 50%		ML		Inorganic silts, very fine sands, rock flour, silty or clayey fine sands.
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL		Organic clays of medium to high plasticity.
	Silts and Clays Liquid Limit greater than 50%		MH		Inorganic silts, micaceous or diatomaceous fines sands or silts, elastic silts.
			CH		Inorganic clays of high plasticity, fat clays.
			OH		Organic clays of medium to high plasticity.
Highly Organic Soils			PT		Peat, muck, and other highly organic soils.

Consistency Classification

Granular Soils			*Cohesive Soils*		
Description - Blows Per Foot (Corrected)			Description - Blows Per Foot (Corrected)		
	MCS	SPT		MCS	SPT
Very loose	<5	<4	Very soft	<3	<2
Loose	5 - 15	4 - 10	Soft	3 - 5	2 - 4
Medium dense	16 - 40	11 - 30	Firm	6 - 10	5 - 8
Dense	41 - 65	31 - 50	Stiff	11 - 20	9 - 15
Very dense	>65	>50	Very Stiff	21 - 40	16 - 30
			Hard	>40	>30

MCS = Modified California Sampler

SPT = Standard Penetration Test Sampler

Boring No. B-1

Project: Proposed Dollar General Market
Client: SimonCRE Abbie, LLC
Location: SEC Main Street & Harkness Street, Georgetown, CA
Grnd. Surf. Elev. (Ft. MSL) N/A
Depth to Water>

Project No: EAS 14-406
Figure No.: A-1
Logged By: P.S.
Initial: None
At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture Content (%)	Sampler Type	Penetration	Blow Count	Penetration Test (20 40 60 80)	Water Level
0		Ground Surface							
		Gravelly Silty SAND/Sand SILT (SM/ML) Medium dense; reddish brown; damp to moist; fine to coarse-grained.	97.3	8.0	MCS		20		
		Grades as above; increased gravel.	109.6	10.1	MCS		29		
5		**Clayey Sandy SILT (ML) [Weathered Bedrock]** Stiff; brown; moist; fine to medium-grained.	108.3	13.6	MCS		20		
		Grades as above; gray brown; moist to wet; black mottling.	103.3	21.4	MCS		20		
		Gravelly Clayey SAND (SC) [Weathered Bedrock]							
10		Medium dense; gray brown; moist; fine to medium-grained; black mottling.	107.3	18.5	MCS		24		
15		**Sandy Clayey SILT (ML) [Weathered Bedrock]** Stiff; gray brown; very moist to wet; fine-grained.	-	25.6	SPT		12		
		Grades as above; with gravel; increase sand content; black mottling.	-	29.7	SPT		13		
20		End of Borehole							
25									

Drill Method: Solid Flight Auger
Drill Rig: CME-45C
Driller: Salem Engineering Group, Inc.
Sheet: 1 of 1

Drill Date: 9/25/2014
Borehole Size: 4 inches
Hammer Type: Auto Trip
Weight & Drop: 140 lb./30 in.

EAS PROFESSIONALS

Boring No. B-2

Project: Proposed Dollar General Market
Client: SimonCRE Abbie, LLC
Location: SEC Main Street & Harkness Street, Georgetown, CA
Grnd. Surf. Elev. (Ft. MSL) N/A
Depth to Water>

Project No: EAS 14-406
Figure No.: A-2
Logged By: P.S.
Initial: None
At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture Content (%)	Sampler Type	Penetration	Blow Count
0		Ground Surface					
		Gravelly Silty SAND (SM) Medium dense; reddish brown; damp to moist; fine to medium-grained.	99.6	7.9	MCS		24
			106.4	9.0	MCS		22
		Grades as above; increased gravel.					
5		**Clayey Sandy SILT (ML) [Weathered Bedrock]** Very stiff; brown; moist; fine to medium-grained.	111.5	17.6	MCS		25
		Sandy SILT (ML) with Clay [Weathered Bedrock] Very stiff; gray brown; wet; fine to medium-grained; black mottling.	97.8	23.8	MCS		28
10			96.2	28.3	MCS		30
		Grades as above.					
15		Grades as above; very moist to wet.	-	17.8	SPT		37
		Grades as above.	-	18.4	SPT		27
20		End of Borehole					
25							

Penetration Test: 20 40 60 80

Water Level

Drill Method: Solid Flight Auger
Drill Rig: CME-45C
Driller: Salem Engineering Group, Inc.
Sheet: 1 of 1

Drill Date: 9/25/2014
Borehole Size: 4 inches
Hammer Type: Auto Trip
Weight & Drop: 140 lb./30 in.

EAS PROFESSIONALS

Boring No. B-3

Project: Proposed Dollar General Market
Client: SimonCRE Abbie, LLC
Location: SEC Main Street & Harkness Street, Georgetown, CA
Grnd. Surf. Elev. (Ft. MSL) N/A
Depth to Water>

Project No: EAS 14-406
Figure No.: A-3
Logged By: P.S.
Initial: None
At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture Content (%)	Sampler Type	Penetration	Blow Count
		SUBSURFACE PROFILE	**SAMPLE**				
0		Ground Surface					
		Gravelly Silty SAND (SM) Medium dense; reddish brown; damp to moist; fine to coarse-grained.	102.1	6.9	MCS		19
			106.2	11.1	MCS		22
		Grades as above.					
5		**Clayey Sandy SILT (ML) [Weathered Bedrock]** Very stiff; brown; moist; fine to medium-grained.	98.9	24.6	MCS		21
		Sandy SILT (ML) with Clay [weathered rock] Very stiff; gray brown; wet; fine to medium-grained; black mottling.	105.5	22.2	MCS		37
10			118.2	14.2	MCS		48
		Grades as above; hard.					
15		Grades as above; very stiff; very moist to wet.	-	21.5	SPT		16
		Grades as above.	-	20.0	SPT		27
20		End of Borehole					
25							

Penetration Test: 20 40 60 80

Water Level

Drill Method: Solid Flight Auger
Drill Rig: CME-45C
Driller: Salem Engineering Group, Inc.
Sheet: 1 of 1

Drill Date: 9/25/2014
Borehole Size: 4 inches
Hammer Type: Auto Trip
Weight & Drop: 140 lb./30 in.

EAS PROFESSIONALS

Boring No. B-4

Project: Proposed Dollar General Market
Client: SimonCRE Abbie, LLC
Location: SEC Main Street & Harkness Street, Georgetown, CA
Grnd. Surf. Elev. (Ft. MSL) N/A

Project No: EAS 14-406
Figure No.: A-4
Logged By: P.S.
Initial: None
Depth to Water>
At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture Content (%)	Sampler Type	Penetration	Blow Count	Penetration Test (20 40 60 80)	Water Level
0		Ground Surface							
		Gravelly Silty SAND (SM) [FILL] Medium dense; gray brown; damp to moist; fine to coarse-grained [large rock fragments].	108.9	9.8	MCS		20		
			89.8	9.7	MCS		16		
		Grades as above.							
5		**Clayey Sandy SILT (ML) [FILL]** Hard; reddish brown; damp to moist; fine to medium-grained.	103.4	13.5	MCS		43		
		Gravelly Sandy SILT (ML) with trace of Clay Stiff; dark brown; moist; fine to coarse-grained.	98.4	19.3	MCS		18		
10		**Sandy SILT (ML) with Clay [Weathered Rock]** Stiff; gray brown; moist; fine-grained.	108.0	19.8	MCS		15		
		Grades as above; very stiff; gray brown; fine to medium-grained.							
15			-	21.4	SPT		19		
		Gravelly Silty SAND/Clayey SAND (SM/SC) [Weathered Bedrock] Medium dense; gray brown; moist; fine to medium-grained; black mottling.	-	18.4	SPT		35		
20		End of Borehole							
25									

Drill Method: Solid Flight Auger
Drill Rig: CME-45C
Driller: Salem Engineering Group, Inc.
Sheet: 1 of 1

Drill Date: 9/25/2014
Borehole Size: 4 inches
Hammer Type: Auto Trip
Weight & Drop: 140 lb./30 in.

EAS PROFESSIONALS

Boring No. B-5

Project: Proposed Dollar General Market
Client: SimonCRE Abbie, LLC
Location: SEC Main Street & Harkness Street, Georgetown, CA
Grnd. Surf. Elev. (Ft. MSL) N/A

Project No: EAS 14-406
Figure No.: A-5
Logged By: P.S.
Initial: None
Depth to Water>
At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture Content (%)	Sampler Type	Penetration	Blow Count
		SUBSURFACE PROFILE	**SAMPLE**				
0		Ground Surface					
		Gravelly Clayey SAND (SC) [FILL] Medium dense; reddish brown; damp to moist; fine to coarse-grained.	102.3	13.0	MCS		23
			103.6	11.2	MCS		31
		Clayey Sandy SILT (ML) [FILL] Very stiff; reddish brown; damp to moist; fine to medium-grained.					
5			97.2	15.8	MCS		29
		Grades as above; brown.	101.5	13.6	MCS		31
		Gravelly Clayey SAND (SC) Medium dense; brown; damp to moist; fine to coarse-grained.					
10			94.6	16.7	MCS		32
		Grades as above; increased gravel.					
		Sandy Clayey SILT (ML) [Weathered Bedrock] Stiff; brownish gray; moist; fine-grained.					
15			-	35.4	SPT		11
		Gravelly Silty SAND (SM) with Clay [Weathered Bedrock] Medium dense; brown; moist; fine to coarse-grained.	-	25.1	SPT		29
20							
25		Grades as above; fine to medium-grained.	-	20.4	SPT		30

Penetration Test
20 40 60 80

Water Level

Drill Method: Solid Flight Auger
Drill Rig: CME-45C
Driller: Salem Engineering Group, Inc.
Sheet: 1 of 2

Drill Date: 9/25/2014
Borehole Size: 4 inches
Hammer Type: Auto Trip
Weight & Drop: 140 lb./30 in.

EAS PROFESSIONALS

Boring No. B-5

Project: Proposed Dollar General Market
Client: SimonCRE Abbie, LLC
Location: SEC Main Street & Harkness Street, Georgetown, CA
Grnd. Surf. Elev. (Ft. MSL) N/A
Depth to Water>

Project No: EAS 14-406
Figure No.: A-5
Logged By: P.S.
Initial: None
At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture Content (%)	Sampler Type	Penetration	Blow Count
30		Grades as above; black mottling.	-	24.8	SPT		23
35		Grades as above.	-	23.9	SPT		25
40		**Gravelly Silty SAND (SM) [Weathered Bedrock]** Dense; brown; moist; fine to coarse-grained.	-	20.0	SPT		31
45		Grades as above; medium dense.	-	21.6	SPT		28
50		Grades as above; very dense.	-	19.0	SPT		51
		End of Borehole					

SUBSURFACE PROFILE | SAMPLE | Penetration Test (20 40 60 80) | Water Level

Drill Method: Solid Flight Auger
Drill Rig: CME-45C
Driller: Salem Engineering Group, Inc.
Sheet: 2 of 2

Drill Date: 9/25/2014
Borehole Size: 4 inches
Hammer Type: Auto Trip
Weight & Drop: 140 lb./30 in.

EAS PROFESSIONALS

Boring No. B-6

Project: Proposed Dollar General Market
Client: SimonCRE Abbie, LLC
Location: SEC Main Street & Harkness Street, Georgetown, CA
Grnd. Surf. Elev. (Ft. MSL) N/A

Project No: EAS 14-406
Figure No.: A-6
Logged By: P.S.
Initial: None
Depth to Water>
At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture Content (%)	Sampler Type	Penetration	Blow Count	Penetration Test (20 40 60 80)	Water Level
0		Ground Surface							
		Gravelly Clayey SAND (SC) [FILL] Medium dense; reddish brown; damp to moist; fine to medium-grained.	100.2	12.3	MCS		27		
5		**Sandy SILT (ML) with some Gravel** Firm; reddish brown; moist; fine to coarse-grained.	-	14.9	SPT		8		
		Clayey SAND/Silty SAND (SP/SM) [Weathered Bedrock] Medium dense; brown; damp to moist; fine to medium-grained.	-	17.6	SPT		13		
10		End of Borehole							
15									

Drill Method: Solid Flight Auger
Drill Rig: CME-45C
Driller: Salem Engineering Group, Inc.
Sheet: 1 of 1

Drill Date: 9/25/2014
Borehole Size: 4 inches
Hammer Type: Auto Trip
Weight & Drop: 140 lb./30 in.

EAS PROFESSIONALS

Boring No. B-7

Project: Proposed Dollar General Market
Client: SimonCRE Abbie, LLC
Location: SEC Main Street & Harkness Street, Georgetown, CA
Grnd. Surf. Elev. (Ft. MSL) N/A
Depth to Water>

Project No: EAS 14-406
Figure No.: A-7
Logged By: P.S.
Initial: None
At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture Content (%)	Sampler Type	Penetration	Blow Count	Penetration Test (20 40 60 80)	Water Level
0		Ground Surface							
		Gravelly Silty SAND (SM) Medium dense; gray brown; damp to moist; fine to medium-grained; black mottling below ~ 2 feet depth.	108.4	10.2	MCS		27		
5		**Sandy Clayey SILT (ML) [Weathered Bedrock]** Stiff; gray brown; moist; fine to medium-grained; black mottling.	-	19.1	SPT		15		
		Clayey SAND/Silty SAND (SP/SM) [Weathered Bedrock] Medium dense; brown; moist to wet; fine to medium-grained.	-	26.0	SPT		18		
10		End of Borehole							
15									

Drill Method: Solid Flight Auger
Drill Rig: CME-45C
Driller: Salem Engineering Group, Inc.
Sheet: 1 of 1

Drill Date: 9/25/2014
Borehole Size: 4 inches
Hammer Type: Auto Trip
Weight & Drop: 140 lb./30 in.

EAS PROFESSIONALS

Boring No. B-8

Project: Proposed Dollar General Market
Client: SimonCRE Abbie, LLC
Location: SEC Main Street & Harkness Street, Georgetown, CA
Grnd. Surf. Elev. (Ft. MSL) N/A

Project No: EAS 14-406
Figure No.: A-8
Logged By: P.S.
Initial: None
Depth to Water>
At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture Content (%)	Sampler Type	Penetration	Blow Count	Penetration Test (20 40 60 80)	Water Level
0		Ground Surface							
		Clayey Silty SAND (SM) Medium dense; olive brown; damp to moist; fine to medium-grained; black mottling below 2 feet depth.	90.5	19.2	MCS		16		
5		**Clayey Sandy SILT (ML) [weathered rock]** Very stiff; gray brown; moist; fine to medium-grained.	-	20.3	SPT		24		
		Gravelly Silty SAND (SM/SC) with Clay [Weathered Bedrock] Dense; olive brown; moist; fine to medium-grained.	-	19.4	SPT		31		
10		End of Borehole							
15									

Drill Method: Solid Flight Auger
Drill Rig: CME-45C
Driller: Salem Engineering Group, Inc.
Sheet: 1 of 1

Drill Date: 9/25/2014
Borehole Size: 4 inches
Hammer Type: Auto Trip
Weight & Drop: 140 lb./30 in.

EAS PROFESSIONALS

Boring No. B-9

Project: Proposed Dollar General Market
Client: SimonCRE Abbie, LLC
Location: SEC Main Street & Harkness Street, Georgetown, CA
Grnd. Surf. Elev. (Ft. MSL) N/A

Project No: EAS 14-406
Figure No.: A-9
Logged By: P.S.
Initial: None
Depth to Water>
At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture Content (%)	Sampler Type	Penetration	Blow Count	Penetration Test (20 40 60 80)	Water Level
0		Ground Surface							
		Gravelly Clayey Silty SAND (SC) [FILL] Medium dense; orange brown; damp to moist; fine to medium-grained.	103.6	10.0	MCS		30		
5		**Sandy SILT (ML) with Clay** Firm; brown; damp to moist; fine to medium-grained.	-	14.9	SPT		8		
		Sandy Clayey SILT (ML) [Weathered Bedrock] Firm; gray brown; wet; fine to medium-grained.	-	46.6	SPT		5		
10		End of Borehole							
15									

Drill Method: Solid Flight Auger
Drill Rig: CME-45C
Driller: Salem Engineering Group, Inc.
Sheet: 1 of 1

Drill Date: 9/25/2014
Borehole Size: 4 inches
Hammer Type: Auto Trip
Weight & Drop: 140 lb./30 in.

EAS PROFESSIONALS

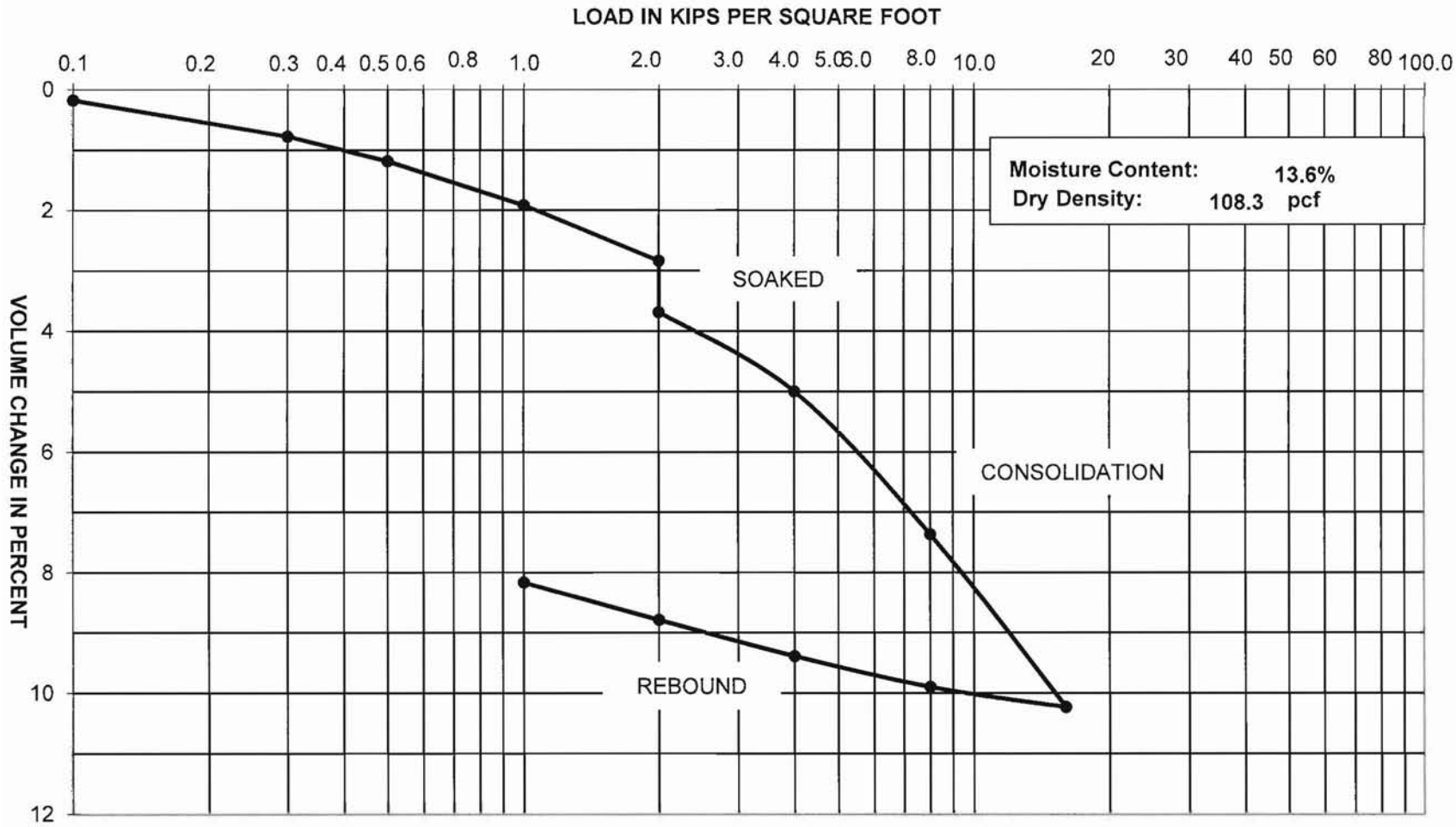
APPENDIX

LABORATORY TESTING

Consolidation – Pressure Test Data
Direct Shear
Sieve Analysis
R-Value
Chemical Analysis
Expansion Index

CONSOLIDATION - PRESSURE TEST DATA

ASTM D 2435



Prop. Dollar General Store - SWC Main St. and Harkness, Georgetown, CA

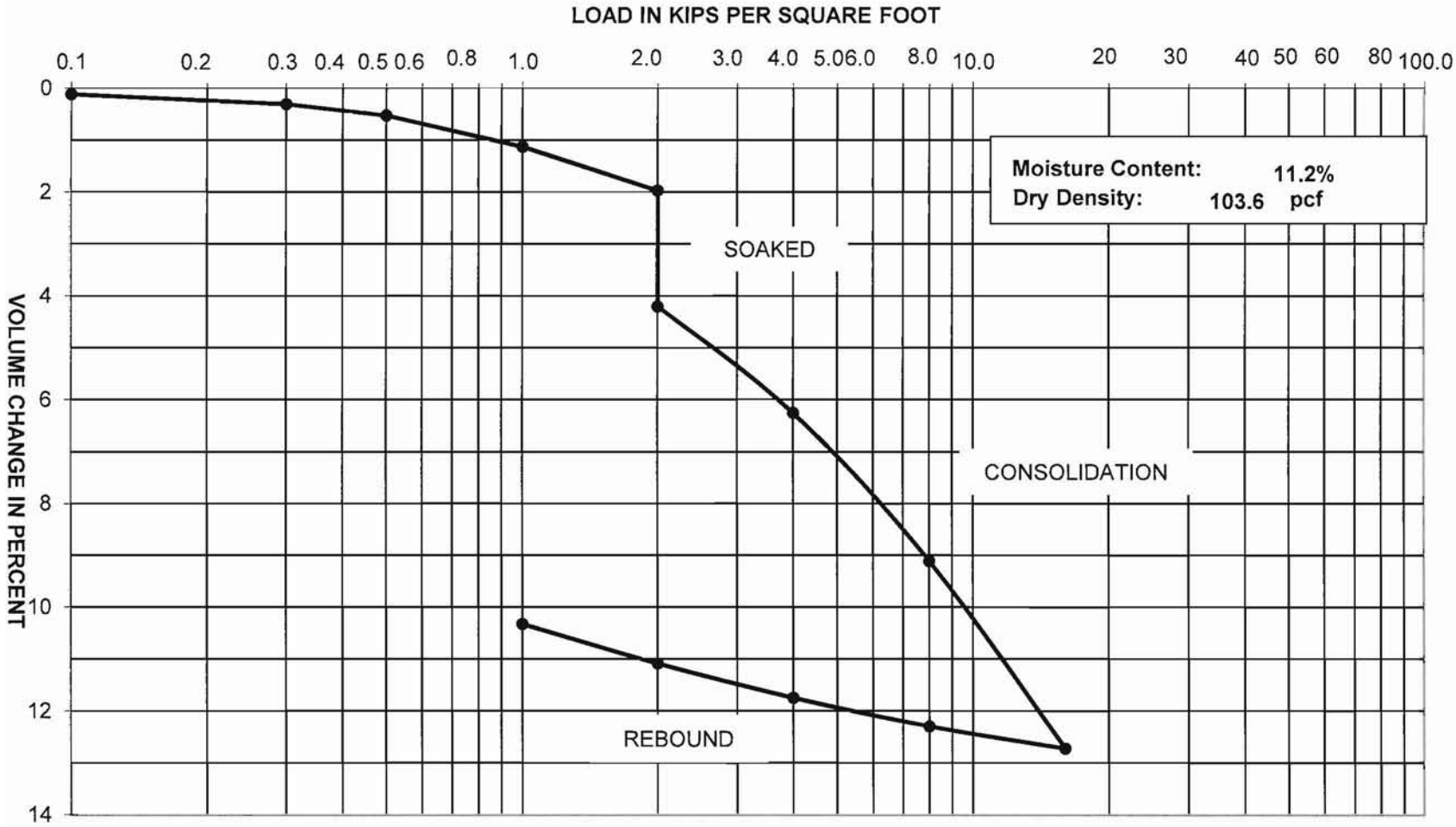
Job Number: EAS 14-406

Boring: B-1 @ 5'

SALEM engineering group, inc.

CONSOLIDATION - PRESSURE TEST DATA

ASTM D 2435



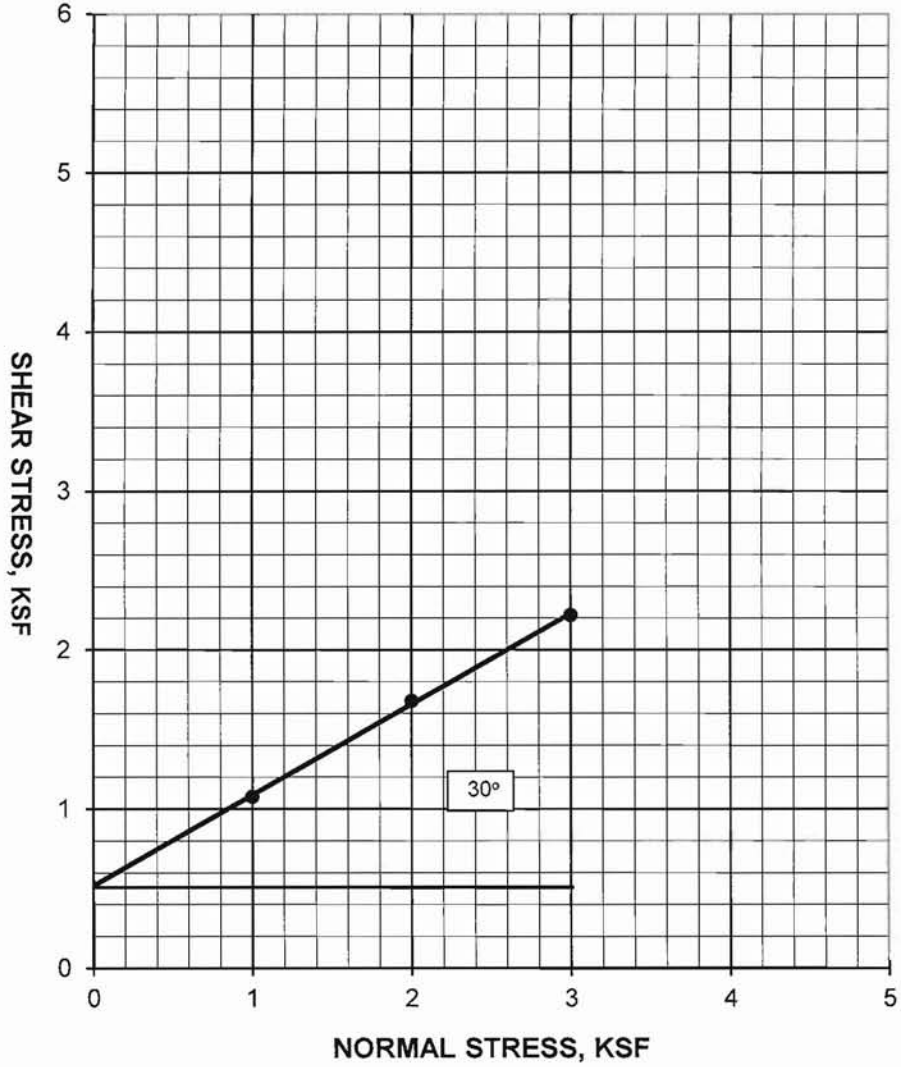
Prop. Dollar General Store - SWC Main St. and Harkness, Georgetown, CA

Job Number: EAS 14-406

Boring: B-5 @ 2'

SALEM engineering group, inc.

SHEAR STRENGTH DIAGRAM
(DIRECT SHEAR)
ASTM D - 3080



Prop. Dollar General Store - SWC Main St. and Harkness, Georgetown, CA

Job Number: EAS 14-406

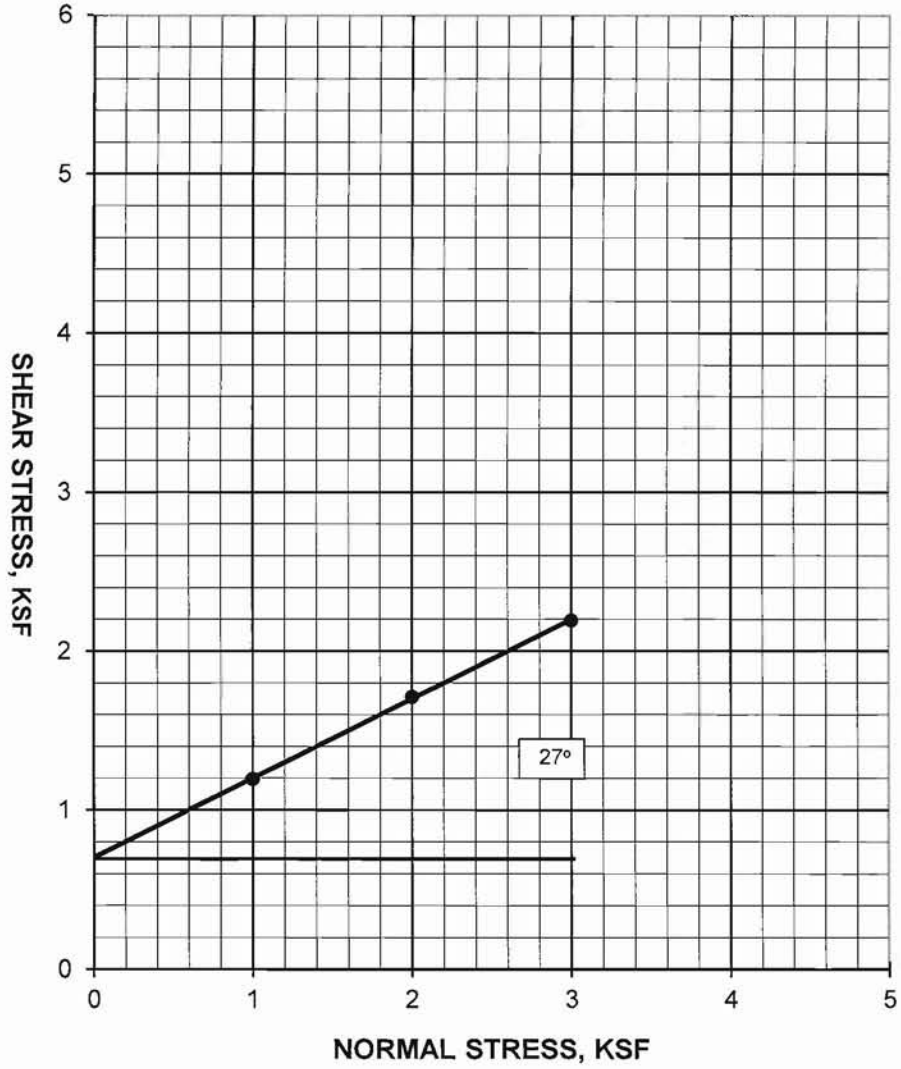
Boring: B-1 @ 2'
Soil Type: Gravelly Silty Sand (SM)

Friction Angle:	30	degrees
Cohesion:	520	psf

Moisture Content	10.1%	
Dry Density	109.6	pcf

SALEM
engineering group, inc.

SHEAR STRENGTH DIAGRAM
(DIRECT SHEAR)
ASTM D - 3080



Prop. Dollar General Store - SWC Main St. and Harkness, Georgetown, CA

Job Number: EAS 14-406

Boring: B-5 @ 5'

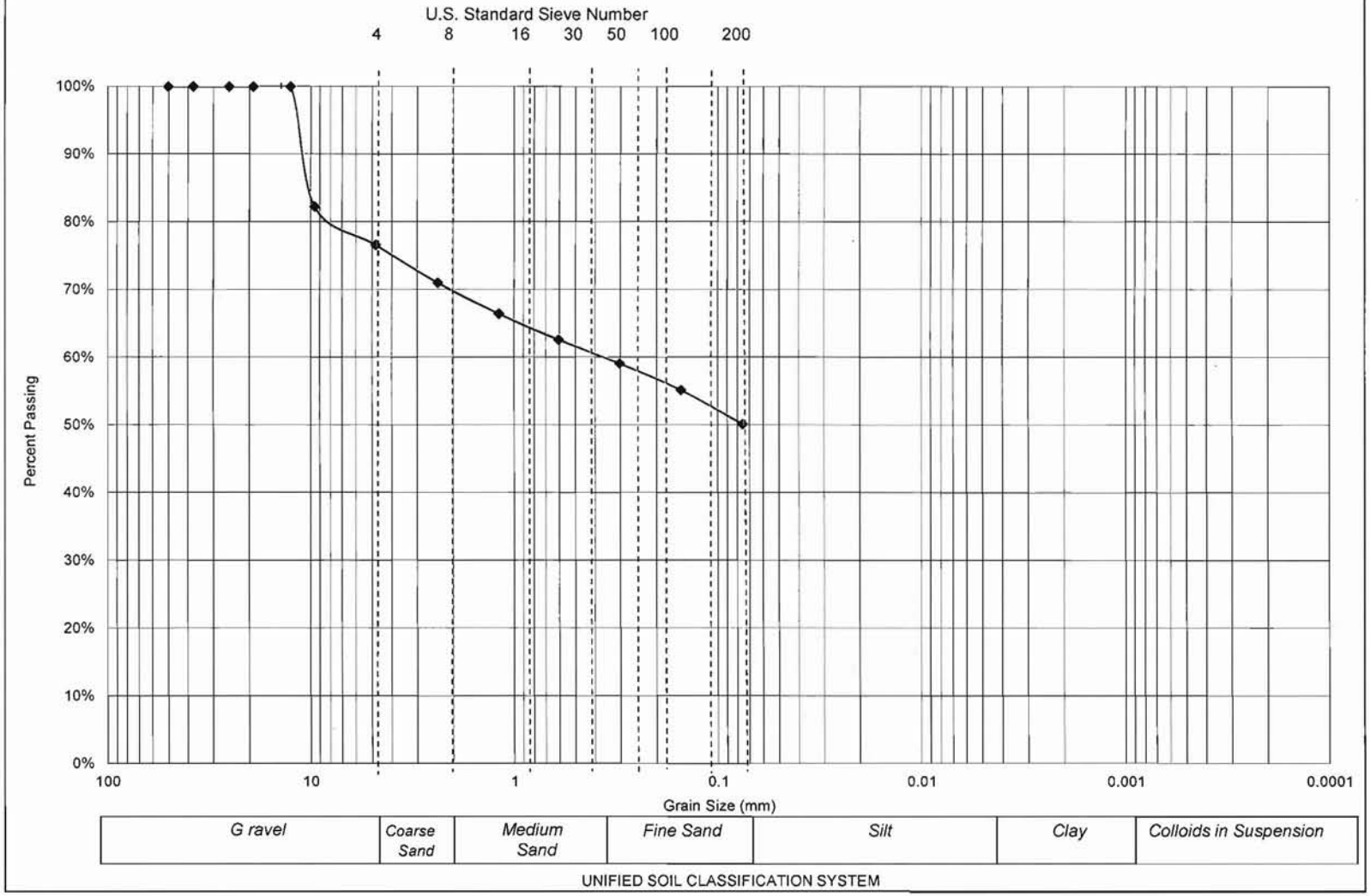
Soil Type: Clayey Sandy Silt (ML)

Friction Angle:	**27**	**degrees**
Cohesion:	**700**	**psf**

Moisture Content	**15.8%**	
Dry Density	**97.2**	**pcf**

SALEM
engineering group, inc.

Materials Testing Report	**EAS Professionals, Inc.** 153 Brozzini Court, Greenville, S.C.	**Grain Size Distribution Diagram** Sieve Analysis - ASTM D1140 and D422 w/o Hyd.
Client:	EAS Professionals, Inc.	**EAS No.** 14-406
Project and State:	Dollar General Store, Georgetown, CA	**Date:** 9/30/2014
Sample Location:	B-1	**Depth:** 2 ft.



Materials Testing Report	**EAS** Professionals, Inc. 153 Brozzini Court, Greenville, S.C.	Tabulated Dry Sieve Data Sheet

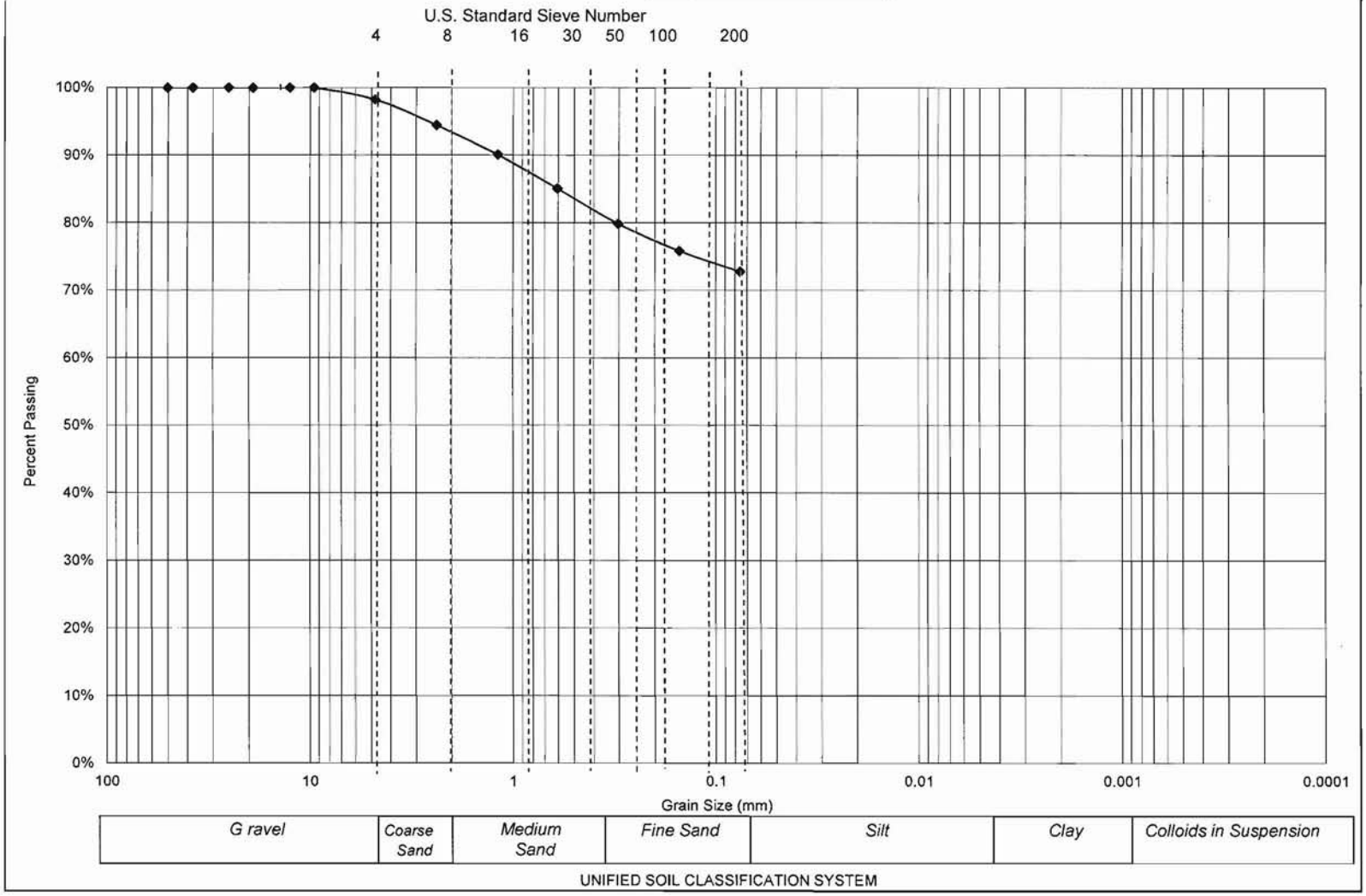
Client:	EAS Professionals, Inc.	**Date:**	9/30/2014
Project and State:	Dollar General Store, Georgetown, CA	**EAS No.**	14-406
Sample Location:	B-1	**Depth:**	2 ft.

DRY SIEVE ANALYSIS (ASTM D422 without Hydrometer)

% Passing

Sieve Size	*Particle Size mm*	*% Passing*
1 1/2-in.	37.5	100.0%
1-in.	25	100.0%
3/4-in.	19	100.0%
1/2-in.	12.5	100.0%
3/8-in.	9.5	82.3%
No. 4	4.75	76.6%
No. 8	2.36	71.1%
No. 16	1.18	66.5%
No. 30	0.6	62.6%
No. 50	0.3	59.1%
No. 100	0.15	55.2%
No. 200	0.075	50.2%

Materials Testing Report	**EAS** Professionals, Inc. 153 Brozzini Court, Greenville, S.C.	Grain Size Distribution Diagram Sieve Analysis - ASTM D1140 and D422 w/o Hyd.
Client:	EAS Professionals, Inc.	**EAS No.** 14-406
Project and State:	Dollar General Store, Georgetown, CA	**Date:** 9/30/2014
Sample Location:	B-5	**Depth:** 5 ft.



Materials Testing Report	EAS Professionals, Inc. 153 Brozzini Court, Greenville, S.C.	Tabulated Dry Sieve Data Sheet

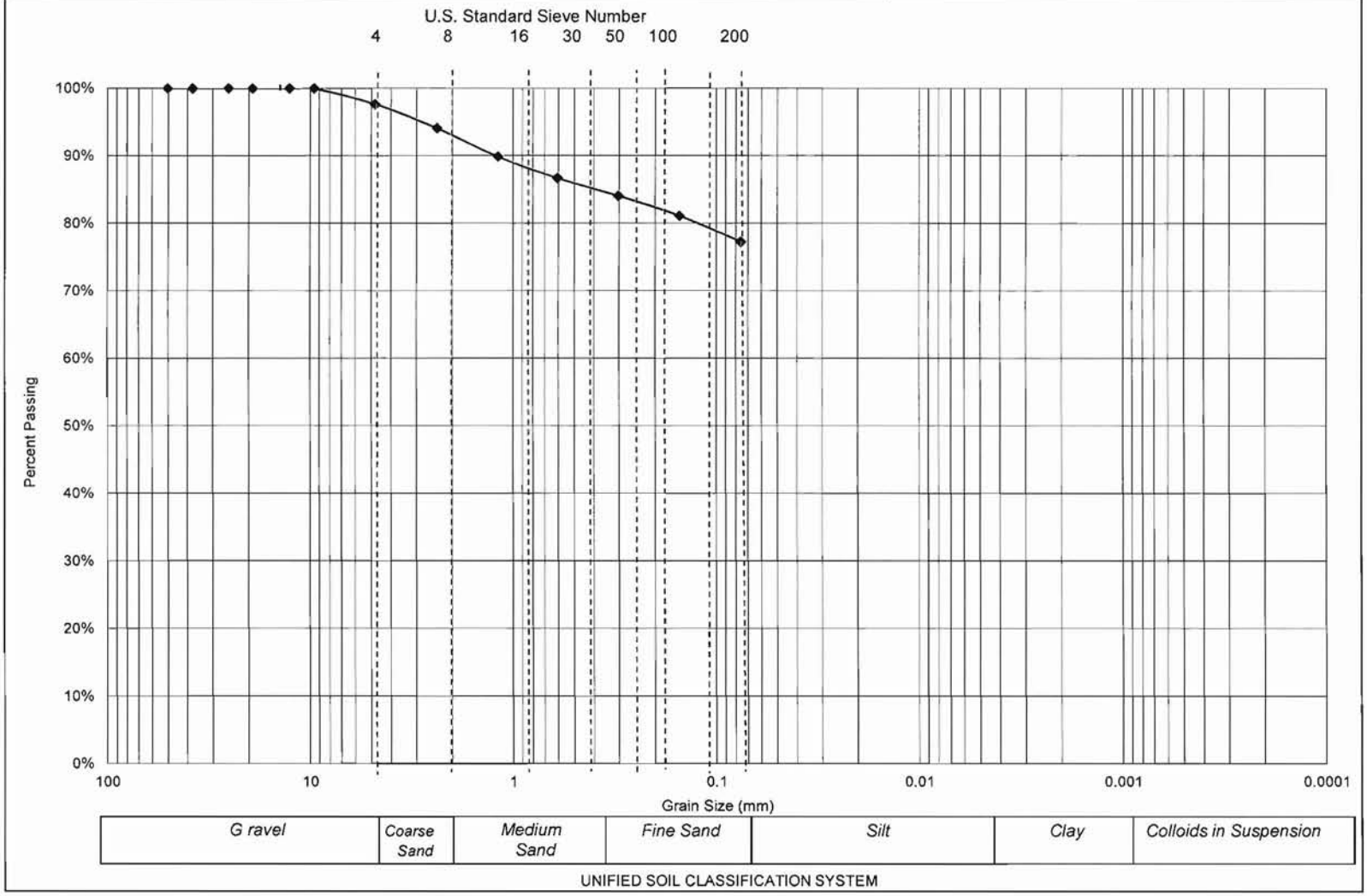
Client:	EAS Professionals, Inc.	**Date:**	9/30/2014
Project and State:	Dollar General Store, Georgetown, CA	**EAS No.**	14-406
Sample Location:	B-5	**Depth:**	5 ft.

DRY SIEVE ANALYSIS (ASTM D422 without Hydrometer)

% Passing

Sieve Size	*Particle Size mm*	*% Passing*
1 1/2-in.	37.5	100.0%
1-in.	25	100.0%
3/4-in.	19	100.0%
1/2-in.	12.5	100.0%
3/8-in.	9.5	100.0%
No. 4	4.75	98.3%
No. 8	2.36	94.5%
No. 16	1.18	90.1%
No. 30	0.6	85.1%
No. 50	0.3	79.9%
No. 100	0.15	75.9%
No. 200	0.075	72.8%

Materials Testing Report	**EAS Professionals, Inc.** 153 Brozzini Court, Greenville, S.C.	**Grain Size Distribution Diagram** Sieve Analysis - ASTM D1140 and D422 w/o Hyd.
Client:	EAS Professionals, Inc.	**EAS No.** 14-406
Project and State:	Dollar General Store, Georgetown, CA	**Date:** 9/30/2014
Sample Location:	B-5	**Depth:** 15 ft.



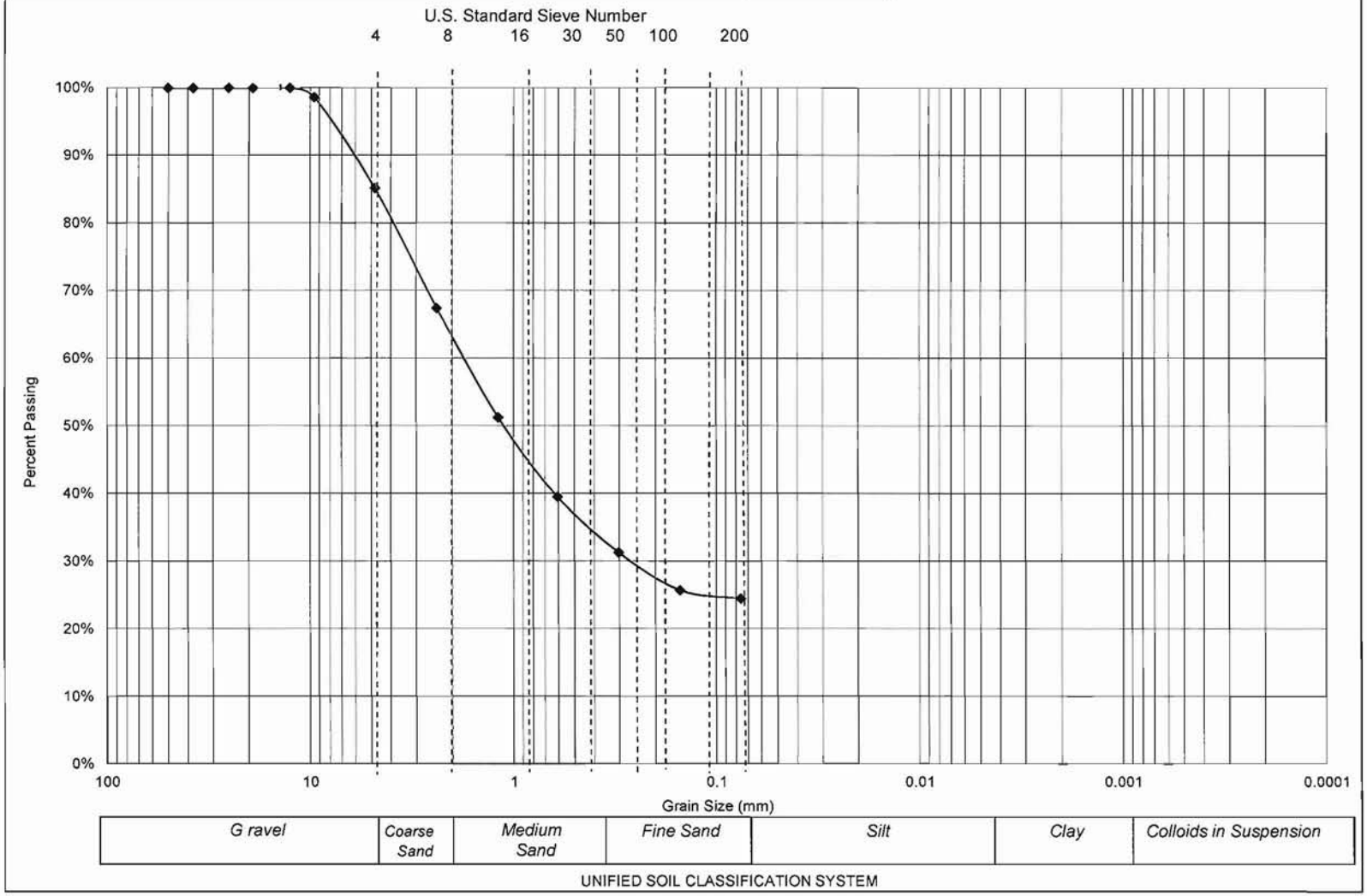
Materials Testing Report	EAS Professionals, Inc. 153 Brozzini Court, Greenville, S.C.	Tabulated Dry Sieve Data Sheet	
Client:	EAS Professionals, Inc.	Date:	9/30/2014
Project and State:	Dollar General Store, Georgetown, CA	EAS No.	14-406
Sample Location:	B-5	Depth:	15 ft.

DRY SIEVE ANALYSIS (ASTM D422 without Hydrometer)

% Passing

Sieve Size	*Particle Size mm*	*% Passing*
1 1/2-in.	37.5	100.0%
1-in.	25	100.0%
3/4-in.	19	100.0%
1/2-in.	12.5	100.0%
3/8-in.	9.5	100.0%
No. 4	4.75	97.7%
No. 8	2.36	94.1%
No. 16	1.18	89.9%
No. 30	0.6	86.7%
No. 50	0.3	84.1%
No. 100	0.15	81.2%
No. 200	0.075	77.3%

Materials Testing Report	**EAS** Professionals, Inc. 153 Brozzini Court, Greenville, S.C.	Grain Size Distribution Diagram Sieve Analysis - ASTM D1140 and D422 w/o Hyd.
Client:	EAS Professionals, Inc.	**EAS No.** 14-406
Project and State:	Dollar General Store, Georgetown, CA	**Date:** 9/30/2014
Sample Location:	B-5	**Depth:** 25 ft.



Materials Testing Report	**EAS** Professionals, Inc. 153 Brozzini Court, Greenville, S.C.	Tabulated Dry Sieve Data Sheet

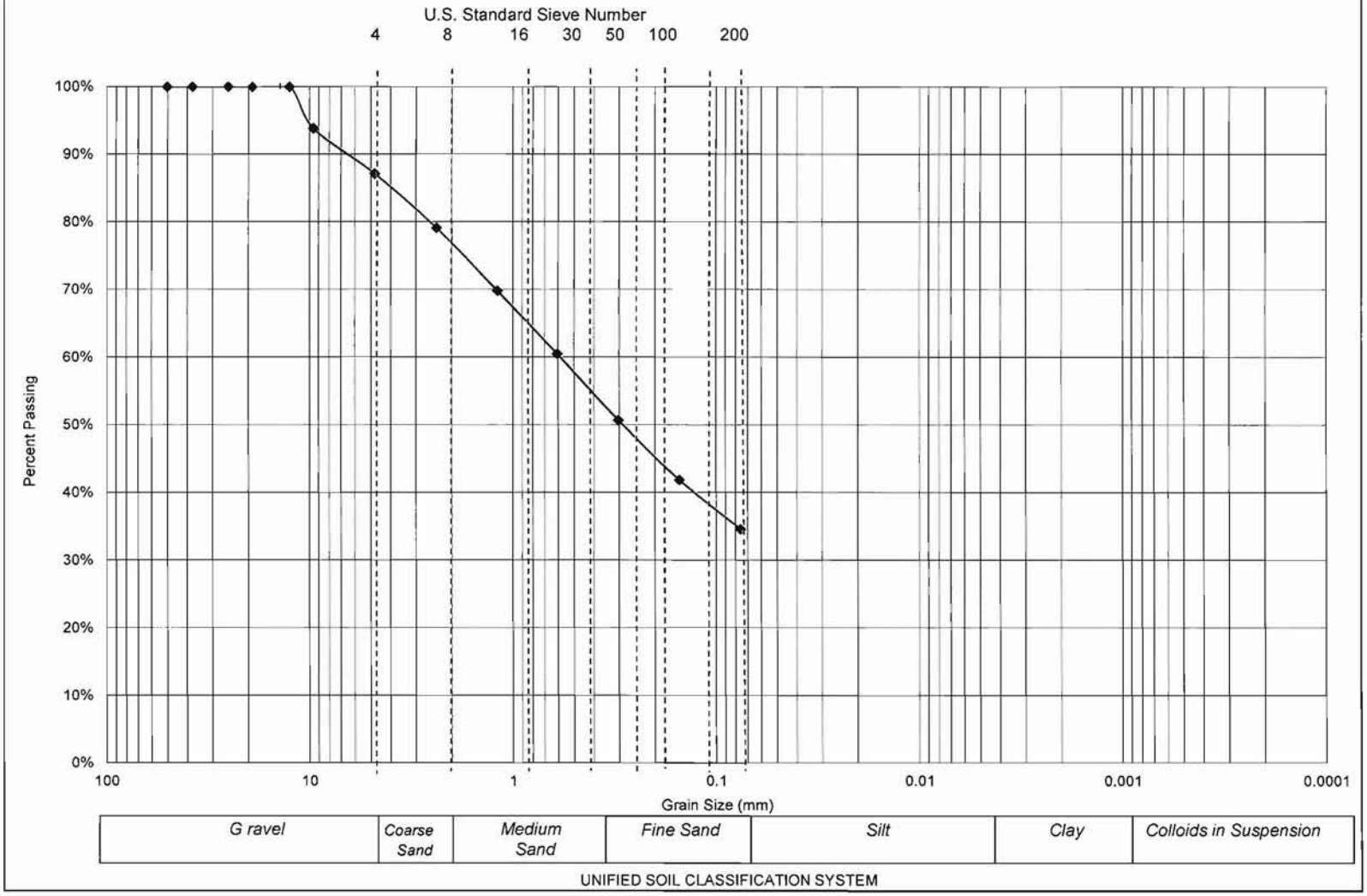
Client:	EAS Professionals, Inc.	**Date:**	9/30/2014
Project and State:	Dollar General Store, Georgetown, CA	**EAS No.**	14-406
Sample Location:	B-5	**Depth:**	25 ft.

DRY SIEVE ANALYSIS (ASTM D422 without Hydrometer)

% Passing

Sieve Size	*Particle Size mm*	*% Passing*
1 1/2-in.	37.5	100.0%
1-in.	25	100.0%
3/4-in.	19	100.0%
1/2-in.	12.5	100.0%
3/8-in.	9.5	98.6%
No. 4	4.75	85.2%
No. 8	2.36	67.5%
No. 16	1.18	51.3%
No. 30	0.6	39.5%
No. 50	0.3	31.3%
No. 100	0.15	25.7%
No. 200	0.075	24.5%

Materials Testing Report	EAS Professionals, Inc. 153 Brozzini Court, Greenville, S.C.	Grain Size Distribution Diagram Sieve Analysis - ASTM D1140 and D422 w/o Hyd.
Client:	EAS Professionals, Inc.	**EAS No.** 14-406
Project and State:	Dollar General Store, Georgetown, CA	**Date:** 9/30/2014
Sample Location:	B-5	**Depth:** 35 ft.



Materials Testing Report	EAS Professionals, Inc. 153 Brozzini Court, Greenville, S.C.	Tabulated Dry Sieve Data Sheet

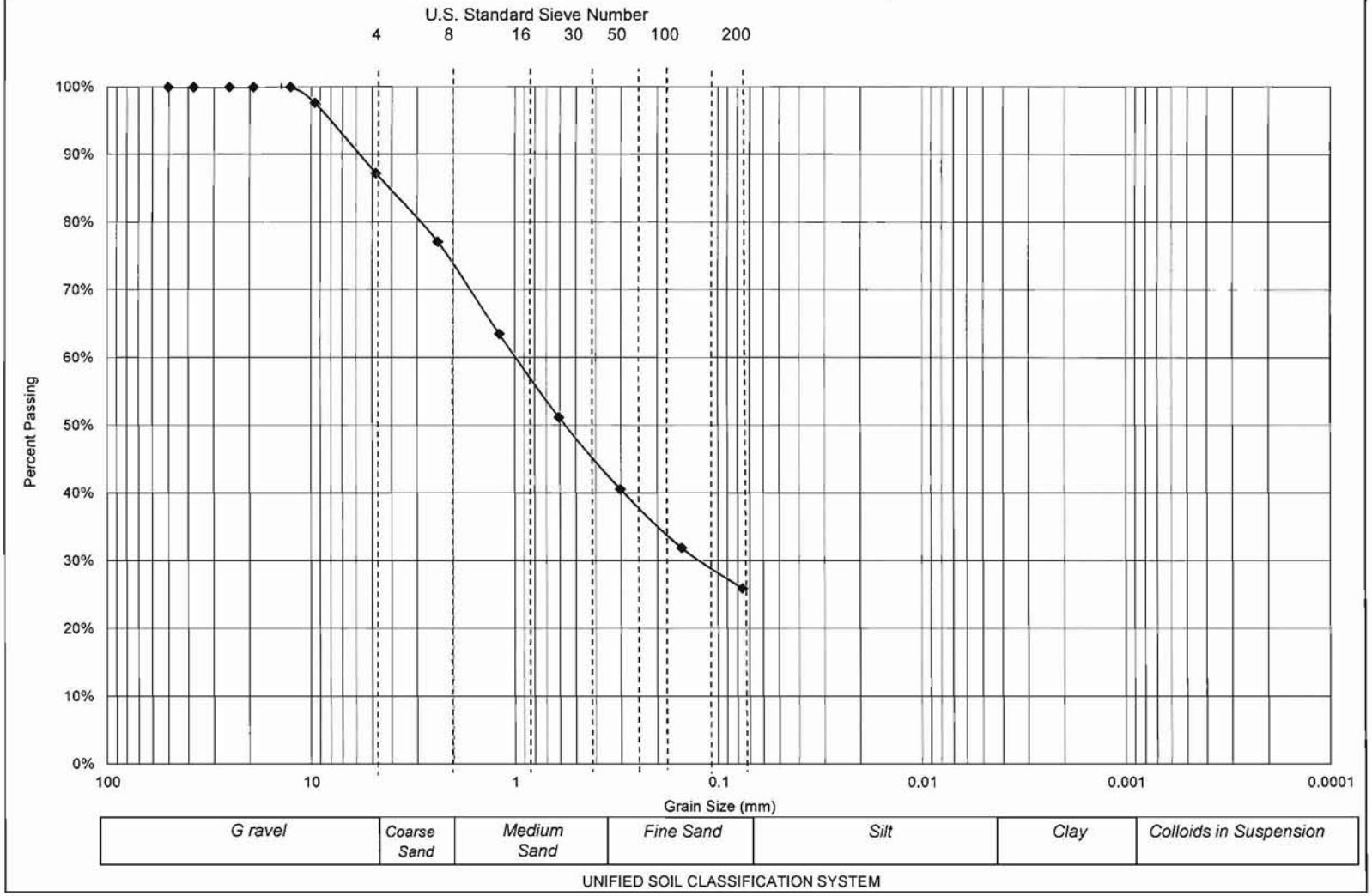
Client:	EAS Professionals, Inc.	**Date:**	9/30/2014
Project and State:	Dollar General Store, Georgetown, CA	**EAS No.**	14-406
Sample Location:	B-5	**Depth:**	35 ft.

DRY SIEVE ANALYSIS (ASTM D422 without Hydrometer)

% Passing

Sieve Size	*Particle Size mm*	*% Passing*
1 1/2-in.	37.5	100.0%
1-in.	25	100.0%
3/4-in.	19	100.0%
1/2-in.	12.5	100.0%
3/8-in.	9.5	93.8%
No. 4	4.75	87.2%
No. 8	2.36	79.2%
No. 16	1.18	69.9%
No. 30	0.6	60.5%
No. 50	0.3	50.7%
No. 100	0.15	41.9%
No. 200	0.075	34.6%

Materials Testing Report	**EAS** Professionals, Inc. 153 Brozzini Court, Greenville, S.C.	Grain Size Distribution Diagram Sieve Analysis - ASTM D1140 and D422 w/o Hyd.
Client:	EAS Professionals, Inc.	**EAS No.** 14-406
Project and State:	Dollar General Store, Georgetown, CA	**Date:** 9/30/2014
Sample Location:	B-5	**Depth:** 45 ft.



Materials Testing Report	**EAS** Professionals, Inc. 153 Brozzini Court, Greenville, S.C.	Tabulated Dry Sieve Data Sheet

Client:	EAS Professionals, Inc.	**Date:**	9/30/2014
Project and State:	Dollar General Store, Georgetown, CA	**EAS No.**	14-406
Sample Location:	B-5	**Depth:**	45 ft.

DRY SIEVE ANALYSIS (ASTM D422 without Hydrometer)

% Passing

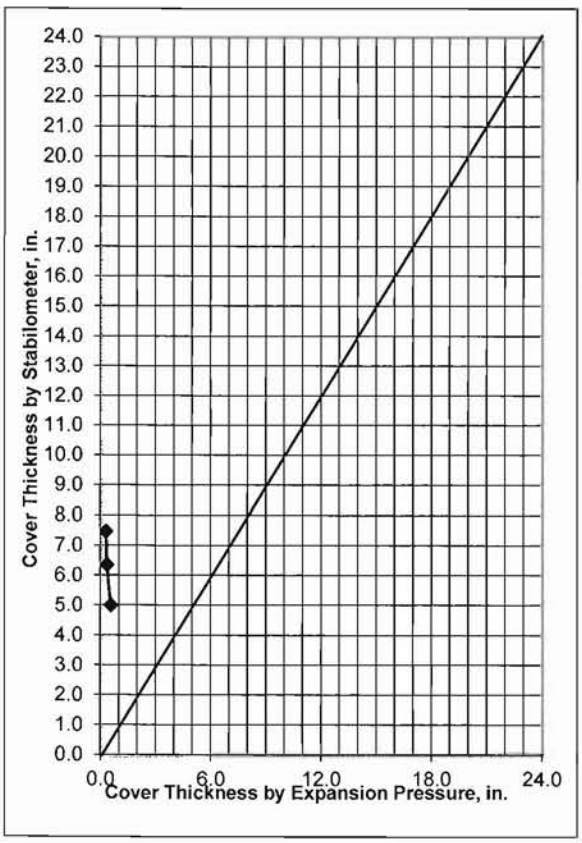
Sieve Size	*Particle Size mm*	*% Passing*
1 1/2-in.	37.5	100.0%
1-in.	25	100.0%
3/4-in.	19	100.0%
1/2-in.	12.5	100.0%
3/8-in.	9.5	97.7%
No. 4	4.75	87.3%
No. 8	2.36	77.1%
No. 16	1.18	63.5%
No. 30	0.6	51.2%
No. 50	0.3	40.6%
No. 100	0.15	31.9%
No. 200	0.075	26.0%

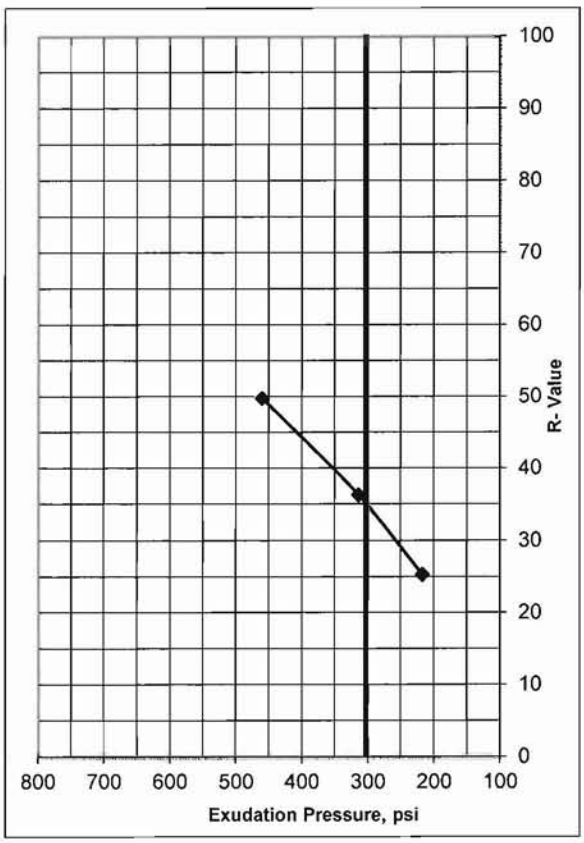
Resistance R - Value

and Expansion Pressure of Compacted Soils

ASTM D2844-94, Cal 301

Project Name	Dollar General	Lab ID Number	Georgetown, CA
Project Number	EAS 14-406	Sample Location	B-7, 0-3 ft
Sample Date	9/25/14	Tested By	MS
Sampled By	PS	Date Tested	10/1/2014
Material Description	Silty Sand (SM)		





Specimen	1	2	3
Exudation Pressure, psi	461	315	218
Moisture at Test, %	8.5	9.0	9.5
Dry Density, pcf	132.8	131.9	129.7
Expansion Pressure, psf	56	35	30.3
Thickness by Stabilometer, in.	5.0	6.4	7.5
Thickness by Expansion Pressure, in	0.5	0.3	0.3
R-Value by Stabilometer	50	36	25
R-Value by Expansion Pressure	NA		
R-Value at 300 psi Exudation Pressure	35		

Controlling R-Value	**35**

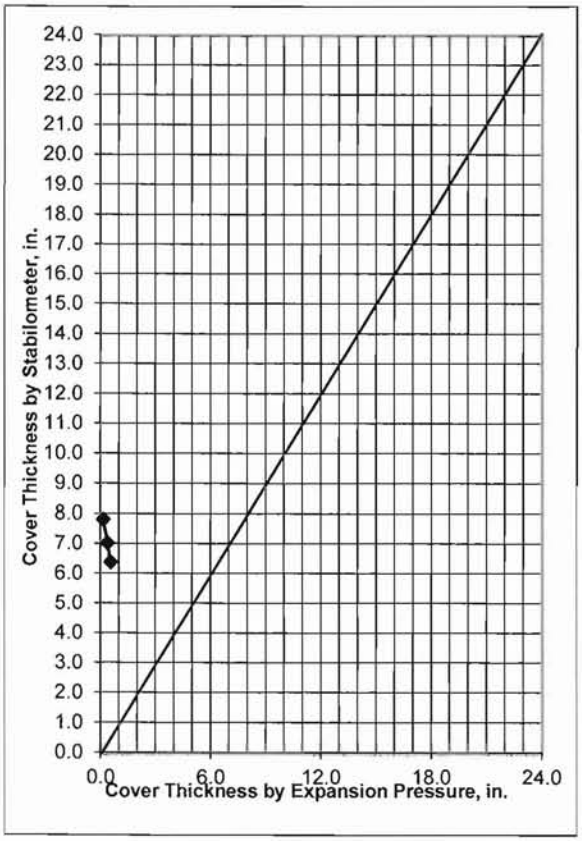
SALEM engineering group, inc.

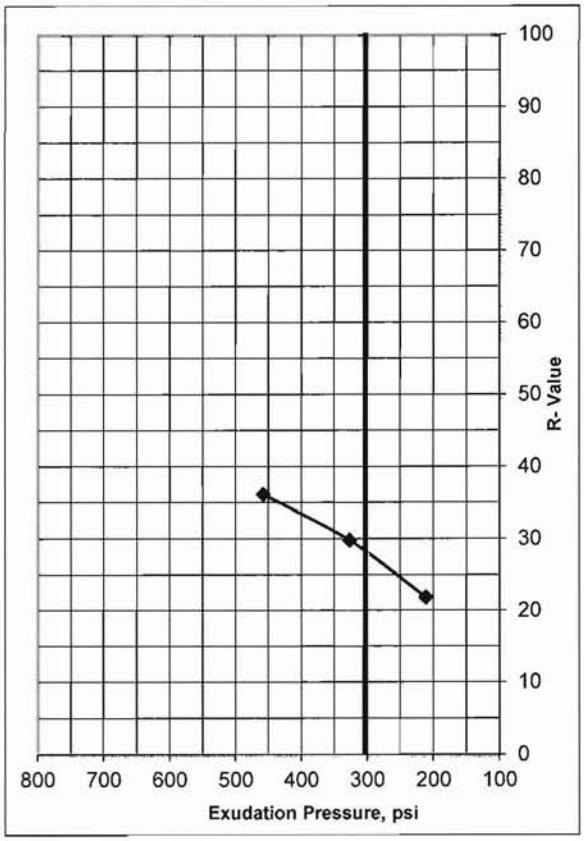
Resistance R - Value

and Expansion Pressure of Compacted Soils

ASTM D2844-94, Cal 301

Project Name	Dollar General	Lab ID Number	Georgetown, CA
Project Number	EAS 14-406	Sample Location	B-9, 0-3 ft
Sample Date	9/25/14	Tested By	MS
Sampled By	PS	Date Tested	10/1/2014
Material Description	Clayey Silty Sand (SC)		





Specimen	1	2	3
Exudation Pressure, psi	459	328	212
Moisture at Test, %	9.9	10.9	11.9
Dry Density, pcf	131.0	129.1	125.6
Expansion Pressure, psf	56	39	13.0
Thickness by Stabilometer, in.	6.4	7.0	7.8
Thickness by Expansion Pressure, in	0.5	0.4	0.1
R-Value by Stabilometer	36	30	22
R-Value by Expansion Pressure		NA	
R-Value at 300 psi Exudation Pressure		28	

Controlling R-Value	**28**

SALEM engineering group inc.

CHEMICAL ANALYSIS

SO_4 - Modified Caltrans 417 & Cl - Modified Caltrans 417/422

Prop. Dollar General Store - SWC Main St. and Harkness, Georgetown, CA
Job Number: EAS 14-406
Date: 9/30/14
Soil Classification:

Sample Number	Sample Location	Soluble Sulfate SO_4-S		Soluble Chloride Cl		pH
1a.	B-5 @ 0' - 5'	50	mg/Kg	43	mg/Kg	7.3
1b.	B-5 @ 0' - 5'	50	mg/Kg	42	mg/Kg	7.3
1c.	B-5 @ 0' - 5'	50	mg/Kg	40	mg/Kg	7.3
Average		**50**	**mg/Kg**	**42**	**mg/Kg**	**7.3**

SALEM engineering group, inc.

EXPANSION INDEX TEST
ASTM D 4829 / UBC Std. 29-2

Job Number: EAS 14-406
Prop. Dollar General Store - SWC Main St. and Harkness, Georgetown, CA
Date: 9/30/14
Sample location/ Depth: B-5 @ 1' - 5'
Sample Number: 1
Soil Classification: Clayey Sandy Silt (ML)

Trial #	1	2	3
Weight of Soil & Mold, gms	607.5		
Weight of Mold, gms	188.8		
Weight of Soil, gms	418.7		
Wet Density, Lbs/cu.ft.	126.3		
Weight of Moisture Sample (Wet), gms	800.0		
Weight of Moisture Sample (Dry), gms	733.3		
Moisture Content, %	9.1		
Dry Density, Lbs/cu.ft.	115.7		
Specific Gravity of Soil	2.7		
Degree of Saturation, %	53.9		

Time	Inital	30 min	1 hr	6 hrs	12 hrs	24 hrs
Dial Reading	0	0.0205	--	--	--	0.0597

Expansion Index $_{measured}$ = 59.7

Expansion Index $_{50}$ = 62.6

Expansion Index = 63

Expansion Potential Table	
Exp. Index	Potential Exp.
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
>130	Very High

SALEM engineering group inc.

EAS PROFESSIONALS

REVISED ON-SITE WASTEWATER TREATMENT SYSTEM (OWTS) FEASIBILITY STUDY PROPOSED DOLLAR GENERAL MARKET STORE

SEC MAIN STREET & HARKNESS STREET
GEORGETOWN, CALIFORNIA
EAS-14-406

Prepared For:

MR. DAN BISWAS
SIMONCRE ABBIE, LLC
5111 N. Scottsdale Road, Suite 200
Scottsdale, AZ 85250
Phone: (480) 745-1956

and

DOLLAR GENERAL CORPORATION
100 Mission Ridge
Goodlettsville, TN 37072

Subcontracted Engineering Services By:

SALEM ENGINEERING GROUP, INC.
4729 W. Jacquelyn Avenue
Fresno, California 93722
Phone: (559) 271-9700

March 3, 2015

Attachment 12

EAS PROFESSIONALS

153 Brozzini Court, Suite C
Greenville, SC 29615
Phone (864) 234-7368
Fax (864) 234-7369

March 3, 2015

SimonCRE Abbie, LLC
5111 N. Scottsdale Road, Suite 200
Scottsdale, AZ 85250
(480) 745-1956
dan@simoncre.com

Dollar General Corporation
100 Mission Ridge
Goodlettsville, TN 37072

Attention: Mr. Dan Biswas

Reference: REVISED On-Site Wastewater Treatment System (OWTS) Feasibility Study
Proposed Dollar General Market Store
SEC Main Street & Harkness Street
APNs 061-362-01, -02, and -04
Georgetown, California
EAS Project No.: EAS-14-406

Mr. Biswas:

In accordance with your request and authorization, we have performed testing to obtain soil profile information and percolation rates for use in determining the feasibility of an on-site wastewater treatment system (OWTS) at the subject site. This Revised report documents the services provided, the results of our field studies, and engineering recommendations for construction of an OWTS. A Report of Geotechnical Engineering Recommendations report dated October 10, 2014, was previously prepared for the proposed development.

PURPOSE AND SCOPE

This study was conducted to determine the percolation rates within the near-surface strata of the site in areas where placement of a septic system dispersal system was thought feasible, given the restrictions of the proposed site construction. It is our understanding that the data and recommendations will be used by the project design team in their development of plans incorporating the proposed OWTS. Specifically, our scope of services included the following:

- Excavation of one (1) soil profile test pit at the location anticipated to be available for septic system effluent dispersal in accordance with the El Dorado County Environmental Health Division (EDCEHD) guidelines.
- Excavation of four (4) percolation test holes to depths of 3 to 4 feet at the location of the anticipated effluent dispersal area.
- Preparation and submittal of a Site Evaluation and Soil Description Report per the requirements of the EDCEHD.

- Preparation of this report summarizing the results of our soil profile and percolation testing, and our recommendations for design of an OWTS.

This Revised report is being prepared following comments dated February 3, 2015 from the El Dorado County Community Development Agency, Environmental Health Division (EHD). The above comments noted that proposed development planning documents showed the septic system design with a disposal field 20 feet from a seasonal drainage swale. The letter noted that the septic system must meet a minimum 50-foot setback from seasonal drainage swales. As such, the septic system design as shown in Figure 4 (attached) has been appropriately modified.

SITE LOCATION AND DESCRIPTION

We understand that SimonCRE Abbie, LLC is considering construction of a new Dollar General Market Store building on a rectangular parcel located on the southeasterly corner of the intersection of Main Street and Harkness Street, in Georgetown, El Dorado County, California (see Figure 1). The subject site is identified by Assessor Parcel Numbers 061-362-01, -02, and -04.

At the time of our field exploration, the parcel was mostly undeveloped, with an area near the south portion of the property being utilized for recreational purposes. Most of the property is occupied by trees, grasses and berry vines. Site features and an ALTA map provided by the client indicate that a level pad area (which includes the recreational area in the southern portion of the site) was constructed with fill soils. Based on the provided topographic plan (see Figure 2), the site has elevations of 2657 feet to 2676 feet AMSL. The proposed building will be a prototype "B" design and will cover an area of approximately 9,026 square-feet. The Dollar General development will cover a total site area of approximately 1.2± acre gross.

SOIL PROFILE PIT

One soil profile test pit (TP-1) was excavated at the location shown on the attached map (Figure 2) on September 22, 2014. The pit was advanced with a wheeled backhoe to the maximum depth of approximately 7.5 feet below grade. The soil profile included approximately 40 to 48 inches of colluvium and silty clay loam soils (including a gravel-rich interval between about 24 to 40 inches deep) over a contact with deeply weathered shale bedrock. The bedrock was progressively more weathered with depth to a point about 7.5 feet below grade where the backhoe met refusal. The EDCEHD was notified as required prior to test pit excavation and its inspector reviewed the test pit after its completion.

Evidence of seasonal saturation at an approximate depth exceeding 48 inches was noted in the test pit. Evidence of redoximorphic conditions below this depth included heavy soil mottling and the presence of abundant manganese oxide fracture fillings and pore linings in the weathered shale bedrock. Groundwater was not encountered in our test pit.

PERCOLATION TESTING

A total of four percolation tests (P-1 through P-4) were performed on September 26, 2014 at the locations shown on the attached Figure 2. The weather was clear, warm and smoky due to nearby forest fire. The tests were conducted in accordance with the guidelines established by the 2012 Uniform Plumbing Code (UPC) and EDCEHD. Approximately 6-inch diameter percolation boreholes were advanced using a hollow-stem auger to depths of the approximately 3 to 4 feet below ground surface.

Approximately 2 inches of gravel were placed in the bottom of each hole followed by a 3-inch diameter perforated pipe. The holes were pre-saturated on September 25, 2014 for a minimum of 18 hours and maximum of 24 hours before percolation testing commenced the next day. The holes were then re-filled and this process was repeated for a minimum of three hours or until the percolation rate stabilized. Results of the tests are presented in the table below — percolation analysis spreadsheets are attached.

Test No.	Depth Below Grade (feet)	Percolation Rate * (min/inch)	Absorption Capacity (gallon/square foot/*day*) (Factor of Safety=1)	Soil Type
P-1	2.3	143	1.3	Clay Loam
P-2	3.1	231	0.8	Clay Loam / Clay
P-3	3.5	165	1.1	Gravelly Clay Loam
P-4	2.8	32	5.8	Loam/Loamy Sand

** Equivalent percolation rate based on a 6 in. boring filled with 6 in. of water.*

The soil absorption or percolation rates are based on tests conducted with clear water. The percolation rates may vary with time as a result of soil clogging from water impurities. The percolation rates will deteriorate over time due to the soil conditions and a factor of safety (FS) should be applied.

CONCLUSIONS AND RECOMMENDATIONS

Percolation tests were conducted within the proposed effluent dispersal area. The tests were conducted at depths ranging from 2.3 to 3.5 feet below existing grade in anticipation of an initially-proposed shallow trench leach field-type dispersal system to be constructed near test locations P-1 through P-3. Percolation test P-4 was conducted in an area available for dispersal system expansion, if required.

The near-surface soil, as encountered in our test pit and borings, predominately consisted of colluvium and silty clay loam soils (including a gravel-rich interval between about 24 to 40 inches deep) over a contact with deeply weathered shale bedrock. As shown in the above table, the near surface soils have poor absorption characteristics, with equivalent percolation rates of approximately 140 to 230 minutes per inch (mpi). The native weathered bedrock surface located at a depth of approximately 48 inches creates a limiting layer to percolation. Field indications of a seasonal water table as close as 48 inches from the native surface were also observed.

Based on the above limiting factors, it appears that a standard septic system (OWTS) design is not feasible at the subject site, and that a special design system will be required.

Communications with Mr. Fred Sanford, Supervising Environmental Health Specialist, County of El Dorado Environmental Management Division suggest that an OWTS approved for the subject site must include an advanced treatment system to reduce the BOD, suspended solids and preferably, the nitrogen content, of the treated wastewater effluent before discharge to a subsurface dispersal system. Advanced treatment system is a general term for any wastewater treatment system that is different from the conventional model. Advanced treatment systems incorporate treatment units that include media filters, aerobic systems, and special-use alternatives such as ultraviolet light disinfection units and alternative drain fields.

For the subject site, we recommend that an Aerobic Treatment Unit (ATU) be installed to pretreat wastewater by adding air to break down organic matter, reduce pathogens, and transform nutrients. Compared to conventional septic tanks, ATUs break down organic matter more efficiently, achieve quicker decomposition of organic solids, and reduce the concentration of pathogens in the wastewater. Following treatment, we recommend that the wastewater effluent be discharged to a subsurface drip dispersal system.

Design Flow Rates and Effluent Absorption Value

The proposed development includes one women's and one men's public restroom (each consisting of one toilet and one lavatory); one drinking water fountain, and one mop sink. In lieu of tabulating fixture counts or assigning a flow per restroom to determine design wastewater flows, we reviewed information provided by the client regarding typical water usage for the same prototype Dollar General Market Store. The table below provides recent water usage data for stores in Wheatland, Marysville, Riverside and Concord, California.

City	Service from	Service to	Days	Vol. (gal)	Daily Water Use (GPD)
Marysville, CA	02/25/14	03/14/14	17	1,496	88
	03/14/14	04/11/14	28	2,244	80
	04/11/14	05/09/14	28	2,244	80
	05/09/14	06/10/14	32	2,992	94
	06/10/14	07/10/14	30	10,473	349
	07/10/14	08/11/14	32	11,969	374
	08/11/14	09/10/14	30	6,732	224
	09/10/14	10/09/14	29	13,465	464
	10/09/14	11/06/14	28	4,488	160
	11/06/14	12/09/14	33	11,969	363
	12/09/14	01/09/15	31	21,694	700
	01/09/15	02/09/15	31	22,442	724
	Total		**349**	**112,208**	**322**

City	Service from	Service to	Days	Vol. (gal)	Daily Water Use (GPD)
Riverside, CA	12/18/13	01/21/14	34	2,992	88
	01/21/14	02/19/14	29	2,992	103
	02/19/14	03/19/14	28	2,992	107
	03/19/14	04/17/14	29	3,740	129
	04/17/14	05/16/14	29	6,732	232
	05/16/14	06/18/14	33	8,977	272
	06/18/14	07/21/14	33	9,725	295
	07/21/14	08/18/14	28	8,229	294
	08/18/14	09/22/14	35	7,481	214
	09/22/14	10/20/14	28	5,236	187
	10/20/14	11/14/14	25	5,236	209
	11/14/14	12/17/14	33	4,488	136
	12/17/14	01/16/15	30	2,992	100
	Total		**394**	**71,812**	**182**

City	Service from	Service to	Days	Vol. (gal)	Daily Water Use (GPD)
Wheatland, CA	02/01/14	02/28/14	27	1,496	55
	02/28/14	03/31/14	31	7,481	241
	03/31/14	04/30/14	30	1,496	50
	04/30/14	05/31/14	31	4,488	145
	05/31/14	06/30/14	30	748	25
	06/30/14	07/31/14	31	1,496	48
	07/31/14	08/31/14	31	748	24
	08/31/14	09/30/14	30	1,496	50
	Total		**241**	**19449**	**81**

City	Service from	Service to	Days	Vol. (gal)	Daily Water Use (GPD)
Concord, CA	06/24/13	08/22/13	59	2,244	38
	08/22/13	10/23/13	62	6,732	109
	10/23/13	12/19/13	57	8,229	144
	12/19/13	02/21/14	64	10,473	164
	02/21/14	04/22/14	60	14,961	249
	04/22/14	06/23/14	62	14,961	241
	06/23/14	08/22/14	60	17,953	299
	Total		**424**	**75,553**	**178**

Based on the above data, and additional anecdotal information regarding typical water usage for northern California Dollar General stores, we propose a design daily flow of 300 gallons for use in OWTS sizing at the Georgetown site.

Percolation testing returned soil absorption values within the proposed primary effluent dispersal area ranging from 0.8 to 1.3 gal/ft^2/day. We recommend a factor of safety of at least 4 for design of the effluent dispersal area. Based on the percolation test data, we recommend a design effluent absorption rate of 0.2 gal/ft^2/day.

Aerobic Treatment Unit

We recommend installation of a Hoot® Systems model H-600-760 aerobic treatment system. This system comprises a watertight tank consisting of three compartments:

- A 400-gallon pre-treatment tank where anaerobic digestion occurs and where non-biodegradable material settles;
- A middle compartment with a 700-gallon aeration chamber where aerobic digestion occurs and associated 200-gallon clarifier chamber, and
- A 760-gallon pump tank where clarified effluent is stored prior to periodic dosing of the dispersal system.

A continuously-operating linear air blower provides air to the aeration tank. The system also has an option that allows it to be traffic-rated. A schematic of the above treatment tank is provided in Figure 3.

This system, when combined with a subsurface drip dispersal system, is NSF Standard 40 certified and is capable of treating up to 500 gallons of wastewater per day. The complete HOOT® System (tank & drip field) has been Tested & Certified by NSF International as a "Class-1 Treatment Unit."

Subsurface Drip System Design

Based on 300 gal/day flow and 0.2 gal/ft^2/day soil loading rate, the dispersal system should consist of 750 feet of drip tubing with a 24-inch emitter spacing (375 total emitters) discharging to 1500 ft^2 of dispersal field. The dispersal system dripline should be installed at a depth of 6 to 12 inches below the surface. The proposed system will have three dispersal zones, one to the south of the store on the upper portion of 2:1 fill slope, and the other two zones in landscape area to the north of the parking lot in the northern parcel area. More detailed design recommendations for the subsurface drip system are provided in the attachments.

Landscaping over the drip fields should include shallow rooted vegetation (native or seeded grasses) that can assist in effluent removal by evapotranspiration — shrubs and trees should not be planted, nor volunteer growth allowed to take root or propagate.

See Figure 4 for proposed subsurface drip system and expansion area locations.

Operation & Maintenance (O&M) Requirements

The long-term functioning of a commercial OWTS requires pro-active O&M. The proposed OWTS should be checked bi-annually (at a minimum) by a qualified O&M provider who can conduct periodic system maintenance and analyze flows and waste strength. Proper O&M also includes tracking and logging:

- **Solids Accumulation** in tanks/pump tanks and pumping at an appropriate frequency;
- **Waste-Strength** (BOD5, oils and grease) to ensure appropriate poet-treatment levels are being met. If consistently high, system adjustment or expansion may be necessary;
- **Water Use** – Immediately address any flows exceeding 60 to 70% of the design capacity. Running at capacity for long periods can overload the system;
- **System Data** (alarms, problems, maintenance, etc.) and keeping a log;

- **Mechanical Operation** – habits and products put into the system – to ensure optimal conditions (instructing employees about the use and disposal of chemicals that can harm or retard biologic activity, etc.)

We understand that all new HOOT Systems include an initial 2-year Maintenance Service Policy that covers the first four standard (bi-annual) maintenance visits. We recommend after the first two years of service, that the operator of the proposed store maintain indefinitely a service contract with an authorized manufacturer's representative to ensure appropriate monitoring and maintenance of the system.

Additional Testing Recommendations

The proposed effluent method is by dispersal using subsurface drip on the Engineered Fill slope at the side of the proposed store. No testing of the percolation response of this material has been conducted. El Dorado County guidelines state that the percolation rate of fill material must be equal to or slower than the percolation rate of the underlying native materials (to limit the potential for "daylighting" of effluent). The Design Engineer should be contacted prior to selection of fill material to construct the rear portion of the proposed building pad to establish material specifications and to determine fill slope percolation/absorption testing protocol to ensure adherence to County guidelines for fill material. After construction of the fill slope, percolation testing of the shallow slope soils should be conducted to verify the design specifications.

Septic System Design – General

The wastewater stub-out from the structure(s) should be as shallow as practical. Code requires the septic tank be at least 5 feet from the structure(s). All specifications, dimensions, and clearances not specifically mentioned in this report shall conform to the Uniform Plumbing Code unless superseded by County Standards.

Storm and irrigation water should be directed away from the disposal field area. The disposal field should be constructed outside pasture areas. Standing water, due to irrigation and/or precipitation, should not be allowed within the disposal field area.

If the field conditions deviate from our test results, the system's performance could be influenced. The system's performance may also be influenced by personal hygiene, meal preparation, etc. The system is not designed to accommodate high water demand items, such as hot tubs or swimming pools. Positive grade should be established around the disposal field area. Mounding of storm water within the disposal field area may damage the disposal field and make the septic system non-operative. The system is not designed to accommodate storm water runoff. The life span of the design system may be substantially reduced if subjected to excessive

sewage flows. It is warranted that additional soil absorption area will be necessary if the variables are significantly different from those assumed by the design engineer.

A separation of 100 feet shall be incorporated between water wells and the dispersal field area. A 300 percent expansion effluent dispersal area should be set aside in case the primary system cannot absorb all the effluent in the future.

Based on the data presented in the OWTS design report and using the recommendations set fourth, it is our judgment that there is sufficient area on the subject lot to support the proposed sewage disposal system that will meet the current codes and standards of the health department. Based on the data presented in the OWTS design report and the testing information accumulated, it is our judgment that groundwater table will not encroach within the current allowable limit set forth by county and state requirements.

It is recommended that the Design Engineer be present during the installation of the OWTS. The inspection will verify that the system is installed in accordance with design criteria. Our office should be contacted at least 2 days prior to the construction of the subsurface drip system. Supplemental recommendations may be made at the time of the inspection to ensure the designed system will adequately reflect the actual soils encountered. The owner should be aware that he will be responsible for payment of the inspection fees during the installation of the OWTS.

LIMITATIONS

The scope of our services did not include a groundwater study and was limited to the performance of percolation testing and soil profile description, and septic system design. Services did not include an Environmental Site Assessment for the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere; or the presence of wetlands.

Any statements, or absence of statements, in this report or on any boring logs regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey engineering judgment regarding potential hazardous and/or toxic assessment.

The work conducted through the course of this investigation, including the preparation of this report, has been performed in accordance with the generally accepted standards of geotechnical engineering practice, which existed in the geographic area at the time the report was written. No other warranty, express or implied, is made.

Please be advised that when performing percolation testing services in relatively small diameter borings, that the testing may not fully model the actual full scale long term performance of a given site. This is particularly true where percolation test data is to be used in the design of large infiltration system such as may be proposed for the site. The measured percolation rate includes dispersion of the water at the sidewalls of the boring as well as into the underlying soils. Subsurface conditions, including percolation rates, can change over time as fine-grained soils

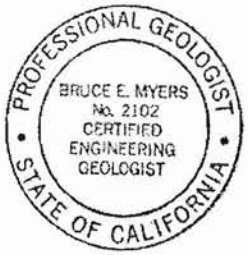
migrate. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. We emphasize that this report is valid for the project outlined above and should not be used for any other sites.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (559) 271-9700.

Respectfully Submitted,
EAS PROFESSIONALS, INC.

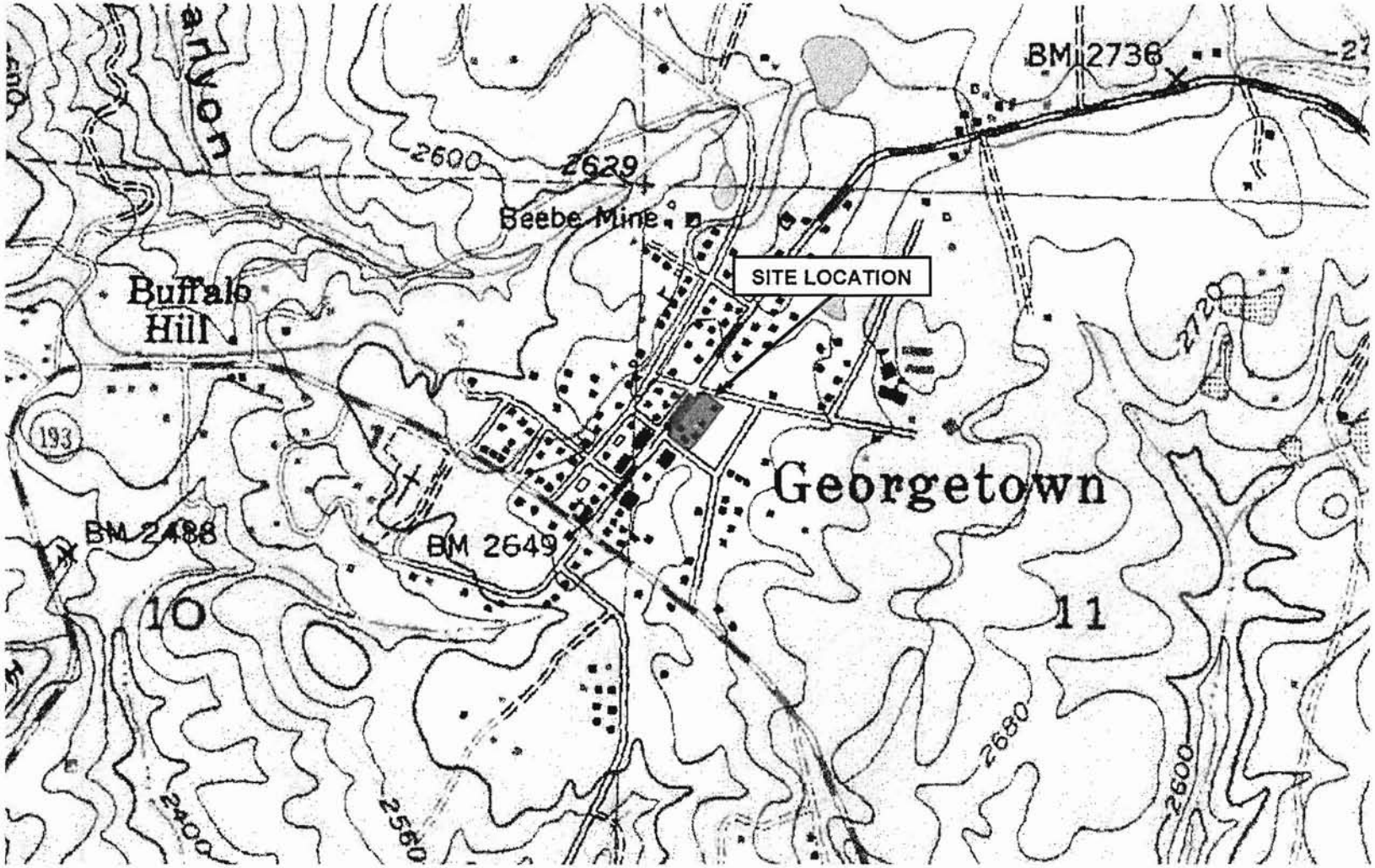
Bruce E. Myers

Bruce E. Myers, GE, CEG
Senior Engineer / Eng. Geologist
GE 3014 / CEG 2102



Attachments: Figure 1, Site Location
Figure 2, Site Plan and Percolation Test Locations
Figure 3, Aerobic Tank System Schematic
Figure 4, Proposed OWTS Layout
Site Evaluation and Soil Description Report
Percolation Test Worksheets
Dispersal System Design Data

Senior Engineering Review/Report Preparation by: Douglas R. Dunko, VP, EA



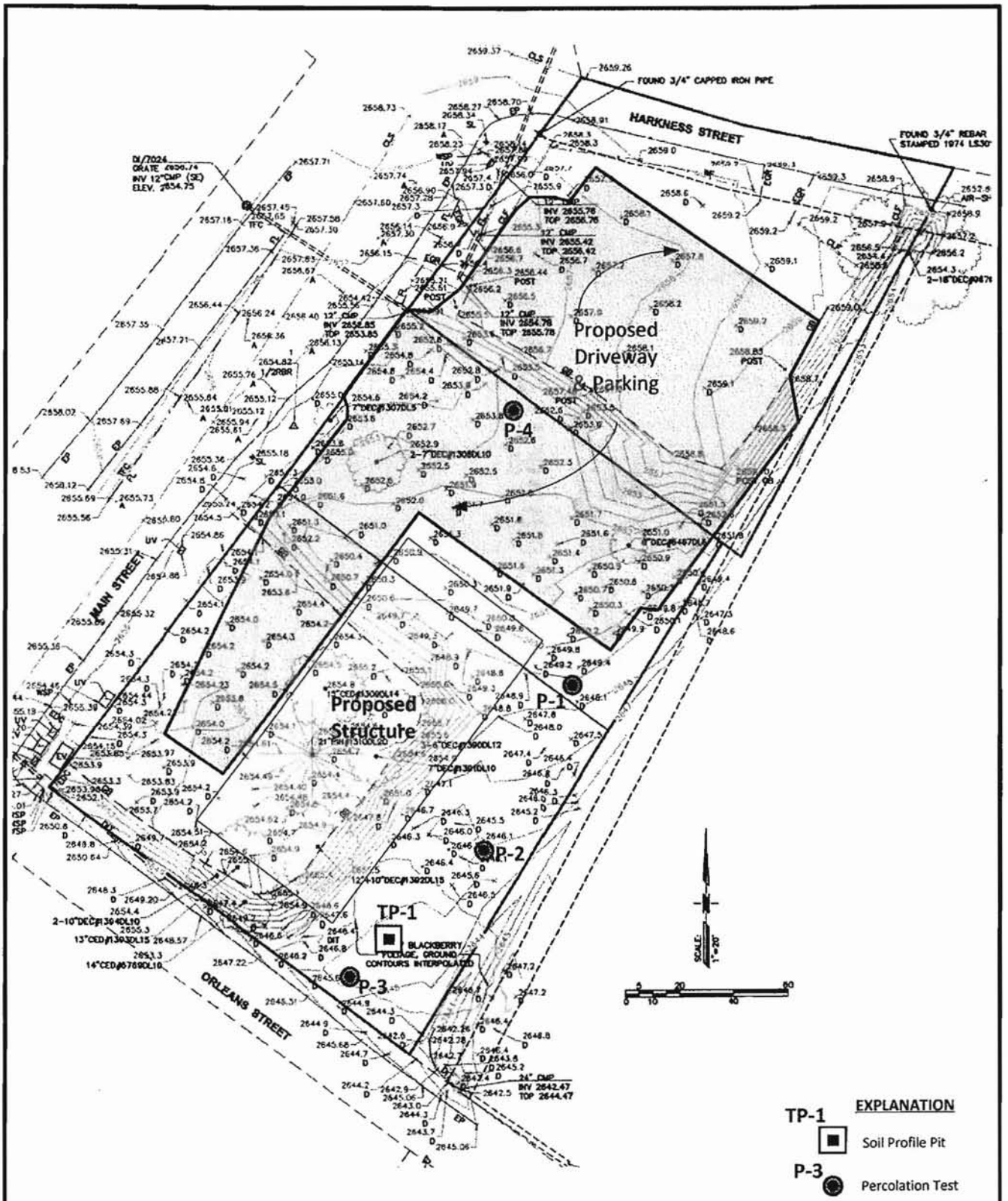
Source Image: U.S. Geological Survey, Georgetown, Calif. 7.5' Quadrangle, 1949 (Photorevised 1973)

VICINITY MAP

GEOTECHNICAL ENGINEERING INVESTIGATION
Proposed Dollar General Market
SEC Main Street & Harkness Street
Georgetown, California

SCALE:	DATE:
NOT TO SCALE	9/28/2014
DRAWN BY:	APPROVED BY:
KL	JM
PROJECT NO.	FIGURE NO.
EAS-14-406	1

EAS PROFESSIONALS

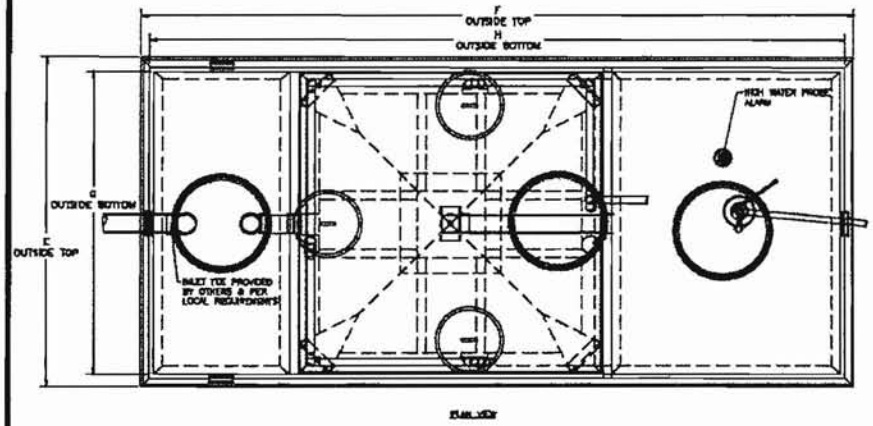


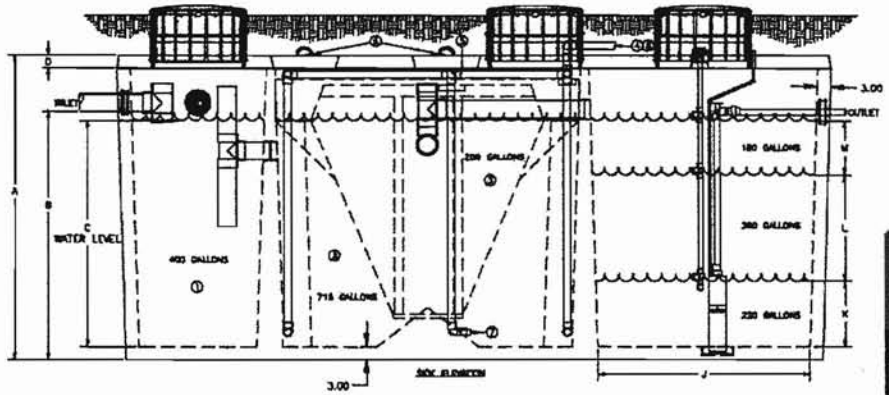
SITE EVALUATION SITE PLAN

Proposed Dollar General Retail Market
SWC Main Street & Harkness Street
Georgetown, California

SCALE:	DATE:
AS SHOWN	Oct 2014
DRAWN BY:	APPROVED BY:
MB	BEM
PROJECT NO.	FIGURE NO.
EAS-14-406	2

EAS PROFESSIONALS





CRITICAL DIMENSIONS	
A	71.00"
B	58.00"
C	52.00"
D	4"
E	76.50"
F	162.00"
G	67.50"
H	153.00"
J	48.50"
K	15.00"
L	24.50"
M	12.50"

THE H-SERIES HOOT AEROBIC TREATMENT SYSTEM

1) PRETREATMENT TANK– WHERE ANAEROBIC DIGESTION OCCURS AND STORAGE FOR NON-BIODEGRADEABLE MATERIALS.

2) AERATION CHAMBER– WHERE AIR IS INTRODUCED INTO SEWAGE FOR DIGESTION.

3) CLARIFIER– A STILL CHAMBER WHERE SOLIDS SETTLE OUT AND THE CLEAR EFFLUENT RISES.

4) TROY AIR LINEAR AIR BLOWER– LONG LIFE, EFFICIENT LINEAR BLOWER WHICH COMPRESSES ATMOSPHERIC AIR AND UNDER PRESSURE DELIVERS IT TO THE TANK. MAY BE REMOTELY MOUNTED UP TO 50' FROM SYSTEM. MUST MAINTAIN 1/8" SLOPE TOWARDS TANK FOR DRAINAGE.

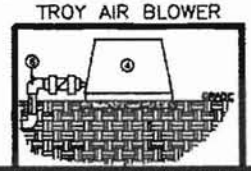
5) AIR MANIFOLD– DELIVERS THE AIR FROM THE LINE TO THE STONES FOR DIFFUSION INTO THE SEWAGE.

6) AERATION LINE– DELIVERS THE AIR FROM THE PUMP TO THE MANIFOLD. CHECK VALVE INCLUDED.

7) AERATION STONE– AIR IS FINELY DIFFUSED FROM THE STONE INTO THE AERATION CHAMBER.

8) 15" COVERS– PROVIDE ASSEMBLY PORT ACCESS INSIDE OF THE SYSTEM. (NOT REQUIRED FOR REGULAR SERVICE)

TROY AIR BLOWER



HOOT SYSTEMS, LLC
www.hootsystems.com

DESCRIPTION:				PART #
800 GPD PUMP DISCHARGE SYSTEM HOOT SYSTEMS H-600A w/ 760 GAL. P.T.				H-600A_760
DATE:	DRAWN BY:	CHECK BY:	SCALE:	
03-17-2014	AY	RS	N.T.S.	

PROPOSED TREATMENT TANK SCHEMATIC
OWTS FEASIBILITY STUDY
Proposed Dollar General Retail Market
SWC Main Street & Harkness Street
Georgetown, California

SCALE:	DATE:	LEGEND:	
AS SHOWN	Mar 2015		
DRAWN BY:	APPROVED BY:		
MB	BEM		
PROJECT NO.	FIGURE NO.		
EAS-14-406	3		

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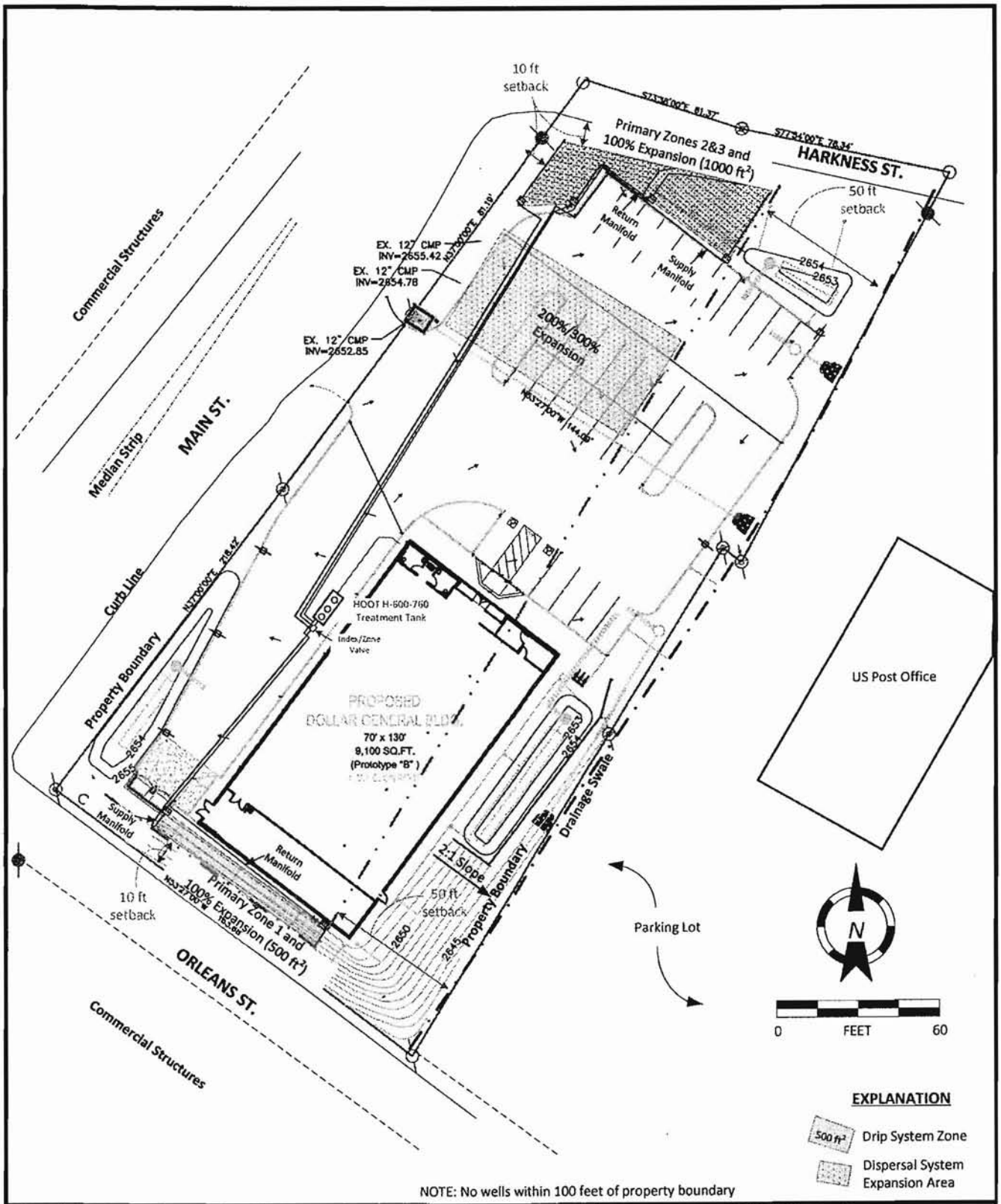


PROPOSED SITE PLAN
OWTS FEASIBILITY STUDY
Proposed Dollar General Retail Market
SWC Main Street & Harkness Street
Georgetown, California

SCALE:	DATE:
1 IN = 50 FT	Mar. 2015
DRAWN BY:	APPROVED BY:
MB	BEM
PROJECT NO.	FIGURE NO.
EAS-14-406	4

EAS PROFESSIONALS

EL DORADO COUNTY
ENVIRONMENTAL MANAGEMENT
ENVIRONMENTAL HEALTH DIVISION
2850 Fairlane Ct., Bldg. C, Placerville, CA 95667 - (530) 621-5300
3368 Lake Tahoe Blvd., #303, So. Lake Tahoe, CA 96150 - (530)573-3450

SITE EVALUATION & SOIL DESCRIPTION REPORT

Date of Evaluation: 9/22/14 **Assessor Parcel Number:** 061-362-01; -02; -04

Septic System Designer's Name: Bruce Myers, Salem Eng. Group, Fresno, CA
Registration Number: CEG 2102

Project Description

Project Location (street address *and* driving directions): (no street address)
East corner of Orleans and Main Streets, Georgetown, CA

Proposed Project: Dollar General Retail Market

Size of Parcel: 1.2 Ac (total) Domestic Water Source: GD-PUD

Longitude & Latitude: 38.9070, -120.8377 Elevation: 2650' MSL

Site Evaluation

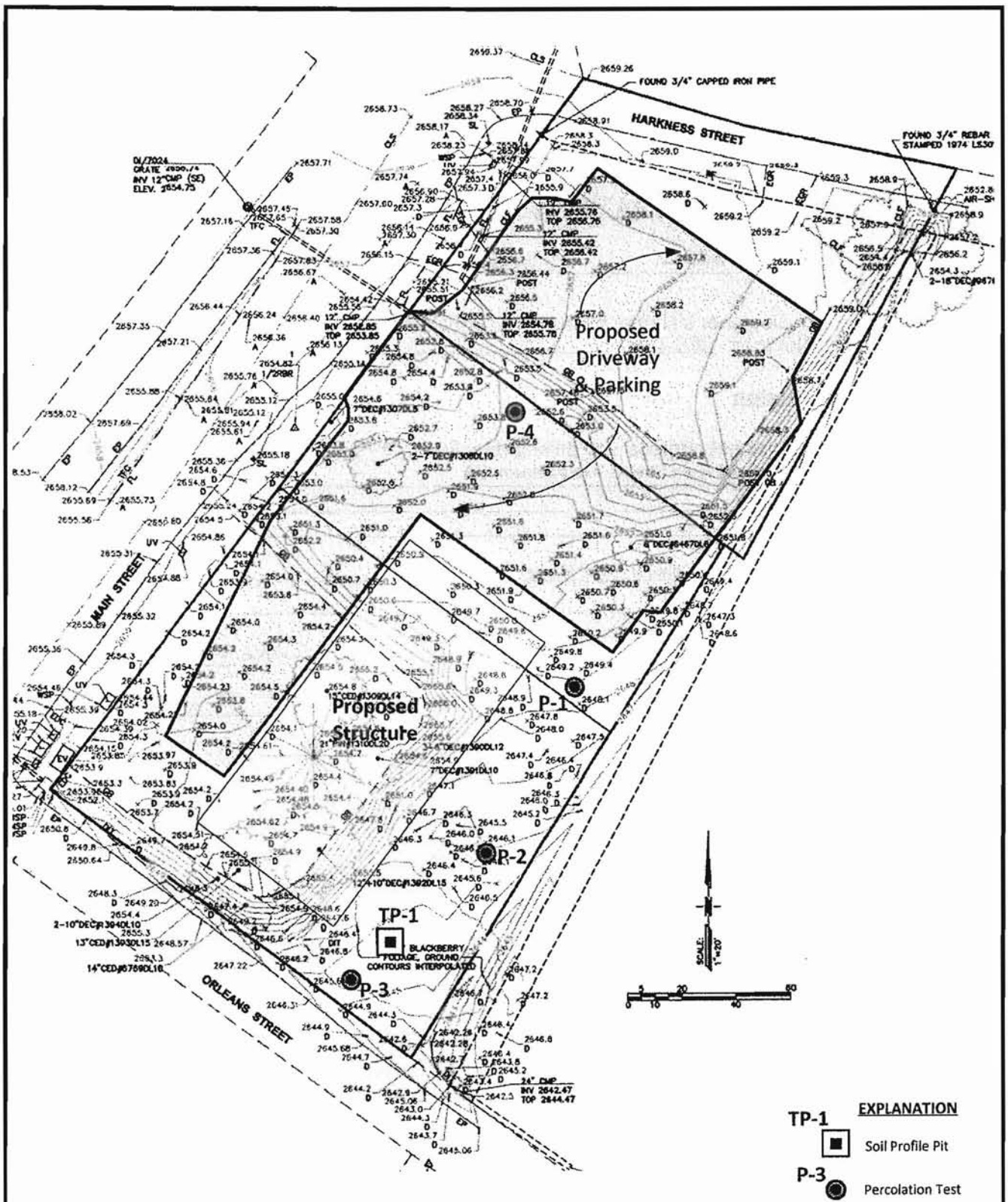
Depth of Pit: Pit TP-1, 7.5 ft Slope: 4% Depth of Roots: primarily 8 to 10 in.

Groundwater Observed: None

Soil Description: ~ 40 - 48" of colluvium and silty loam to silty clay loam soils over deeply weathered shale bedrock. Redox conditions suggest seasonal saturation to ~48 in. depth. Backhoe refusal at 7.5 ft. (see attached soil profile log)

Mail or Fax this form *and* a scaled map showing the soil test pit location within 60 days of site evaluation to: Environmental Mgmt, 2850 Fairlane Ct., Bldg. C, Placerville, CA 95667 or fax 530-642-1531.

Print Form



SITE EVALUATION SITE PLAN
Proposed Dollar General Retail Market
SWC Main Street & Harkness Street
Georgetown, California

SCALE:	DATE:
AS SHOWN	Oct 2014
DRAWN BY:	APPROVED BY:
MB	BEM
PROJECT NO.	FIGURE NO.
EAS-14-406	2

EAS PROFESSIONALS

SOIL PROFILE LOG

Job Name: NG Georgetown Location: Main & Harkness St.
Job No.: 4-214-0831 Date: 9/22/14 Weather/Lighting/Temp: Sunny / smokey
Test Pit:# TP-1 Total Depth: 90" APN:

Horizon: A Depth: 0 to 6" Color Chip: 10YR 3/2 moist
O A E B C R a-organic<1/6 b-buried c-concretions d-root restriction
e-organic 1/6-2/5 f-frozen g-gleyed h-fluvial organic,v,c<3 i-organic>2/5
k-carbonates m-cemented n-sodium o-sesquioxides p-plowed q-silica
r-rock s-fluvial organic,v,c>3 ss-slickensides t-clay v-plinthite
w-color & structure x-fragipan y-gypsum z-salts

Rock Fragments: <15%-None 15 to 35% dom.rock 35 to 60% dom.rock+very(v)
>60% (>10% fines) dom. rock+extremely(x) >60%(<10% fines) dom. rock
Size: Grav/peb(2-75mm) Cobbly(75-250mm) Stony(250-600mm)
Bouldery(>600mm flat) Channery(2-150mm) Flaggy(150-380mm)
Shape: Rounded Subrounded Angular Irregular
Rock: Unweather Bedrock (UWB) Weathered Bedrock (WB)

Texture: SiCL Ribbon: 1" Percent Clay: 20-30 %
clay silty clay sandy clay silty clay loam silt loam sandy loam
loamy sand sand
Sand Size: very coarse coarse medium fine very fine
2.0-1.0mm 1.0-0.5mm 0.5-0.25mm 0.25-0.1mm 0.1-0.05mm

Stickiness: Not S Slightly S Sticky Very S
Plasticity: Not P Slightly P Plastic Very P

Structure:
Grade: 1-weak(poorly defined Ped) 2-moderate(well formed) 3-strong(durable)

Shape:	Platy	Blocky	Columnar	sg	m
	Granular	Angular/Subangular	Prismatic	ir	a
S	Fine (2mm)	Very Fine (2-5mm)	V. Fine (2-10mm)	na	s
I	Medium (3-5mm)	Fine (6-10mm)	Fine (11-20mm)	gi	s
Z	Coarse (6-10mm)	Medium (11-20mm)	Med (21-50mm)	In	i
E	V. Crse (11-50mm)	Coarse (21-50mm)	Coarse (51+mm)	e	v
					c

Mottles: Yes No
Size: Fine <5mm Medium 5-15mm Large >15mm
Quantity: Few <2% Common 2-20% Many >20%
Contrast: Faint(brly visible) Distinct(seen/not strik.) Prominent(outstand. visible)
Color Chip(s):
Shape: Streaks Bands Spots

Redoximorphic Characteristics: Yes No
Redox concen: Nodules Concretions Masses Pore Linings
Redox depletions: Iron / Clay Depth to: obs/ind water

Rupture Resistance / Consistence:
Dry: Loose Soft Sli.Hard Mod.Hard Hard V.Hard Ex.Hard
Rigid V.Rigid
Moist: Loose V.Friable Friable Firm V.Firm Ex.Firm
Sli.Rigid Rigid V.Rigid

Cementation: Non C. Ex.Weakly C. V. Weakly C. Weakly C.
Mod. C. Strongly C. V. Strongly C. Indurated

Penetration Resistance: Ex. Low (<0.01) V. Low (0.01 to 0.1) Low (0.1 to 1)
Mod (1 to 2) High (2 to 4) V. High (4 to 8) Ex. High (>8)

Roots: Size: / Number:	V.Fine (1mm)	Fine (1-2mm)	Medium (2-5mm)	Coarse (5-10+mm)
Average number per square decimeter				
Few	<10	<10	<1	<1
Common	10 to 100	10 to 100	1 to 10	1 to 10
Many	≥100	≥100	≥10	≥5

Distribution of Roots: Between Peds In Cracks In Mat at Top of Horizon
Matted Around Stones Throughout

Pores: Size: / Number:	V.Fine (1mm)	Fine (1-2mm)	Medium (2-5mm)	Coarse (5-10+mm)
Average number per square decimeter				
Few	<10	<10	<1	<1
Common	10 to 100	10 to 100	1 to 10	1 to 10
Many	≥100	≥100	≥10	≥5

Distribution: Inped Exped
Types of Pores: Vesicular Tubular Irregular

Carbonates: 0-Non Effer. 0-V. Sli. Effer.. 1-Sli Effer.
2-Strongly Effer. 3-Violently Effervescent

Boundary: Abrupt Clear Gradual Diffuse
<3/4 in (2cm) ¾ to2 in (2-5cm) 2-6 in (5-15cm) >6 in (15cm)
Topo: Smooth Wavy Irregular Broken

Soil Water: Dry (D) Moist (M) Wet (W)

Limiting Depth:
Comments:

Horizon: B Depth: 6" to 18" Color Chip: 5YR 3/2 moist
O A E B C R a-organic<1/6 b-buried c-concretions d-root restriction
e-organic 1/6-2/5 f-frozen g-gleyed h-fluvial organic,v,c<3 i-organic>2/5
k-carbonates m-cemented n-sodium o-sesquioxides p-plowed q-silica
r-rock s-fluvial organic,v,c>3 ss-slickensides t-clay v-plinthite
w-color & structure x-fragipan y-gypsum z-salts

Rock Fragments: <15%-None 15 to 35% dom.rock 35 to 60% dom.rock+very(v)
>60% (>10% fines) dom. rock+extremely(x) >60%(<10% fines) dom. rock
Size: Grav/peb(2-75mm) Cobbly(75-250mm) Stony(250-600mm)
Bouldery(>600mm flat) Channery(2-150mm) Flaggy(150-380mm)
Shape: Rounded Subrounded Angular Irregular
Rock: Unweather Bedrock (UWB) Weathered Bedrock (WB)

Texture: SiL Ribbon: 2" Percent Clay: 10-20 %
clay silty clay sandy clay silty clay loam silt loam sandy loam
loamy sand sand
Sand Size: very coarse coarse medium fine very fine
2.0-1.0mm 1.0-0.5mm 0.5-0.25mm 0.25-0.1mm 0.1-0.05mm

Stickiness: Not S Slightly S Sticky Very S
Plasticity: Not P Slightly P Plastic Very P

Structure:
Grade: 1-weak(poorly defined Ped) 2-moderate(well formed) 3-strong(durable)

Shape:	Platy	Block	Columnar	sg	m
	Granular	Angular/Subangular	Prismatic	ir	a
S	Fine (2mm)	Very Fine (2-5mm)	V. Fine (2-10mm)	na	s
I	Medium (3-5mm)	Fine (6-10mm)	Fine (11-20mm)	gi	s
Z	Coarse (6-10mm)	Medium (11-20mm)	Med (21-50mm)	In	i
E	V. Crse (11-50mm)	Coarse (21-50mm)	Coarse (51+mm)	e	v
					e

Mottles: Yes No
Size: Fine <5mm Medium 5-15mm Large >15mm
Quantity: Few <2% Common 2-20% Many >20%
Contrast: Faint(brly visible) Distinct(seen/not strik.) Prominent(outstand. visible)
Color Chip(s):
Shape: Streaks Bands Spots

Redoximorphic Characteristics: Yes No
Redox concen: Nodules Concretions Masses Pore Linings
Redox depletions: Iron / Clay Depth to: obs/ind water

Rupture Resistance / Consistence:
Dry: Loose Soft Sli.Hard Mod.Hard Hard V.Hard Ex.Hard
Rigid V.Rigid
Moist: Loose V.Friable Friable Firm V.Firm Ex.Firm
Sli.Rigid Rigid V.Rigid

Cementation: Non C. Ex.Weakly C. V. Weakly C. Weakly C.
Mod. C. Strongly C. V. Strongly C. Indurated

Penetration Resistance: Ex. Low (<0.01) V. Low (0.01 to 0.1) Low (0.1 to 1)
Mod (1 to 2) High (2 to 4) V. High (4 to 8) Ex. High (>8)

Roots: Size: / Number:	V.Fine (1mm)	Fine (1-2mm)	Medium (2-5mm)	Coarse (5-10+mm)
Average number per square decimeter				
Few	<10	<10	<1	<1
Common	10 to 100	10 to 100	1 to 10	1 to 10
Many	≥100	≥100	≥10	≥5

Distribution of Roots: Between Peds In Cracks In Mat at Top of Horizon
Matted Around Stones Throughout

Pores: Size: / Number:	V.Fine (1mm)	Fine (1-2mm)	Medium (2-5mm)	Coarse (5-10+mm)
Average number per square decimeter				
Few	<10	<10	<1	<1
Common	10 to 100	10 to 100	1 to 10	1 to 10
Many	≥100	≥100	≥10	≥5

Distribution: Inped Exped
Types of Pores: Vesicular Tubular Irregular

Carbonates: 0-Non Effer. 0-V. Sli. Effer.. 1-Sli Effer.
2-Strongly Effer. 3-Violently Effervescent

Boundary: Abrupt Clear Gradual Diffuse
<3/4 in (2cm) ¾ to2 in (2-5cm) 2-6 in (5-15cm) >6 in (15cm)
Topo: Smooth Wavy Irregular Broken

Soil Water: Dry (D) Moist (M) Wet (W)

Limiting Depth:
Comments:

SOIL PROFILE LOG

Job Name: DG Georgetown Location: Main & Harkness St
Job No.: 4-214-0831 Date: 9/22/14 Weather/Lighting/Temp: Page 2 of 3
Test Pit:# TP-1 Total Depth: 90" APN:

Horizon: B+ Depth: 18" to 24" Color Chip: 5YR 4/4 moist O A E B C R a-organic<1/6 b-buried c-concretions d-root restriction e-organic 1/6-2/5 f-frozen g-gleyed h-fluvial organic,v,c<3 i-organic>2/5 k-carbonates m-cemented n-sodium o-sesquioxides p-plowed q-silica r-rock s-fluvial organic,v,c>3 ss-slickensides t-clay v-plinthite w-color & structure x-fragipan y-gypsum z-salts	Horizon: B+2 Depth: 24" to 40" Color Chip: 7.5YR 3/2 moist O A E B C R a-organic<1/6 b-buried c-concretions d-root restriction e-organic 1/6-2/5 f-frozen g-gleyed h-fluvial organic,v,c<3 i-organic>2/5 k-carbonates m-cemented n-sodium o-sesquioxides p-plowed q-silica r-rock s-fluvial organic,v,c>3 ss-slickensides t-clay v-plinthite w-color & structure x-fragipan y-gypsum z-salts
Rock Fragments: <15%-None 15 to 35% dom.rock 35 to 60% dom.rock+very(v) >60% (>10% fines) dom. rock+extremely(x) >60%(<10% fines) dom. rock Size: Grav/peb(2-75mm) Cobbly(75-250mm) Stony(250-600mm) Bouldery(>600mm flat) Channery(2-150mm) Flaggy(150-380mm) Shape: Rounded Subrounded Angular Irregular Rock: Unweather Bedrock (UWB) Weathered Bedrock (WB)	Rock Fragments: <15%-None 15 to 35% dom.rock 35 to 60% dom.rock+very(v) >60% (>10% fines) dom. rock+extremely(x) >60%(<10% fines) dom. rock Size: Grav/peb(2-75mm) Cobbly(75-250mm) Stony(250-600mm) Bouldery(>600mm flat) Channery(2-150mm) Flaggy(150-380mm) Shape: Rounded Subrounded Angular Irregular Rock: Unweather Bedrock (UWB) Weathered Bedrock (WB)
Texture: SiCL Ribbon: 1" Percent Clay: 28-30 % clay silty clay sandy clay silty clay loam silt loam sandy loam loamy sand sand Sand Size: very coarse coarse medium fine very fine 2.0-1.0mm 1.0-0.5mm 0.5-0.25mm 0.25-0.1mm 0.1-0.05mm	Texture: CL Ribbon: 1.5" Percent Clay: 30-40 % clay silty clay sandy clay silty clay loam silt loam sandy loam loamy sand sand Sand Size: very coarse coarse medium fine very fine 2.0-1.0mm 1.0-0.5mm 0.5-0.25mm 0.25-0.1mm 0.1-0.05mm
Stickiness: Not S Slightly S Sticky Very S Plasticity: Not P Slightly P Plastic Very P	Stickiness: Not S Slightly S Sticky Very S Plasticity: Not P Slightly P Plastic Very P
Structure: Grade: 1-weak(poorly defined Ped) 2-moderate(well formed) 3-strong(durable) Shape: Platy Blocky Columnar sg m Granular Angular/Subangular Prismatic ir a S Fine (2mm) Very Fine (2-5mm) V. Fine (2-10mm) na s I Medium (3-5mm) Fine (6-10mm) Fine (11-20mm) gi s Z Coarse (6-10mm) Medium (11-20mm) Med (21-50mm) In i E V. Crse (11-50mm) Coarse (21-50mm) Coarse (51+mm) e v e	Structure: Grade: 1-weak(poorly defined Ped) 2-moderate(well formed) 3-strong(durable) Shape: Platy Blocky Columnar sg m Granular Angular/Subangular Prismatic ir a S Fine (2mm) Very Fine (2-5mm) V. Fine (2-10mm) na s I Medium (3-5mm) Fine (6-10mm) Fine (11-20mm) gi s Z Coarse (6-10mm) Medium (11-20mm) Med (21-50mm) In i E V. Crse (11-50mm) Coarse (21-50mm) Coarse (51+mm) e v e
Mottles: Yes No Size: Fine <5mm Medium 5-15mm Large >15mm Quantity: Few <2% Common 2-20% Many >20% Contrast: Faint(brly visible) Distinct(seen/not strik.) Prominent(outstand. visible) Color Chip(s): Shape: Streaks Bands Spots	Mottles: Yes No Size: Fine <5mm Medium 5-15mm Large >15mm Quantity: Few <2% Common 2-20% Many >20% Contrast: Faint(brly visible) Distinct(seen/not strik.) Prominent(outstand. visible) Color Chip(s): 7.5YR 6/8 Shape: Streaks Bands Spots
Redoximorphic Characteristics: Yes No Redox concen: Nodules Concretions Masses Pore Linings Redox depletions: Iron / Clay Depth to: obs/ind water	Redoximorphic Characteristics: Yes No Redox concen: Nodules Concretions Masses Pore Linings Redox depletions: Iron / Clay Depth to: obs/ind water
Rupture Resistance / Consistence: Dry: Loose Soft Sli.Hard Mod.Hard Hard V.Hard Ex.Hard Rigid V.Rigid Moist: Loose V.Friable Friable Firm V.Firm Ex.Firm Sli.Rigid Rigid V.Rigid	Rupture Resistance / Consistence: Dry: Loose Soft Sli.Hard Mod.Hard Hard V.Hard Ex.Hard Rigid V.Rigid Moist: Loose V.Friable Friable Firm V.Firm Ex.Firm Sli.Rigid Rigid V.Rigid
Cementation: Non C. Ex.Weakly C. V. Weakly C. Weakly C. Mod. C. Strongly C. V. Strongly C. Indurated	Cementation: Non C. Ex.Weakly C. V. Weakly C. Weakly C. Mod. C. Strongly C. V. Strongly C. Indurated
Penetration Resistance: Ex. Low (<0.01) V. Low (0.01 to 0.1) Low (0.1 to 1) Mod (1 to 2) High (2 to 4) V. High (4 to 8) Ex. High (>8)	Penetration Resistance: Ex. Low (<0.01) V. Low (0.01 to 0.1) Low (0.1 to 1) Mod (1 to 2) High (2 to 4) V. High (4 to 8) Ex. High (>8)
Roots: Size: V.Fine Fine Medium Coarse Number: (1mm) (1-2mm) (2-5mm) (5-10+mm) Average number per square decimeter Few <10 <10 <1 <1 Common 10 to 100 10 to 100 1 to 10 1 to 10 Many ≥100 ≥100 ≥10 ≥5	Roots: Size: V.Fine Fine Medium Coarse Number: (1mm) (1-2mm) (2-5mm) (5-10+mm) Average number per square decimeter Few <10 <10 <1 <1 Common 10 to 100 10 to 100 1 to 10 1 to 10 Many ≥100 ≥100 ≥10 ≥5
Distribution of Roots: Between Peds In Cracks In Mat at Top of Horizon Matted Around Stones Throughout	Distribution of Roots: Between Peds In Cracks In Mat at Top of Horizon Matted Around Stones Throughout
Pores: Size: V.Fine Fine Medium Coarse Number: (1mm) (1-2mm) (2-5mm) (5-10+mm) Average number per square decimeter Few <10 <10 <1 <1 Common 10 to 100 10 to 100 1 to 10 1 to 10 Many ≥100 ≥100 ≥10 ≥5	Pores: Size: V.Fine Fine Medium Coarse Number: (1mm) (1-2mm) (2-5mm) (5-10+mm) Average number per square decimeter Few <10 <10 <1 <1 Common 10 to 100 10 to 100 1 to 10 1 to 10 Many ≥100 ≥100 ≥10 ≥5
Distribution: Inped Exped Types of Pores: Vesicular Tubular Irregular	Distribution: Inped Exped Types of Pores: Vesicular Tubular Irregular
Carbonates: 4-Non Effer. 0-V. Sli. Effer.. 1-Sli Effer. 2-Strongly Effer. 3-Violently Effervescent	Carbonates: 4-Non Effer. 0-V. Sli. Effer.. 1-Sli Effer. 2-Strongly Effer. 3-Violently Effervescent
Boundary: Abrupt Clear Gradual Diffuse <3/4 in (2cm) ¾ to2 in (2-5cm) 2-6 in (5-15cm) >6 in (15cm) Topo: Smooth Wavy Irregular Broken	Boundary: Abrupt Clear Gradual Diffuse <3/4 in (2cm) ¾ to2 in (2-5cm) 2-6 in (5-15cm) >6 in (15cm) Topo: Smooth Wavy Irregular Broken
Soil Water: Dry (D) Moist (M) Wet (W)	Soil Water: Dry (D) Moist (M) Wet (W)
Limiting Depth: Comments:	Limiting Depth: Comments:

SOIL PROFILE LOG

Job Name: DG Georgetown Location: Main & Harkness St.
Job No.: 4-214-0831 Date: 9/22/14 Weather/Lighting/Temp:
Test Pit:# TP-1 Total Depth: 90" APN:

Horizon: C₀ Depth: 40" to 90" Color Chip: 2.5Y 7/4 → 10YR 8/4	Horizon: Depth: to Color Chip:
O A E B C R a-organic<1/6 b-buried c-concretions d-root restriction e-organic 1/6-2/5 f-frozen g-gleyed h-fluvial organic,v,c<3 i-organic>2/5 k-carbonates m-cemented n-sodium o-sesquioxides p-plowed q-silica r-rock s-fluvial organic,v,c>3 ss-slickensides t-clay v-plinthite w-color & structure x-fragipan y-gypsum z-salts	O A E B C R a-organic<1/6 b-buried c-concretions d-root restriction e-organic 1/6-2/5 f-frozen g-gleyed h-fluvial organic,v,c<3 i-organic>2/5 k-carbonates m-cemented n-sodium o-sesquioxides p-plowed q-silica r-rock s-fluvial organic,v,c>3 ss-slickensides t-clay v-plinthite w-color & structure x-fragipan y-gypsum z-salts
Rock Fragments: <15%-None 15 to 35% dom.rock 35 to 60% dom.rock+very(v) >60% (>10% fines) dom. rock+extremely(x) >60%(<10% fines) dom. rock Size: Grav/pcb(2-75mm) Cobbly(75-250mm) Stony(250-600mm) Bouldery(>600mm flat) Channery(2-150mm) Flaggy(150-380mm) Shape: Rounded Subrounded Angular Irregular Rock: Unweather Bedrock (UWB) Weathered Bedrock (WB)	Rock Fragments: <15%-None 15 to 35% dom.rock 35 to 60% dom.rock+very(v) >60% (>10% fines) dom. rock+extremely(x) >60%(<10% fines) dom. rock Size: Grav/pcb(2-75mm) Cobbly(75-250mm) Stony(250-600mm) Bouldery(>600mm flat) Channery(2-150mm) Flaggy(150-380mm) Shape: Rounded Subrounded Angular Irregular Rock: Unweather Bedrock (UWB) Weathered Bedrock (WB)
Texture: SiL Ribbon: 1" Percent Clay: 10-15 % clay silty clay sandy clay silty clay loam silt loam sandy loam loamy sand sand Sand Size: very coarse 2.0-1.0mm coarse 1.0-0.5mm medium 0.5-0.25mm fine 0.25-0.1mm very fine 0.1-0.05mm	Texture: Ribbon: Percent Clay: % clay silty clay sandy clay silty clay loam silt loam sandy loam loamy sand sand Sand Size: very coarse 2.0-1.0mm coarse 1.0-0.5mm medium 0.5-0.25mm fine 0.25-0.1mm very fine 0.1-0.05mm
Stickiness: Not S Slightly S Sticky Very S Plasticity: Not P Slightly P Plastic Very P	Stickiness: Not S Slightly S Sticky Very S Plasticity: Not P Slightly P Plastic Very P
Structure: Grade: 1-weak(poorly defined Ped) 2-moderate(well formed) 3-strong(durable) Shape: Platy Blocky Columnar Granular Angular/Subangular Prismatic S Fine (2mm) Very Fine (2-5mm) V. Fine (2-10mm) I Medium (3-5mm) Fine (6-10mm) Fine (11-20mm) Z Coarse (6-10mm) Medium (11-20mm) Med (21-50mm) E V. Crse (11-50mm) Coarse (21-50mm) Coarse (51+mm) sg ir na gi ln e m a s i s v c	Structure: Grade: 1-weak(poorly defined Ped) 2-moderate(well formed) 3-strong(durable) Shape: Platy Blocky Columnar Granular Angular/Subangular Prismatic S Fine (2mm) Very Fine (2-5mm) V. Fine (2-10mm) I Medium (3-5mm) Fine (6-10mm) Fine (11-20mm) Z Coarse (6-10mm) Medium (11-20mm) Med (21-50mm) E V. Crse (11-50mm) Coarse (21-50mm) Coarse (51+mm) sg ir na gi ln e m a s i s v e
Mottles: Yes No Size: Fine <5mm Medium 5-15mm Large >15mm Quantity: Few <2% Common 2-20% Many >20% Contrast: Faint(brly visible) Distinct(seen/not strik) Prominent(outstand. visible) Color Chip(s): 7.5YR 6/8 FeOx Shape: Streaks Bands Spots	Mottles: Yes No Size: Fine <5mm Medium 5-15mm Large >15mm Quantity: Few <2% Common 2-20% Many >20% Contrast: Faint(brly visible) Distinct(seen/not strik.) Prominent(outstand. visible) Color Chip(s): Shape: Streaks Bands Spots
Redoximorphic Characteristics: Yes No MnOx Redox concen: Nodules Concretions Masses X Pore Linings Redox depletions: Iron / Clay Depth to: obs/ind water	Redoximorphic Characteristics: Yes No Redox concen: Nodules Concretions Masses Pore Linings Redox depletions: Iron / Clay Depth to: obs/ind water
Rupture Resistance / Consistence: Dry: Loose Soft Sli.Hard Mod.Hard Hard V.Hard Ex.Hard Rigid V.Rigid Moist: Loose V.Friable Friable Firm V.Firm Ex.Firm Sli.Rigid Rigid V.Rigid	Rupture Resistance / Consistence: Dry: Loose Soft Sli.Hard Mod.Hard Hard V.Hard Ex.Hard Rigid V.Rigid Moist: Loose V.Friable Friable Firm V.Firm Ex.Firm Sli.Rigid Rigid V.Rigid
Cementation: Non C. Ex.Weakly C. V. Weakly C. Weakly C. Mod. C. Strongly C. V. Strongly C. Indurated	Cementation: Non C. Ex.Weakly C. V. Weakly C. Weakly C. Mod. C. Strongly C. V. Strongly C. Indurated
Penetration Resistance: Ex. Low (<0.01) V. Low (0.01 to 0.1) Low (0.1 to 1) Mod (1 to 2) High (2 to 4) V. High (4 to 8) Ex. High (>8)	Penetration Resistance: Ex. Low (<0.01) V. Low (0.01 to 0.1) Low (0.1 to 1) Mod (1 to 2) High (2 to 4) V. High (4 to 8) Ex. High (>8)
Roots: Size: V.Fine (1mm) Fine (1-2mm) Medium (2-5mm) Coarse (5-10+mm) Number: Average number per square decimeter Few <10 <10 <1 <1 Common 10 to 100 10 to 100 1 to 10 1 to 10 Many ≥100 ≥100 ≥10 ≥5	Roots: Size: V.Fine (1mm) Fine (1-2mm) Medium (2-5mm) Coarse (5-10+mm) Number: Average number per square decimeter Few <10 <10 <1 <1 Common 10 to 100 10 to 100 1 to 10 1 to 10 Many ≥100 ≥100 ≥10 ≥5
Distribution of Roots: Between Peds In Cracks In Mat at Top of Horizon Matted Around Stones Throughout ations Foliation	Distribution of Roots: Between Peds In Cracks In Mat at Top of Horizon Matted Around Stones Throughout
Pores: Size: V.Fine (1mm) Fine (1-2mm) Medium (2-5mm) Coarse (5-10+mm) Number: Average number per square decimeter Few <10 <10 <1 <1 Common 10 to 100 10 to 100 1 to 10 1 to 10 Many ≥100 ≥100 ≥10 ≥5	Pores: Size: V.Fine (1mm) Fine (1-2mm) Medium (2-5mm) Coarse (5-10+mm) Number: Average number per square decimeter Few <10 <10 <1 <1 Common 10 to 100 10 to 100 1 to 10 1 to 10 Many ≥100 ≥100 ≥10 ≥5
Distribution: Inped Exped Types of Pores: Vesicular Tubular Irregular	Distribution: Inped Exped Types of Pores: Vesicular Tubular Irregular
Carbonates: 4-Non Effer. 0-V. Sli. Effer.. 1-Sli Effer. 2-Strongly Effer. 3-Violently Effervescent	Carbonates: 4-Non Effer. 0-V. Sli. Effer.. 1-Sli Effer. 2-Strongly Effer. 3-Violently Effervescent
Boundary: Abrupt <3/4 in (2cm) Clear ¾ to2 in (2-5cm) Gradual 2-6 in (5-15cm) Diffuse ≥6 in (15cm) Topo: Smooth Wavy Irregular Broken	Boundary: Abrupt <3/4 in (2cm) Clear ¾ to2 in (2-5cm) Gradual 2-6 in (5-15cm) Diffuse >6 in (15cm) Topo: Smooth Wavy Irregular Broken
Soil Water: Dry (D) Moist (M) Wet (W)	Soil Water: Dry (D) Moist (M) Wet (W)
Limiting Depth: ~4' due to Weathered bedrock surface Comments: backhoe refusal @ 90"	Limiting Depth: Comments:

Percolation Test Worksheet

Project: Proposed Dollar General
SWC Main St. & Harkness St.
Georgetown, CA

Job No.: EAS-14-406
Date Drilled: 09/25/14
Soil Classification: Clay Loam

Vol. in 1" Wtr Col. (in^3): 28.3

Hole Dia.: 6 in.
Pipe Dia.: 3 in.
Gravel pack porosity: 1
Gravel Correc Factor: 1.0
Pipe stickup: 1.3 ft ##

Test Hole No.: P-1
Tested By: P.S.
Drilled Hole Depth: 2.3 ft.

Presoaking Date: 09/25/14
Test Date: 09/26/14

Time Start	Time Finish	Depth of Test Hole (ft)#	Refill-Yes or No	Elapsed Time (hrs:min)	Initial Water Level# (ft)	Final Water Level# (ft)	Δ Water Level (in.)	Δ Min.	Meas. Perc Rate (min/in)	Grvl Pack Corr. Rate (min/in)	6" Dia. x 6" Water Equiv. MPI:	Avg. Ht. of Water Column** (in.)	Wetted Surf. Area of Column (in^2)	Absorp. Rate (gpd/ft^2)
10:15	10:30	3.60	Y	0:15	1.90	2.01	1.32	15	11.4	11.4	32.3	19.7	400	5.6
10:30	10:45	3.60	N	0:15	2.01	2.09	0.96	15	15.6	15.6	42.0	18.6	379	4.3
10:45	11:00	3.60	N	0:15	2.09	2.15	0.72	15	20.8	20.8	53.6	17.8	363	3.4
11:00	11:15	3.60	N	0:15	2.15	2.17	0.24	15	62.5	62.5	156.9	17.3	354	1.1
11:15	11:30	3.60	N	0:15	2.17	2.20	0.36	15	41.7	41.7	102.9	17.0	348	1.7
11:30	11:45	3.60	N	0:15	2.20	2.24	0.48	15	31.3	31.3	75.4	16.6	340	2.4
11:45	12:00	3.60	N	0:15	2.24	2.27	0.36	15	41.7	41.7	98.3	16.1	333	1.8
12:00	12:15	3.60	N	0:15	2.27	2.29	0.24	15	62.5	62.5	144.9	15.8	327	1.2
12:15	12:30	3.60	N	0:15	2.29	2.31	0.24	15	62.5	62.5	142.9	15.6	322	1.3
12:30	12:45	3.60	N	0:15	2.31	2.33	0.24	15	62.5	62.5	140.9	15.4	318	1.3
												Absorption Rate*		1.3
												6" Dia. Borehole with 6" of Water Equivalent MPI:		**142.9**

from top of pipe to top of gravel
(+ or - from grade)
** Top of water to base of hole (below approximately 2" of gravel)
* last 3 readings
Note:

Percolation Test Worksheet

Project: Proposed Dollar General
SWC Main St. & Harkness St.
Georgetown, CA

Job No.: EAS-14-406
Date Drilled: 09/25/14
Soil Classification: Clay Loam to Clay

Vol. in 1" Wtr Col. (in^3): 28.3

Hole Dia.: 6 in.
Pipe Dia.: 3 in.
Gravel pack porosity: 1
Gravel Correc Factor: 1.0
Pipe stickup: 1.37 ft ##

Test Hole No.: P-2
Tested By: P.S.
Drilled Hole Depth: 3.1 ft.

Presoaking Date: 09/25/14
Test Date: 09/26/14

Time Start	Time Finish	Depth of Test Hole (ft)#	Refill-Yes or No	Elapsed Time (hrs:min)	Initial Water Level# (ft)	Final Water Level# (ft)	Δ Water Level (in.)	Δ Min.	Meas. Perc Rate (min/in)	Grvl Pack Corr. Rate (min/in)	6" Dia. x 6" Water Equiv. MPI:	Avg. Ht. of Water Column** (in.)	Wetted Surf. Area of Column (in^2)	Absorp. Rate (gpd/ft^2)
10:30	10:50	4.42	Y	0:20	2.91	2.95	0.48	20	41.7	41.7	107.9	17.9	365	1.7
10:50	11:10	4.42	N	0:20	2.95	2.97	0.24	20	83.3	83.3	211.9	17.5	359	0.8
11:10	11:30	4.42	N	0:20	2.97	2.98	0.12	20	166.7	166.7	419.8	17.3	355	0.4
11:30	11:50	4.42	N	0:20	2.98	3.00	0.24	20	83.3	83.3	207.9	17.2	352	0.9
11:50	12:10	4.42	N	0:20	3.00	3.02	0.24	20	83.3	83.3	205.2	16.9	347	0.9
12:10	12:30	4.42	N	0:20	3.02	3.04	0.24	20	83.3	83.3	202.5	16.7	343	0.9
12:30	12:50	4.42	N	0:20	3.04	3.05	0.12	20	166.7	166.7	401.0	16.5	339	0.4
12:50	13:10	4.42	N	0:20	3.05	3.07	0.24	20	83.3	83.3	198.5	16.3	336	0.9
												Absorption Rate*		0.8
												6" Dia. Borehole with 6" of Water Equivalent MPI:		**230.7**

from top of pipe to top of gravel

(+ or - from grade)

** Top of water to base of hole (below approximately 2" of gravel)

* last 4 readings

Note:

Percolation Test Worksheet

Project: Proposed Dollar General
SWC Main St. & Harkness St.
Georgetown, CA

Job No.: EAS-14-406
Date Drilled: 09/25/14
Soil Classification: Gravelly Clay Loam

Vol. in 1" Wtr Col. (in^3): 28.3

Hole Dia.: 6 in.
Pipe Dia.: 3 in.
Gravel pack porosity: 1
Gravel Correc Factor: 1.0
Pipe stickup: 2.44 ft ##

Test Hole No.: P-3
Tested By: P.S.
Drilled Hole Depth: 3.5 ft.

Presoaking Date: 09/25/14
Test Date: 09/26/14

Time Start	Time Finish	Depth of Test Hole (ft)#	Refill-Yes or No	Elapsed Time (hrs:min)	Initial Water Level# (ft)	Final Water Level# (ft)	Δ Water Level (in.)	Δ Min.	Meas. Perc Rate (min/in)	Grvl Pack Corr. Rate (min/in)	6" Dia. x 6" Water Equiv. MPI:	Avg. Ht. of Water Column** (in.)	Wetted Surf. Area of Column (in^2)	Absorp. Rate (gpd/ft^2)
10:30	10:45	5.97	Y	0:15	4.26	4.28	0.24	15	62.5	62.5	183.0	20.4	413	1.0
10:45	11:00	5.97	N	0:15	4.28	4.30	0.24	15	62.5	62.5	181.0	20.2	408	1.0
11:00	11:15	5.97	N	0:15	4.30	4.34	0.48	15	31.3	31.3	89.0	19.8	401	2.0
11:15	11:30	5.97	N	0:15	4.34	4.36	0.24	15	62.5	62.5	175.0	19.4	395	1.0
11:30	11:45	5.97	N	0:15	4.36	4.38	0.24	15	62.5	62.5	172.9	19.2	390	1.0
11:45	12:00	5.97	N	0:15	4.38	4.41	0.36	15	41.7	41.7	113.6	18.9	385	1.6
12:00	12:15	5.97	N	0:15	4.41	4.43	0.24	15	62.5	62.5	167.9	18.6	379	1.1
12:15	12:30	5.97	N	0:15	4.43	4.45	0.24	15	62.5	62.5	165.9	18.4	374	1.1
12:30	12:45	5.97	N	0:15	4.45	4.47	0.24	15	62.5	62.5	163.9	18.1	370	1.1
12:45	13:00	5.97	N	0:15	4.47	4.49	0.24	15	62.5	62.5	161.9	17.9	365	1.1
												Absorption Rate*		1.1
												6" Dia. Borehole with 6" of Water Equivalent MPI:		**164.9**

from top of pipe to top of gravel
(+ or - from grade)
** Top of water to base of hole (below approximately 2" of gravel)
* last 4 readings
Note:

Percolation Test Worksheet

Project: Proposed Dollar General
SWC Main St. & Harkness St.
Georgetown, CA

Job No.: EAS-14-406
Date Drilled: 09/25/14
Soil Classification: Loam to Sandy Loam

Vol. in 1" Wtr Col. (in^3): 28.3

Hole Dia.: 6 in.
Pipe Dia.: 3 in.
Gravel pack porosity: 1
Gravel Correc Factor: 1.0
Pipe stickup: 1.9 ft ##

Test Hole No.: P-4
Tested By: P.S.
Drilled Hole Depth: 2.8 ft.

Presoaking Date: 09/25/14
Test Date: 09/26/14

Time Start	Time Finish	Depth of Test Hole (ft)#	Refill-Yes or No	Elapsed Time (hrs:min)	Initial Water Level# (ft)	Final Water Level# (ft)	Δ Water Level (in.)	Δ Min.	Meas. Perc Rate (min/in)	Grvl Pack Corr. Rate (min/in)	6" Dia. x 6" Water Equiv. MPI:	Avg. Ht. of Water Column** (in.)	Wetted Surf. Area of Column (in^2)	Absorp. Rate (gpd/ft^2)
10:35	10:45	4.70	Y	0:10	2.88	2.95	0.84	10	11.9	11.9	36.5	21.4	432	4.9
10:45	10:55	4.70	N	0:10	2.95	2.98	0.36	10	27.8	27.8	82.9	20.8	421	2.2
10:55	11:05	4.70	N	0:10	2.98	3.07	1.08	10	9.3	9.3	26.7	20.1	407	6.7
11:05	11:15	4.70	N	0:10	3.07	3.15	0.96	10	10.4	10.4	28.7	19.1	388	6.3
11:15	11:25	4.70	N	0:10	3.15	3.25	1.20	10	8.3	8.3	21.7	18.0	368	8.3
11:25	11:35	4.70	N	0:10	3.25	3.35	1.20	10	8.3	8.3	20.4	16.8	345	8.8
11:35	11:45	4.70	N	0:10	3.35	3.42	0.84	10	11.9	11.9	27.5	15.8	326	6.5
11:45	11:55	4.70	N	0:10	3.42	3.49	0.84	10	11.9	11.9	26.2	14.9	310	6.9
11:55	12:05	4.70	N	0:10	3.49	3.53	0.48	10	20.8	20.8	43.9	14.3	297	4.1
12:05	12:15	4.70	N	0:10	3.53	3.59	0.72	10	13.9	13.9	28.2	13.7	286	6.4
12:15	12:25	4.70	N	0:10	3.59	3.65	0.72	10	13.9	13.9	26.8	13.0	273	6.7
12:25	12:35	4.70	N	0:10	3.65	3.70	0.60	10	16.7	16.7	30.7	12.3	260	5.9
												Absorption Rate*		5.8
												6" Dia. Borehole with 6" of Water Equivalent MPI:		**31.2**

from top of pipe to top of gravel
(+ or - from grade)
** Top of water to base of hole (below approximately 2" of gravel)
* last 4 readings
Note:

EAS PROFESSIONALS

Netafim Bioline® Dripperline Design Recommendations - Based on Soil Loading Rate

Job Name / Homeowner:	Proposed Dollar General Market
Address:	SEC Main St. & Harkness St.
City, State, Zip:	Georgetown, CA
Permit Agency:	County of El Dorado Environmental Management Division
Installer Name:	
Designed By:	B Myers, PE
Date:	10/30/2014

System Data Input

Gallons Per Day	300
Soil Loading Rate (Gallons / Sq. Ft. / Per Day [GPD])	0.2
Select Emitter Flow Rate (GPH)	0.61
Select Emitter Spacing (inches)	24
Flush Velocity (fps)	2

Assumptions

Estimated Pump Flow Rating (GPM)	20
Inlet Pressure (psi)	40
Inlet Pressure (Feet of Head)	92.4
Row Spacing Between Driplines (feet)	2
Number of Zones	3
Hours Per Day to Use for Dosing	24
Elevation Change from Pump to Dose Tank Outlet (feet)	0
Elevation Change from Dose Tank to Drip Field (feet)	-5
Length of Supply Line & Supply & Flush Manifolds (feet)	150
Type of Pipe - Supply Line & Manifolds	PVC Sch 80
Size of Supply & Manifold Pipe (inches)	0.75
Pipe Roughness Constant	150
Inside Diameter of Pipe (inches)	0.742
Number of Daily Dosing Events Per Zone	8

Calculation Outputs

Total System Information

Application Area Required (square feet)	1,500
Total Amount of Bioline® Required (feet)	750
Total Number of Emitters in the Dripfield	375

Zone Information

Number of Zones	3
Amount of Bioline® Per Zone (feet)	375
Number of Emitters Per Zone	188
Minimum Number of Laterals Per Zone	2
Maximum Number of Laterals Per Zone	12
Number of Laterals That Will be Used	3
Maximum Length of Bioline® Laterals Based on Inlet Pressure	421
Flow Rate Per Zone (GPM)	1.9
Holding Capacity of Dripperline Per Zone (Gallons)	5.0
Additional Flow Requirement to Accommodate Flushing Velocity	4.8

Holding Capacity of Piping

Holding Capacity (Gallons) of Supply Line & Supply & Flush Manifolds	4.0
Holding Capacity (Gallons per Zone) of Bioline	5.0
Holding Capacity (Gallons) of Supply Line, Manifolds and Dripperline	9.0

Head Loss Data - Dosing & Flushing Cycle

Friction Loss per 100' (psi) in Supply Line & Manifolds	6.2
Velocity (fps)	5.0
Friction Loss in Supply Line & SupplyManifolds (psi)	11.1
Friction Loss in Supply Line & Supply Manifolds (Feet of Head)	25.7
Additional Pressure Required for Return Manifold and Piping to Tank (psi)	5.0
Additional Pressure Required for Return Manifold and Piping to Tank (Feet of Head)	11.6
TDH (Total Dynamic Head) in Feet of Head	124.8

Control Settings Information

Total System Runtime Per Day (Minutes)	79
Total Runtime Per Zone Per Day (Minutes)	39
Total System Dosing Events Per Day	16
Runtime For Each Dose (Minutes)	5
Off Time Between Doses in the Same Zone (Hours to nearest 0.1)	2.9

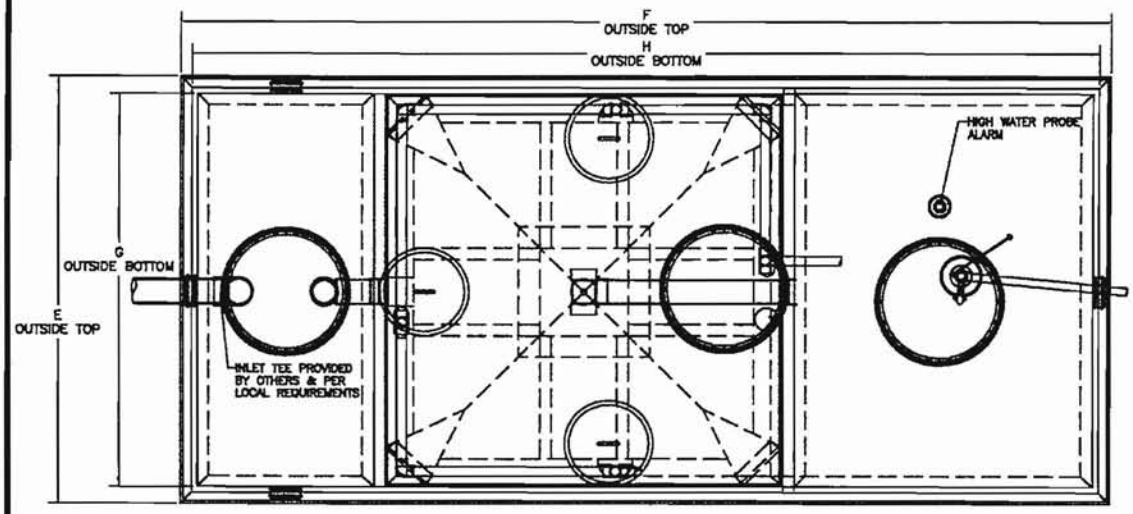
Miscellaneous Information

Dosing Volume Per Emitter Per Dose (gallons)	0.10
Inches Per Week of Dosing	2.25
Volume of a Single Dose (gallons)	19.1

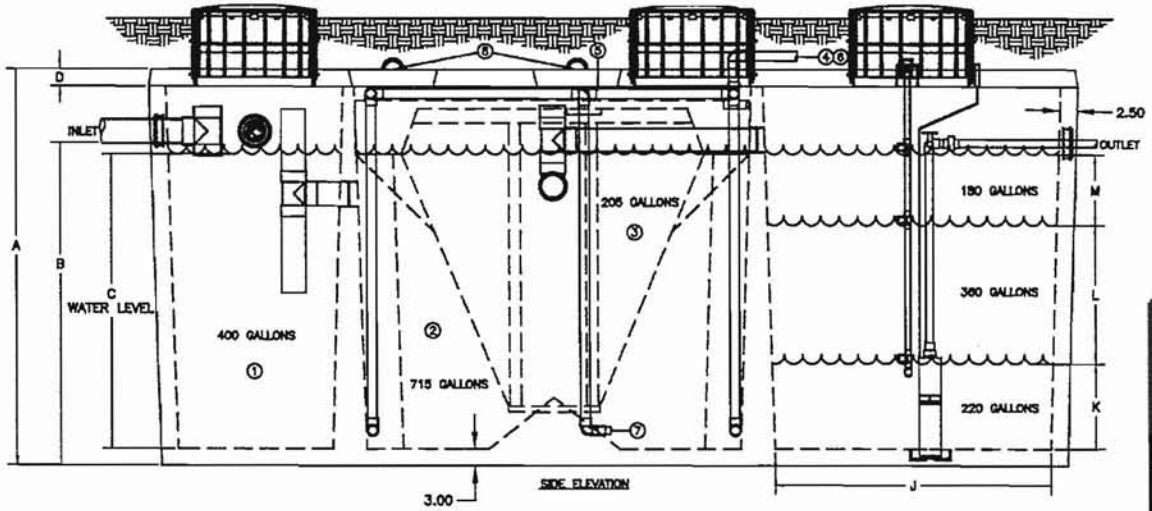
Pump Selection

Pump Flow Rating (GPM)	8.7
TDH (Total Dynamic Head in Feet of Head)	124.8
Pump Manufacturer	
Pump Model	

CRITICAL DIMENSIONS	
A	69.00"
B	57.00"
C	52.00"
D	3"
E	74.50"
F	160.00"
G	65.50"
H	151.00"
J	48.50"
K	15.00"
L	24.50"
M	12.50"



PLAN VIEW



SIDE ELEVATION

THE H-SERIES HOOT AEROBIC TREATMENT SYSTEM

1) PRETREATMENT TANK- WHERE ANAEROBIC DIGESTION OCCURS AND STORAGE FOR NON-BIODEGRADEABLE MATERIALS.

2) AERATION CHAMBER- WHERE AIR IS INTRODUCED INTO SEWAGE FOR DIGESTION.

3) CLARIFIER- A STILL CHAMBER WHERE SOLIDS SETTLE OUT AND THE CLEAR EFFLUENT RISES.

4) TROY AIR LINEAR AIR BLOWER- LONG LIFE, EFFICIENT LINEAR BLOWER WHICH COMPRESSED ATMOSPHERIC AIR AND UNDER PRESSURE DELIVERS IT TO THE TANK. MAY BE REMOTELY MOUNTED UP TO 50' FROM SYSTEM. MUST MAINTAIN 1/8" SLOPE TOWARDS TANK FOR DRAINAGE.

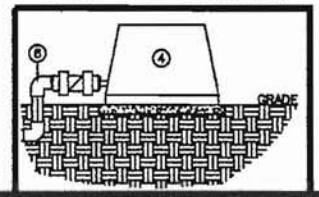
5) AIR MANIFOLD- DELIVERS THE AIR FROM THE LINE TO THE STONES FOR DIFFUSION INTO THE SEWAGE.

6) AERATION LINE- DELIVERS THE AIR FROM THE PUMP TO THE MANIFOLD. CHECK VALVE INCLUDED.

7) AERATION STONE- AIR IS FINELY DIFFUSED FROM THE STONE INTO THE AERATION CHAMBER.

8) 15" COVERS- PROVIDE ASSEMBLY PORT ACCESS INSIDE OF THE SYSTEM. (NOT REQUIRED FOR REGULAR SERVICE)

TROY AIR BLOWER



HOOT SYSTEMS, LLC
www.hootsystems.com

DESCRIPTION:				PART #
500 GPD PUMP DISCHARGE SYSTEM HOOT SYSTEMS H-500A w/ 760 GAL. P.T.				H-500A-760
DATE:	DRAWN BY:	CHECK BY:	SCALE:	
03-17-2014	AY	RS	N.T.S.	

PROPOSED DOLLAR GENERAL
DOMESTIC WASTE WATER DISPOSAL SYSTEM

1. GENERAL
   A. ALL SEPTIC TANKS MUST BE ACCEPTED BY IAPMO AS MEETING STANDARD PS-1.
   B. ALL SEPTIC TANKS SHALL BE OF MINIMUM TWO COMPARTMENT CONSTRUCTION. THE FIRST SHALL BE TWICE THE CAPACITY OF THE SECOND AND SEPARATED BY A BAFFLE.
   C. TANKS MUST HAVE A STRENGTH CAPABLE OF WITHSTANDING ANTICIPATED LOADS.

2. MATERIALS
   A. THE ENGINEER ASSUMES CONCRETE SEPTIC PUMP & HOOT TANKS IN THESE CALCULATIONS, IF THE CONTRACTOR DESIRES TO USE A TANK MATERIAL OTHER THAN CONCRETE, THEN THE CONTRACTOR MUST SUPPLY TO THE ENGINEER THE SPECIFICATIONS FOR ANCHORING AND BALLASTING.
   B. METAL OR WOODEN TANKS ARE PROHIBITED.
   C. IF SEPTIC OR PUMP TANKS ARE MADE FROM HIGH DENSITY POLYETHYLENE (HDPE) OR FIBERGLASS, THEN TANKS MUST BE ANCHORED TO PREVENT HEAVING OR BUOYANT FORCES.
   D. IF SEPTIC OR SUMP TANKS ARE MADE FROM HDPE OR FIBERGLASS, THEN PROPER SIDEWALL PROTECTION MUST BE INSTALLED TO PREVENT SIDEWALL FAILURE. SUFFICIENT PROTECTION MUST BE INSTALLED TO PREVENT VEHICLES FROM CROSSING OVER THE TOP OF THE HDPE OR FIBERGLASS TANKS.
   E. ALL SEPTIC AND PUMP TANKS SHALL BE WATER TIGHT. CONCRETE TANKS SHALL BE A MONOLITHIC CASTING OR JOINTS SEALED WITH THOROPLUS OR OTHER APPROVED SEALANTS. CONCRETE SUMPS SHALL BE PROTECTED WITH "XYPEX", "THOROSEAL" OR "ULTRA-BLOC" (OR EQUIVALENT) ON THE INSIDE. ASPHALT EMULSION OR TAR SHALL NOT BE USED AS JOINT SEALANTS.

3. SUBMITTAL TO ENGINEER
   A. IF TANKS ARE MADE FROM HDPE OR FIBERGLASS, THEN PROPER SIDEWALL PROTECTION MUST BE INSTALLED TO PREVENT SIDEWALL FAILURE. SUFFICIENT PROTECTION MUST BE INSTALLED TO PREVENT VEHICLES FROM CROSSING OVER THE TOP OF THE HDPE OR FIBERGLASS TANKS.
   B. ALL TANKS SHALL BE WATER TIGHT. CONCRETE TANKS SHALL BE M MONOLITHIC CASTING OR JOINTS SEALED WITH THOROPLUS OR OTHER APPROVED SEALANTS. CONCRETE SUMPS SHALL BE PROTECTED WITH "XYPEX", "THOROSEAL" OR "ULTRA-BLOC" ON THE INSIDE. ASPHALT EMULSION OR TAR SHALL NOT BE USED AS JOINT SEALANTS.

4. PLACEMENT
   A. SEPTIC PUMP & HOOT TANKS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATION.
   B. THE TANK SHALL BE INSTALLED ON A SOLID LEVEL BED.
   C. SOIL AROUND THE TANK MUST BE COMPACTED; SAND MUST BE JETTED.

5. ACCESS RISERS
   A. ACCESS TO EACH TANK COMPARTMENT MUST BE PROVIDED BY A MANHOLE AT LEAST TWENTY INCHES IN DIAMETER AND HAVING A DURABLE HANDLE TO FACILITATE REMOVAL TO ALLOW ACCESS FOR INSPECTION AND MAINTENANCE OF THE TANK AND OF SUFFICIENT SIZE FOR REMOVAL OF THE MANHOLE COVER.
   B. A RISER MUST EXTEND FROM EACH MANHOLE COVER TO OR ABOVE THE SURFACE OF THE GROUND. THE RISER MUST BE OF A SIZE LARGER THAN THE MANHOLE COVER, BE BOTH GAS AND WATERTIGHT, AND BE CONSTRUCTED OF DURABLE MATERIAL AND SHALL BE CAPABLE OF WITHSTANDING ANTICIPATED LOADS FROM SOIL BACKFILL.
   C. CONCRETE RISERS SHALL BE SEALED WITH XYPEX OR APPROVED EQUAL.
   D. ALL RISERS SHALL BE FITTED WITH AIRTIGHT DURABLE LIDS THAT HAVE A LOCKING MECHANISM TO PREVENT UNWANTED ENTRY AND PREVENT INSECT/RODENT ACCESS.

6. SEPTIC TANK CONNECTIONS
   A. ALL CONNECTIONS FROM BUILDINGS TO TANKS SHALL BE MADE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE UNIFORM PLUMBING CODE.
   B. GRAVITY LINES FOR SEWAGE DISPOSAL SYSTEMS MUST BE FOUR INCHES IN DIAMETER.
   C. FOR ALL GRAVITY LINES, INSTALL CLEANOUTS ON ALL ELLS AND EVERY 100 FEET ON STRAIGHT RUNS.
   D. ALL SOLID PIPE JOINTS AND CONNECTIONS MUST BE GLUED, CEMENTED, OR MADE WITH AN ELASTOMERIC SEAL SO AS TO BE WATERTIGHT.
   E. WHERE ENTERING THE TANK, A MINIMUM OF 4 INCH DIAMETER PVC SCHEDULE 40 STUB SHALL BE CAST IN PLACE OR SEALED WITH THOROPLUS OR OTHER WATERPROOF MATERIAL.
   F. BRASS TYPE FITTINGS, VALVES, AND PIPING ARE PROHIBITED IN SEPTIC AND SUMP TANKS
   G. EFFLUENT FILTERS ARE TO BE USED IN ALL SEPTIC TANKS AND SHALL HAVE A FILTRATION OF NO GREATER THEN 1/8", OR AS SPECIFIED ON THE PLANS.

7. ELECTRICAL CONNECTIONS
   A. ALL ELECTRICAL CONDUITS AND FITTINGS ENTERING THE SUMP SHALL BE GAS TIGHT AND WATER TIGHT PVC. METALLIC GAS TIGHT FITTINGS ARE NOT ALLOWED.
   B. ALL WIRES SHALL BE INDIVIDUALLY SEALED AT THE JUNCTION BOX OR ALARM/CONTROL PANEL AS APPROPRIATE. GROUT OR ASPHALT EMULSION IN NOT AN ACCEPTABLE SEALANT.
   C. THE PUMP POWER LEAD AND THE NODE CONTROL WIRES SHALL NOT BE RUN IN A COMMON CONDUIT.
   H. NODE CONTROLS FOR THE PUMP SHALL BE MOUNTED TO A SCHEDULE 40 PVC POLE MOUNTED INSIDE THE PUMP CHAMBER THAT CAN BE REMOVED FOR MAINTENANCE.
   I. CONTROL PANEL REQUIRES 110 VOLT, SINGLE PHASE ELECTRICAL CONNECTION.

8. CONTROL PANEL
   A. ALL CONTROL PANELS SHALL BE EQUIPPED WITH A VISUAL AND AUDIBLE ALARM.
   B. CONTROL PANEL, AND VISUAL AND AUDIBLE ALARMS SHALL BE LOCATED NO GREATER THAN 25' FROM THE RESIDENCE/BUSINESS SERVED BY THE SYSTEM

SEPTIC SYSTEM-ADVANCED TREATMENT UNIT (ATU)
INSTALLATION, OPERATION, AND MAINTENANCE REQUIREMENTS

1. OWNERS/OPERATORS OF ADVANCED TREATMENT UNITS (ATUs) ARE REQUIRED TO MAINTAIN AN ANNUAL MAINATENANCE CONTRACT WITH AN APPROVED ATU SERVICE PROVIDER. ALL REQUIRED OPERATING, MAINTENANCE AND MONITORING OF THE ATU IS THE RESPONSIBILITY OF THE PROPERTY OWNER/LESSEE. CONTACT THE ENVIRONMENTAL HEALTH DEPARTMENT FOR INFORMATION ANY OTHER CONDITIONS REGARDING OPERATIONS OF THE ATU.
2. ALL INSTALLERS OF THE ATU MUST HAVE AN ACTIVE CALIFORNIA CLASS A GENERAL ENGINEERING CONTRACTOR, CLASS C-42 SANITATION SYSTEM CONTRACTOR, OR CLASS C-36 PLUMBING CONTRACTOR LICENSE.
3. PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY, ALL INSPECTIONS SHALL BE COMPLETED (SEE SEPARATE INSPECTION SCHEDULE) AND THE OWNER OF THE PROPERTY SHALL SUBMIT A COPY OF THE SIGNED SERVICE PROVIDER MAINTENANCE CONTRACT.
6. THE ATU IS REQUIRED TO UNDERGO ONGOING INSPECTION AND MONITORING BY AN APPROVED SERVICE PROVIDER REGISTERED WITH THE ENVIRONMENTAL HEALTH DEPARTMENT AT A FREQUENCY OF AT LEAST ONCE DURING EVERY SIX (6) MONTH PERIOD. EACH SIX MONTH PERIOD IS DENOTED AS "WINTER SEASON" (NOVEMBER 1ST TO APRIL 30TH) AND "SUMMER SEASON" (MAY 1ST TO OCTOBER 31ST). THE TWO INSPECTIONS SHALL BE PERFORMED A MINIMUM OF NINETY (90) DAYS APART.
7. CONTACT THE ENVIRONMENTAL HEALTH DEPARTMENT FOR CURRENT INSPECTION REQUIREMENTS. THE INSPECTION, AT A MINIMUM, SHOULD EVALUATE THE FOLLOWING ITEMS AS APPLICABLE TO THIS ATU.
   A. CONDITION AND OPERATION OF SEPTIC AND PUMP TANKS INCLUDING CHECKING SLUDGE, GREASE, AND SCUM LEVELS AND CONDITION OF ALL EFFLUENT FILTERS.
   B. CONDITION AND OPERATION OF ANY PRE-TREATMENT SYSTEM.
   C. CONDITION AND OPERATION OF PURGE VALVES, BALANCING VALVES, DISTRIBUTION VALVES, AND ALL OTHER CONTROL VALVES.
   D. CONDITION OF THE DISPERSAL FIELD GROUND COVER.
   E. CONDITION MOVEMENT, AND STABILITY OF ANY FILL IN THE DISPERSAL FIELD AREA.
   F. CONDITION OF EROSION CONTROL MEASURES.
   G. FLOW METER AND/OR PUMP COUNTER MEASUREMENTS AND COMPARISON TO DESIGN CAPACITY.
   H. FULL OPERATIONAL PERFORMANCE TEST OF ALL INSTALLED COMPONENTS (PUMPS, CONTROL PANELS, VALVES, ETC.)

SEWAGE TREATMENT SYSTEM CONSTRUCTION NOTES

1. THE SYSTEM LAYOUT SHALL CONFORM TO THIS PLAN. IF THE FIELD CONDITIONS DO NOT ALLOW FOR THIS CONDITION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY IN ORDER TO MAKE A DESIGN ADJUSTMENT.
2. THE CONTRACTOR SHALL OBTAIN CERTIFICATIONS FROM THE SUPPLIER FOR THE MATERIALS, STATING THAT THEY MEET THE SPECIFIED CRITERIA ON THE PLANS.
3. EQUIPMENT SUSCEPTIBLE TO FREEZING MUST BE ADEQUATELY PROTECTED TO PREVENT FREEZING.
4. COMPLETE PROPER DRAINAGE WORK AND EROSION CONTROL MEASURES BEFORE FINAL INSPECTION.

STAGES TO BE INSPECTED BY THE DESIGNER

CONTRACTOR IS REQUIRED TO HAVE ENGINEER AND EL DORADO COUNTY ENVIRONMENTAL HEALTH DEPARTMENT INSPECT THE CONSTRUCTION AT THE FOLLOWING STAGES. FAILURE TO REQUEST THESE INSPECTIONS WILL RESULT IN THE CONTRACTOR HAVING TO UN-EARTH AND RE-DO THE WORK. THE CONTRACTOR SHALL GIVE 48-HOUR ADVANCE NOTICE TO THE ENGINEER FOR ANY OF THESE INSPECTIONS:

1. CHECK LAYOUT OF ALL TANKS BEFORE EXCAVATION.
2. WATERTIGHT TEST OF ALL TANKS BEFORE BACKFILL.
3. HYDRAULIC TEST OF PRESSURE AND DEPERSAL LINES IN TRENCH BEFORE COVER.
4. FINAL INSPECTION AND STRTUP AFTER PERMANENT POWER HOOK-UP.

SHEET INDEX

SYMBOL LEGEND

AR — AIR RELEASE VALVE

CHECK VALVE

SUPPLY OR RETURN LINE

PREPARED BY:
SALEM
4729 W. JACQUELYN AVE
FRESNO CA 93722

PROPOSED DOLLAR GENERAL
SWC MAIN STREET &
HARKNESS STREET
GEORGETOWN, CA

PROJECT INFO:

PROJECT NO.	4-214-0631
DRAWN BY:	FVM
CHECKED BY:	BM
DATE:	03/03/2015

REVISIONS:

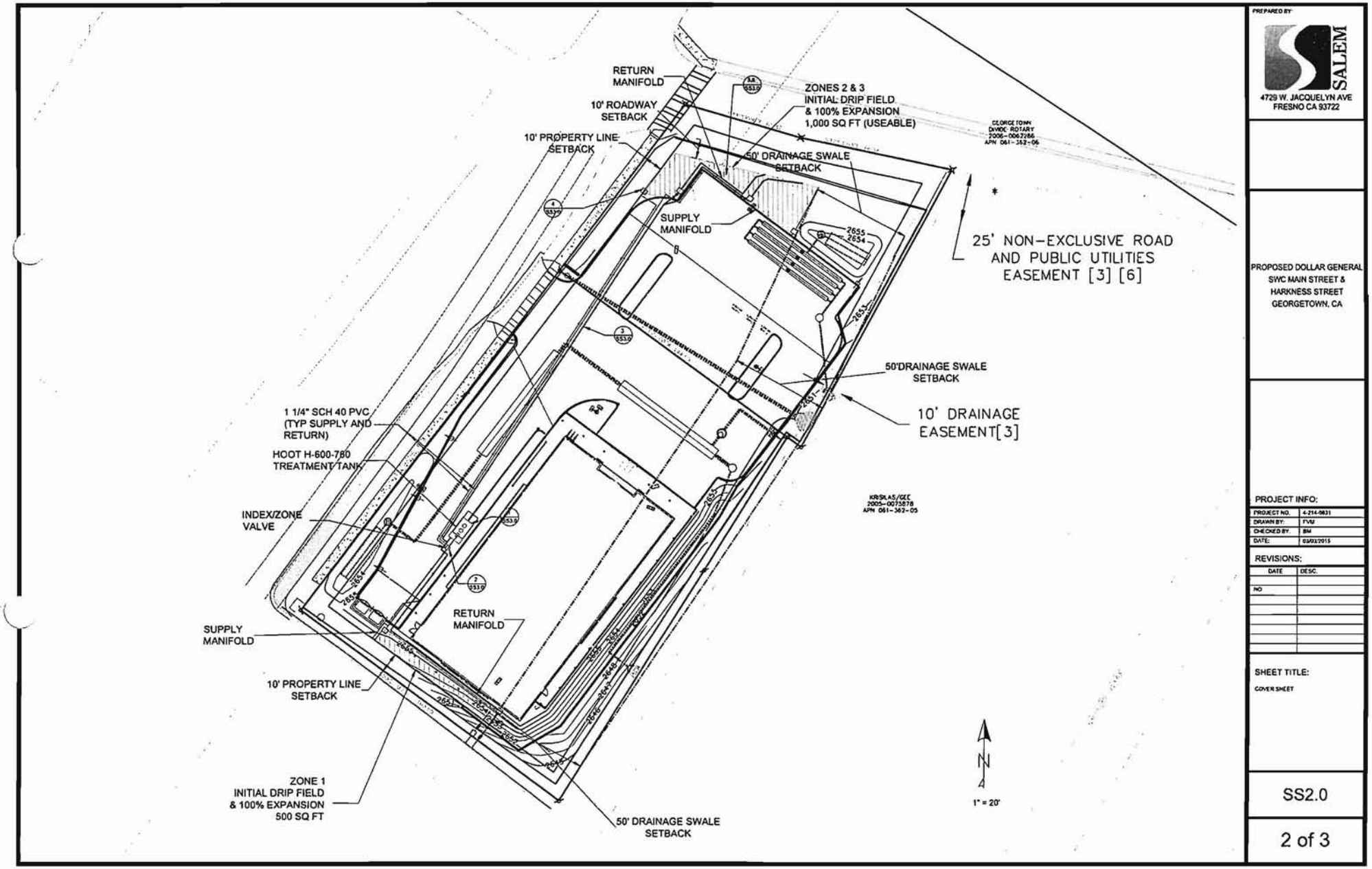
NO.	DATE	DESC.

SHEET TITLE:
COVER SHEET

SS1.0

1 of 3

Attachment 13



PREPARED BY:

SALEM

4729 W. JACQUELYN AVE
FRESNO CA 93722

PROPOSED DOLLAR GENERAL
SWC MAIN STREET &
HARKNESS STREET
GEORGETOWN, CA

PROJECT INFO:

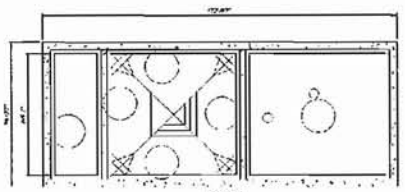
PROJECT NO.	4-214-0831
DRAWN BY:	FVM
CHECKED BY:	BM
DATE:	03/03/2015

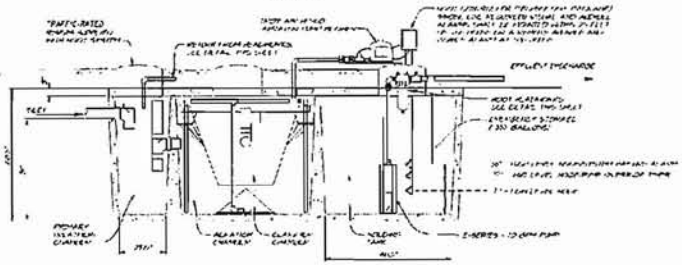
REVISIONS:

DATE	DESC.
NO	

SHEET TITLE:
COVER SHEET

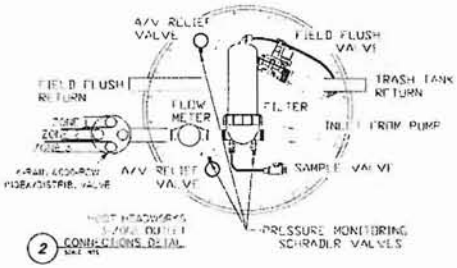
SS2.0



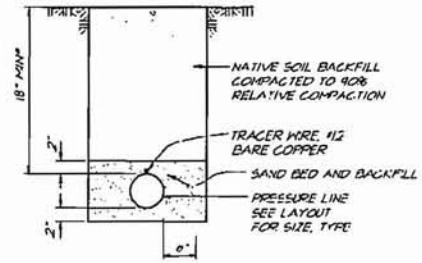


NOTE:

1 600 GALLON HOOT AEROBIC TANK (H-600-760)

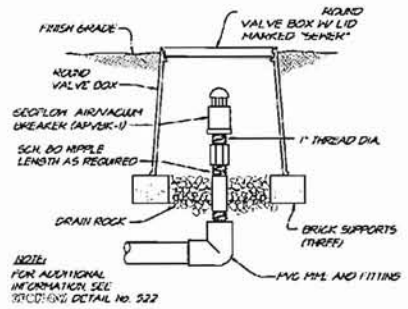


2 CONNECTIONS DETAIL

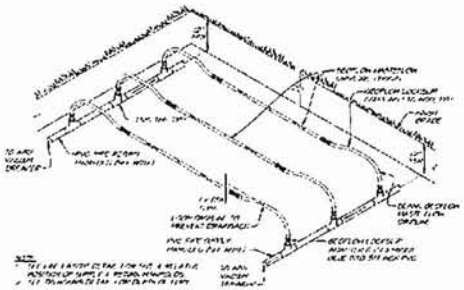


* EXCEPT AS NECESSARY TO REACH SYSTEM COMPONENTS SUCH AS METERS, VALVES AND DISTRIBUTION MANIFOLD

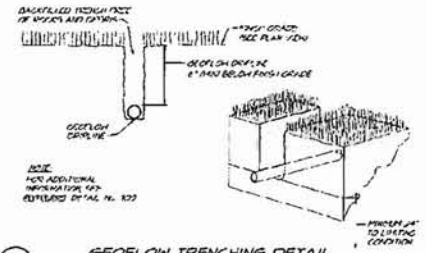
3 PRESSURIZED TRANSMISSION LINE DETAIL
NOT TO SCALE



4 1" AIR/VACUUM BREAKER DETAIL
NOT TO SCALE



5 SUPPLY AND RETURN MANIFOLDS DETAIL



6 GEOFLOW TRENCHING DETAIL
NOT TO SCALE

PREPARED BY:

SALEM

4729 W. JACQUELYN AVE
FRESNO CA 93722

PROPOSED DOLLAR GENERAL
SWC MAIN STREET &
HARKNESS STREET
GEORGETOWN, CA

PROJECT INFO:

PROJECT NO	4-314-0831
DRAWN BY:	FVM
CHECKED BY	BM
DATE:	03/11/2015

REVISIONS:

DATE	DESC.
NO.	

SHEET TITLE:
COVER SHEET

SS3.0

3 of 3

PRELIMINARY
DRAINAGE REPORT

FOR

Dollar General

Main Street and Harkness Street
Georgetown, CA 95634

Prepared for:

Simon CRE ABBIE, LLC

Prepared by:

Andrew Mizerek, P.E.
TTG Engineers
4300 N. Miller Rd., Suite 122
Scottsdale, AZ 85251
Phone: (602) 371-1333 Fax: (602) 371-0675

March 2015

TABLE OF CONTENTS

APPENDICES

March 2015

INTRODUCTION

The purpose of this report is to indicate the methods used and to provide discussion of the site storm water drainage. This site is currently vacant, with an abundance of various vegetation, including groundcover and trees, all of which will be removed to allow for the development of a 9,100 sq ft commercial retail center, associated parking, utilities and pedestrian access. This report will indicate how the storm water generated on the subject property is addressed and how it complies with the El Dorado County drainage requirements.

SITE DESCRIPTION

The project site is located on the southeast corner of the intersection of Main Street and Harkness Street in Georgetown, California. The site is bound by Orleans Street to the south and abuts an existing post office along the western edge of the site. The north and east sides of the site are bound by Main Street and Harkness Street respectively. The site area is approximately 1.2 acres.

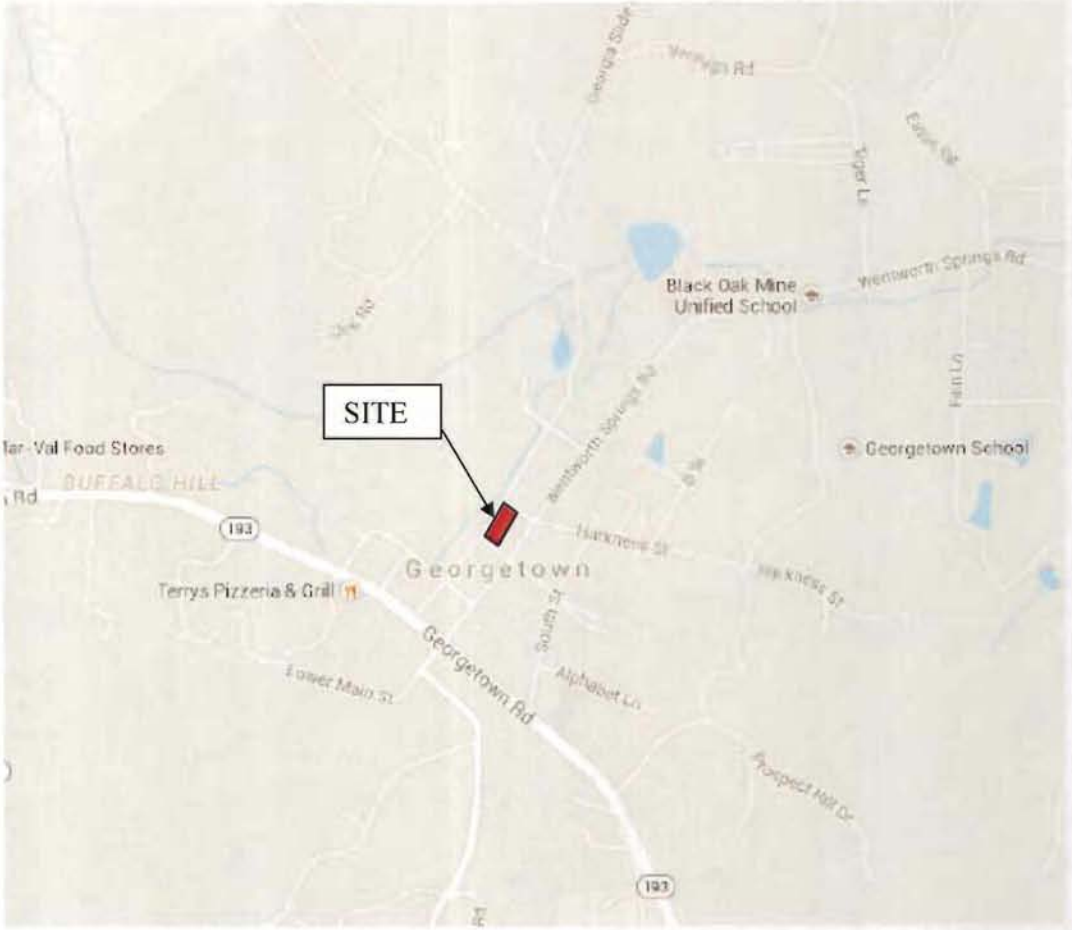
The existing slopes on site are not uniform. The slopes vary from 2:1 to less than 20:1 throughout the site. There are several depressed areas including a swale conveying offsite flows from Main Street to the swale on the east side of the site. There are also localized ridges throughout the site varying in height.

Currently, the runoff generated onsite is collected in a swale along the eastern boundary separating the site from the adjacent post office. The offsite runoff to the north of the site is generated in a sheet flow pattern within the adjacent development. When this runoff reaches Main Street it turns into concentrated flow and is conveyed south via road side drainage ditches. The crown in Main Street divides the flow, half the flow concentrates in a road side ditch to the east while the remaining half concentrates in a road side ditch to the west. The runoff conveyed on the east side of Main Street currently enters into an existing 12" CMP pipe culvert at Harkness Street, where it eventually daylights at grade on the site. The runoff conveyed on the west side of Main Street currently enters an existing catch basin (approximately 70ft south of the interesting of Harkness and Main Streets) where flow is then directed via a 12" CMP pipe culvert east to the project site. These flows converge on the western edge of the site where the

offsite flows enter a swale that bisects the site, west to east. The flow is ultimately discharges to an existing swale along the eastern edge of the site and is conveyed south along its historic path. The existing offsite drainage shed is approximately 10.15 acres. Refer to the Offsite Watershed Exhibit in Appendix A.

Soil maps were obtained from the USDA website. Based on these maps, the site is predominately classified as hydrologic soil group C. A curve number of 74 was chosen for all existing onsite hydrologic analysis, while a curve number of 80 was chosen for all existing offsite hydrologic analysis. Refer to Appendix 4 for soils information.

SITE LOCATION



FEMA FLOOD ZONE / FIRM MAP

The property shown is shown on FEMA flood firm index panel no. 06017CIND0A (dated September 26, 2008) as all of panel no. 06017C0225E (panel not printed) being zone "D" described as areas in which flood hazards are undetermined, but possible.

FINISHED FLOOR ELEVATION

The finished floor elevation for this project has been set a minimum of 1 foot above the ultimate site outfall elevation located at the southern corner of the site.

PROPOSED DRAINAGE PLAN

The drainage analysis of the project was performed based on El Dorado County Drainage requirements. It is proposed the site drainage is collected on-site via overland flow to bio-retention basins where it is then conveyed via an underground storm drain system to the existing drainage swale on the eastern edge of the site.

Based on the proposed grading, the site has been divided into two sub-drainage basins. Sub-basin A encompasses the southern portion of the site. This sub-basin is divided further where a portion of runoff sheet flows to an above ground bio-retention basin. This flow enters the bio-retention basin through curb openings. Runoff is then conveyed from the bio-swales to underground detention tanks. The remainder of sub-basin A sheet flows to a mechanical storm water interceptor. All runoff from sub-basin A will be detained in underground detention pipe and will bleed off to the existing swale on the eastern edge of the property at a rate less than the pre development flows.

The remaining portion of the site makes up sub-basin B. The runoff generated in sub-basin B will also sheet flow to an above ground bio-retention basin where runoff is then conveyed to an underground detention pipe. The detention pipe will also bleed off to the existing swale along the eastern edge of the site at a rate less than the pre development flows.

Offsite drainage will enter the site from the north via a 12" CMP pipe culvert crossing Main Street and from a road side drainage ditch on the east side of Main Street. These flows will

intercept into a proposed 30" Nyloplast drain basin with a single 24" HDPE storm drain outlet pipe. Offsite hydrologic calculation was performed using Hydraflow Hydrograph an extension for Civil3D 2013, using the SCS Type 1A Rainfall Distribution.

HYDROLOGY

The current site is predominately pervious and the new development proposes a significant increase in impervious area, as a result the peak runoff generated onsite will increase. The Project will provide a total detention volume to account for the difference in pre vs. post discharge rates for the 100 yr storm event. All hydrologic calculation was performed using Hydraflow Hydrograph an extension for Civil3D 2013, using the SCS Type 1A Rainfall Distribution. The SCS Type 1A distribution was chosen based on the site elevation being greater than 1,640 ft, per the County of El Dorado Drainage Manual.

The onsite rainfall runoff will be routed via surface sheet-flow along concrete gutters or asphalt pavement to curb openings. The onsite pavement has been designed to have a minimum slope of 1% to avoid localized ponding.

HYDRAULICS

Precipitation data for the design storm events are in accordance with The National Oceanic and Atmospheric Administration (NOAA) Atlas 14, refer to Appendix 3 for additional information. The data was used to develop a precipitation file to be used in the Hydraflow Hydrograph Extension in Civil3D and modeled using the SCS Type 1A rainfall distribution.

Runoff generated in drainage sub-basin A will collect in an above grade bio-retention basin and routed through a mechanical storm water interceptor. The bio-retention areas exceed the min required size which would be approximately 6% of the impervious drainage area. Runoff will pass through engineered subsurface layers to an underground system of perforated pipes. The percolated runoff will then be conveyed to an underground detention system. A "bee-hive" grated area drain has been designed to route flows in excess of the treatment volume to the underground detention system. Runoff will be detained in 125 feet of 6' diameter CMP pipe. Pre vs post discharge rates are satisfied by utilizing a 4" orifice plate. Runoff for the pre-

development conditions for basin A equate to 0.741 cfs and 1.467 cfs for the 10-year and 100-year storm, respectively. Post development runoff is calculated to be 0.68 cfs and 0.945 cfs for the same storm events. Details of the orifice can be found in the civil improvement plans.

The remainder of the site's runoff generated in sub-basin B will be conveyed to a surface bio-retention basin at the north end of the site. The bio-retention areas will function in the same manner as the bio-retention basins in sub-basin A. Runoff will be detained in 200 feet of 2' diameter CMP pipe. Pre vs post discharge rates are satisfied by utilizing a 3.3" orifice plate. Runoff for the pre-development conditions for basin B equate to 0.241 cfs and 0.473 cfs for the 10-year and 100-year storm, respectively. Post development runoff are calculated to be 0.252 cfs and 0.384 cfs for the same storm events. Details of the orifice can be found in the civil improvement plans.

Refer to Appendix 1 for the Proposed On-Site Grading and Drainage Plan. The onsite grading and drainage plan illustrates the proposed drainage areas, flow patterns, proposed curb openings and storm drain pipe, as well as the proposed detention basin areas. Refer to Appendix 2 for Hydraflow Hydrograph calculations.

WATER QUALITY

As noted previously storm water flow will pass through storm water quality measures prior to entering the detention pipes. The onsite flows will enter either above grade bio-retention basins and percolate through a series of engineered layers before entering the detention pipes or be treated using a storm water interceptor. Only after the runoff has been treated will it enter the detention pipes and bleed off to the offsite network.

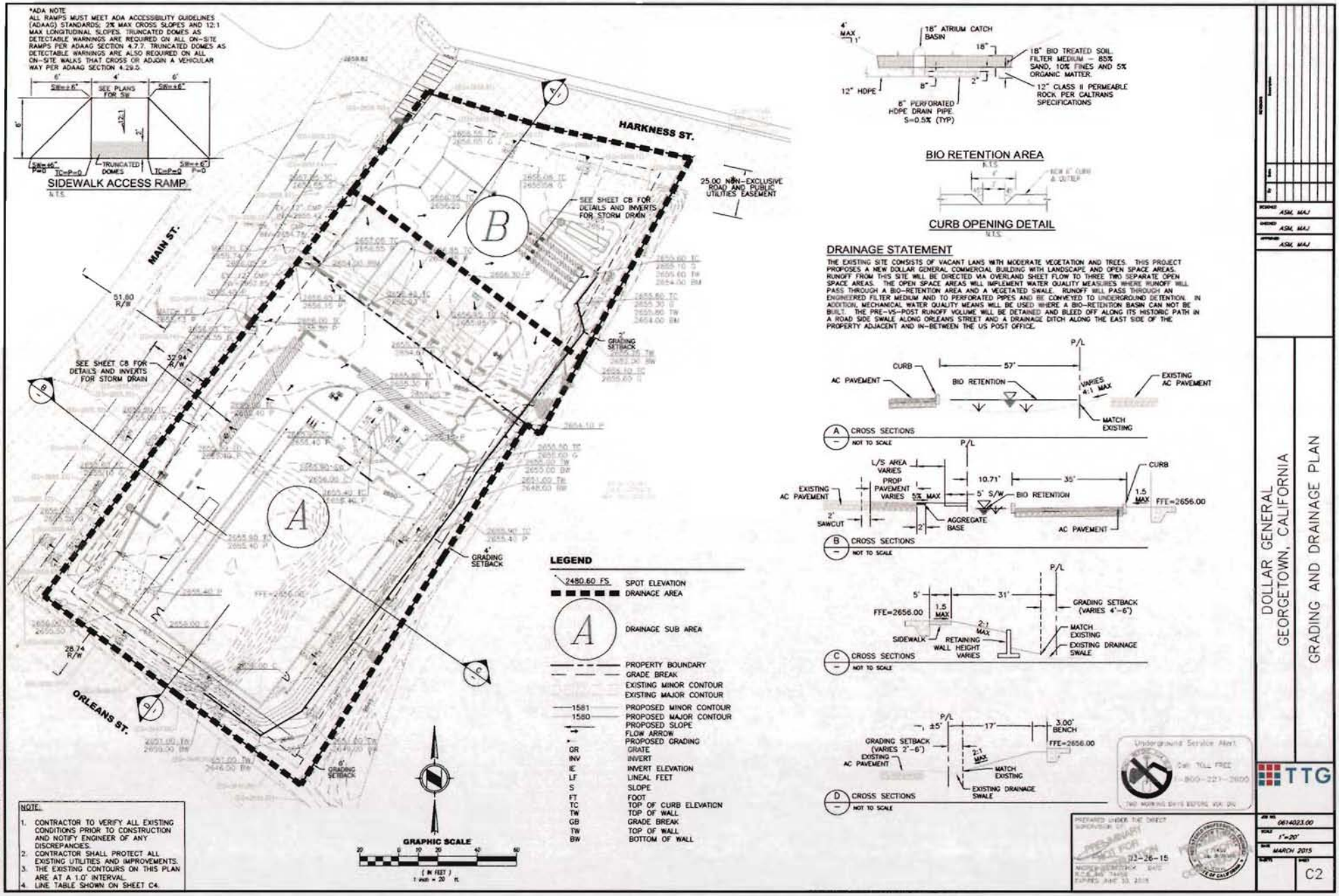
CONCLUSION

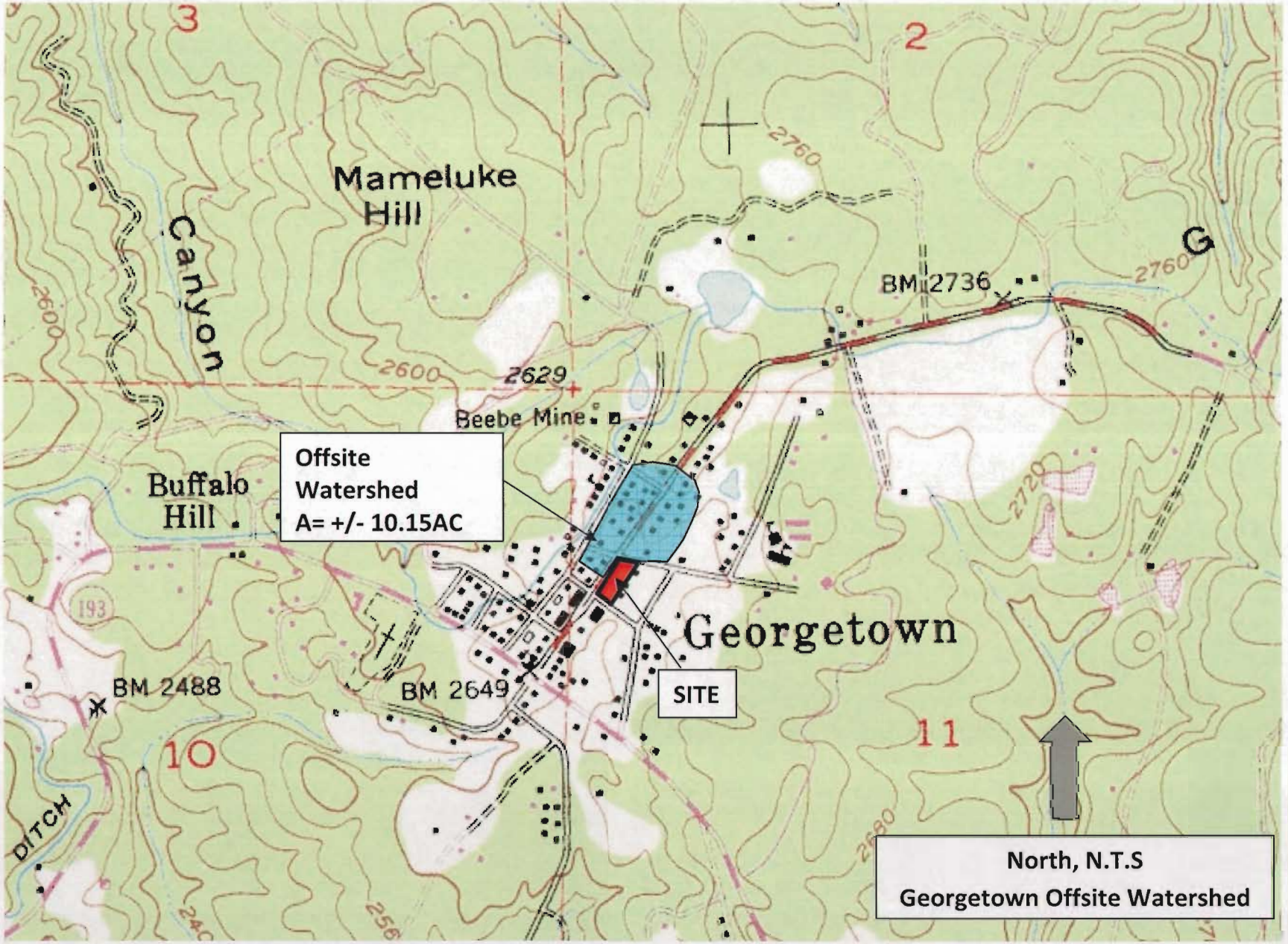
This project has been designed to conform to the El Dorado County storm drainage design requirements. The drainage plan for the site allows for runoff from this site to discharge via surface flow to underground detention pipes. It will pass through a storm water treatment device and will ultimately be conveyed through a pipe network to the storm water system adjacent to the eastern edge of the site.

REFERENCES

County of El Dorado Drainage Manual, March 14, 1995

Appendix 1: Exhibit


*ADA NOTE
ALL RAMPS MUST MEET ADA ACCESSIBILITY GUIDELINES (ADAAG) STANDARDS; 2% MAX CROSS SLOPES AND 12:1 MAX LONGITUDINAL SLOPES. TRUNCATED DOMES AS DETECTABLE WARNINGS ARE REQUIRED ON ALL ON-SITE RAMPS PER ADAAG SECTION 4.7.7. TRUNCATED DOMES AS DETECTABLE WARNINGS ARE ALSO REQUIRED ON ALL ON-SITE WALKS THAT CROSS OR ADJOIN A VEHICULAR WAY PER ADAAG SECTION 4.29.5.
SIDEWALK ACCESS RAMP
N.T.S.
HARKNESS ST.
MAIN ST.
ORLEANS ST.
25.00' NON-EXCLUSIVE ROAD AND PUBLIC UTILITIES EASEMENT
SEE SHEET C8 FOR DETAILS AND INVERTS FOR STORM DRAIN
51.80' R/W
32.94' R/W
28.74' R/W
4' GRADING SETBACK
6' GRADING SETBACK
A
B
C
LEGEND
2480.60 FS SPOT ELEVATION
DRAINAGE AREA
DRAINAGE SUB AREA
PROPERTY BOUNDARY
GRADE BREAK
EXISTING MINOR CONTOUR
EXISTING MAJOR CONTOUR
1581 PROPOSED MINOR CONTOUR
1580 PROPOSED MAJOR CONTOUR
PROPOSED SLOPE
FLOW ARROW
PROPOSED GRADING
GR GRATE
INV INVERT
IE INVERT ELEVATION
LF LINEAL FEET
S SLOPE
FT FOOT
TC TOP OF CURB ELEVATION
TW TOP OF WALL
GB GRADE BREAK
TW TOP OF WALL
BW BOTTOM OF WALL
GRAPHIC SCALE
20 0 10 20 40 60
(IN FEET)
1 inch = 20 ft.
NOTE:
1. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND IMPROVEMENTS.
3. THE EXISTING CONTOURS ON THIS PLAN ARE AT A 1.0' INTERVAL.
4. LINE TABLE SHOWN ON SHEET C4.
4' MAX
18" ATRIUM CATCH BASIN
18" BIO TREATED SOIL FILTER MEDIUM - 85% SAND, 10% FINES AND 5% ORGANIC MATTER.
12" CLASS II PERMEABLE ROCK PER CALTRANS SPECIFICATIONS
12" HDPE
8" PERFORATED HDPE DRAIN PIPE S=0.5% (TYP)
BIO RETENTION AREA
N.T.S.
CURB OPENING DETAIL
N.T.S.
DRAINAGE STATEMENT
THE EXISTING SITE CONSISTS OF VACANT LANS WITH MODERATE VEGETATION AND TREES. THIS PROJECT PROPOSES A NEW DOLLAR GENERAL COMMERCIAL BUILDING WITH LANDSCAPE AND OPEN SPACE AREAS. RUNOFF FROM THIS SITE WILL BE DIRECTED VIA OVERLAND SHEET FLOW TO THREE TWO SEPARATE OPEN SPACE AREAS. THE OPEN SPACE AREAS WILL IMPLEMENT WATER QUALITY MEASURES WHERE RUNOFF WILL PASS THROUGH A BIO-RETENTION AREA AND A VEGETATED SWALE. RUNOFF WILL PASS THROUGH AN ENGINEERED FILTER MEDIUM AND TO PERFORATED PIPES AND BE CONVEYED TO UNDERGROUND DETENTION. IN ADDITION, MECHANICAL WATER QUALITY MEANS WILL BE USED WHERE A BIO-RETENTION BASIN CAN NOT BE BUILT. THE PRE-VS-POST RUNOFF VOLUME WILL BE DETAINED AND BLEED OFF ALONG ITS HISTORIC PATH IN A ROAD SIDE SWALE ALONG ORLEANS STREET AND A DRAINAGE DITCH ALONG THE EAST SIDE OF THE PROPERTY ADJACENT AND IN-BETWEEN THE US POST OFFICE.
CURB
AC PAVEMENT
BIO RETENTION
57'
P/L
VARIES 4:1 MAX
EXISTING AC PAVEMENT
MATCH EXISTING
A CROSS SECTIONS
NOT TO SCALE
L/S AREA VARIES
PROP PAVEMENT VARIES
5% MAX
10.71'
35'
5' S/W
BIO RETENTION
1.5 MAX
FFE=2656.00
2' SAWCUT
AGGREGATE BASE
AC PAVEMENT
B CROSS SECTIONS
NOT TO SCALE
5'
31'
1.5 MAX
GRADING SETBACK (VARIES 4'-6')
SIDEWALK
RETAINING WALL HEIGHT VARIES
2:1 MAX
MATCH EXISTING
EXISTING DRAINAGE SWALE
C CROSS SECTIONS
NOT TO SCALE
±5'
17'
3.00' BENCH
GRADING SETBACK (VARIES 2'-6')
EXISTING AC PAVEMENT
2:1 MAX
MATCH EXISTING
EXISTING DRAINAGE SWALE
D CROSS SECTIONS
NOT TO SCALE
Underground Service Alert
Call TOLL FREE
1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG
PRELIMINARY NOT FOR CONSTRUCTION
11-26-15
DOLLAR GENERAL
GEORGETOWN, CALIFORNIA
GRADING AND DRAINAGE PLAN
TTG
ASM, MAJ
ASM, MAJ
ASM, MAJ
0614023.00
1"=20'
MARCH 2015
C2


Mameluke Hill
Canyon
BM 2736
2760
2600
2629
Beebe Mine
Offsite Watershed
A= +/- 10.15AC
Buffalo Hill
Georgetown
SITE
BM 2488
BM 2649
10
11
DITCH
North, N.T.S
Georgetown Offsite Watershed

Appendix 2: Calculations

Watershed Model Schematic

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10

Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	3.8870	0.1000	0.5086	--------
2	4.8162	0.1000	0.5081	--------
3	0.0000	0.0000	0.0000	--------
5	6.3108	0.1000	0.5158	--------
10	7.1713	0.1000	0.5062	--------
25	18.0937	3.8000	0.6944	--------
50	10.0237	0.1000	0.5044	--------
100	11.6675	0.1000	0.5108	--------

File name: GEORGETOWN-NOAA.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	1.70	1.20	0.98	0.84	0.75	0.69	0.64	0.59	0.56	0.53	0.51	0.48
2	2.10	1.49	1.21	1.05	0.94	0.85	0.79	0.74	0.70	0.66	0.63	0.60
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	2.72	1.91	1.56	1.34	1.20	1.09	1.01	0.94	0.88	0.84	0.80	0.76
10	3.14	2.22	1.81	1.57	1.40	1.28	1.18	1.11	1.04	0.99	0.94	0.90
25	4.00	2.92	2.36	2.00	1.75	1.57	1.43	1.31	1.22	1.14	1.07	1.01
50	4.41	3.12	2.55	2.21	1.97	1.80	1.67	1.56	1.47	1.39	1.33	1.27
100	5.08	3.58	2.92	2.52	2.25	2.05	1.90	1.77	1.67	1.58	1.51	1.44

Tc = time in minutes. Values may exceed 60.

file name: F:\66CAD\TTG Projects\2014\0614023.00 - DG Georgetown\Admin\Reports\Hydrology\GEORGETOWN.pcp

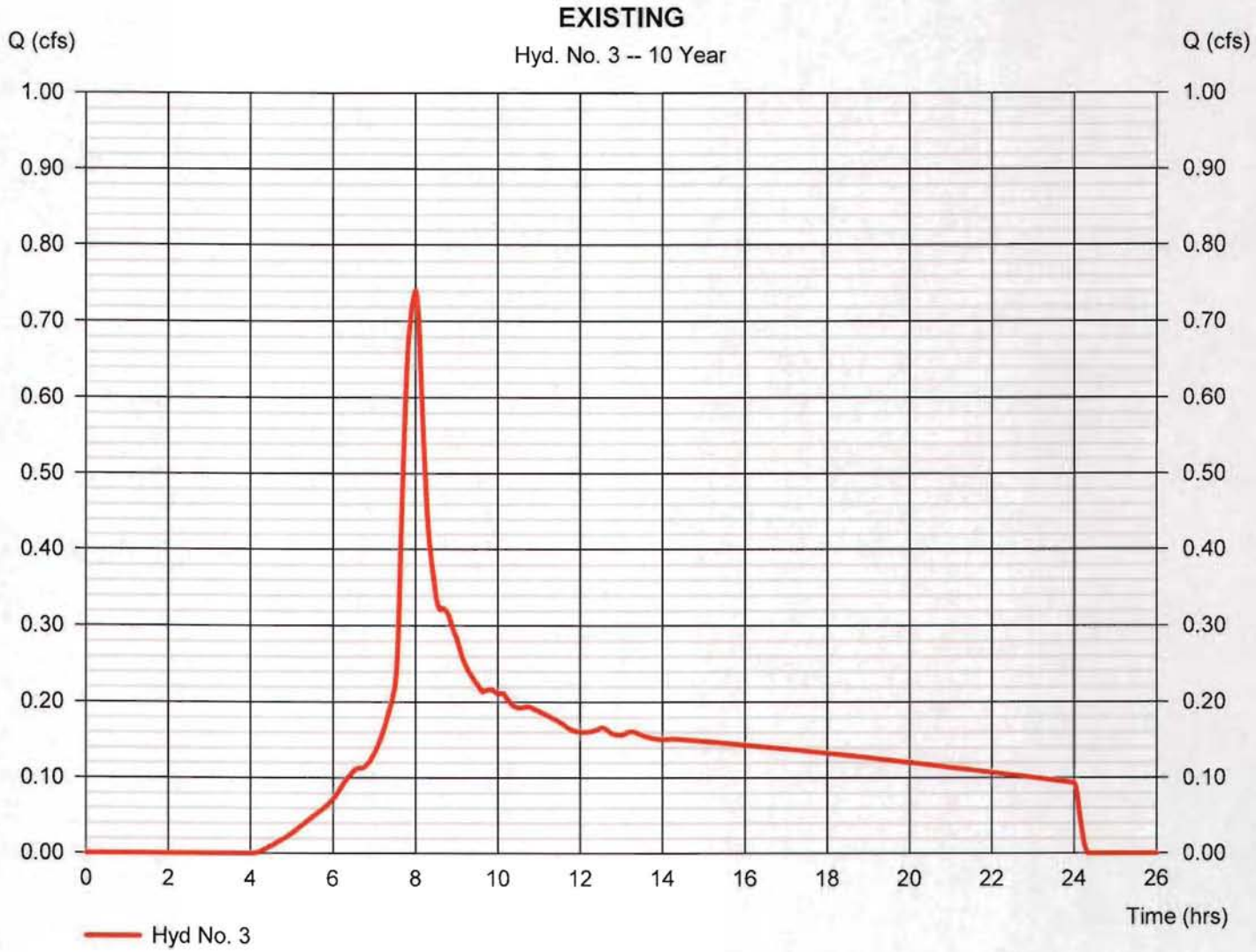
Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	3.06	0.00	5.14	6.08	7.34	8.30	9.27
SCS 6-Hr	0.00	1.46	0.00	2.21	2.58	3.10	3.52	3.96
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hydrograph Report

Hyd. No. 3

EXISTING

Hydrograph type	= SCS Runoff	Peak discharge	= 0.741 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 11,237 cuft
Drainage area	= 0.923 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 6.08 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

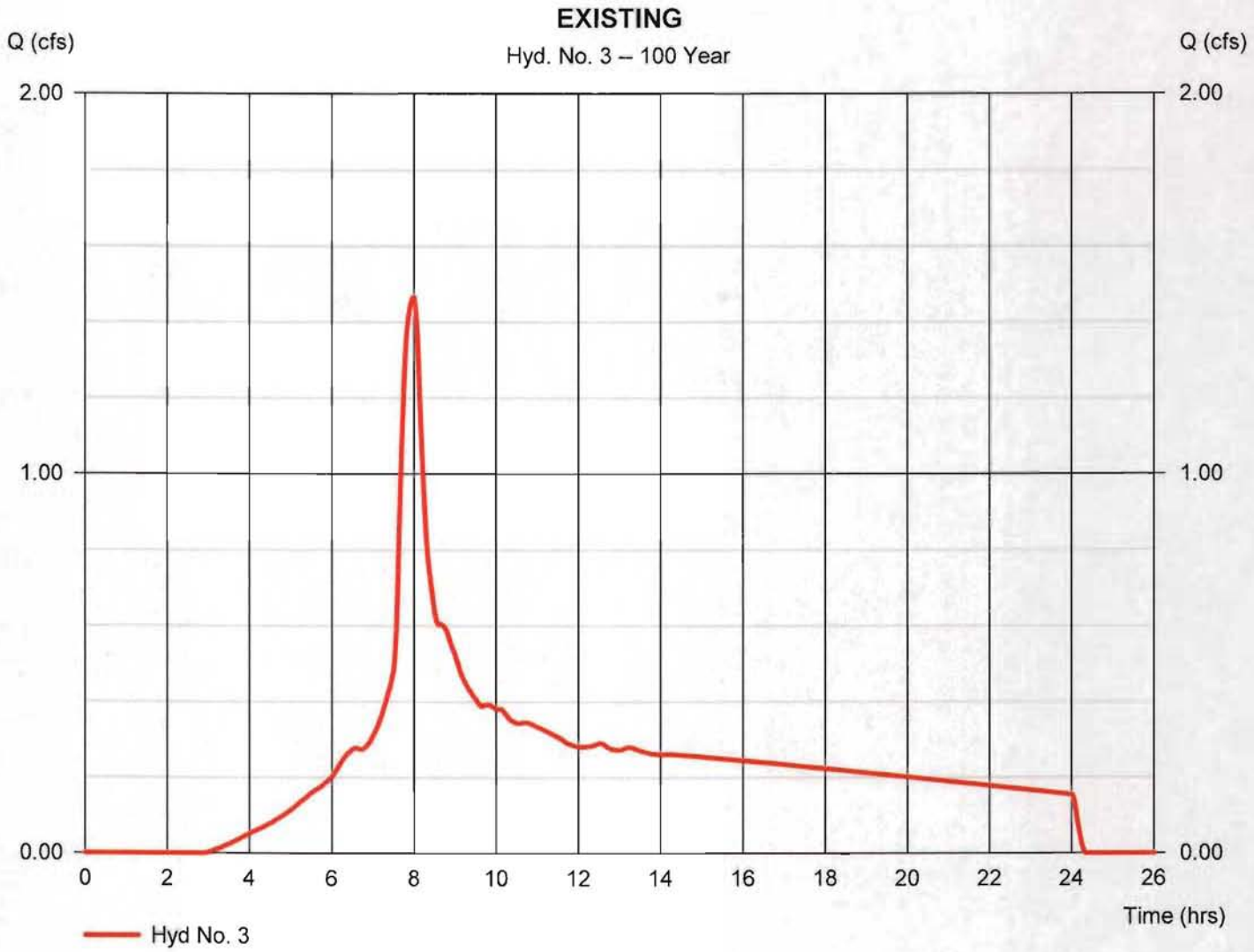


Hydrograph Report

Hyd. No. 3

EXISTING

Hydrograph type	= SCS Runoff	Peak discharge	= 1.467 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 20,992 cuft
Drainage area	= 0.923 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 9.27 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

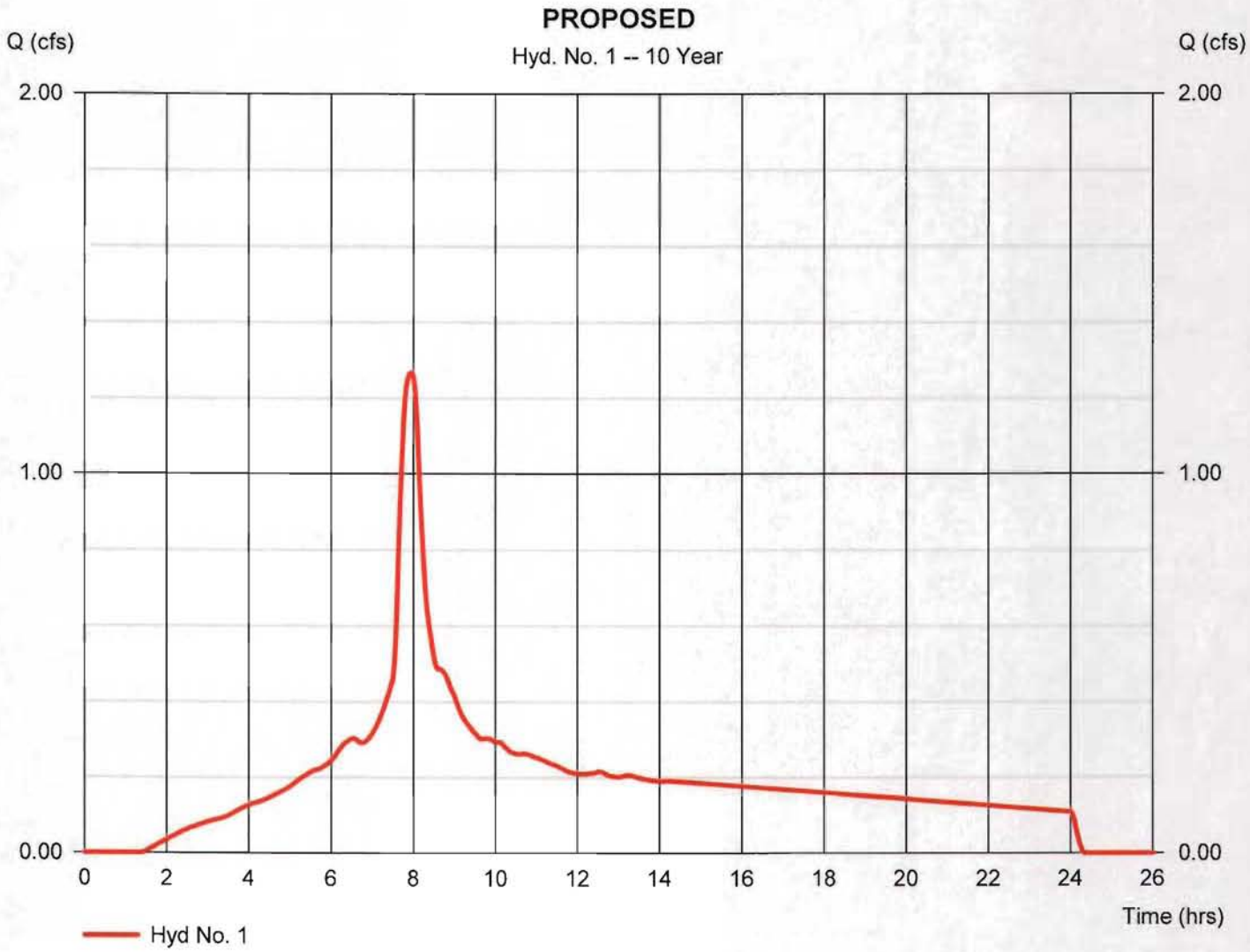
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10 Thursday, 03 / 5 / 2015

Hyd. No. 1

PROPOSED

Hydrograph type	= SCS Runoff	Peak discharge	= 1.267 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 17,730 cuft
Drainage area	= 0.920 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 6.08 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.217 x 74) + (0.706 x 97)] / 0.920



Hydrograph Report

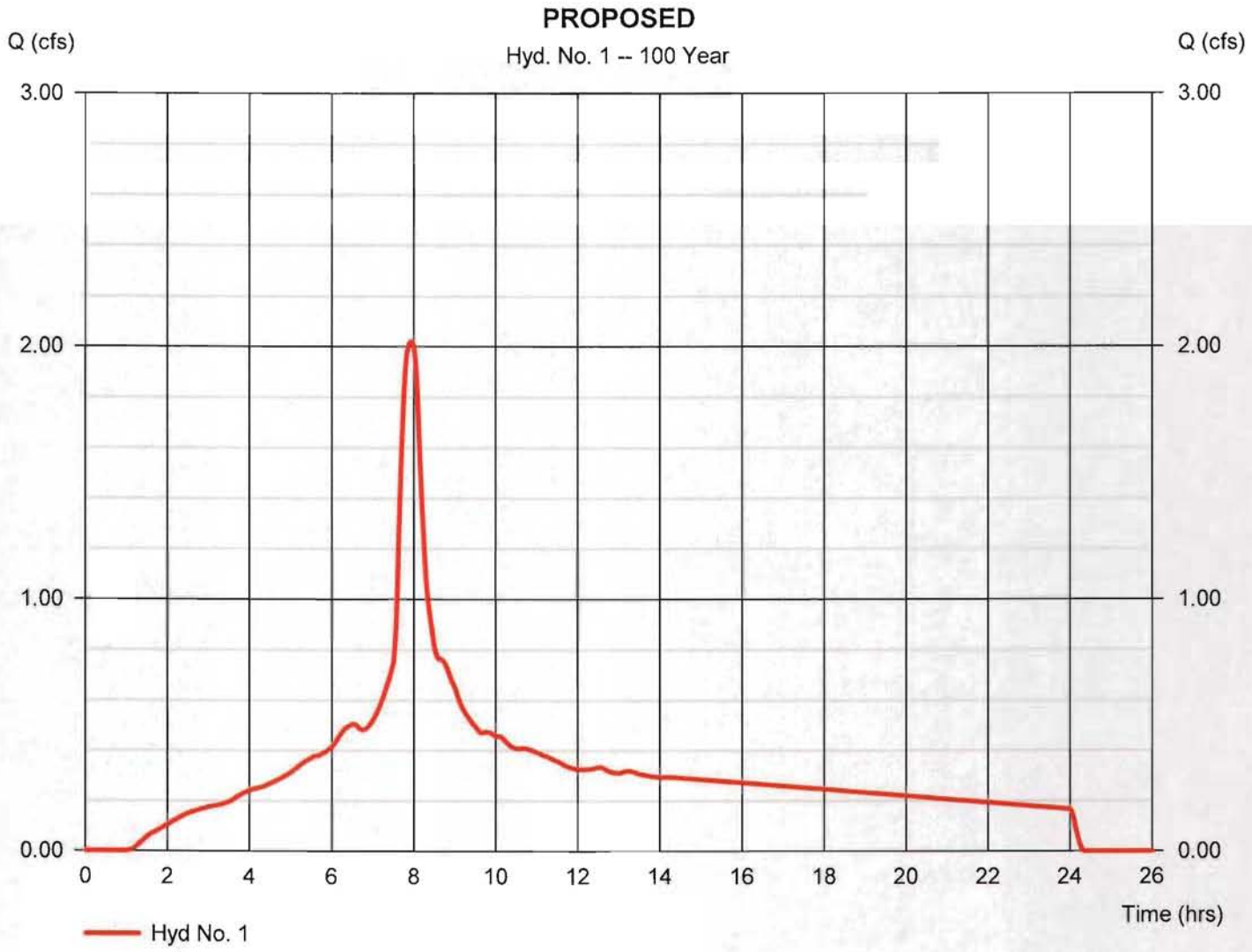
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10 — Thursday, 03 / 5 / 2015

Hyd. No. 1

PROPOSED

Hydrograph type	= SCS Runoff	Peak discharge	= 2.021 cfs
Storm frequency	= 100 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 28,593 cuft
Drainage area	= 0.920 ac	Curve number	= 92*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 9.27 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.217 x 74) + (0.706 x 97)] / 0.920



Hydrograph Report

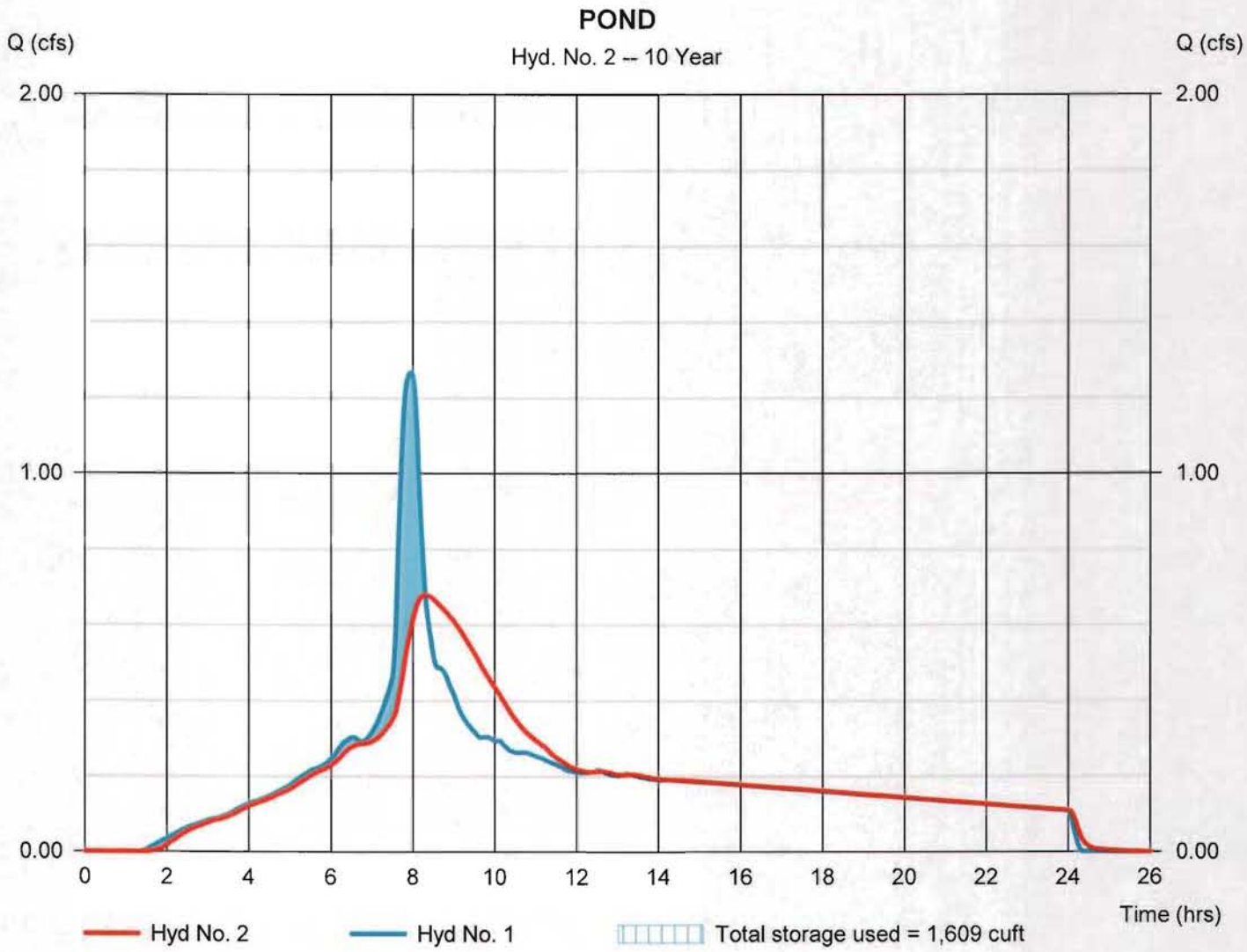
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10 — Thursday, 03 / 5 / 2015

Hyd. No. 2

POND

Hydrograph type	= Reservoir	Peak discharge	= 0.680 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.30 hrs
Time interval	= 2 min	Hyd. volume	= 17,728 cuft
Inflow hyd. No.	= 1 - PROPOSED	Max. Elevation	= 102.79 ft
Reservoir name	= Underground Pipe	Max. Storage	= 1,609 cuft

Storage Indication method used.



Hydrograph Report

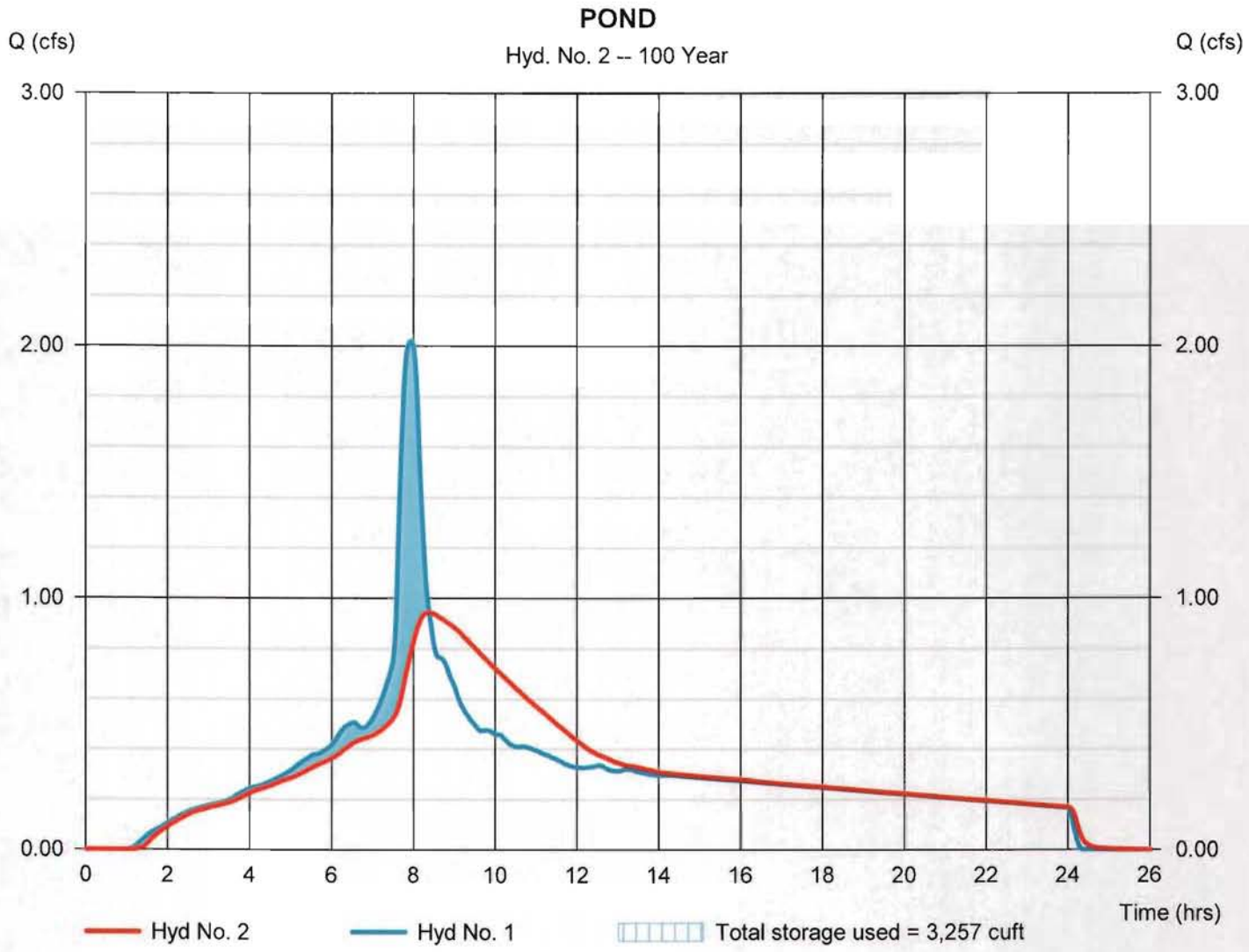
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10 Thursday, 03 / 5 / 2015

Hyd. No. 2

POND

Hydrograph type	= Reservoir	Peak discharge	= 0.945 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.37 hrs
Time interval	= 2 min	Hyd. volume	= 28,591 cuft
Inflow hyd. No.	= 1 - PROPOSED	Max. Elevation	= 105.23 ft
Reservoir name	= Underground Pipe	Max. Storage	= 3,257 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10 — Thursday, 03 / 5 / 2015

Pond No. 1 - Underground Pipe

Pond Data

UG Chambers -Invert elev. = 100.00 ft, Rise x Span = 6.00 x 6.00 ft, Barrel Len = 125.00 ft, No. Barrels = 1, Slope = 0.00%, Headers = No

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	n/a	0	0
0.60	100.60	n/a	184	184
1.20	101.20	n/a	320	504
1.80	101.80	n/a	389	892
2.40	102.40	n/a	428	1,321
3.00	103.00	n/a	447	1,768
3.60	103.60	n/a	447	2,215
4.20	104.20	n/a	428	2,643
4.80	104.80	n/a	389	3,032
5.40	105.40	n/a	319	3,351
6.00	106.00	n/a	184	3,535

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 4.00	Inactive	Inactive	Inactive
Span (in)	= 4.00	4.00	2.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 100.00	100.33	68.50	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	1.00	1.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

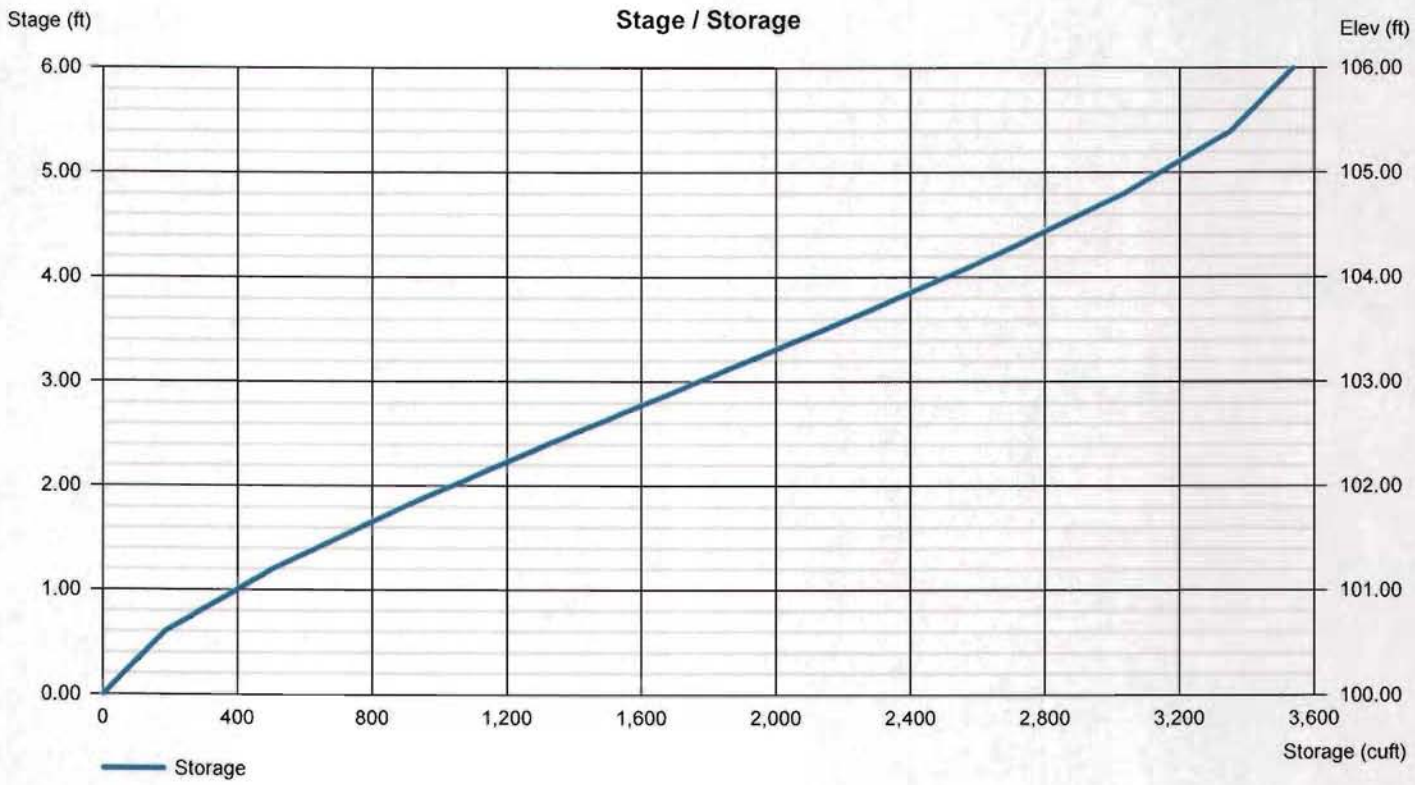
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	Inactive	Inactive	Inactive	Inactive
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

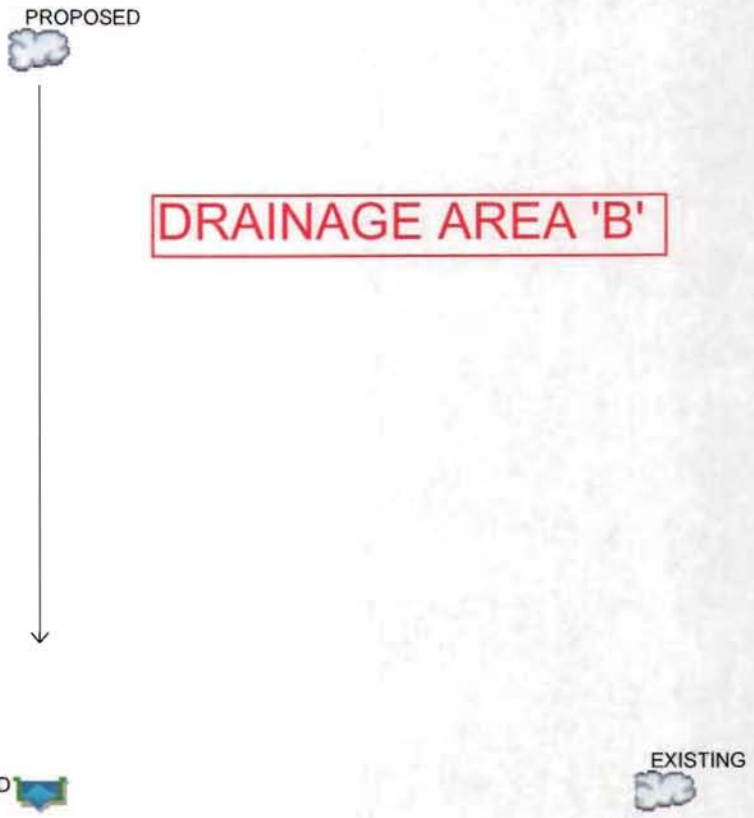
TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Watershed Model Schematic

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10



Hydraflow Rainfall Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10 — Thursday, 03 / 5 / 2015

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	3.8843	0.1000	0.5054	--------
2	4.9319	0.1000	0.5083	--------
3	0.0000	0.0000	0.0000	--------
5	6.4037	0.1000	0.5121	--------
10	7.3249	0.1000	0.5033	--------
25	9.1389	0.1000	0.5082	--------
50	10.4490	0.1000	0.5070	--------
100	12.0328	0.1000	0.5100	--------

File name: GEORGETOWN-NOAA.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	1.70	1.21	0.98	0.85	0.76	0.69	0.64	0.60	0.57	0.54	0.51	0.49
2	2.15	1.52	1.24	1.07	0.96	0.87	0.81	0.76	0.71	0.67	0.64	0.61
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	2.78	1.96	1.59	1.38	1.23	1.12	1.04	0.97	0.91	0.86	0.82	0.79
10	3.23	2.29	1.87	1.62	1.45	1.32	1.22	1.14	1.08	1.02	0.97	0.93
25	3.99	2.82	2.30	1.99	1.78	1.62	1.50	1.40	1.32	1.25	1.19	1.14
50	4.57	3.24	2.64	2.28	2.04	1.86	1.72	1.61	1.52	1.44	1.37	1.31
100	5.24	3.70	3.01	2.60	2.33	2.12	1.96	1.83	1.72	1.63	1.56	1.49

Tc = time in minutes. Values may exceed 60.

file name: F:\66CAD\TTG Projects\2014\0614023.00 - DG Georgetown\Admin\Reports\Hydrology\GEORGETOWN.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	4.10	0.00	5.31	6.29	7.59	8.59	9.59
SCS 6-Hr	0.00	1.83	0.00	2.28	2.67	3.21	3.64	4.11
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

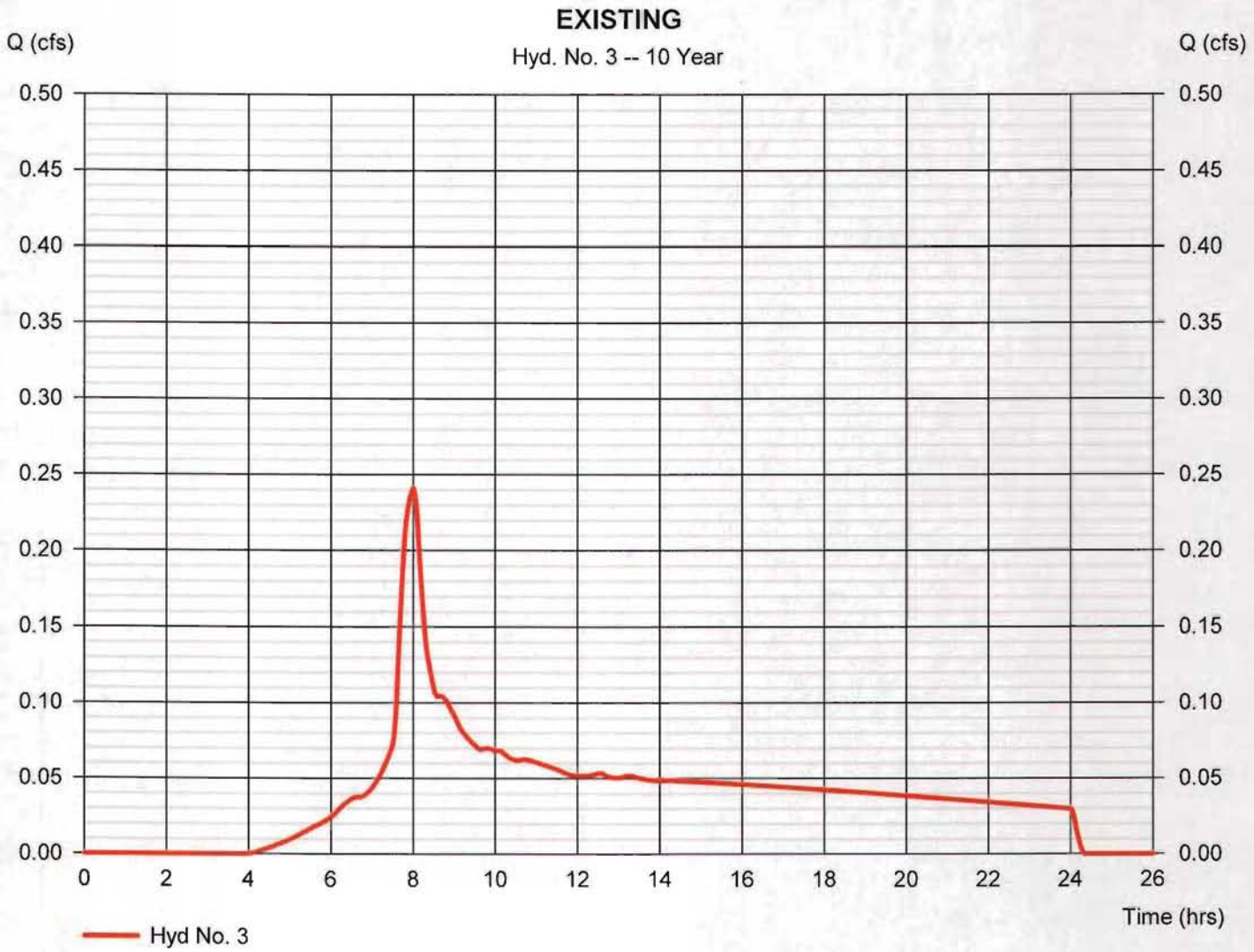
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10 — Thursday, 03 / 5 / 2015

Hyd. No. 3

EXISTING

Hydrograph type	= SCS Runoff	Peak discharge	= 0.241 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 3,634 cuft
Drainage area	= 0.283 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 6.29 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



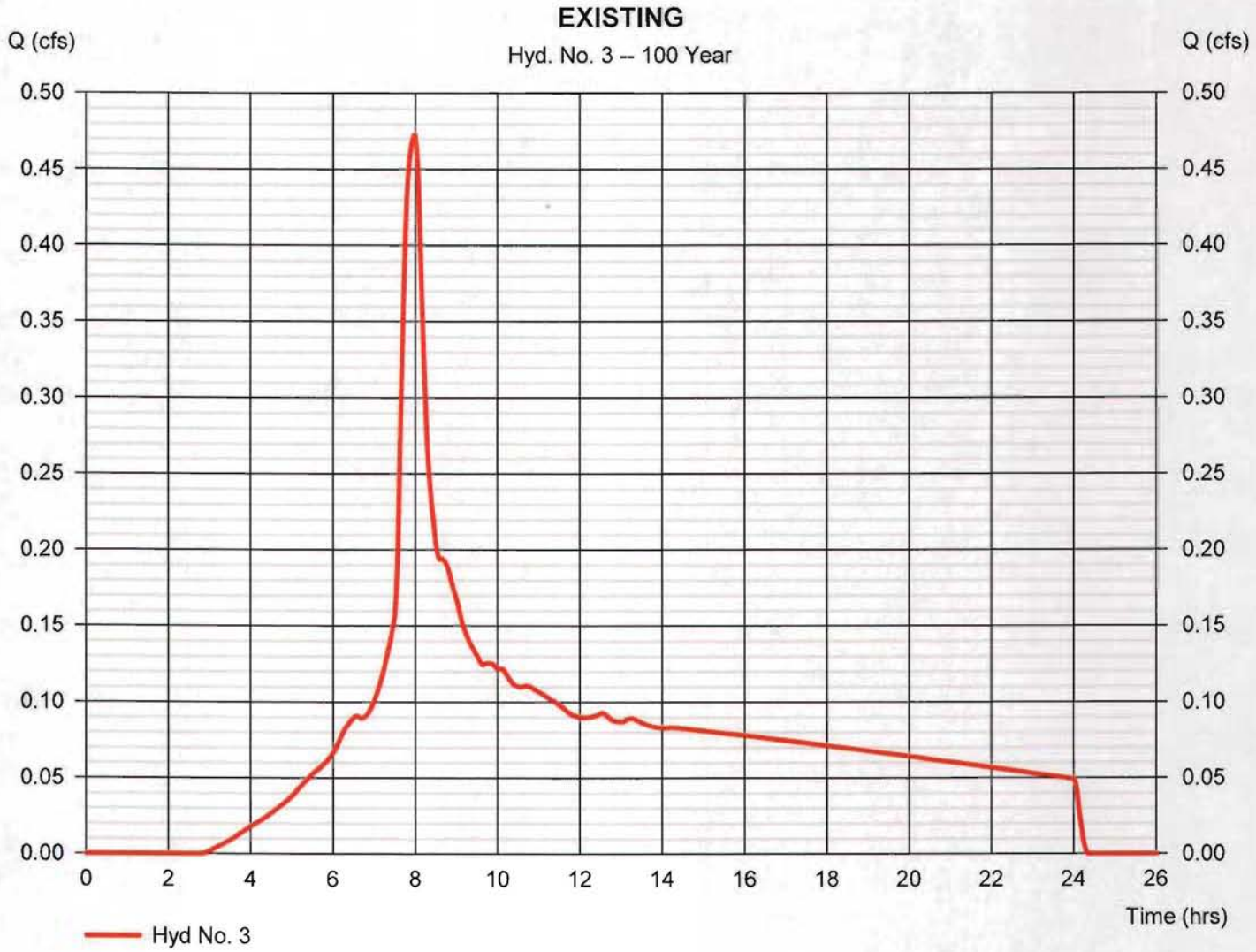
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10 — Thursday, 03 / 5 / 2015

Hyd. No. 3

EXISTING

Hydrograph type	= SCS Runoff	Peak discharge	= 0.473 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.00 hrs
Time interval	= 2 min	Hyd. volume	= 6,748 cuft
Drainage area	= 0.283 ac	Curve number	= 74
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 9.59 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

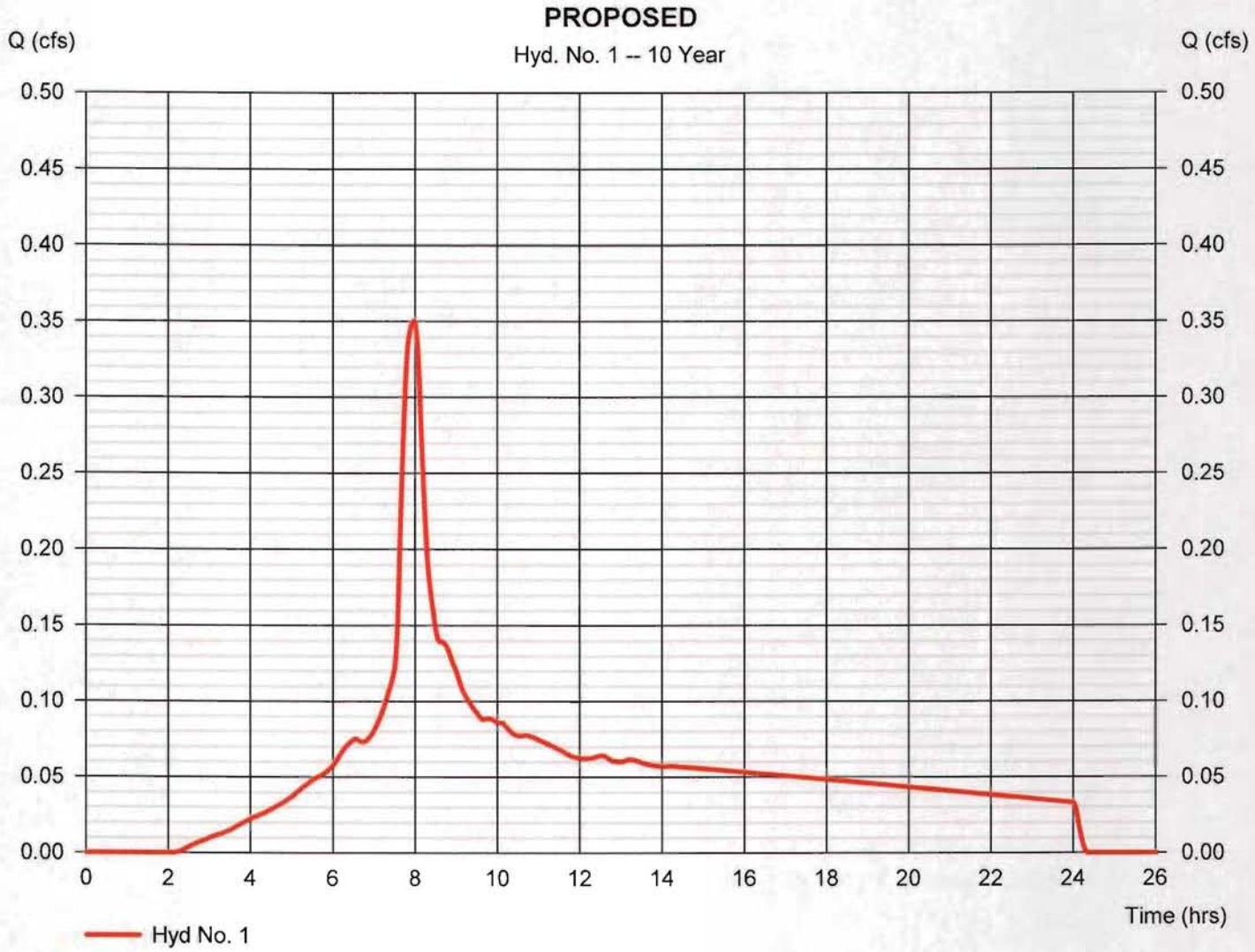
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10 Thursday, 03 / 5 / 2015

Hyd. No. 1

PROPOSED

Hydrograph type	= SCS Runoff	Peak discharge	= 0.351 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.97 hrs
Time interval	= 2 min	Hyd. volume	= 4,911 cuft
Drainage area	= 0.280 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 6.29 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.150 x 97) + (0.130 x 74)] / 0.280



Hydrograph Report

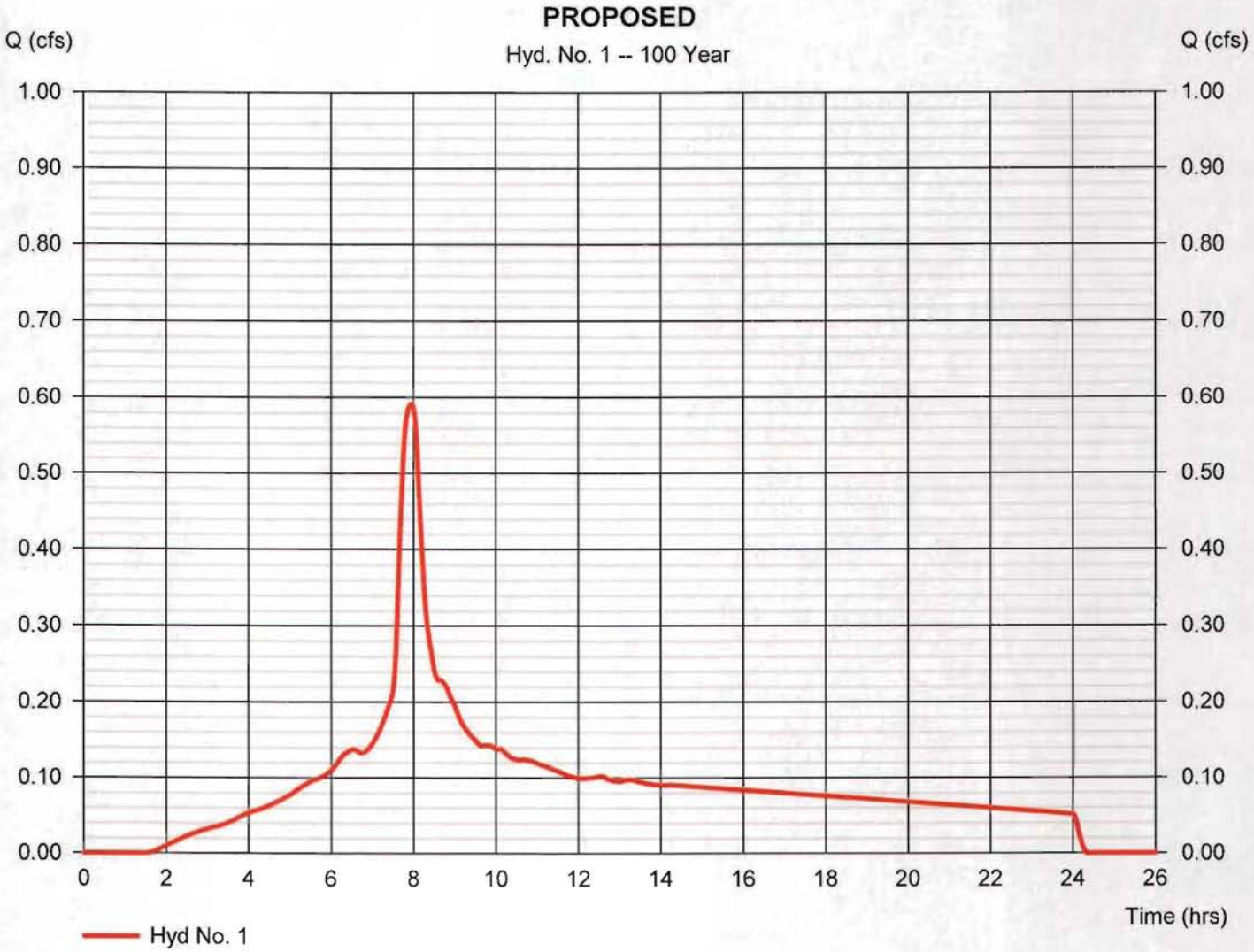
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10 — Thursday, 03 / 5 / 2015

Hyd. No. 1

PROPOSED

Hydrograph type	= SCS Runoff	Peak discharge	= 0.592 cfs
Storm frequency	= 100 yrs	Time to peak	= 7.93 hrs
Time interval	= 2 min	Hyd. volume	= 8,259 cuft
Drainage area	= 0.280 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 9.59 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.150 x 97) + (0.130 x 74)] / 0.280



Hydrograph Report

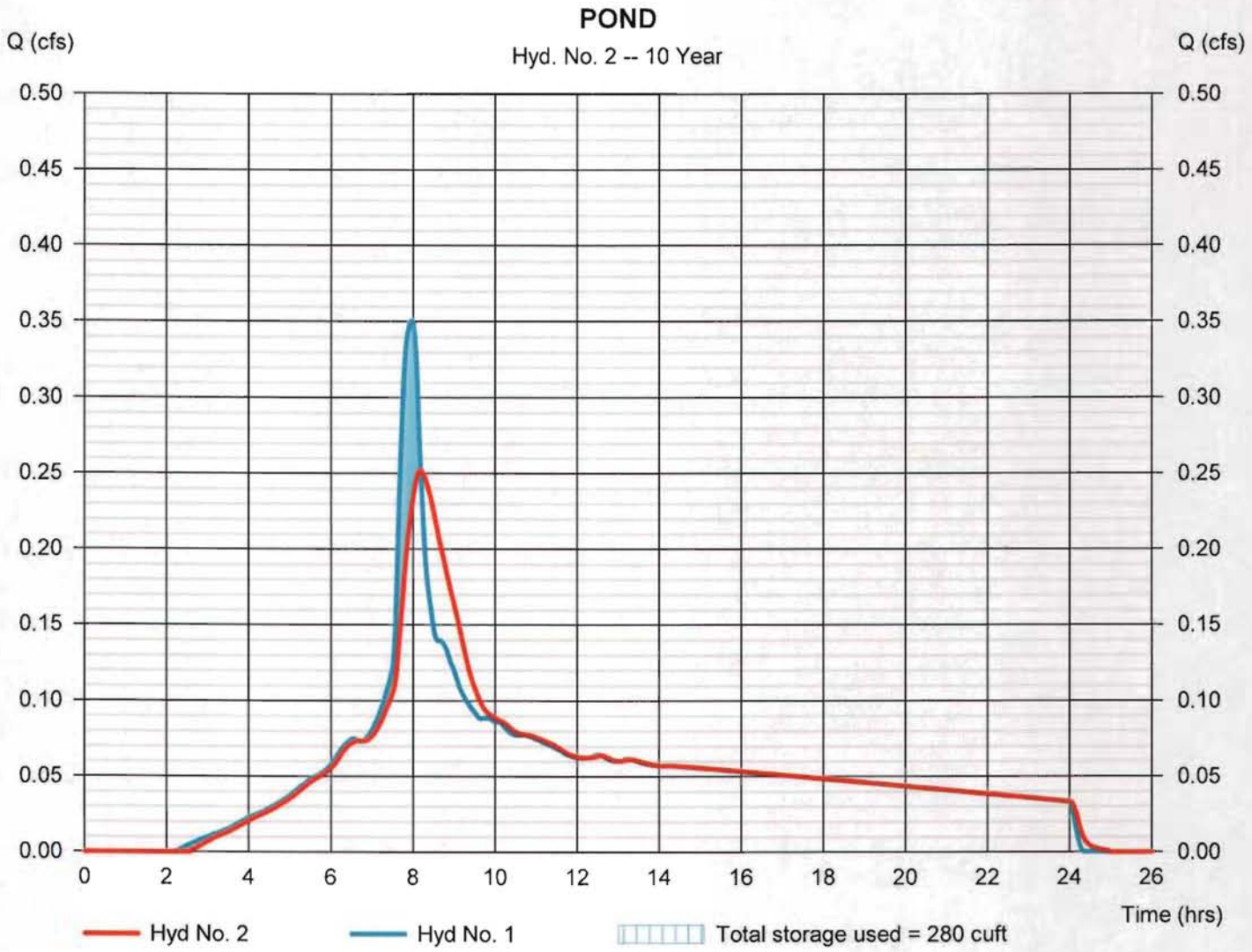
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10 — Thursday, 03 / 5 / 2015

Hyd. No. 2

POND

Hydrograph type	= Reservoir	Peak discharge	= 0.252 cfs
Storm frequency	= 10 yrs	Time to peak	= 8.20 hrs
Time interval	= 2 min	Hyd. volume	= 4,908 cuft
Inflow hyd. No.	= 1 - PROPOSED	Max. Elevation	= 100.92 ft
Reservoir name	= Underground Pipe	Max. Storage	= 280 cuft

Storage Indication method used.



Hydrograph Report

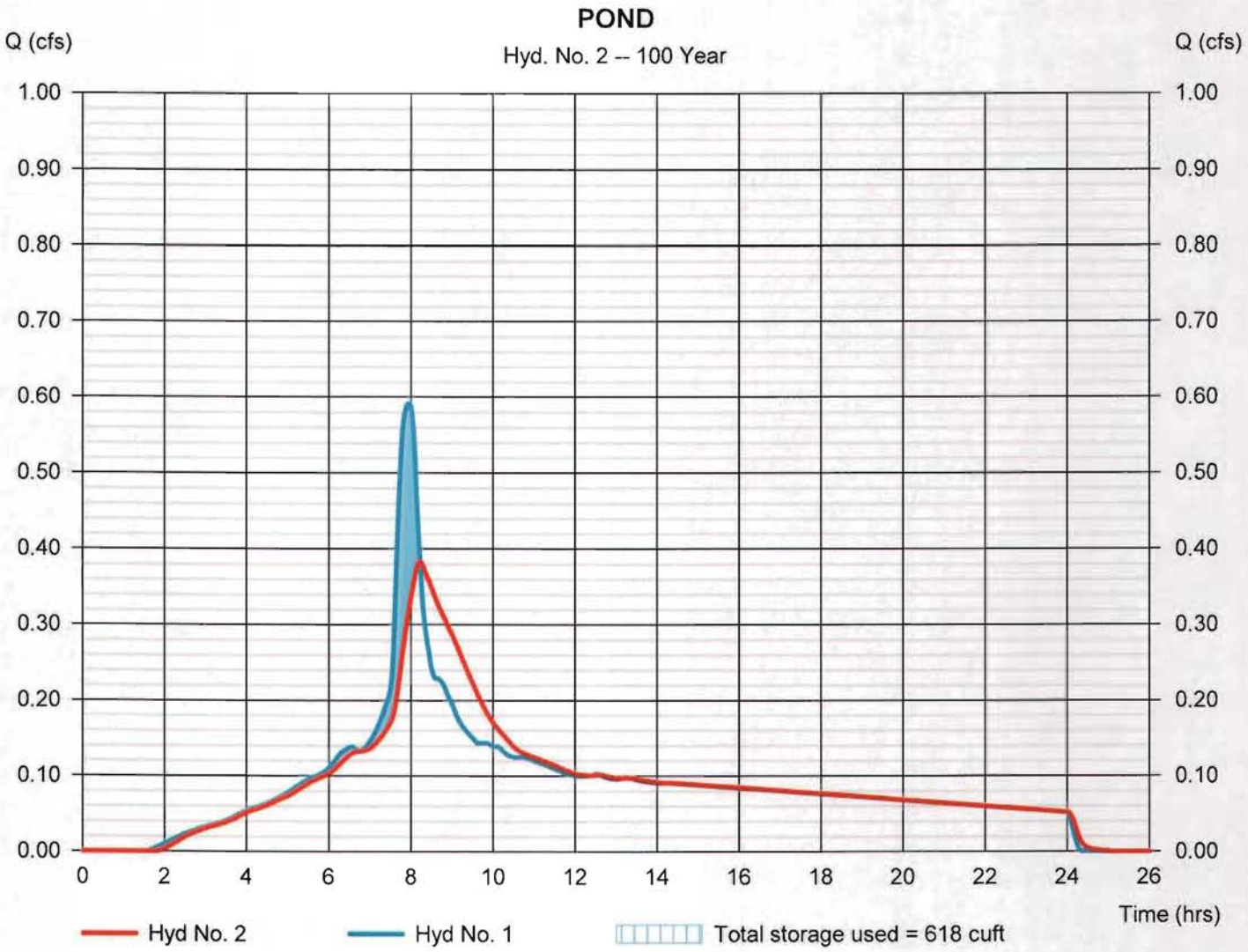
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10 — Thursday, 03 / 5 / 2015

Hyd. No. 2

POND

Hydrograph type	= Reservoir	Peak discharge	= 0.384 cfs
Storm frequency	= 100 yrs	Time to peak	= 8.23 hrs
Time interval	= 2 min	Hyd. volume	= 8,256 cuft
Inflow hyd. No.	= 1 - PROPOSED	Max. Elevation	= 101.94 ft
Reservoir name	= Underground Pipe	Max. Storage	= 618 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10 — Thursday, 03 / 5 / 2015

Pond No. 1 - Underground Pipe

Pond Data

UG Chambers -Invert elev. = 100.00 ft, Rise x Span = 2.00 x 2.00 ft, Barrel Len = 200.00 ft, No. Barrels = 1, Slope = 0.00%, Headers = No

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	n/a	0	0
0.20	100.20	n/a	33	33
0.40	100.40	n/a	57	90
0.60	100.60	n/a	69	159
0.80	100.80	n/a	76	235
1.00	101.00	n/a	80	314
1.20	101.20	n/a	80	394
1.40	101.40	n/a	76	470
1.60	101.60	n/a	69	539
1.80	101.80	n/a	57	596
2.00	102.00	n/a	33	628

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 3.30	Inactive	Inactive	Inactive
Span (in)	= 3.30	4.50	2.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 100.00	101.50	68.50	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	1.00	n/a
N-Value	= .012	.012	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

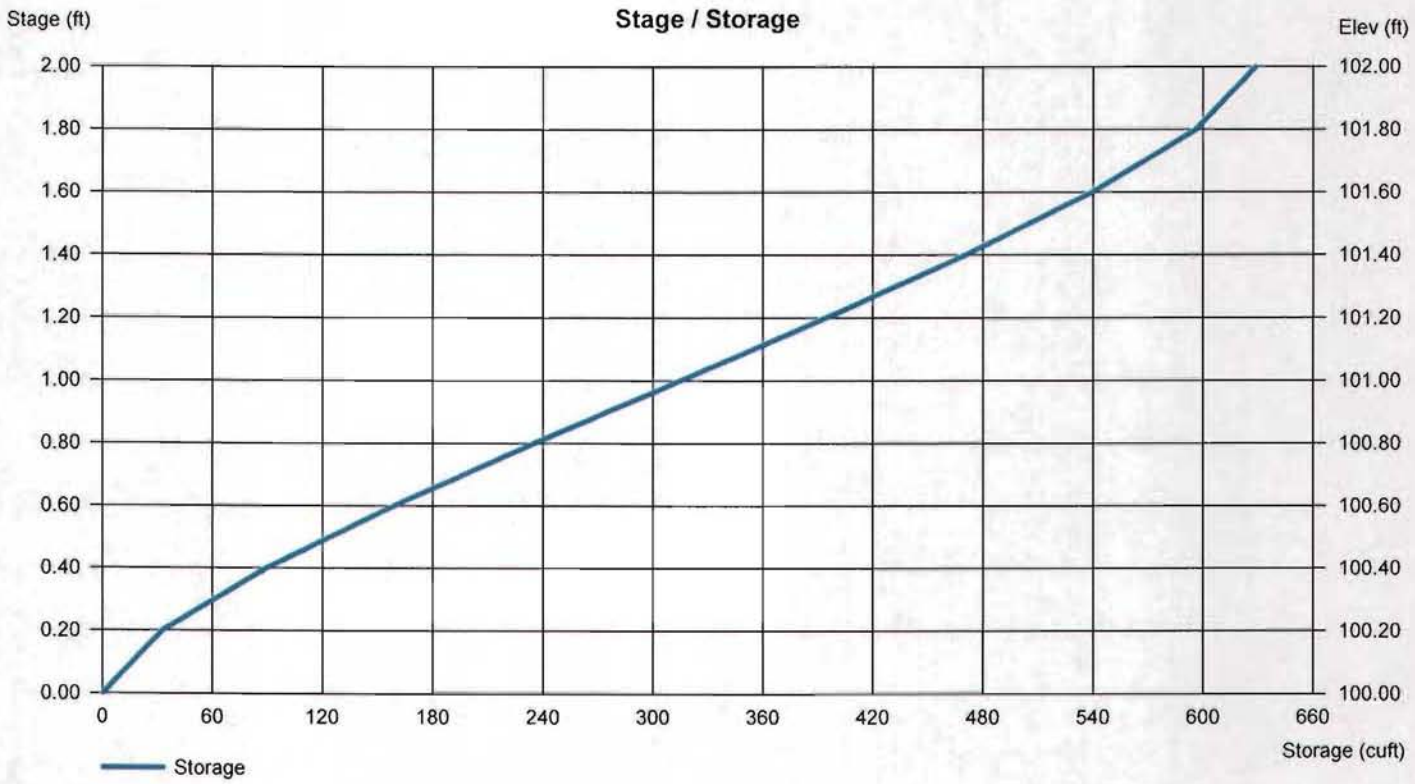
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	Inactive	Inactive	Inactive	Inactive
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Watershed Model Schematic

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. v10

Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	3.8870	0.1000	0.5086	--------
2	4.8162	0.1000	0.5081	--------
3	0.0000	0.0000	0.0000	--------
5	6.3108	0.1000	0.5158	--------
10	7.1713	0.1000	0.5062	--------
25	18.0937	3.8000	0.6944	--------
50	10.0237	0.1000	0.5044	--------
100	11.6675	0.1000	0.5108	--------

File name: GEORGETOWN-NOAA.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	1.70	1.20	0.98	0.84	0.75	0.69	0.64	0.59	0.56	0.53	0.51	0.48
2	2.10	1.49	1.21	1.05	0.94	0.85	0.79	0.74	0.70	0.66	0.63	0.60
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	2.72	1.91	1.56	1.34	1.20	1.09	1.01	0.94	0.88	0.84	0.80	0.76
10	3.14	2.22	1.81	1.57	1.40	1.28	1.18	1.11	1.04	0.99	0.94	0.90
25	4.00	2.92	2.36	2.00	1.75	1.57	1.43	1.31	1.22	1.14	1.07	1.01
50	4.41	3.12	2.55	2.21	1.97	1.80	1.67	1.56	1.47	1.39	1.33	1.27
100	5.08	3.58	2.92	2.52	2.25	2.05	1.90	1.77	1.67	1.58	1.51	1.44

Tc = time in minutes. Values may exceed 60.

file name: F:\66CAD\TTG Projects\2014\0614023.00 - DG Georgetown\Admin\Reports\Hydrology\GEORGETOWN.pcp

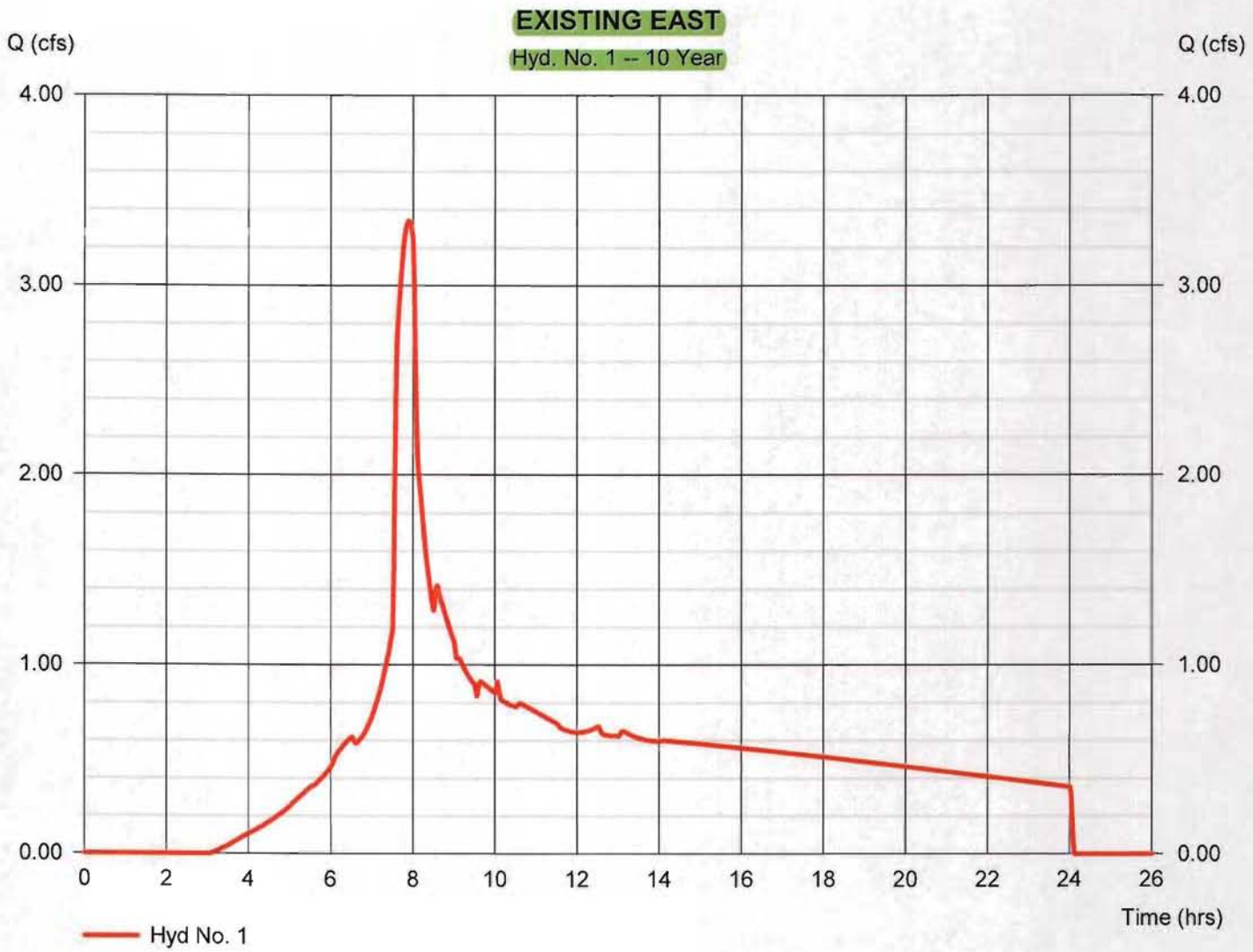
Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	3.06	0.00	5.14	6.08	7.34	8.30	9.27
SCS 6-Hr	0.00	1.46	0.00	2.21	2.58	3.10	3.52	3.96
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hydrograph Report

Hyd. No. 1

EXISTING EAST

Hydrograph type	= SCS Runoff	Peak discharge	= 3.341 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.90 hrs
Time interval	= 1 min	Hyd. volume	= 47,560 cuft
Drainage area	= 3.400 ac	Curve number	= 80
Basin Slope	= 6.0 %	Hydraulic length	= 1025 ft
Tc method	= KIRPICH	Time of conc. (Tc)	= 4.79 min
Total precip.	= 6.08 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

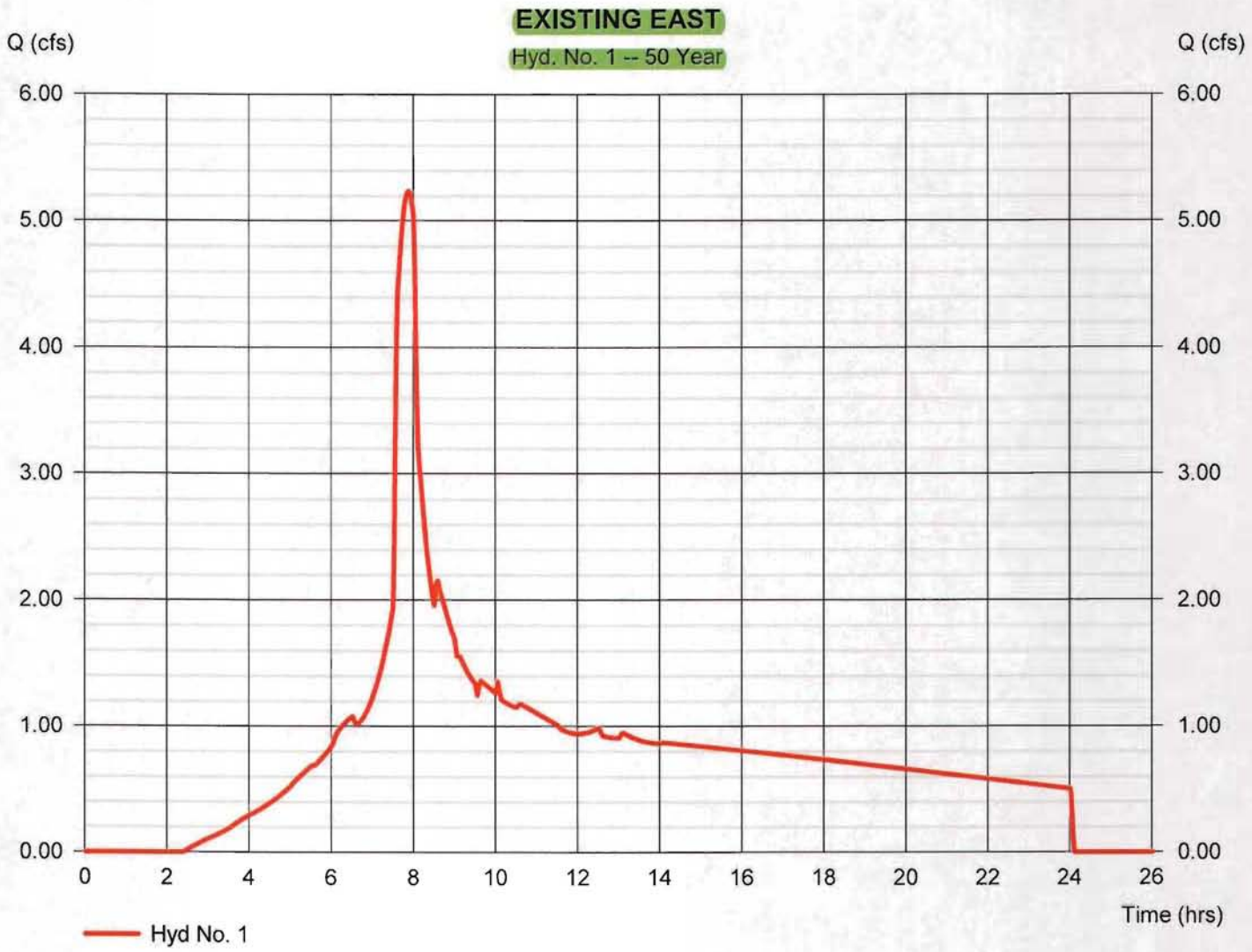


Hydrograph Report

Hyd. No. 1

EXISTING EAST

Hydrograph type	= SCS Runoff	Peak discharge	= 5.238 cfs
Storm frequency	= 50 yrs	Time to peak	= 7.88 hrs
Time interval	= 1 min	Hyd. volume	= 72,902 cuft
Drainage area	= 3.400 ac	Curve number	= 80
Basin Slope	= 6.0 %	Hydraulic length	= 1025 ft
Tc method	= KIRPICH	Time of conc. (Tc)	= 4.79 min
Total precip.	= 8.30 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

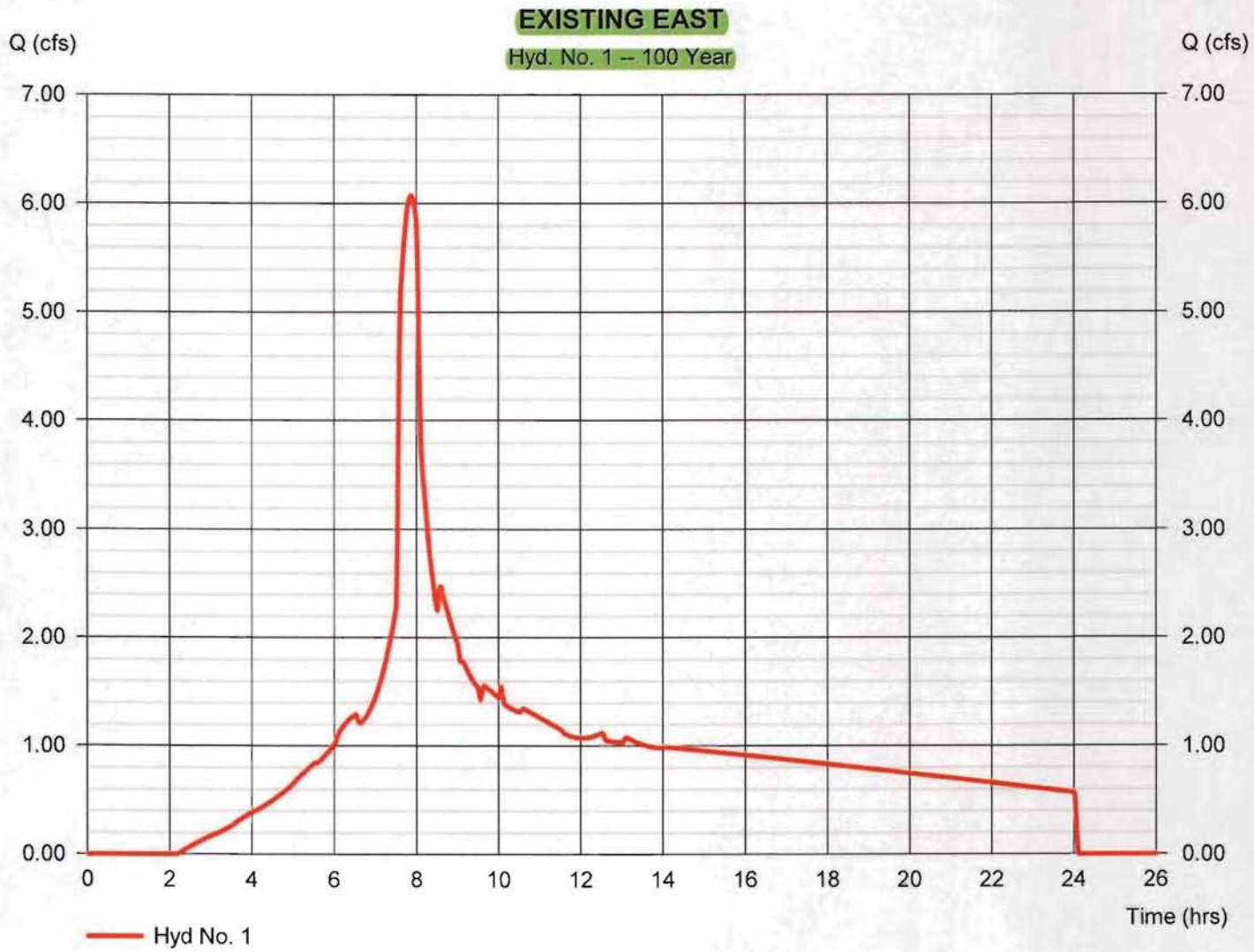


Hydrograph Report

Hyd. No. 1

EXISTING EAST

Hydrograph type	= SCS Runoff	Peak discharge	= 6.078 cfs
Storm frequency	= 100 yrs	Time to peak	= 7.87 hrs
Time interval	= 1 min	Hyd. volume	= 84,229 cuft
Drainage area	= 3.400 ac	Curve number	= 80
Basin Slope	= 6.0 %	Hydraulic length	= 1025 ft
Tc method	= KIRPICH	Time of conc. (Tc)	= 4.79 min
Total precip.	= 9.27 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

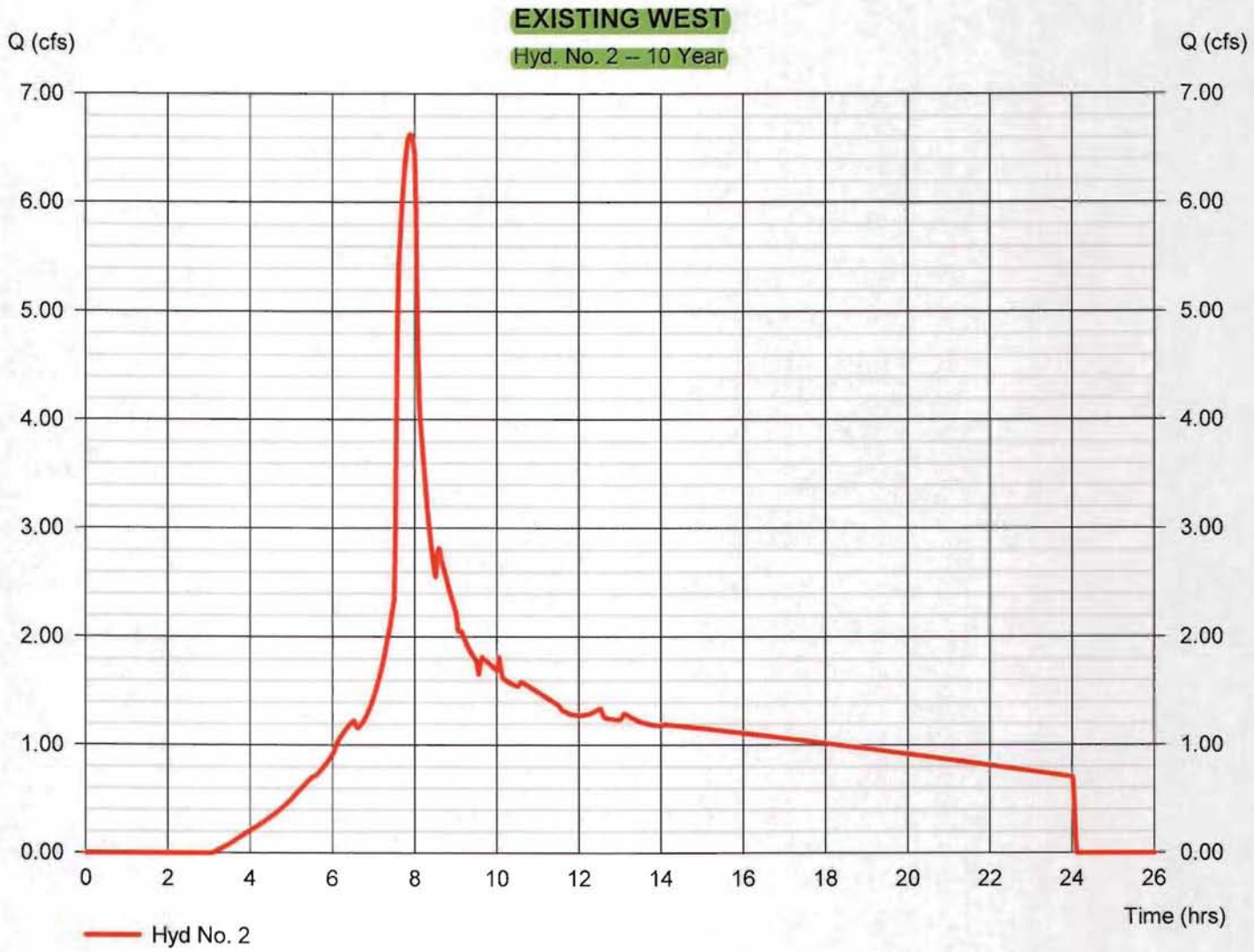


Hydrograph Report

Hyd. No. 2

EXISTING WEST

Hydrograph type	= SCS Runoff	Peak discharge	= 6.633 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.90 hrs
Time interval	= 1 min	Hyd. volume	= 94,421 cuft
Drainage area	= 6.750 ac	Curve number	= 80
Basin Slope	= 6.0 %	Hydraulic length	= 1025 ft
Tc method	= KIRPICH	Time of conc. (Tc)	= 4.79 min
Total precip.	= 6.08 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

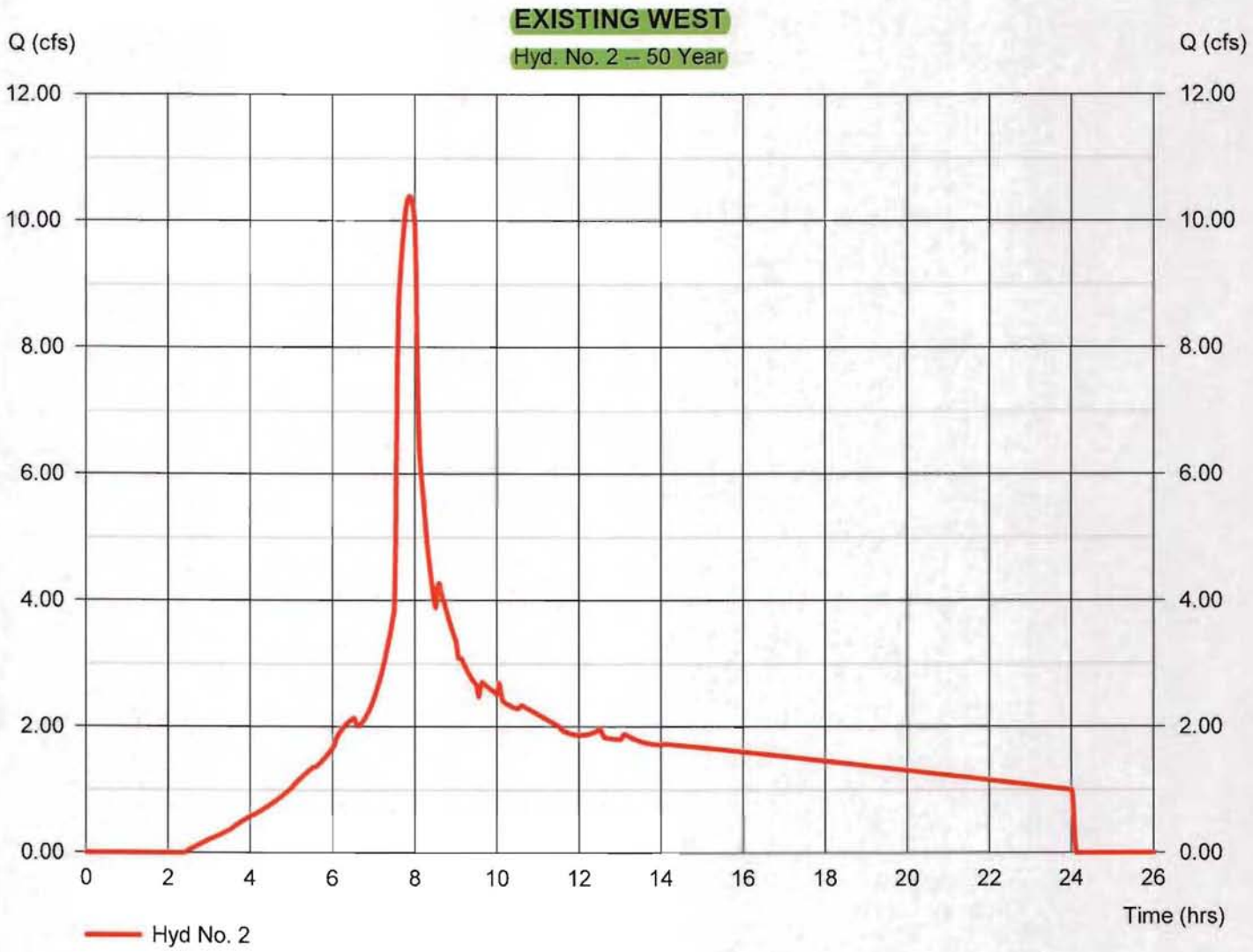


Hydrograph Report

Hyd. No. 2

EXISTING WEST

Hydrograph type	= SCS Runoff	Peak discharge	= 10.40 cfs
Storm frequency	= 50 yrs	Time to peak	= 7.88 hrs
Time interval	= 1 min	Hyd. volume	= 144,731 cuft
Drainage area	= 6.750 ac	Curve number	= 80
Basin Slope	= 6.0 %	Hydraulic length	= 1025 ft
Tc method	= KIRPICH	Time of conc. (Tc)	= 4.79 min
Total precip.	= 8.30 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484

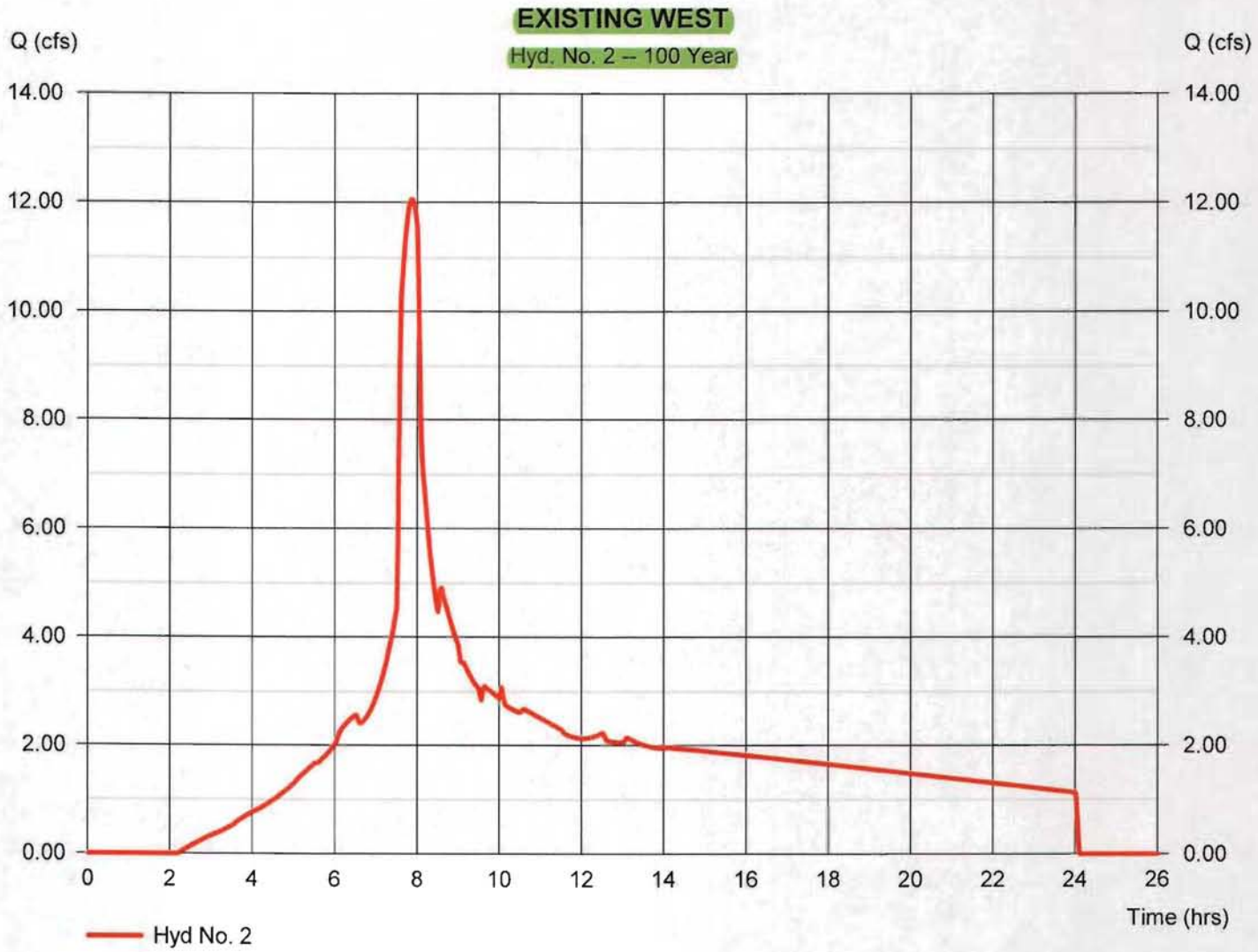


Hydrograph Report

Hyd. No. 2

EXISTING WEST

Hydrograph type	= SCS Runoff	Peak discharge	= 12.07 cfs
Storm frequency	= 100 yrs	Time to peak	= 7.87 hrs
Time interval	= 1 min	Hyd. volume	= 167,219 cuft
Drainage area	= 6.750 ac	Curve number	= 80
Basin Slope	= 6.0 %	Hydraulic length	= 1025 ft
Tc method	= KIRPICH	Time of conc. (Tc)	= 4.79 min
Total precip.	= 9.27 in	Distribution	= Type IA
Storm duration	= 24 hrs	Shape factor	= 484



Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2013 by Autodesk, Inc. Thursday, Mar 19 2015

<Name>

Circular

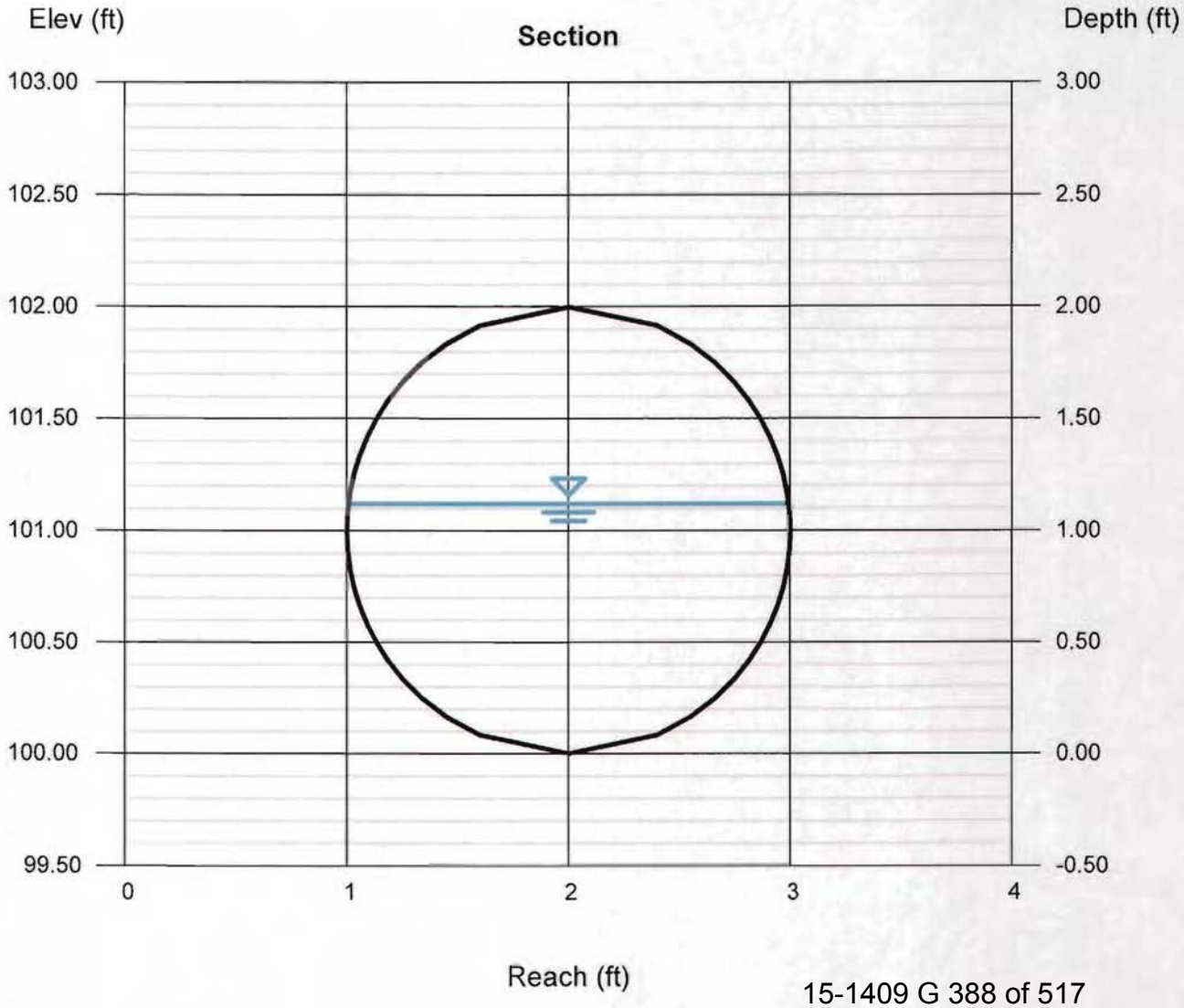
Diameter (ft)	= 2.00
Invert Elev (ft)	= 100.00
Slope (%)	= 1.50
N-Value	= 0.012

Calculations

Compute by:	Known Q
Known Q (cfs)	= 18.14

Highlighted

Depth (ft)	= 1.12
Q (cfs)	= 18.14
Area (sqft)	= 1.82
Velocity (ft/s)	= 9.98
Wetted Perim (ft)	= 3.39
Crit Depth, Yc (ft)	= 1.54
Top Width (ft)	= 1.98
EGL (ft)	= 2.67



Appendix 3: Rainfall data

NOAA Atlas 14, Volume 6, Version 2
Location name: Georgetown, California, US*
Latitude: 38.9099°, Longitude: -120.8492°
Elevation: 2532 ft*
* source: Google Maps

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.75 (1.52-2.05)	2.18 (1.90-2.54)	2.77 (2.40-3.24)	3.28 (2.81-3.88)	4.01 (3.30-4.92)	4.61 (3.70-5.80)	5.24 (4.09-6.80)	5.95 (4.49-7.96)	6.96 (5.00-9.78)	7.81 (5.40-11.4)
10-min	1.26 (1.09-1.46)	1.57 (1.36-1.82)	1.99 (1.72-2.32)	2.35 (2.01-2.77)	2.87 (2.36-3.53)	3.30 (2.65-4.16)	3.76 (2.93-4.87)	4.26 (3.22-5.71)	4.99 (3.59-7.01)	5.60 (3.86-8.18)
15-min	1.02 (0.880-1.18)	1.26 (1.09-1.47)	1.60 (1.38-1.87)	1.90 (1.62-2.24)	2.32 (1.90-2.84)	2.66 (2.14-3.35)	3.03 (2.36-3.93)	3.44 (2.59-4.60)	4.02 (2.89-5.65)	4.51 (3.12-6.60)
30-min	0.688 (0.598-0.800)	0.854 (0.740-0.996)	1.09 (0.938-1.27)	1.28 (1.10-1.52)	1.57 (1.29-1.93)	1.80 (1.45-2.27)	2.05 (1.60-2.66)	2.33 (1.76-3.12)	2.72 (1.96-3.83)	3.06 (2.11-4.47)
60-min	0.484 (0.420-0.563)	0.601 (0.521-0.701)	0.763 (0.659-0.893)	0.902 (0.772-1.07)	1.10 (0.907-1.36)	1.27 (1.02-1.60)	1.44 (1.13-1.87)	1.64 (1.24-2.19)	1.92 (1.38-2.69)	2.15 (1.49-3.14)
2-hr	0.365 (0.316-0.425)	0.446 (0.387-0.521)	0.560 (0.484-0.656)	0.658 (0.563-0.778)	0.800 (0.658-0.982)	0.915 (0.734-1.15)	1.04 (0.810-1.35)	1.17 (0.886-1.57)	1.37 (0.984-1.92)	1.53 (1.06-2.24)
3-hr	0.316 (0.274-0.368)	0.385 (0.333-0.449)	0.480 (0.415-0.562)	0.562 (0.481-0.664)	0.680 (0.559-0.835)	0.776 (0.622-0.977)	0.878 (0.684-1.14)	0.988 (0.746-1.32)	1.15 (0.825-1.61)	1.28 (0.882-1.87)
6-hr	0.243 (0.211-0.283)	0.297 (0.257-0.346)	0.369 (0.319-0.432)	0.431 (0.368-0.509)	0.518 (0.426-0.636)	0.588 (0.471-0.740)	0.661 (0.515-0.856)	0.739 (0.558-0.990)	0.850 (0.611-1.20)	0.940 (0.650-1.38)
12-hr	0.175 (0.151-0.203)	0.219 (0.190-0.255)	0.278 (0.240-0.325)	0.326 (0.279-0.385)	0.392 (0.322-0.482)	0.443 (0.356-0.558)	0.496 (0.387-0.643)	0.551 (0.416-0.738)	0.626 (0.450-0.880)	0.685 (0.473-1.00)
24-hr	0.127 (0.112-0.148)	0.165 (0.145-0.193)	0.214 (0.187-0.250)	0.253 (0.220-0.298)	0.306 (0.257-0.372)	0.346 (0.285-0.429)	0.386 (0.311-0.490)	0.427 (0.335-0.556)	0.482 (0.363-0.653)	0.524 (0.382-0.734)
2-day	0.087 (0.077-0.102)	0.114 (0.100-0.133)	0.148 (0.129-0.173)	0.175 (0.152-0.206)	0.212 (0.178-0.257)	0.240 (0.198-0.297)	0.268 (0.216-0.340)	0.297 (0.233-0.387)	0.336 (0.253-0.456)	0.367 (0.267-0.513)
3-day	0.070 (0.061-0.081)	0.090 (0.079-0.105)	0.117 (0.102-0.137)	0.139 (0.120-0.163)	0.168 (0.141-0.204)	0.191 (0.157-0.236)	0.213 (0.172-0.271)	0.237 (0.186-0.308)	0.268 (0.202-0.364)	0.293 (0.214-0.410)
4-day	0.059 (0.051-0.068)	0.076 (0.067-0.089)	0.099 (0.086-0.115)	0.117 (0.101-0.137)	0.141 (0.119-0.172)	0.160 (0.132-0.198)	0.179 (0.144-0.227)	0.198 (0.155-0.258)	0.225 (0.169-0.304)	0.245 (0.179-0.343)
7-day	0.042 (0.037-0.048)	0.054 (0.047-0.063)	0.070 (0.061-0.081)	0.082 (0.071-0.097)	0.099 (0.083-0.120)	0.111 (0.092-0.138)	0.124 (0.100-0.157)	0.137 (0.107-0.178)	0.154 (0.116-0.208)	0.167 (0.122-0.233)
10-day	0.034 (0.029-0.039)	0.043 (0.038-0.051)	0.056 (0.049-0.065)	0.066 (0.057-0.077)	0.079 (0.066-0.096)	0.088 (0.073-0.109)	0.098 (0.079-0.124)	0.108 (0.084-0.140)	0.120 (0.091-0.163)	0.130 (0.095-0.182)
20-day	0.023 (0.020-0.027)	0.029 (0.026-0.034)	0.038 (0.033-0.044)	0.044 (0.038-0.052)	0.052 (0.044-0.064)	0.058 (0.048-0.072)	0.064 (0.052-0.081)	0.070 (0.055-0.091)	0.077 (0.058-0.105)	0.083 (0.060-0.116)
30-day	0.019 (0.016-0.022)	0.024 (0.021-0.028)	0.031 (0.027-0.036)	0.036 (0.031-0.042)	0.042 (0.035-0.051)	0.047 (0.038-0.058)	0.051 (0.041-0.065)	0.055 (0.043-0.072)	0.061 (0.046-0.082)	0.065 (0.047-0.090)
45-day	0.015 (0.014-0.018)	0.020 (0.017-0.023)	0.025 (0.022-0.029)	0.029 (0.025-0.034)	0.034 (0.028-0.041)	0.037 (0.031-0.046)	0.040 (0.033-0.051)	0.044 (0.034-0.057)	0.048 (0.036-0.064)	0.050 (0.037-0.071)
60-day	0.014 (0.012-0.016)	0.018 (0.015-0.020)	0.022 (0.019-0.026)	0.025 (0.022-0.030)	0.029 (0.025-0.036)	0.032 (0.026-0.040)	0.035 (0.028-0.044)	0.037 (0.029-0.049)	0.041 (0.031-0.055)	0.043 (0.031-0.060)

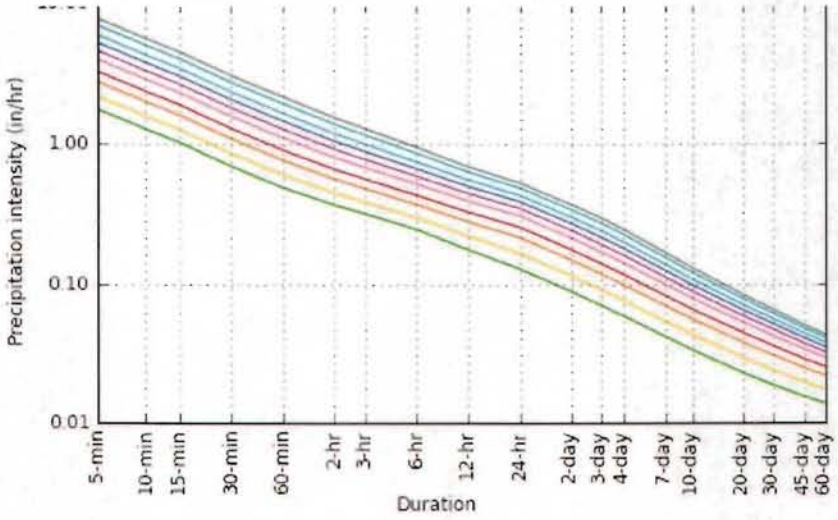
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

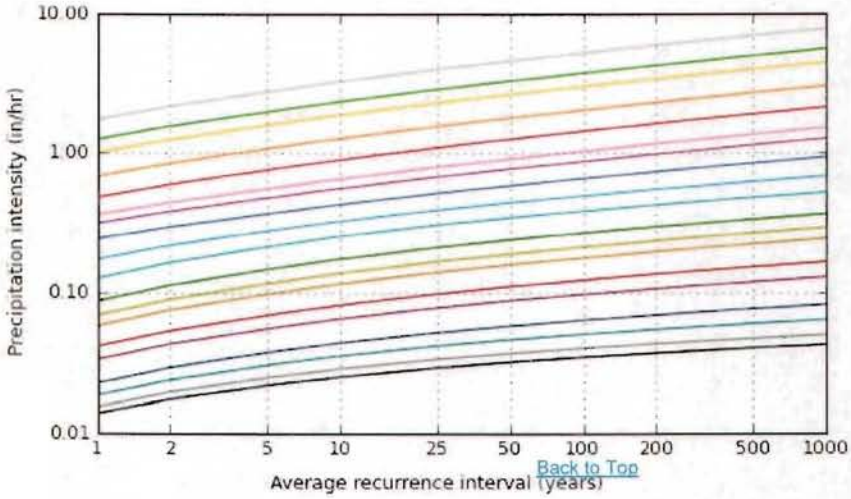
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

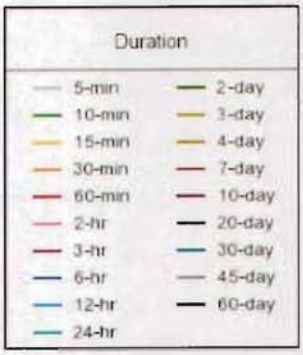
Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical







Back to Top

Maps & aerials

NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Thu Feb 19 15:46:13 2015

Small scale terrain

NOAA Atlas 14, Volume 6, Version 2
Location name: Georgetown, California, US*
Latitude: 38.9099°, Longitude: -120.8492°
Elevation: 2532 ft*
* source: Google Maps

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.146 (0.127–0.171)	0.182 (0.158–0.212)	0.231 (0.200–0.270)	0.273 (0.234–0.323)	0.334 (0.275–0.410)	0.384 (0.308–0.483)	0.437 (0.341–0.567)	0.496 (0.374–0.663)	0.580 (0.417–0.815)	0.651 (0.450–0.951)
10-min	0.210 (0.182–0.244)	0.261 (0.226–0.304)	0.331 (0.286–0.387)	0.392 (0.335–0.462)	0.479 (0.394–0.588)	0.550 (0.441–0.693)	0.627 (0.489–0.812)	0.710 (0.536–0.951)	0.832 (0.598–1.17)	0.933 (0.644–1.36)
15-min	0.254 (0.220–0.296)	0.315 (0.273–0.368)	0.400 (0.346–0.468)	0.474 (0.405–0.559)	0.579 (0.476–0.711)	0.665 (0.534–0.838)	0.758 (0.591–0.982)	0.859 (0.648–1.15)	1.01 (0.723–1.41)	1.13 (0.779–1.65)
30-min	0.344 (0.299–0.400)	0.427 (0.370–0.498)	0.543 (0.469–0.635)	0.642 (0.549–0.758)	0.784 (0.645–0.964)	0.901 (0.723–1.14)	1.03 (0.800–1.33)	1.16 (0.878–1.56)	1.36 (0.979–1.91)	1.53 (1.06–2.23)
60-min	0.484 (0.420–0.563)	0.601 (0.521–0.701)	0.763 (0.659–0.893)	0.902 (0.772–1.07)	1.10 (0.907–1.36)	1.27 (1.02–1.60)	1.44 (1.13–1.87)	1.64 (1.24–2.19)	1.92 (1.38–2.69)	2.15 (1.49–3.14)
2-hr	0.730 (0.633–0.850)	0.893 (0.774–1.04)	1.12 (0.968–1.31)	1.32 (1.13–1.56)	1.60 (1.32–1.96)	1.83 (1.47–2.31)	2.08 (1.62–2.69)	2.35 (1.77–3.14)	2.74 (1.97–3.84)	3.06 (2.11–4.47)
3-hr	0.948 (0.823–1.10)	1.16 (1.00–1.35)	1.44 (1.25–1.69)	1.69 (1.44–1.99)	2.04 (1.68–2.51)	2.33 (1.87–2.93)	2.64 (2.06–3.42)	2.97 (2.24–3.97)	3.44 (2.48–4.84)	3.84 (2.65–5.61)
6-hr	1.46 (1.27–1.70)	1.78 (1.54–2.07)	2.21 (1.91–2.59)	2.58 (2.21–3.05)	3.10 (2.55–3.81)	3.52 (2.82–4.43)	3.96 (3.09–5.13)	4.43 (3.34–5.93)	5.09 (3.66–7.16)	5.63 (3.89–8.23)
12-hr	2.10 (1.83–2.45)	2.64 (2.29–3.08)	3.35 (2.89–3.91)	3.93 (3.36–4.64)	4.72 (3.88–5.80)	5.34 (4.29–6.73)	5.98 (4.66–7.75)	6.64 (5.01–8.89)	7.54 (5.42–10.6)	8.26 (5.70–12.1)
24-hr	3.06 (2.68–3.56)	3.97 (3.47–4.62)	5.14 (4.49–6.00)	6.08 (5.27–7.16)	7.34 (6.17–8.92)	8.30 (6.84–10.3)	9.27 (7.46–11.7)	10.2 (8.03–13.3)	11.6 (8.71–15.7)	12.6 (9.17–17.6)
2-day	4.20 (3.68–4.89)	5.46 (4.78–6.36)	7.09 (6.19–8.28)	8.41 (7.29–9.90)	10.2 (8.55–12.4)	11.5 (9.49–14.3)	12.9 (10.4–16.3)	14.3 (11.2–18.6)	16.2 (12.2–21.9)	17.6 (12.8–24.6)
3-day	5.00 (4.39–5.82)	6.50 (5.69–7.57)	8.43 (7.37–9.85)	10.0 (8.67–11.8)	12.1 (10.2–14.7)	13.7 (11.3–17.0)	15.4 (12.4–19.5)	17.0 (13.4–22.2)	19.3 (14.6–26.2)	21.1 (15.4–29.5)
4-day	5.63 (4.93–6.55)	7.30 (6.39–8.50)	9.46 (8.27–11.1)	11.2 (9.72–13.2)	13.6 (11.4–16.5)	15.4 (12.6–19.0)	17.2 (13.8–21.8)	19.0 (14.9–24.8)	21.6 (16.2–29.2)	23.5 (17.1–32.9)
7-day	7.00 (6.14–8.15)	9.06 (7.94–10.6)	11.7 (10.2–13.7)	13.8 (12.0–16.3)	16.6 (14.0–20.2)	18.7 (15.4–23.2)	20.8 (16.8–26.4)	23.0 (18.0–29.9)	25.8 (19.5–35.0)	28.0 (20.4–39.2)
10-day	8.04 (7.05–9.36)	10.4 (9.11–12.1)	13.4 (11.7–15.7)	15.8 (13.7–18.6)	18.9 (15.9–22.9)	21.2 (17.5–26.3)	23.5 (18.9–29.8)	25.8 (20.2–33.6)	28.9 (21.7–39.1)	31.2 (22.7–43.6)
20-day	10.9 (9.59–12.7)	14.1 (12.4–16.5)	18.1 (15.8–21.2)	21.2 (18.4–24.9)	25.1 (21.1–30.5)	28.0 (23.1–34.7)	30.8 (24.8–39.1)	33.6 (26.3–43.7)	37.1 (27.9–50.2)	39.7 (28.9–55.6)
30-day	13.4 (11.8–15.6)	17.3 (15.2–20.2)	22.0 (19.2–25.7)	25.7 (22.2–30.2)	30.2 (25.4–36.7)	33.5 (27.6–41.6)	36.7 (29.5–46.5)	39.8 (31.2–51.8)	43.7 (32.9–59.1)	46.5 (33.9–65.1)
45-day	16.7 (14.6–19.4)	21.4 (18.7–24.9)	26.9 (23.5–31.5)	31.2 (27.0–36.7)	36.5 (30.6–44.3)	40.2 (33.1–49.8)	43.7 (35.2–55.5)	47.1 (36.9–61.4)	51.4 (38.7–69.6)	54.4 (39.7–76.1)
60-day	19.9 (17.4–23.2)	25.2 (22.1–29.4)	31.6 (27.6–36.9)	36.3 (31.5–42.7)	42.2 (35.4–51.2)	46.3 (38.1–57.3)	50.1 (40.3–63.6)	53.8 (42.2–70.1)	58.3 (44.0–79.0)	61.6 (44.9–86.1)

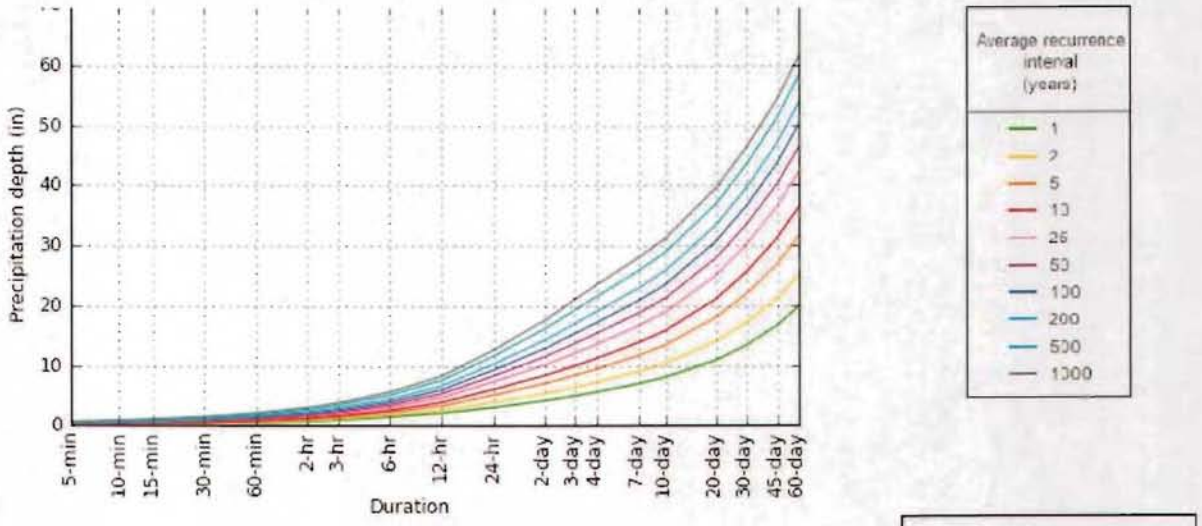
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

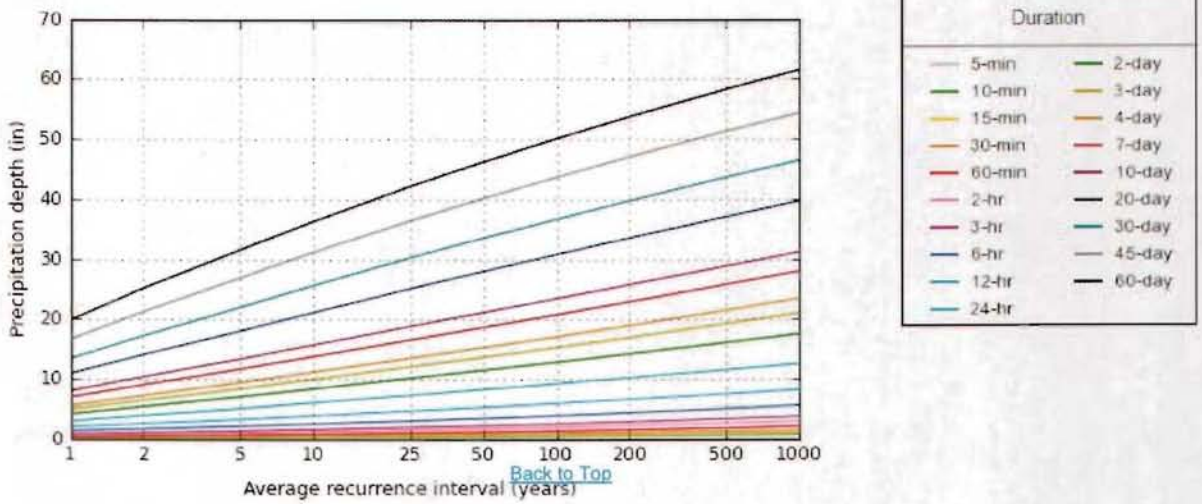
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical





Back to Top

Maps & aerials

NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Thu Feb 19 15:45:15 2015

Small scale terrain

Appendix 4: Soil data

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for El Dorado Area, California

March 5, 2015

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Dorado Area, California
Survey Area Data: Version 7, Sep 15, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 12, 2010—Apr 29, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

El Dorado Area, California (CA624)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
BpD	Boomer-Sites loams, 15 to 30 percent slopes	36.5	80.5%
MbE	Mariposa very rocky silt loam, 3 to 50 percent slopes	8.2	18.0%
PrD	Placer diggings	0.7	1.5%
Totals for Area of Interest		**45.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If

intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

El Dorado Area, California

BpD—Boomer-Sites loams, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hhz2
Elevation: 600 to 5,500 feet
Mean annual precipitation: 30 to 85 inches
Mean annual air temperature: 50 to 59 degrees F
Frost-free period: 120 to 260 days
Farmland classification: Farmland of local importance

Map Unit Composition

Boomer and similar soils: 55 percent
Sites and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boomer

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from greenstone and/or residuum weathered from schist

Typical profile

H1 - 0 to 13 inches: loam
H2 - 13 to 37 inches: sandy clay loam
H3 - 37 to 52 inches: gravelly sandy clay loam
H4 - 52 to 56 inches: weathered bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 52 to 56 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

Description of Sites

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Metabasic residuum weathered from metasedimentary rock

Typical profile

H1 - 0 to 14 inches: loam
H2 - 14 to 21 inches: clay loam
H3 - 21 to 53 inches: clay
H4 - 53 to 69 inches: clay loam
H5 - 69 to 73 inches: weathered bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 69 to 73 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

Minor Components

Mariposa

Percent of map unit: 5 percent
Landform: Ridges, mountain slopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainflank
Down-slope shape: Concave
Across-slope shape: Convex, concave

Josephine

Percent of map unit: 5 percent

MbE—Mariposa very rocky silt loam, 3 to 50 percent slopes

Map Unit Setting

National map unit symbol: hj0f
Elevation: 1,600 to 5,000 feet
Mean annual precipitation: 30 to 65 inches
Mean annual air temperature: 50 to 55 degrees F

Frost-free period: 140 to 235 days
Farmland classification: Not prime farmland

Map Unit Composition

Mariposa and similar soils: 75 percent
Rock outcrop: 15 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mariposa

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from metamorphic rock, schist, or slate

Typical profile

H1 - 0 to 8 inches: gravelly silt loam
H2 - 8 to 26 inches: gravelly silt loam
H3 - 26 to 30 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 50 percent
Depth to restrictive feature: 26 to 30 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C

Description of Rock Outcrop

Setting

Parent material: Residuum weathered from metamorphic rock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8

Minor Components

Josephine

Percent of map unit: 6 percent

Sites

Percent of map unit: 2 percent
Landform: Mountain slopes

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Convex

Maymen
Percent of map unit: 2 percent

PrD—Placer diggings

Map Unit Composition
Placer diggings: 90 percent
Unnamed: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Placer Diggings

Setting
Parent material: Alluvium derived from mixed sources

Typical profile
H1 - 0 to 60 inches: fine sandy loam, cobbles

Properties and qualities
Slope: 2 to 15 percent
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Frequency of flooding: Occasional
Available water storage in profile: Very low (about 1.2 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Ecological site: Placer diggings (R018XD084CA)

Description of Unnamed

Setting
Landform: Channels

Properties and qualities
Depth to restrictive feature: More than 80 inches
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

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TTG

STRUCTURAL, MEP, CIVIL ENGINEERING & CONSTRUCTION SERVICES

Arizona California Colorado Florida Texas Lebanon Saudi Arabia U.A.E.

June 3, 2015

Dave Spiegelberg
El Dorado County Community Development Agency
Transportation Division
2850 Fairlane Court
Placerville, CA 95667

REGISTERED PROFESSIONAL ENGINEER
ANDREW S. MIZEREK
74456
Exp. 06/30/2015
CIVIL
STATE OF CALIFORNIA

Subject: **Dollar General – Main St. and Harkness St (TTG Project No. 0614023.00)**
APN: 061-362-01, 02 & 04
Supplement Drainage Letter

Mr. Spiegelberg

The purpose of this technical letter is to provide additional hydraulic calculations regarding the proposed 24-inch storm drain pipe designed to convey offsite flows through the proposed Dollar General project. The purpose of this letter is to provide evidence that the proposed storm drain pipe has enough capacity to convey offsite flows discharged by two existing 12-inch CMP without backing up water to the adjacent Main Street.

Based on the calculations presented in the Primary Drainage Report for Dollar General (TTG Project No. 0614023.00) the 100-year storm offsite peak flow coming from the east is 6.07 cfs and 12.07 cfs from the west. A total of 18.14 cfs was used for the calculations included with this letter.

Hydraulic Grade Line calculations were performed using Hydroflow Express Extension for AutoCAD® with the estimated 100 year combined offsite peak flows, the proposed geometry for the 24-inch storm drain pipe and a Manning coefficient of 0.012. A top of embankment of 2655 was assumed as a conservative measure.

Based on the included calculation the proposed storm drain pipe has adequate capacity to convey offsite flows without over topping existing and proposed adjacent curbs. The existing drainage conditions within the adjacent Main Street will not be negatively impacted by the proposed 24-inch storm drain pipe.

Thank you,
Andrew Mizerek, PE

4300 N. Miller Road, Suite 122, Scottsdale, AZ 85251 (602) 371-1333 Fax: (602) 371-0675 www.ttgcorp.com

Culvert Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Jun 3 2015

Circular Culvert

Invert Elev Dn (ft)	= 2650.25
Pipe Length (ft)	= 141.00
Slope (%)	= 1.50
Invert Elev Up (ft)	= 2652.37
Rise (in)	= 24.0
Shape	= Circular
Span (in)	= 24.0
No. Barrels	= 1
n-Value	= 0.012
Culvert Type	= Circular Concrete
Culvert Entrance	= Square edge w/headwall (C)
Coeff. K,M,c,Y,k	= 0.0098, 2, 0.0398, 0.67, 0.5

Embankment

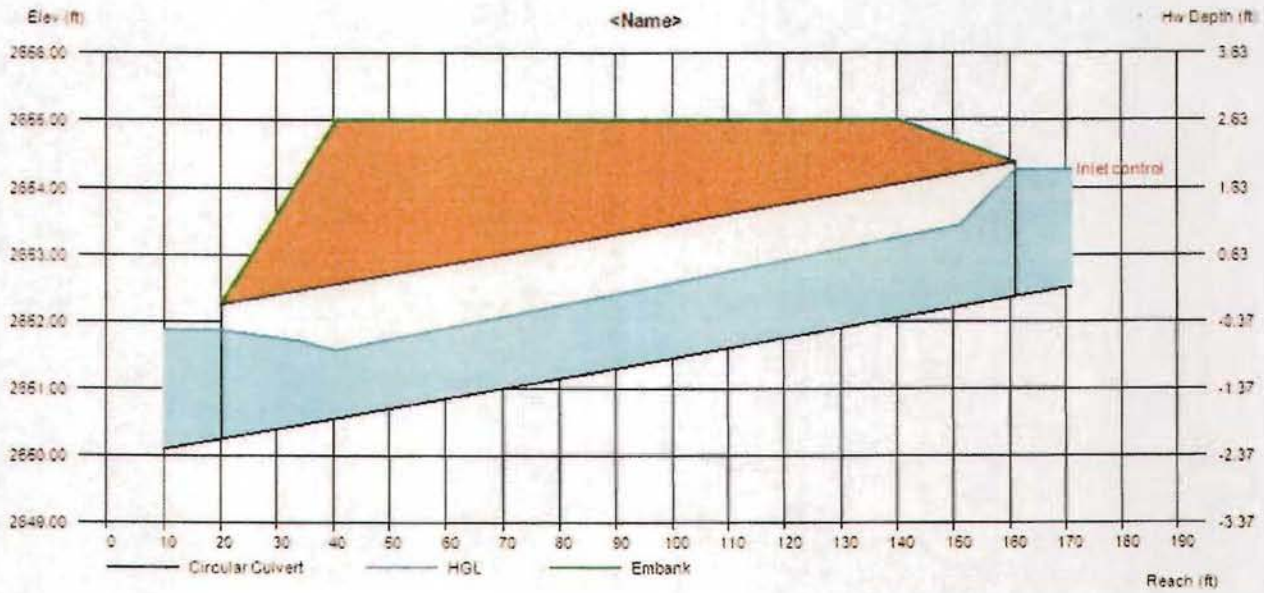
Top Elevation (ft)	= 2655.00
Top Width (ft)	= 100.00
Crest Width (ft)	= 5.00

Calculations

Qmin (cfs)	= 12.00
Qmax (cfs)	= 18.14
Tailwater Elev (ft)	= (dc+D)/2

Highlighted

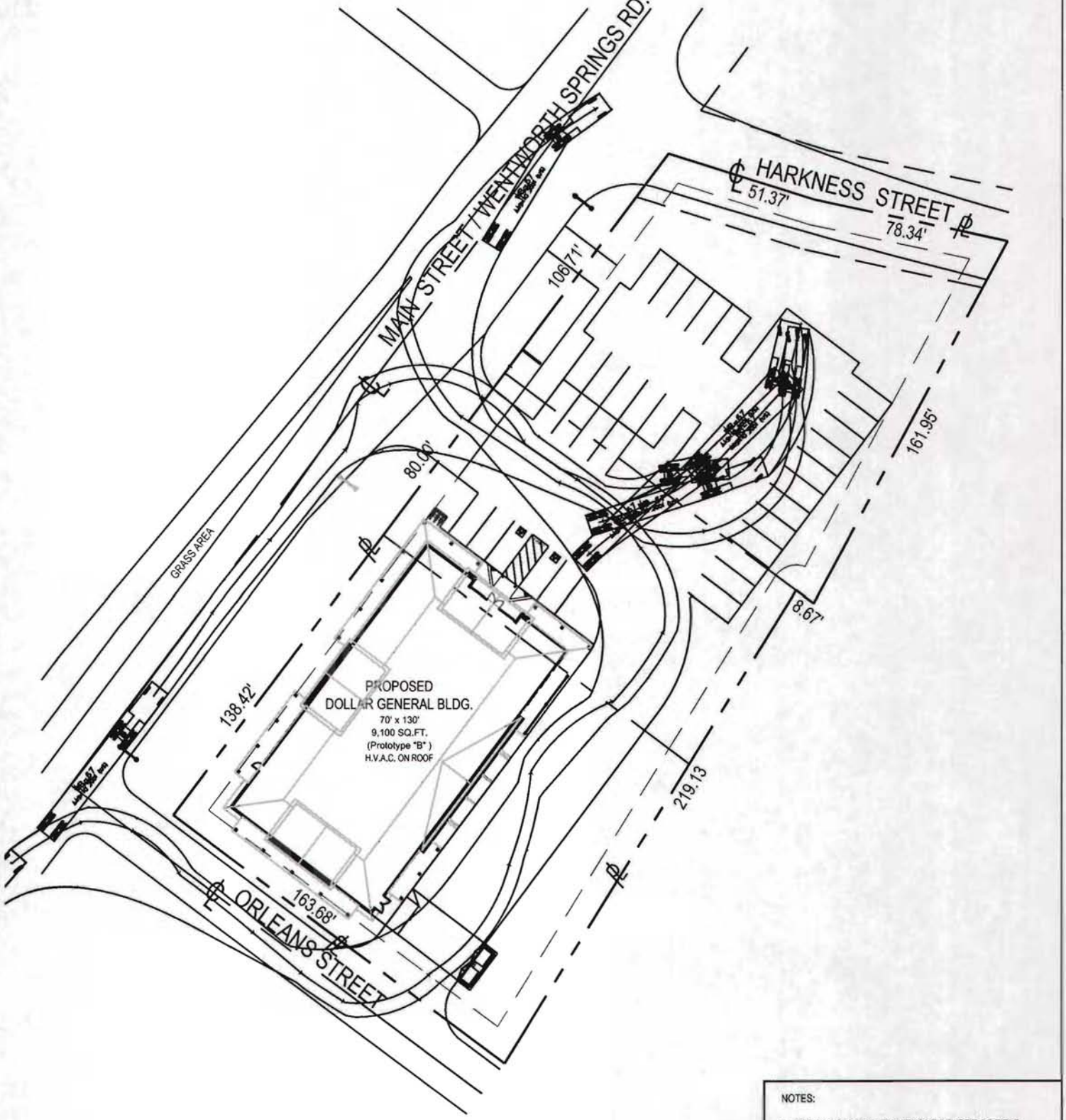
Qtotal (cfs)	= 12.00
Qpipe (cfs)	= 12.00
Qovertop (cfs)	= 0.00
Veloc Dn (ft/s)	= 4.40
Veloc Up (ft/s)	= 5.85
HGL Dn (ft)	= 2651.87
HGL Up (ft)	= 2653.61
Hw Elev (ft)	= 2654.27
Hw/D (ft)	= 0.95
Flow Regime	= Inlet Control



PRELIMINARY SITE PLAN

CITY, STATE - STREET:
GEORGETOWN, CA. - MAIN ST. @ HARKNESS ST.

PROTOTYPE: B	DEVELOPER	DESIGNER	DATE:
BLDG/SALES SF: 9,026 / 7,195	COMPANY: SIMON CRE	COMPANY: MPA ARCHITECTS, INC.	04-23-15
ACREAGE: 1.20 GROSS	NAME: JOSHUA SIMON	NAME: LEONARDO DALE	
PARKING SPACES REQ'D: 31	PHONE #: 480-745-1956	PHONE #: 619-236-0595	



NOTES:

1. SITE PLAN PREPARED WITHOUT BENEFIT OF TITLE OPINION, DEED RESTRICTION, OR SURVEY.
2. SITE SUBJECT TO CHANGE PENDING ALL STATE AND CITY ORDINANCES OR DEED RESTRICTIONS.
3. BUILDING AND SITE SIGN LOCATION, SQUARE FOOTAGE, AND TYPE SUBJECT TO CHANGE PENDING ALL STATE AND CITY ORDINANCES OR DEED RESTRICTIONS.

NORTH

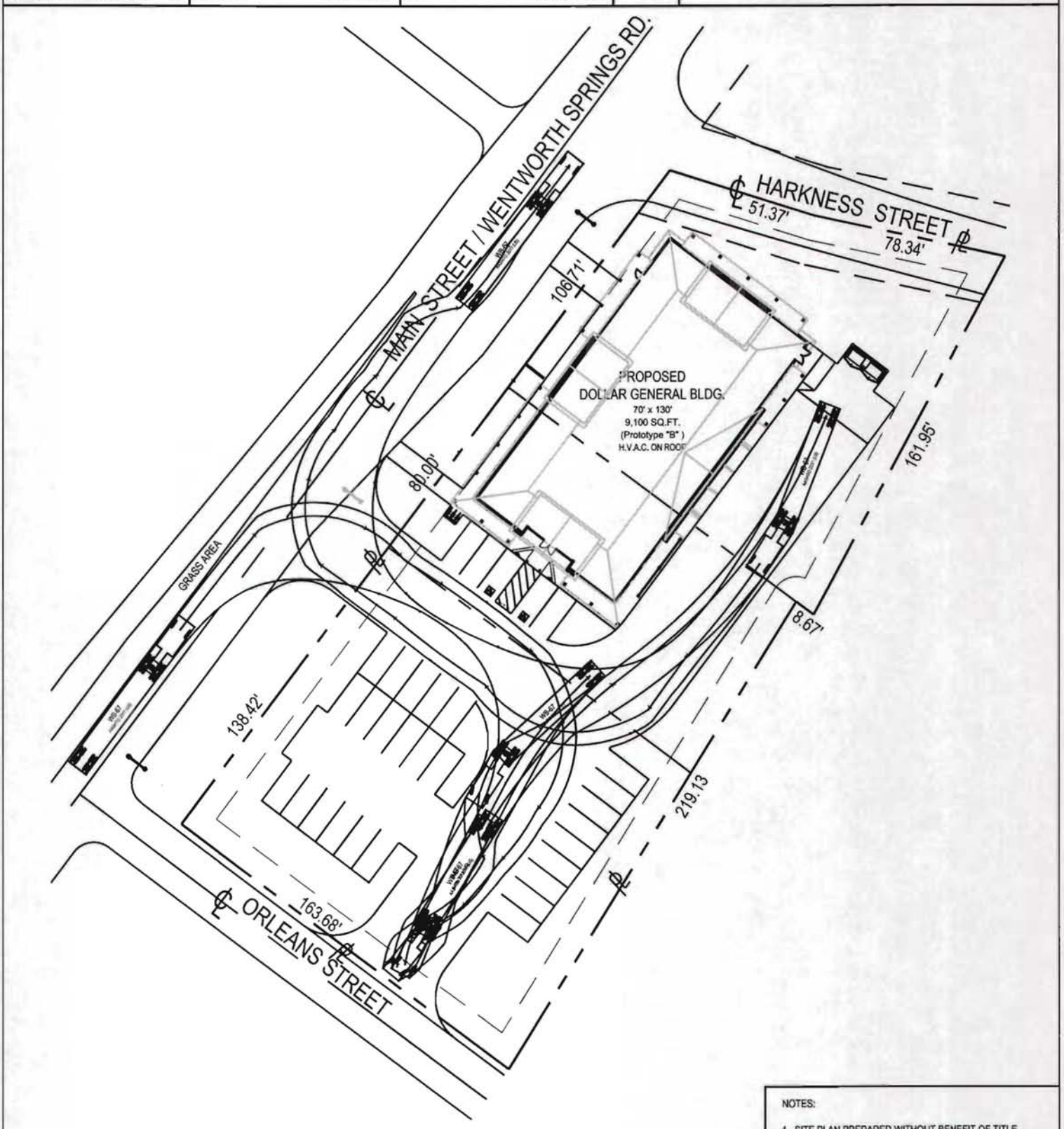
SCALE = 1"=50'-0"

Attachment 16

PRELIMINARY SITE PLAN

CITY, STATE - STREET:
GEORGETOWN, CA. - MAIN ST. @ HARKNESS ST.

PROTOTYPE:	B	DEVELOPER		DESIGNER		DATE:
BLDG/SALES SF:	9,026 / 7,195	COMPANY:	SIMON CRE	COMPANY:	MPA ARCHITECTS, INC.	04-22-15
ACREAGE:	1.20 GROSS	NAME:	JOSHUA SIMON	NAME:	LEONARDO DALE	
PARKING SPACES REQ'D:	31	PHONE #:	480-745-1956	PHONE #:	619-236-0595	



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NORTH

SCALE = 1"=50'-0"

Attachment 17

TTG

STRUCTURAL, MEP, CIVIL ENGINEERING & CONSTRUCTION SERVICES

Arizona California Colorado Florida Texas Lebanon Saudi Arabia U.A.E.

May 6, 2015

Joshua Simon
SimonCRE Abbie LLC
5111 N. Scottsdale Road, Suite 200
Scottsdale, AZ 85250

Subject: Feasibility of New Site Plan Options
Dollar General – Georgetown
Georgetown, CA

Dear Mr. Simon:

We recently reviewed the feasibility of two revised site plan concepts for the proposed Dollar General Store at Main and Harkness in Georgetown, CA. Based upon our review of both new options, there are issues that make each of these options impractical, if not impossible.

With regard to the first new option, dated 4-22-15, that proposes the store location near the northwest corner of the site, the main issue is grading. We set a finished floor just above the elevation of Harkness and ran the allowable maximum grades south to the drive entrance. At that location, the proposed grade ends up approximately 6 feet above the existing road. Alternately, a slope of approximately 20% would be necessary in the driveway. That slope exceeds the Dollar General maximum driveway slope by more than double. In our opinion that creates a condition that makes this option not feasible.

Regarding the second new option, dated 4-23-15, that proposes the store location near the southwest corner of the site, the main issue is again the grading. With this option, the conflict is directly between the finished floor and the existing grade on Orleans. The loading dock for the site is tied to the finished floor and sits only 6 inches below. There is a small ramp that connects the paving in the loading area to the loading and storage door on the building. Due to the elevation along Main in this area, the finished floor would sit a great deal higher than the driveway entrance out to Orleans. We worked up some conceptual grades and came up with a grade differential of approximately 7 to 8 feet between where the loading area would need to sit and where the driveway connection would have to be. There is no functional way to overcome that grade difference, therefore, our opinion is that this layout is not feasible.

4300 N. Miller Road, Suite 122, Scottsdale, AZ 85251 (602) 371-1333 Fax: (602) 371-0675 www.ttgcorp.com

TTG

We are happy to provide additional information related to these options should you have additional questions.

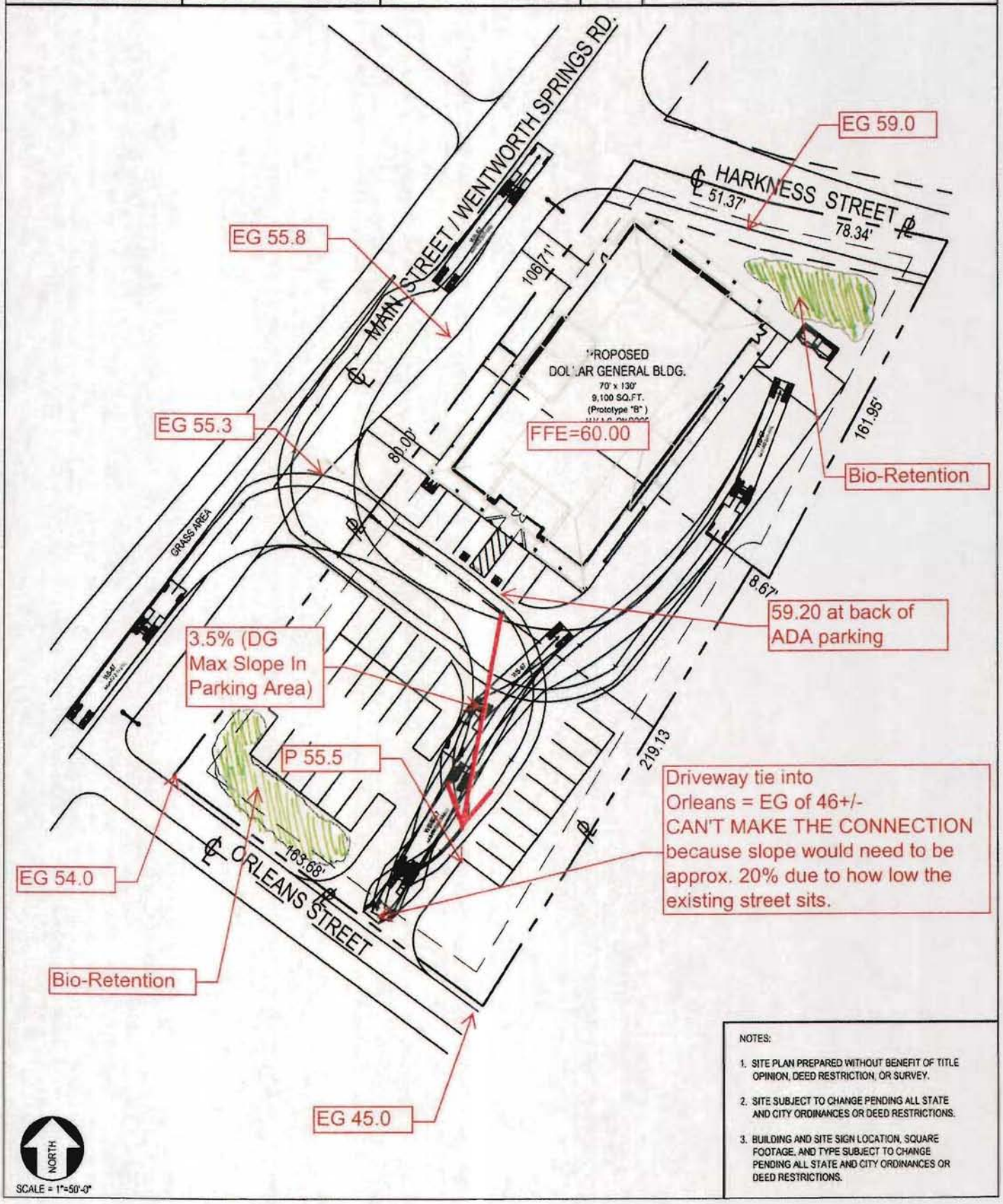
Sincerely,

Andrew Mizerek, PE
Project Manager

PRELIMINARY SITE PLAN

CITY, STATE - STREET:
GEORGETOWN, CA. - MAIN ST. @ HARKNESS ST.

PROTOTYPE:	B	DEVELOPER		DESIGNER		DATE:
BLDG/SALES SF:	9,026 / 7,195	COMPANY:	SIMON CRE	COMPANY:	MPA ARCHITECTS, INC.	04-22-15
ACREAGE:	1.20 GROSS	NAME:	JOSHUA SIMON	NAME:	LEONARDO DALE	
PARKING SPACES REQ'D:	31	PHONE #:	480-745-1956	PHONE #:	619-236-0595	



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PRELIMINARY SITE PLAN

CITY, STATE - STREET:
GEORGETOWN, CA. - MAIN ST. @ HARKNESS ST.

PROTOTYPE:	B	DEVELOPER		DESIGNER		DATE:
BLDG/SALES SF:	9,026 / 7,195	COMPANY:	SIMON CRE	COMPANY:	MPA ARCHITECTS, INC.	04-23-15
ACREAGE:	1.20 GROSS	NAME:	JOSHUA SIMON	NAME:	LEONARDO DALE	
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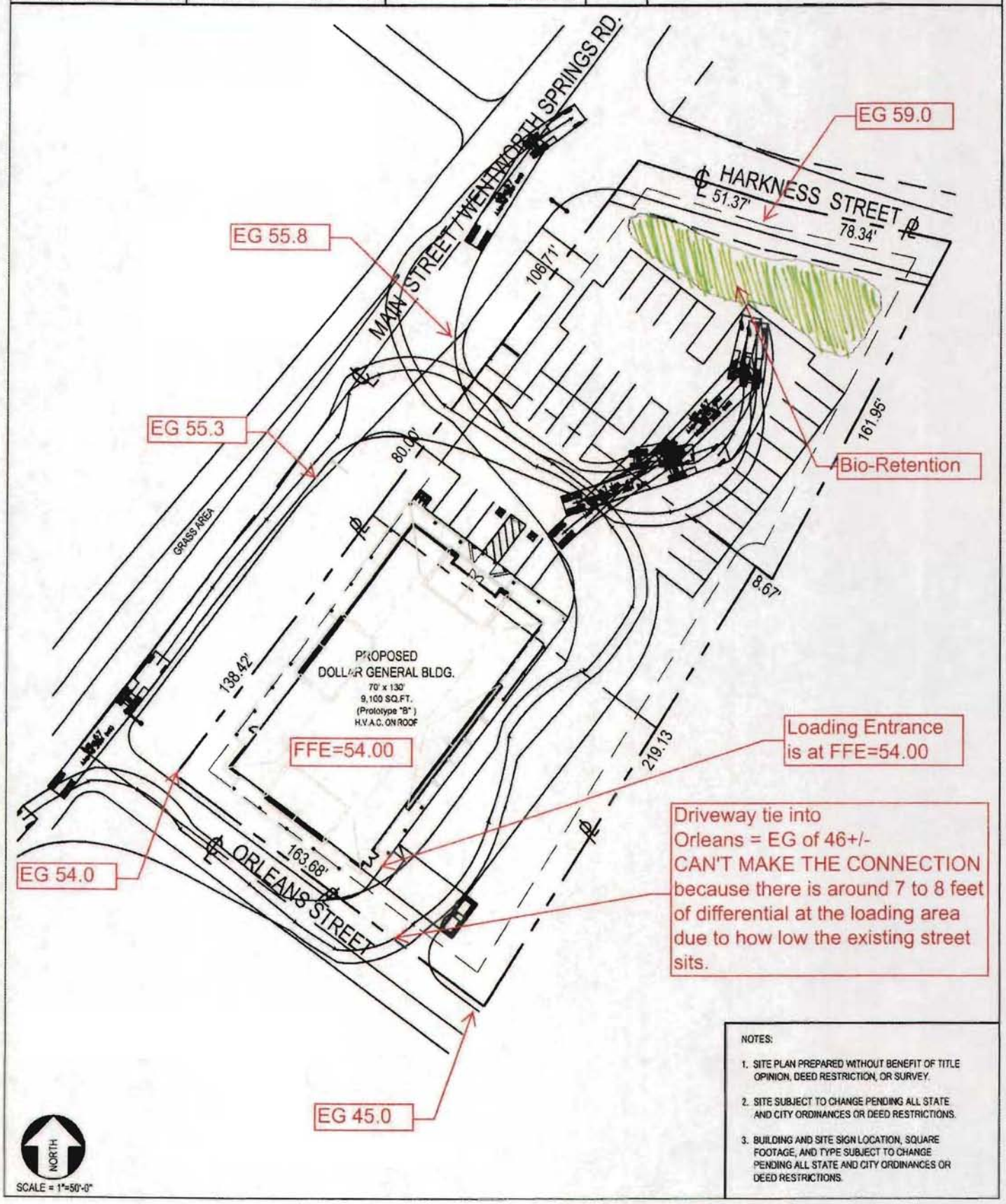

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SALEM
engineering group, inc.

4729 W. Jacquelyn Avenue
Fresno, California 93722
(559) 271-9700 / (559) 275-0827 Fax

Memo

To: Joshua Simon, President, SimonCRE

From: Bruce Myers

cc: Dan Biswas

Date: May 5, 2015

Re: Dollar General, Georgetown - New Site Layout Incompatibility With Septic Design

---

Joshua,

I understand El Dorado County has requested that you change the Georgetown Dollar General site layout from the original that I used to design the septic system for the project. I have reviewed the two alternate site plan options that you forwarded. These alternate plans also show the locations of proposed bio-retention basins.

Considering the following:

- The required 50-foot stream setback and the 10-foot property line setback requirements previously imposed for this project, and;
- The remaining landscape area potentially available for subsurface drip that must be used for bio-retention basins

it does not appear feasible, under the two new site plan scenarios, to construct subsurface drip fields of sufficient area to meet the septic system demand.

Feel free to contact me with any questions.

Bruce Myers, Senior Engineer
SALEM Engineering Group

(559) 271-9700
Bruce@salem.net

Environmental Noise Assessment

Dollar General Store - Georgetown

El Dorado County California

Job # 2014-212

Prepared For:

SimoneCRE Abbie III, LLC

511 N. Scottsdale Road, Suite 200
Scottsdale, AZ 85250

Attn: Mr. Dan Biswas

Prepared By:

j.c. brennan & associates, Inc.

Jim Brennan
President
Member, Institute of Noise Control Engineering

October 23, 2014

j.c. brennan & associates
consultants in acoustics

P.O. Box 6748 - 1287 High Street - Auburn, California 95603 -p: (530) 823-0960 -f: (530) 823-0961

Attachment 20

INTRODUCTION

This report describes the existing noise environment in the area of the proposed Dollar General Store project in the Georgetown portion of El Dorado County, California. This analysis will evaluate the potential of the proposed project to generate noise levels exceeding the applicable El Dorado County exterior noise level standards at existing noise-sensitive receptors.

The proposed project is located on a 1.20 acre site, located at the southeast corner of Main Street and Harkness Street, and proposes the construction of a 9,100 square-foot Dollar General Store. Adjacent land uses include office buildings to the south, a post office to the east, a park to the north and residences to the west and across Main Street.

Parking lot, truck deliveries and rooftop HVAC unit operations will be evaluated to determine if noise levels will exceed the El Dorado County exterior noise level standards for non-transportation noise sources. Therefore, this analysis will assess the potential noise generation from non-transportation fixed noise sources on the project site. Predicted noise levels will be compared to the noise level standards of the El Dorado General Plan Noise Element. If necessary, noise control measures will be recommended for the proposed project.

Figure 1 shows the project area, and Figure 2 shows the project site plan.

ENVIRONMENTAL SETTING

BACKGROUND INFORMATION ON NOISE

Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

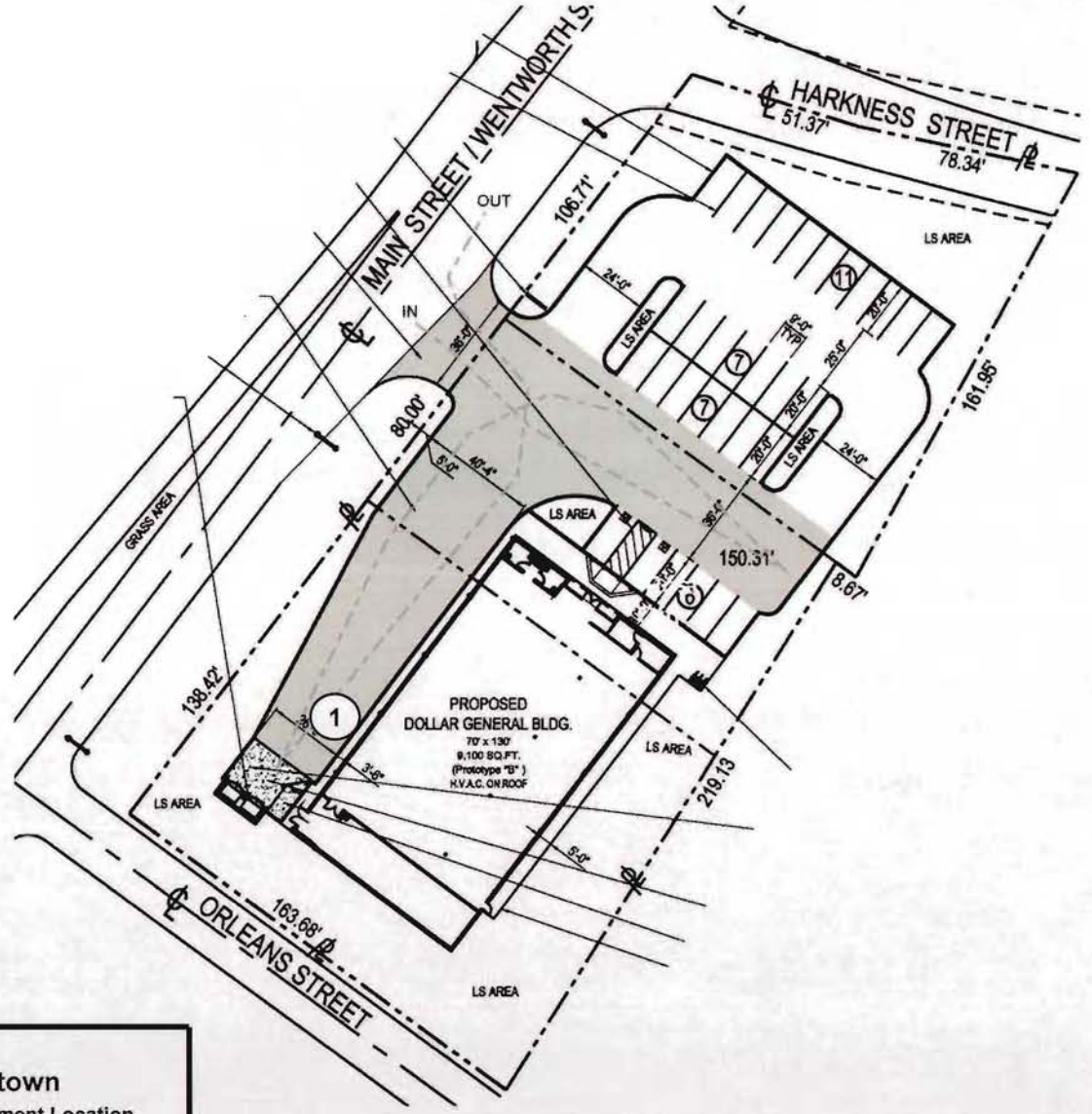
Dollar General Georgetown

Figure 1: Project Location and Noise Measurement Location

j.c. brennan & associates
consultants in acoustics

Figure Prepared October 2014

○ : **Short Term Noise Measurement Location**



Dollar General Georgetown

Figure 2: Site Plan and Noise Measurement Location

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Figure Prepared October 2014

◯ : **Short Term Noise Measurement Location**

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. Appendix A provides a summary of acoustical terms used in this report.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

TABLE 1
TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing
Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. November 2009		

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and

- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

Existing Conditions

The existing noise environment in the project area is defined primarily by traffic on Main Street, Harkness Street and Orleans Street. Although the park to the north was not a major contributor to the measured noise environment, noise sources from these types of uses include people recreating and parking lot activity.

Existing Ambient Noise Levels

To quantify the existing ambient noise environment in the project vicinity, a short term noise level measurement was conducted on Monday, October 20th, 2014. The noise measurement location is shown on Figures 1 and 2. The noise level measurement survey results are provided in Table 2.

The sound level meter was programmed to record the maximum and average noise levels at each site during the survey. The maximum value, denoted L_{max}, represents the highest noise level measured. The average value, denoted L_{eq}, represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period.

A Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meter was used for the ambient noise level measurement survey. The meter was calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

Table 2
Measured Ambient Noise Levels

Location	Time	Sound Level	Notes
Ambient Noise Levels			
Site 1	12:58 – 1:13 p.m.	60 dB Leq / 75 dB Lmax	Traffic on Main Street is primary noise source.
	1:17 – 1:32 p.m.	57 dB Leq / 71 dB Lmax	Traffic on Main Street is primary noise source.
Source - j.c. brennan & associates, Inc. 2014			

Applicable Criteria

El Dorado County General Plan Noise Element, July 2004 (Amended March 2009)

GOAL 6.5: ACCEPTABLE NOISE LEVELS

OBJECTIVE 6.5.1: PROTECTION OF NOISE-SENSITIVE DEVELOPMENT

Protect existing noise-sensitive developments (e.g., hospitals, schools, churches and residential) from new uses that would generate noise levels incompatible with those uses and, conversely, discourage noise-sensitive uses from locating near sources of high noise levels.

Policy 6.5.1.7 Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table 6-2 (Table 3 of this report) for noise-sensitive uses.

The Eldorado County Policy 6.5.1.7, establishes land use noise level standards for new non-transportation or "stationary" noise sources in Community areas, as outlined in table 6-2 (Table 3 of this report) that would be applicable to the Dollar General operations.

Table 3
Noise Level Performance Protection Standards for Noise Sensitive Land Uses Affected by Non-Transportation Sources

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.

The closest single family residential property line in the project vicinity is located approximately 180 feet to the northwest of center of the parking lot across Main Street. Figure 1 shows the project site and surrounding receptors.

ANALYSIS

Project Generated Noise at Sensitive Receptors

Truck Delivery Noise

Based upon discussions with the project architects, the Dollar General store will generally have 8 small truck / van deliveries per week, and 1 to 2 semi-truck deliveries per week. Typical truck activity for the store will consist of no more than (1) semi-truck delivery, and (1) step-side vans per hour during the daytime hours. Based on noise level data collected at a Trader Joes, for these types of truck passages and unloading activities, the sound exposure level (SEL) for a semi-truck at a reference distance of 50 feet, is approximately 88 dB, and a maximum noise level of 80 dB. Typical medium truck arrivals and departures and unloading are approximately 84 dB SEL and 75 dB Lmax at 50 feet. Based upon the data described above, the following formula can be utilized to determine the hourly noise level due to the truck traffic passbys.

$$L_{eq} = 88 + 10 * (\log N_{eq}) - 35.6, \text{ dB where:}$$

88 is the mean sound exposure level (SEL) for a heavy truck arrival and departure (84 for medium trucks), and 10 * (log N_{eq}) is 10 times the logarithm of the number of truck arrivals and departures during an hour, and 35.6 is 10 times the logarithm of the number seconds in an hour.

Based upon the above formula, the hourly Leq generated during the hour of truck activity is 54 dB L_{eq} and 80 dB L_{max} at a distance of 50 feet.

The proposed configuration for the Dollar General loading area is located approximately 150 feet from the closest residential uses to the south across Main Street.

The predicted delivery truck hourly noise levels are 44 dB L_{eq}, and 70 dB L_{max} at the nearest residences. Truck deliveries will comply with the El Dorado County daytime (7 a.m. to 7 p.m.) noise level standards of 55 dB L_{eq} and 70 dB L_{max}. However, truck deliveries are predicted to exceed the County's evening noise level standards (7 p.m. to 10 p.m.) of 50 dB L_{eq} and 60 dB L_{max} and the County's nighttime noise level standards of 45 dB L_{eq} and 55 dB L_{max}.

Truck deliveries will need to be restricted between the hours of 7:00 a.m. and 7:00 p.m.

Mechanical Equipment Noise

The heating, ventilation, and air-conditioning (HVAC) systems for the store will consist of packaged rooftop air conditioning systems. A building of 10,000 square feet would require HVAC units totaling approximately (5-ton).

j.c. brennan and associates, Inc., used data collected from a similar project using two Bryant Model 574-DNWA 36060 (3-ton), roof mounted HVAC units. Each of the units have a sound power level of 75 dBA, per the manufacturer's cut-sheets (Appendix B).

Based upon the site plan, the nearest residential property lines are located approximately 220 feet northwest of the nearest proposed building facade. The two HVAC units are located at the following distances from the nearest property line to the northwest:
Hemispherical stationary noise sources will attenuate at a rate of 6 dB per doubling of distance. This is a 20 log attenuation rate.

Based upon the attenuation over distance, the noise levels associated with each unit and the cumulative noise from 2 HVAC units can be calculated at the nearest property line. Table 4 shows the calculated noise level from the HVAC units. This does not account for shielding from the roof parapets and the roof lines.

Table 4
Calculated Roof-top HVAC Noise Levels
At the Nearest West Property Line

Unit	Distance to Residential Property Line to the North West	Calculated Individual HVAC Unit Noise Level	**Calculated Cumulative Noise Levels**
1	220 feet	28 dBA	
2	220 feet	28 dBA	
			31 dBA

Therefore predicted HVAC noise generations would comply with the El Dorado County General Plan Noise Element hourly nighttime 45 dB L_{eq} and 55 dB L_{max} noise level standards.

Parking Lot Noise

Parking lot noise typically includes periods of conversation, doors slamming, engines starting and stopping and vehicle passage. j.c. brennan & associates, Inc. file data for parking lot activities was used to model the parking lot noise environment for the project site. An average sound exposure level (SEL) of 71 dB at a distance of 50 feet was used to represent parking lot arrivals and departures.

The proposed project will create a 31 space parking lot on the north side of the Dollar General store. Dollar General predicts 10 parking lot arrivals and departures in a busy hour of use. Therefore, a total of 20 vehicle movements could occur in a busy hour.

The peak hour L_{eq} value can be calculated as follows:

$$L_{eq} = SEL + 10 \log N_{eq} - 35.6, \text{ dB where:}$$

SEL is the mean SEL of the event, N_{eq} is the sum of the number of hourly events, and 35.6 is 10 times the logarithm of the number of seconds in an hour. Based upon the calculation above, the predicted noise level due to parking lot activities is 48 dB L_{eq} at a reference distance of 50 feet.

Parking lot circulation is predicted to occur within an average distance of 180 feet from the residential uses to the northwest across Main Street. The parking lot noise level at the nearest property line to the northwest is predicted to be 37 dB L_{eq}

Therefore predicted parking lot noise generations would comply with the El Dorado County General Plan Noise Element hourly nighttime 45 dB L_{eq} and 55 dB L_{max} noise level standards.

CONCLUSIONS

The project will comply with the noise level standards of El Dorado County General Plan noise level criteria provided that the truck deliveries are restricted between the hours of 7:00 a.m. and 7:00 p.m.

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 (Hz).
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(n)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50% of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
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	Sound Exposure Level. SEL is s rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations.
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.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

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consultants in acoustics

Appendix B
HVAC Unit Sound Power Levels

AHRI* CAPACITIES

Cooling Capacities and Efficiencies

UNIT 574D--A	NOMINAL TONS	STANDARD CFM	NET COOLING CAPACITIES (Btuh)	EER**	SEER†
24	2	800	23,000	11.0	13.2
30	2-1/2	1000	28,400	11.2	13.5
36	3	1200	34,400	11.0	13.0
42	3-1/2	1400	40,500	11.2	13.2
48	4	1600	46,500	11.2	13.2
60	5	1750	57,000	11.0	13.4

LEGEND
dB–Sound Levels (decibels)
db–Dry Bulb
SEER—Seasonal Energy Efficiency Ratio
wb—Wet Bulb
COP–Coefficient of Performance
* Air Conditioning, Heating & Refrigeration Institute.
**At "A" conditions–80°F (26.7°C) indoor db/67°F (19.4°C) indoor wb & 95°F (35°C) outdoor db.
† Rated in accordance with U.S. Government DOE (Department of Energy) test procedures and/or ARI Standards 210/240.

Notes:
1. Ratings are net values, reflecting the effects of circulating fan heat. Ratings are based on:
Cooling Standard: 80°F (26.7°C) db, 67°F wb (19.4°C) indoor entering–air temperature and 95°F db (35°C) outdoor entering–air temperature.
2. Before purchasing this appliance, read important energy cost and efficiency information available from your retailer.

574D--A

Gas Heating Capacities and Efficiencies

UNIT 574D--A	HEATING INPUT (Btuh)	OUTPUT CAPACITY (Btuh)	TEMPERATURE RISE RANGE °F (°C)	AFUE (%)
24040 30040	40,000	32,000	30-60 (16.7-33.3)	80.0
24060	60,000	48,000	25-55 (13.9-30.6)	80.0
30060		48,000		80.0
36060		48,000		80.0
42060		47,000		78.5
36090	90,000	72,000	35-65 (19.4-36.1)	79.3
42090		73,000		80.4
48090		73,000		80.4
60090		73,000		80.4
48115 60115	115,000	93,000	30-60 (16.7-33.3)	80.3
48130 60130	130,000	103,000	35-65 (19.4-36.1)	78.9

LEGEND
AFUE—Annual Fuel Utilization Efficiency
NOTE: Before purchasing this appliance, read important energy cost and efficiency information available from your retailer.

A-Weighted Sound Power Level (dBA)

UNIT 574D--A	STANDARD RATING dBA	TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
24	76	66.0	66.0	70.5	71.5	67.5	62.5	58.5
30	75	66.0	63.5	68.0	68.5	67.5	61.5	55.0
→ 36	75	64.0	63.5	68.0	70.5	64.5	61.0	61.0
42	77	67.0	67.0	69.5	70.5	68.0	65.5	61.0
48	78	71.5	66.5	73.0	71.5	68.0	64.0	57.0
60	78	74.5	66.5	70.0	70.0	66.5	64.0	57.0

* Tested in accordance with AHRI Standard 270 (not listed in AHRI).

KUNZMAN ASSOCIATES, INC.

DOLLAR GENERAL - GEORGETOWN

FOCUSED TRAFFIC ANALYSIS

March 23, 2015

Traffic Engineering | Transportation Planning | Parking | Noise/Vibration | Expert Witness
Air Quality | Global Climate Change | Health Risk Assessment

Attachment 21

KUNZMAN ASSOCIATES, INC.
OVER 35 YEARS OF EXCELLENT SERVICE

March 23, 2015

Mr. Dan Biswas, VP of Development
SIMONCRE ABBIE, LLC
5111 North Scottsdale Road, Suite 200
Scottsdale, CA 85250

Dear Mr. Biswas:

INTRODUCTION

The firm of Kunzman Associates, Inc. is pleased to provide this focused traffic analysis for the Dollar General - Georgetown project. This focused traffic analysis supplements the Dollar General - Georgetown Project Focused Traffic Analysis prepared by Kunzman Associates, Inc. (October 17, 2014). The purpose of this analysis is to capture the logging traffic volumes taking place on Main Street adjacent to the project site. The project site is located east of Main Street between Harkness Street and Orleans Street in the County of El Dorado (see Figure 1). The Dollar General - Georgetown project consists of a 9,100 square foot variety store. Figure 2 illustrates the project site plan.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided within Appendix A.

ON-SITE TRANSPORTATION REVIEW

As stated by the County of El Dorado Transportation Department staff, an on-site transportation review is required for every project within the County of El Dorado. The on-site transportation review must address the following criteria:

1. Existence of any current traffic problems in the local area such as high-accident location, non-standard intersection or roadway, or an intersection in need of a traffic signal.

2. Close proximity of proposed site driveway(s) to other driveways or intersections.

3. Adequacy of vehicle parking relative to both the anticipated demand and zoning code requirements.

4. Adequacy of project site design to fully satisfy truck loading demand on-site, when the anticipated number of deliveries and service calls may exceed 10 per day.

5. Adequacy of the project site design to provide at least the minimum required throat depth at project driveways.

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6. Adequacy of the project site design to convey all vehicle types.

7. Adequacy of the sight distance for ingress and egress.

8. Adequacy of pedestrian and bike access.

EXISTING TRAFFIC CONDITIONS

Figure 3 identifies the existing conditions for study area roadways. The number of through lanes for existing roadways and the existing intersection controls are identified.

Existing intersection traffic conditions were established through morning and evening peak hour traffic counts separating cars and trucks (by axle) obtained by Kunzman Associates, Inc. in March 2015 (see Appendix B). Explicit peak hour factors have been calculated using the data collected for this effort as well. The morning and evening peak hour traffic volumes were identified by counting the two-hour periods from 7:00 AM – 9:00 AM and 4:00 PM – 6:00 PM.

Since logging trucks are longer than the average vehicle, the traffic counts separated cars and trucks (by axle). A Passenger Car Equivalent is a metric that analyzes the impact that trucks have on traffic compared to a single car. A 2-axle truck has a Passenger Car Equivalent of 1.5, a 3-axle truck has a Passenger Car Equivalent of 2.0, and 4+-axle trucks have a Passenger Car Equivalent of 3.0. The Passenger Car Equivalent factors are based on the San Bernardino Association of Governments, Congestion Management Program, Appendix C: Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2005. The County of El Dorado and other surrounding counties do not have Passenger Car Equivalent factors available. It should be noted that the County of Sacramento approved the conversion of trucks to Passenger Car Equivalent's in a similar manner in the traffic study for the Sierra Waste Recycling and Transfer Station Project in the County of Sacramento[1].

As an example, 55 vehicles made the southbound through movement for the intersection of Main Street at Harness Street from 8:00 AM to 8:15 AM. Of these 55 vehicles, 4 were 2-axle trucks and 4 were 4+-axle trucks. Therefore, the intersection had 65 ((47 cars) + (4 2-axle trucks X 1.5) + (4 4+-axle trucks X 3.0)) southbound through movements in Passenger Car Equivalent's. The southbound through movements at this intersection for 8:00 AM to 8:15 AM was analyzed using 65 vehicles (converted to Passenger Car Equivalent's) instead of the 55 total vehicles. This conversion has been made for every turning movement at all intersections for both peak hours.

The technique used to assess the capacity needs of an intersection is known as the Intersection Delay Method (see Appendix C). To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection.

[1] http://www.calrecycle.ca.gov/actions/Documents%5C26%5C20132013%5C859%5CSierra%20Waste%20Staff%20Report%205-30-13.pdf

The definition of an intersection deficiency has been obtained from the County of El Dorado Department of Transportation - Traffic Impact Study Protocols and Procedures. The document states that peak hour intersection operations of Level of Service E or better are generally acceptable for Community Regions and Level of Service D or better is generally acceptable in Rural Regions, except as specified in Table TC-2 or after December 31, 2008 in Table TC-3 of the County of El Dorado Department of Transportation - Traffic Impact Study Protocols and Procedures. It should be noted that the study area intersections are not listed in either table. For purposes of this analysis the Rural Regions standards have been assumed, and therefore any intersection operating at Level of Service E to F will be considered deficient.

If the project causes the peak hour level of service or volume/capacity ratio on a county road or state highway that would otherwise meet the County standards (without the project) to exceed the values listed above, then the impact shall be considered significant. It is acceptable to mitigate an intersection from an unacceptable Level of Service to an acceptable Level of Service.

The existing delay and Level of Service for the study area intersections are shown in Table 1. The study area intersections currently operate within acceptable Levels of Service during the peak hours for Existing traffic conditions. The Existing delay worksheets are provided in Appendix C.

PROJECT TRIP GENERATION

Trip generation rates were determined for daily traffic, morning peak hour inbound and outbound traffic, and evening peak hour inbound and outbound traffic for the proposed land use. By multiplying the trip generation rates by the land use quantity, the project generated trips are determined.

Table 2 exhibits the trip generation rates, project peak hour volumes, and project daily traffic volumes. The trip generation rates are derived from the Institute of Transportation Engineers, Trip Generation, 9th Edition, 2012. In the absence of data from the Institute of Transportation Engineers, the morning and evening peak hour inbound/outbound ratio splits for specialty retail/strip commercial were obtained from the San Diego Association of Governments, Traffic Generators, April 2003.

The proposed project has been identified as a Variety Store (Land Use: 814) in the Institute of Transportation Engineers, Trip Generation, 9th Edition, 2012. A Variety Store (15 study locations) is described as follows:

> *A variety store is a retail store that sells a broad range of inexpensive items often at a single price. These stores are typically referred to as "dollar stores". Items sold at these stores typically include kitchen supplies, cleaning products, home office supplies, food products, household goods, decorations and toys. These stores are sometimes stand-alone sites, but they may also be located in small strip shopping centers. Free-standing discount store (Land Use 815) is a related use.*

The proposed development is projected to generate approximately 583 daily vehicle trips, 35 of which occur during the morning peak hour and 62 of which occur during the evening peak hour.

PROJECT TRIP DISTRIBUTION

Figure 4 contains the directional distribution of the project trips for the proposed land use. To determine the trip distribution for the proposed project, peak hour traffic counts of the existing directional distribution of traffic for existing areas in the vicinity of the site and other additional information on future development and traffic impacts in the area were reviewed.

STUDY AREA TRAFFIC CONDITIONS

The technique used to assess the capacity needs of an intersection is known as the Intersection Delay Method (see Appendix C). To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection. The volume to capacity ratio is defined as the critical volumes divided by the intersection capacity. A volume to capacity ratio greater than 1.0 implies an infinite queue.

For Existing Plus Project traffic conditions, the study area intersections are projected to operate at acceptable Levels of Service during the peak hours (see Table 3). The Existing Plus Project delay worksheets are provided in Appendix C.

ACCIDENT DATA ANALYSIS

Accident data has been obtained from the Statewide Integrated Traffic Records System (SWITRS) database for El Dorado County from January 1, 2012 to present. This two and a half year data set has been sorted to refine the data for only accidents that occurred at or near the intersections of Main Street at Harkness Street and Main Street at Orleans Street. In the past two and a half years, there have been two (2) reported accidents at or near the Main Street at Harkness Street intersection (see Appendix D). One accident involved unsafe speeds resulting in two injuries and the other was due to improper passing resulting in one injury. It should be noted that another accident due to unsafe speeds including one injury occurred at Main Street at Wentworth Springs Road, but it is unclear exactly where this took place due to Main Street being referred to as Wentworth Springs Road.

An additional accident occurred north of the project site on Main Street at School Street for unsafe speeds with property damage only. Three accidents occurred south of the project site on Main Street at State Route 93 with an injury occurring in one of the accidents.

It should be noted that field observations concluded that the study area intersections and roadways do not indicate non-standard conditions.

TRAFFIC SIGNAL WARRANT ANALYSIS

For Existing Plus Project traffic conditions, traffic signals are not projected to be warranted at the study area intersections (see Appendix E). The unsignalized intersections have been evaluated for traffic signals using the California Department of Transportation Warrant 3 Peak Hour traffic signal warrant analysis, as specified in the Manual of Uniform Traffic Control Devices 2003 California Supplement, dated May 20, 2004.

DRIVEWAY LOCATION

The project site is proposing one access driveway to Main Street. The project access driveway is proposed to be located with its centerline approximately 120 feet south of the centerline of Harkness Street and approximately 210 feet north of the centerline of Orleans Street.

The driveway spacing between intersections is consistent with driveways located throughout the roadway network on Main Street as well as surrounding roads. It should be noted that on Main Street north of Harkness Street, single-family detached residential dwelling units take access directly to Main Street via driveway frontage.

ON-SITE PARKING

The County of El Dorado Municipal Code Title 17.18.060 states that commercial retail (general merchandising not in a shopping center) requires 1 parking space per 300 square feet of gross floor area (see Appendix F). According to the parking code requirements, the proposed development is required to provide 30.33 (say 31) (9,100 square feet / 300 square feet) parking spaces. As proposed, the project is proposing to provide 31 parking spaces. Therefore, the parking space requirement is met.

It should be noted that a parking analysis for a proposed Dollar General in the County of Nevada was recently prepared by Kunzman Associates, Inc. The Dollar General Project Parking Analysis (September 30, 2014) surveyed three existing Dollar General similar locations on a weekday (Thursday) and weekend (Saturday). These three stand alone Dollar Generals were located in Gridley, Colusa, and Olivehurst. The Gridley location provided 31 parking spaces. The Colusa location provided 30 parking spaces. The Olivehurst location provided 52 parking spaces and the parking lot will be shared in the future with other businesses once they are developed.

Each location was counted in 15 minute increments from 8:00 AM to 7:00 PM. The maximum number of observed vehicles parked was 13 vehicles at the Olivehurst location. Based on the 31 parking spaces proposed for the project site, a maximum peak parking demand of 13 vehicles translates to a usage rate of 41.94%. Therefore, it is anticipated that the project site is proposing sufficient parking for the proposed Dollar General.

TRUCK TURNING TEMPLATES

Figures 5 and 6 show the truck turning templates for the project access. Truck turning templates are provided for both inbound and outbound truck turning movements at the project access. Adequate turning radii are provided for trucks.

DRIVEWAY THROAT LENGTH

The required storage length for the project access has been calculated based on the guidelines provided in the California Department of Transportation Highway Design Manual, Section 405.2. For unsignalized intersections, the required storage length is calculated as the number of turning vehicles likely to arrive

in an average 2-minute period during the peak hour. For signalized intersections, the required storage length is calculated as 2 times the average queue. A minimum of 2 passenger cars should be provided at 25 feet per vehicle (50 feet minimum storage length).

The minimum required storage length for projected westbound turning movements at the intersection of Main Street and Project Access is 25.83 feet. The calculation is as follows:

> (31 turning movements / (60 minutes per hour / 2)) *25 feet per vehicle = Minimum Storage Length.

The project site is proposing approximately 25 feet of storage length from the curb line of Main Street to the curb line within the project site with a loading zone to the south and travel lane for internal circulation to the north. The approximately 24 foot wide travel lane internal to the site provides an additional queuing area for vehicles. In addition, the first parking stall is located approximately 56 feet from the curb line of Main Street. In essence, both of these travel lanes provide for additional queuing areas. Therefore, based on the proposed site plan it is projected that adequate storage length occurs within the project site.

SIGHT DISTANCE ANALYSIS

Figure 7 shows the summary of the sight distance analysis. The posted speed limit along Main Street is 35 miles per hour north of the project site and 25 miles per hour south of the project site. For purposes of this analysis, the sight distance analysis has been performed based on a 35 miles per hour speed limit. The stopping sight distance minimum is 250 feet per Table 201.1 in the Highway Design Manual (see Appendix G). Figure 7 illustrates the stopping sight distance for the project access driveway. Stopping sight distance requires 250 feet of unobstructed line of sight for a 35 mile per hour speed limit on Main Street. As shown on Figure 7, it is anticipated that sufficient stopping sight distance shall occur at the project access driveway to Main Street.

EMERGENCY ACCESS

Figure 8 illustrates the distances from Main Street to the entrance of the building and property boundary for an emergency vehicle parked along Main Street. Since these distances are less than 1,000 feet, adequate emergency access is provided because emergency personnel can park along Main Street and provide emergency services in the event that the project access is blocked and inaccessible.

PEDESTRIAN AND BIKE ACCESS

As proposed adjacent to the project site, the proposed development shall construct Main Street, Orleans Street, and Harness Street to their ultimate half-section widths including landscaping and parkway improvements in conjunction with development. These improvements shall be completed to County of El Dorado guidelines ensuring adequate pedestrian and bicycle access.

CONCLUSIONS

The proposed development is projected to generate approximately 583 daily vehicle trips, 35 of which occur during the morning peak hour and 62 of which occur during the evening peak hour.

For Existing Plus Project traffic conditions, the study area intersections are projected to operate at acceptable Levels of Service during the peak hours.

For Existing Plus Project traffic conditions, traffic signals are not projected to be warranted at the study area intersections.

The County of El Dorado Municipal Code Title 17.18.060 states that commercial retail (general merchandising not in a shopping center) requires 1 parking space per 300 square feet of gross floor area. According to the parking code requirements, the proposed development is required to provide 30.33 (say 31) (9,100 square feet / 300 square feet) parking spaces. As proposed, the project is proposing to provide 31 parking spaces. Therefore, the parking space requirement is met.

The project site is proposing approximately 25 feet of storage length from the curb line of Main Street to the curb line within the project site with a loading zone to the south and travel lane for internal circulation to the north. The approximately 24 foot wide travel lane internal to the site provides an additional queuing area for vehicles. In addition, the first parking stall is located approximately 56 feet from the curb line of Main Street. In essence, both of these travel lanes provide for additional queuing areas. Therefore, based on the proposed site plan it is projected that adequate storage length occurs within the project site.

Stopping sight distance requires 250 feet of unobstructed line of sight at the intersection of Main Street and Project Access. The intersection of Main Street and the project driveway provides more than 250 feet and adequate stopping sight distance is provided.

RECOMMENDATIONS

The following improvements are recommended in conjunction with the proposed development to ensure adequate circulation within the project itself (see Figure 9).

Construct Main Street from Orleans Street to Harkness Street at its ultimate half-section width including landscaping and parkway improvements in conjunction with development adhering to sight distance requirements.

Construct Orleans Street from Main Street to the east project boundary at its ultimate half-section width including landscaping and parkway improvements in conjunction with development adhering to sight distance requirements.

Construct Harkness Street from Main Street to the east project boundary at its ultimate half-section width including landscaping and parkway improvements in conjunction with development adhering to sight distance requirements.

Mr. Dan Biswas, VP of Development
SIMONCRE ABBIE, LLC
March 23, 2015

The site is anticipated to provide sufficient parking spaces to meet County of El Dorado parking code requirements in order to service on-site parking demand.

On-site traffic signing/striping should be implemented in conjunction with detailed construction plans for the project site.

As is the case for any roadway design, the County of El Dorado should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

It has been a pleasure to service your needs on this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 973-8383.

Sincerely,

KUNZMAN ASSOCIATES , INC.

Carl Ballard, LEED GA
Principal

#5833c

KUNZMAN ASSOCIATES, INC.

William Kunzman, P.E.
Principal

Table 1

Existing Intersection Delay and Level of Service

Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay-LOS[2]	
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
Main Street (NS) at:															
Harkness Street (EW) - #1	CSS	0	1	0	0	1	0	0	1	0	0	1	0	14.1-B	10.7-B
Orleans Street (EW) - #3	TS	0	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0	0.5	12.1-B	10.6-B

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right

[2] Delay and level of service calculated using the following analysis software: Traffix, Version 7.9.0215 (2008). Per the Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement(or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop; TS = Traffic Signal

Table 2

Project Trip Generation[1]

Land Use	Quantity	Units[2]	Peak Hour						Daily
			Morning			Evening			
			Inbound	Outbound	Total	Inbound	Outbound	Total	
Trip Generation Rates									
Variety Store	9.100	TSF	2.29	1.52	3.81	3.41	3.41	6.82	64.03
Trips Generated									
Variety Store	9.100	TSF	21	14	35	31	31	62	583

[1] Source: Institute of Transportation Engineers, Trip Generation, 9th Edition, 2012, Land Use Category 814. Since morning and evening peak hour inbound/ outbound ratios are not available, the morning and evening peak hour inbound/outbound ratio splits for specialty retail/strip commercial has been obtained from the San Diego Association of Governments, Traffic Generators, April 2003.

[2] TSF = Thousand Square Feet

Table 3

Existing Plus Project Intersection Delay and Level of Service

Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay-LOS[2]	
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
Main Street (NS) at:															
Harkness Street (EW) - #1	CSS	0	1	0	0	1	0	0	1	0	0	1	0	14.3-B	10.8-B
Project Access (EW) - #2	**CSS**	0	0.5	0.5	0.5	0.5	0	0	0	0	**0.5**	0	**0.5**	11.6-B	10.4-B
Orleans Street (EW) - #3	TS	0	0.5	0.5	0.5	0.5	0	0	0	0	0.5	0	0.5	12.3-B	11.0-B

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; 1 = Improvement

[2] Delay and level of service calculated using the following analysis software: Traffix, Version 7.9.0215 (2008). Per the Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement(or movements sharing a single lane) are shown.

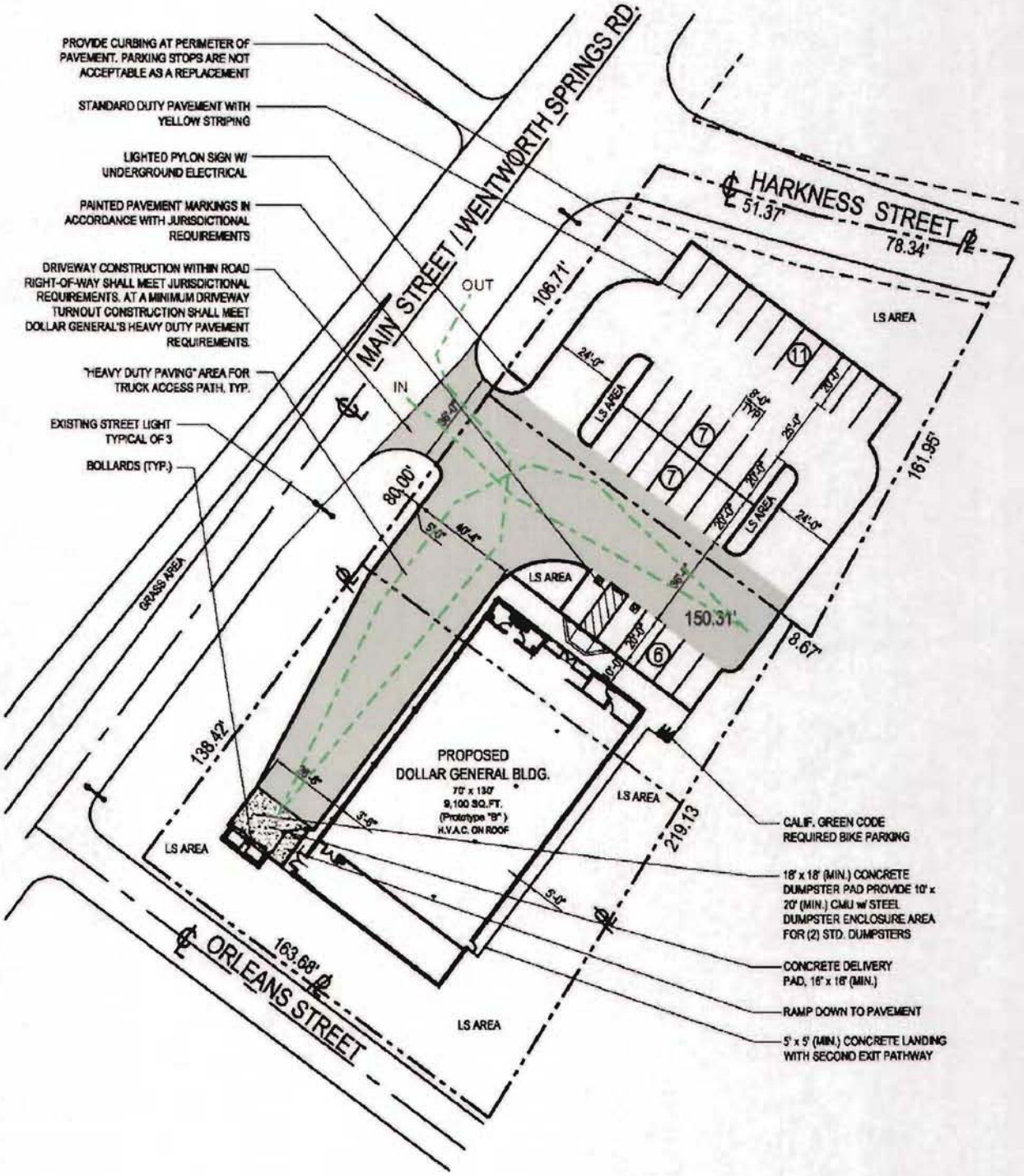
[3] CSS = Cross Street Stop; TS = Traffic Signal

Figure 1
Project Location Map

5833c/1

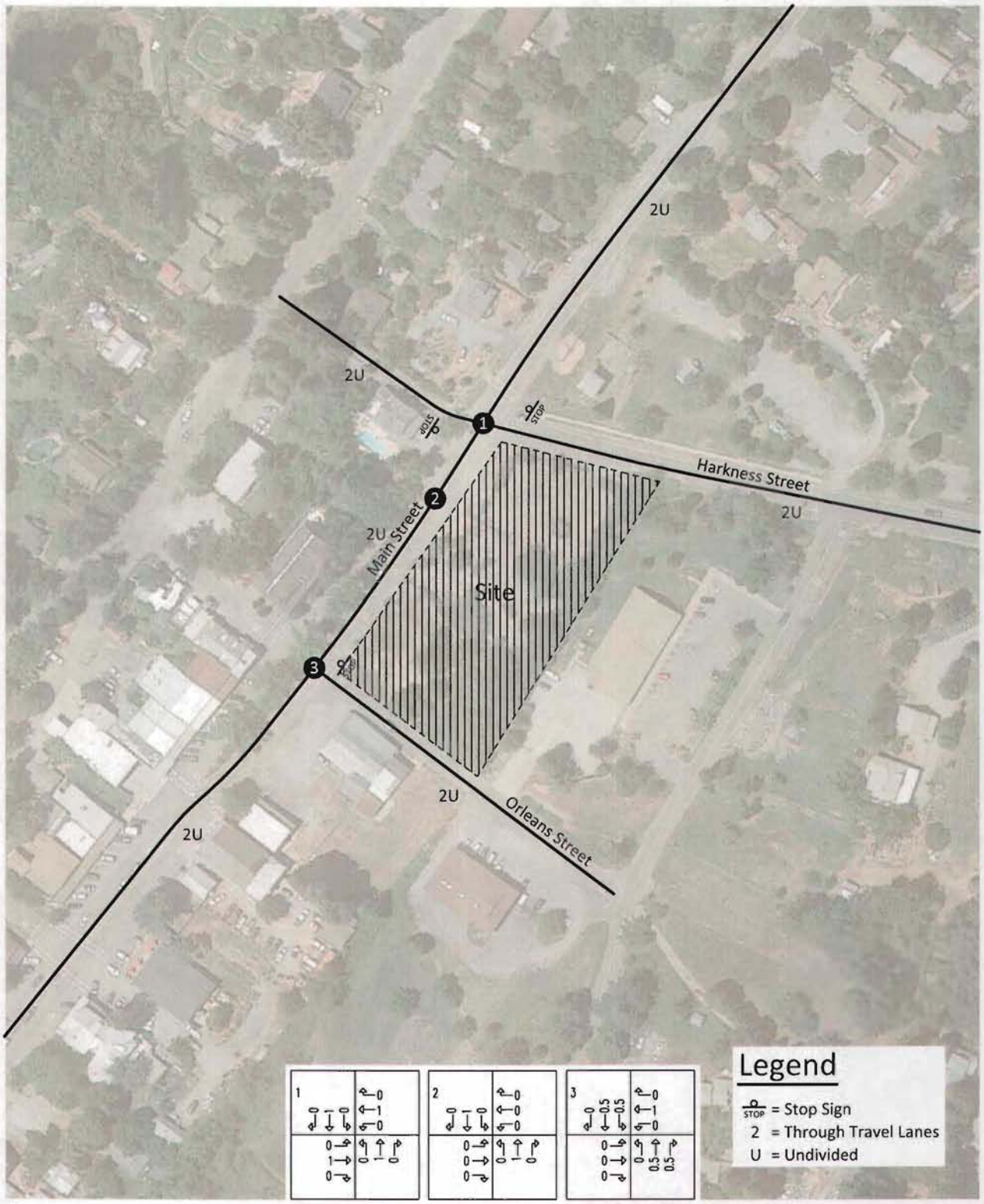
KUNZMAN ASSOCIATES, INC.
OVER 35 YEARS OF EXCELLENT SERVICE

Figure 2
Site Plan



KUNZMAN ASSOCIATES, INC.
OVER 35 YEARS OF EXCELLENT SERVICE

Figure 3
Existing Through Travel Lanes and Intersection Controls



5833c/3

KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

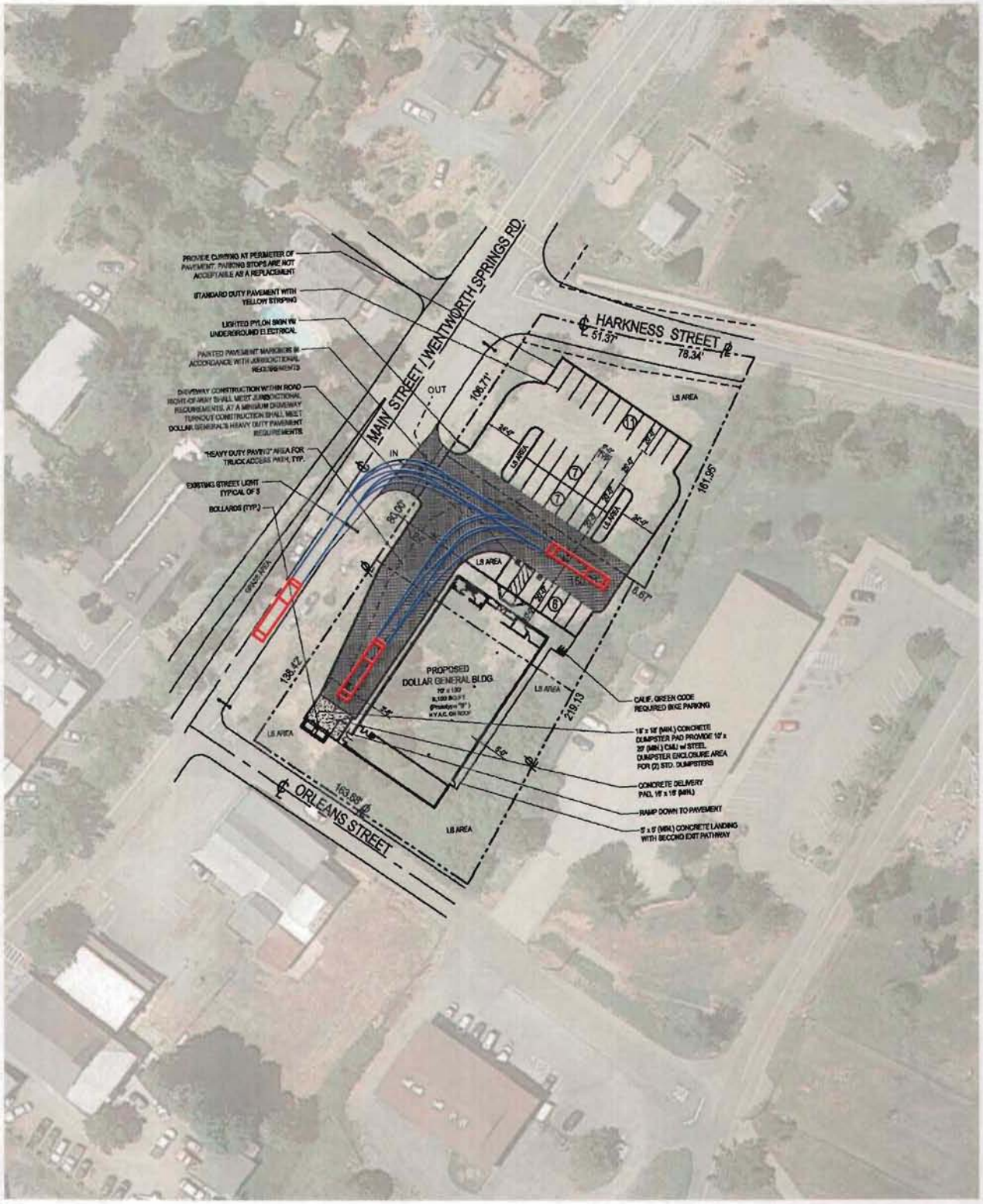
OVER 35 YEARS OF EXCELLENT SERVICE

Figure 4
Project Trip Distribution

5833c/4

KUNZMAN ASSOCIATES, INC.
OVER 35 YEARS OF EXCELLENT SERVICE

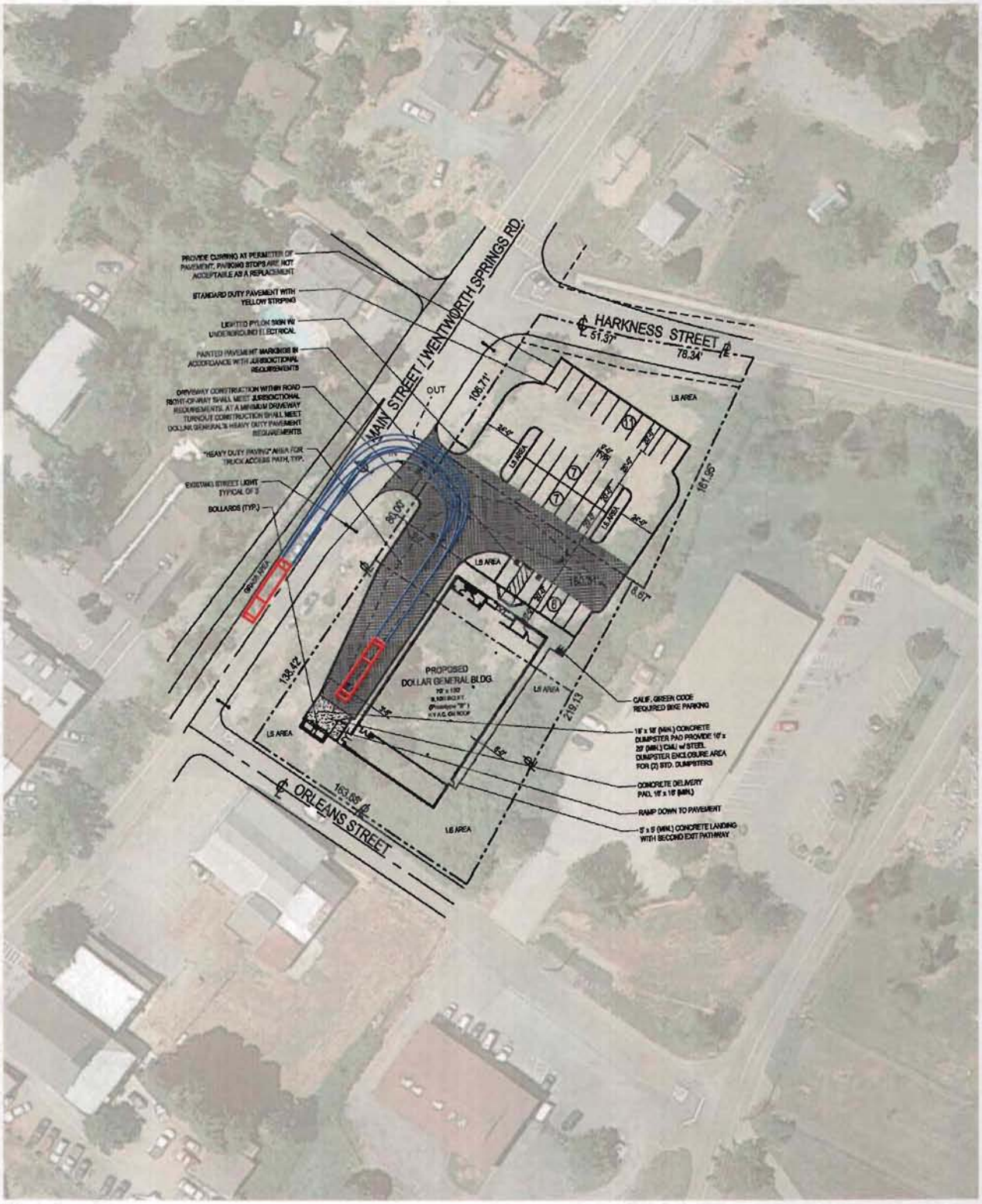
Figure 5
Truck Turning Template - Inbound



KUNZMAN ASSOCIATES, INC.
OVER 35 YEARS OF EXCELLENT SERVICE

5833c/5

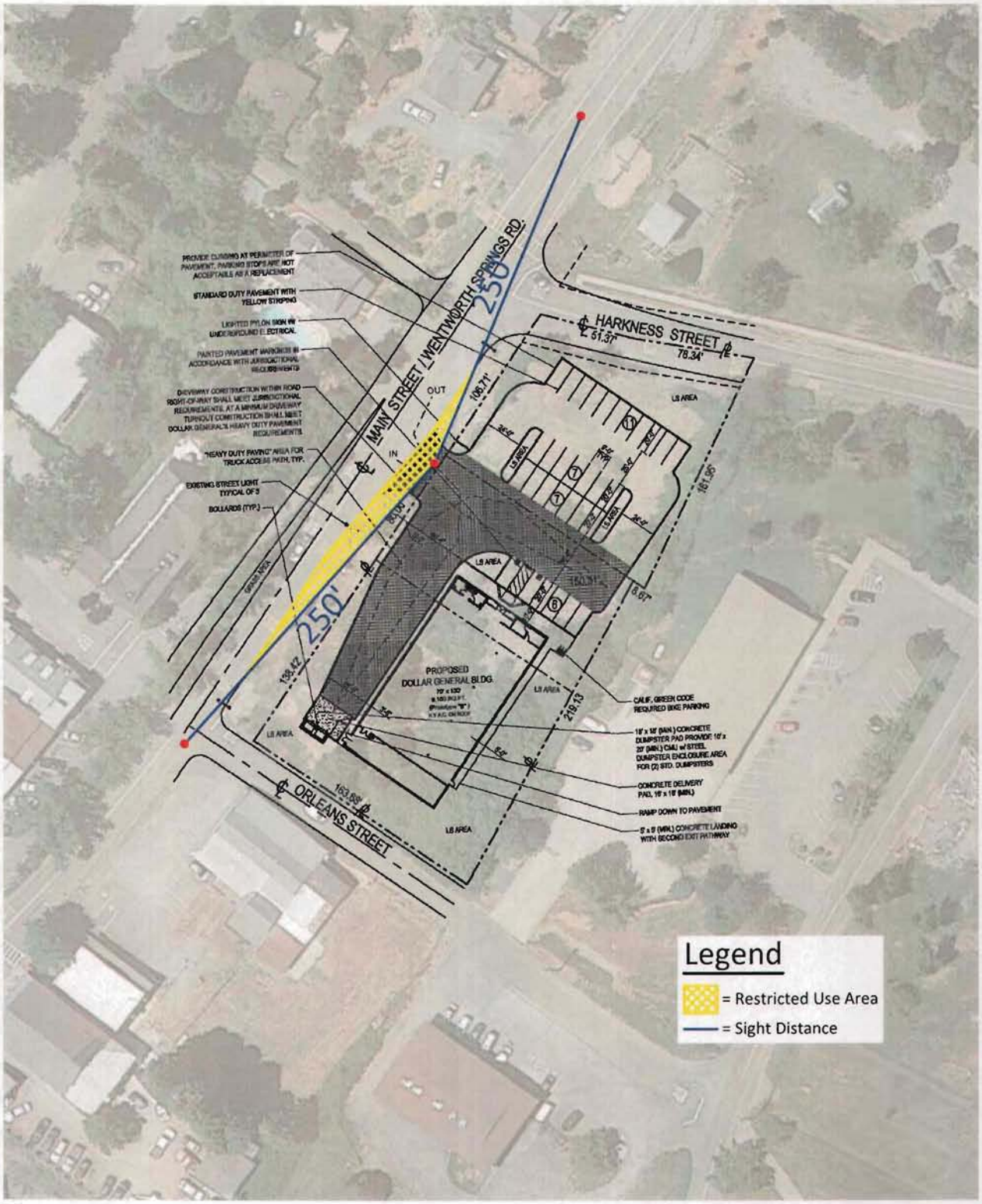
Figure 6
Truck Turning Template - Outbound



KUNZMAN ASSOCIATES, INC.
OVER 35 YEARS OF EXCELLENT SERVICE

5833c/6

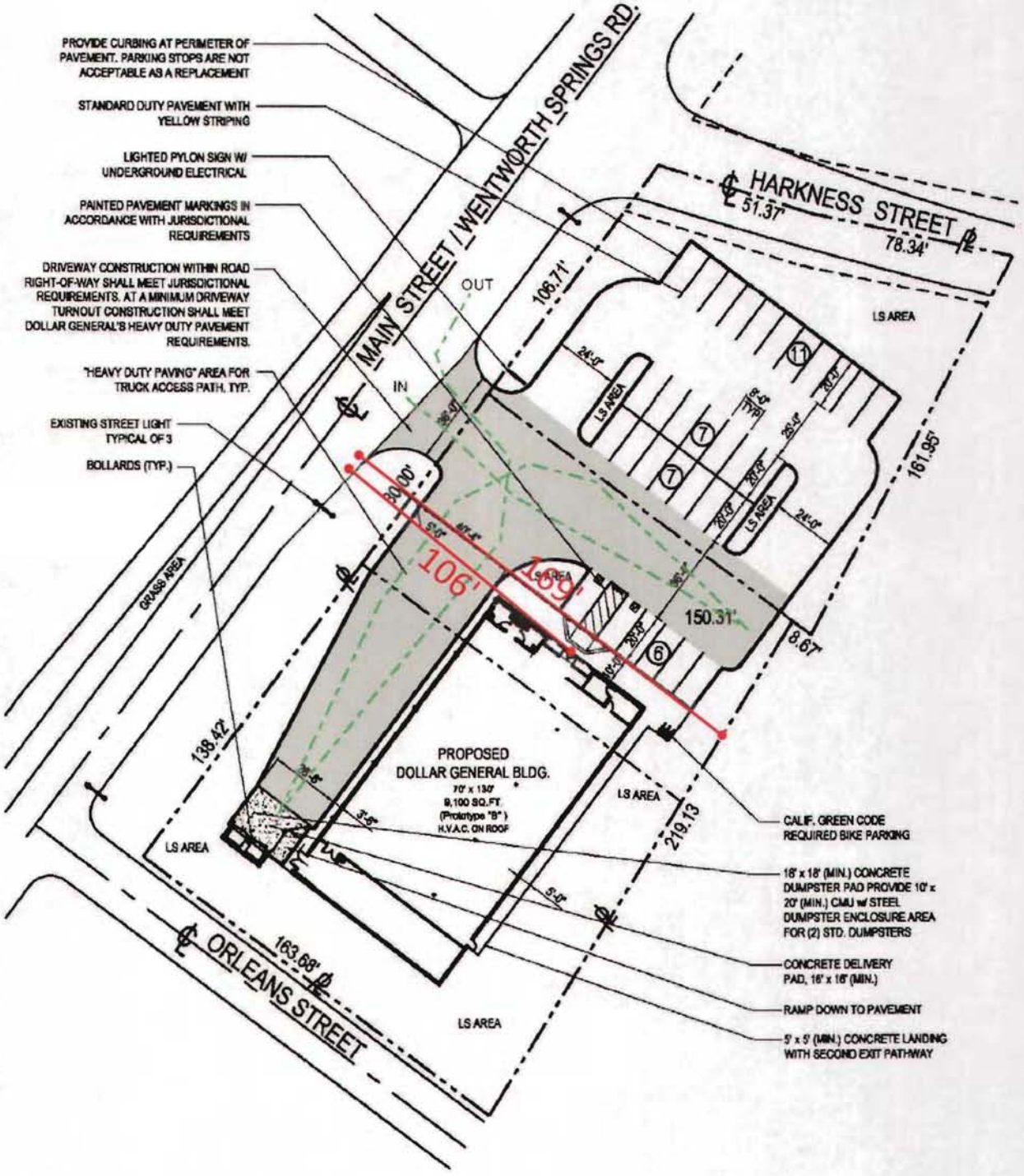
Figure 7
Sight Distance Analysis



5833c/7

KUNZMAN ASSOCIATES, INC.
OVER 35 YEARS OF EXCELLENT SERVICE

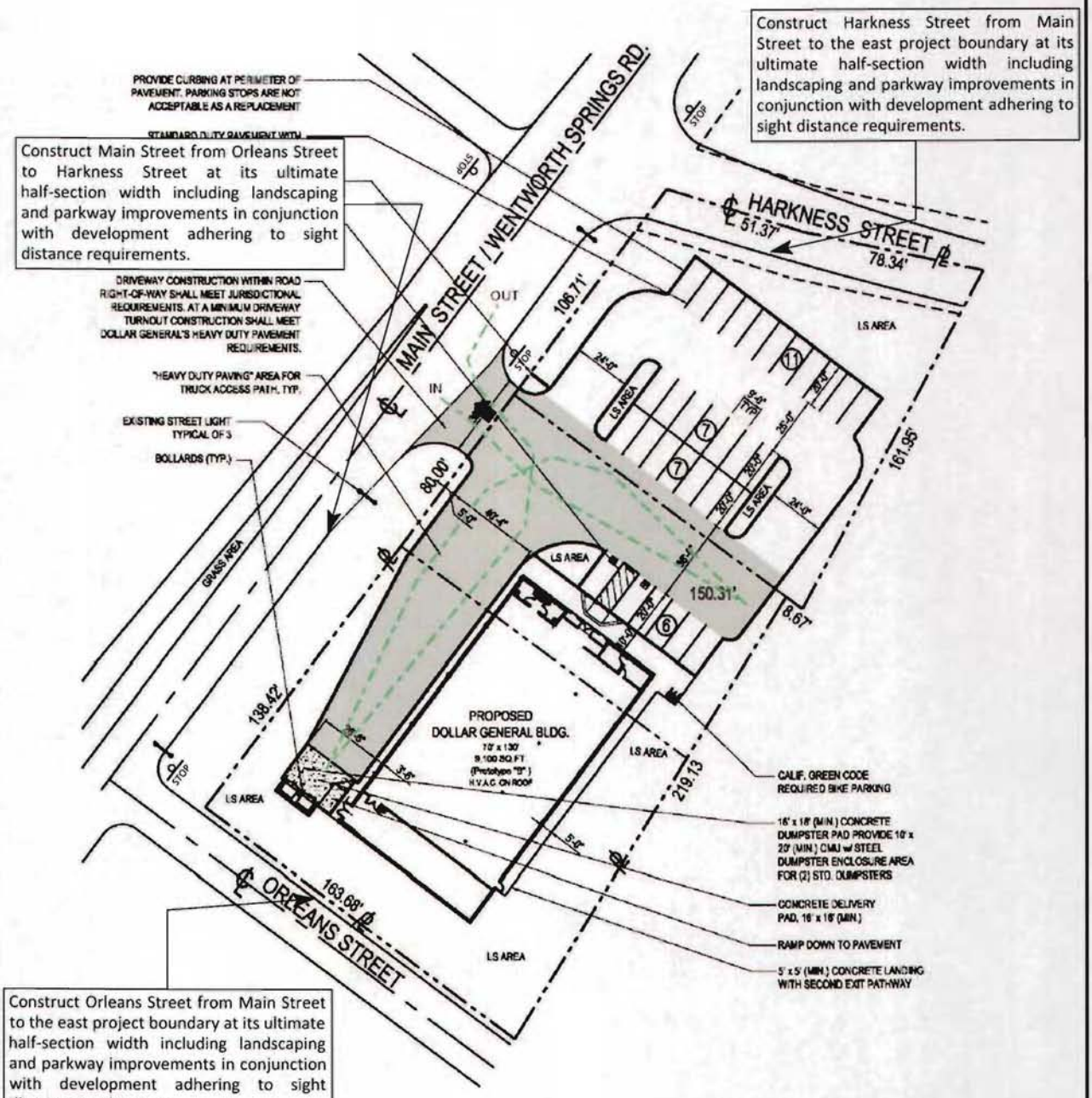
Figure 8
Emergency Access



5833c/8

KUNZMAN ASSOCIATES, INC.
OVER 35 YEARS OF EXCELLENT SERVICE

Figure 9
Circulation Recommendations



The site is anticipated to provide sufficient parking spaces to meet County of El Dorado parking code requirements in order to service on-site parking demand.

On-site traffic signing/striping should be implemented in conjunction with detailed construction plans for the project site.

As is the case for any roadway design, the County of El Dorado should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

Legend

STOP = Stop Sign

= Full Access Driveway

5833c/9

KUNZMAN ASSOCIATES, INC.

OVER 35 YEARS OF EXCELLENT SERVICE

APPENDIX A

Glossary of Transportation Terms

GLOSSARY OF TRANSPORTATION TERMS

COMMON ABBREVIATIONS

AC:	Acres
ADT:	Average Daily Traffic
Caltrans:	California Department of Transportation
DU:	Dwelling Unit
ICU:	Intersection Capacity Utilization
LOS:	Level of Service
TSF:	Thousand Square Feet
V/C:	Volume/Capacity
VMT:	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The total volume during a year divided by the number of days in a year. Usually only weekdays are included.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A constriction along a travelway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CYCLE LENGTH: The time period in seconds required for one complete signal cycle.

CUL-DE-SAC STREET: A local street open at one end only, and with special provisions for turning around.

DAILY CAPACITY: The daily volume of traffic that will result in a volume during the peak hour equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

ORIGIN-DESTINATION SURVEY: A survey to determine the point of origin and the point of destination for a given vehicle trip.

PASSENGER CAR EQUIVALENTS: One car is one Passenger Car Equivalent. A truck is equal to 2 or 3 Passenger Car Equivalents in that a truck requires longer to start, goes slower, and accelerates slower. Loaded trucks have a higher Passenger Car Equivalent than empty trucks.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through a signalized intersection.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination; i.e. each trip has two trip-ends. A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

Traffic Count Worksheets

INTERSECTION TURNING MOVEMENT COUNTS

Modified By: Kunzman Associates, Inc.

DATE:	LOCATION:	County of El Dorado	PROJECT #:	5833c
3/12/15	NORTH & SOUTH:	Main Street	LOCATION #:	1
THURSDAY	EAST & WEST:	Harkness Street	CONTROL:	CSS

ALL CLASSES

NOTES:

In Passenger Car Equivalent's

◄ W ▲ N S ▼ E ►

		NORTHBOUND Main Street			SOUTHBOUND Main Street			EASTBOUND Harkness Street			WESTBOUND Harkness Street			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	11	2	2	27	0	0	2	1	0	1	1	47
	7:15 AM	0	27	3	1	35	0	0	1	0	0	0	1	68
	7:30 AM	0	29	3	4	23	0	0	0	0	1	0	0	60
	7:45 AM	0	43	9	3	23	0	0	0	0	6	2	5	91
	8:00 AM	0	53	16	6	65	0	0	1	0	12	2	8	163
	8:15 AM	1	37	24	8	50	0	0	0	0	32	1	8	161
	8:30 AM	1	45	9	7	45	0	0	0	0	9	4	5	123
	8:45 AM	0	27	4	1	43	0	0	0	0	11	0	3	88
	VOLUMES	2	270	70	32	309	0	0	4	1	71	10	31	798
	APPROACH %	1%	79%	20%	9%	91%	0%	0%	80%	20%	64%	9%	27%	
	APP/DEPART	342	/	301	341	/	381	5	/	105	111	/	12	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	2	177	58	24	182	0	0	1	0	59	9	26	537
	APPROACH %	1%	75%	24%	11%	89%	0%	0%	100%	0%	63%	10%	27%	
	PEAK HR FACTOR		0.863			0.724			0.250			0.570		0.825
	APP/DEPART	237	/	203	206	/	241	1	/	82	94	/	11	0
PM	4:00 PM	1	42	4	1	21	0	0	3	0	6	1	3	81
	4:15 PM	3	29	6	2	30	0	0	1	1	7	1	2	81
	4:30 PM	3	20	5	3	44	0	0	0	0	6	1	5	87
	4:45 PM	1	32	6	4	27	0	0	2	0	4	1	2	79
	5:00 PM	0	37	11	4	24	0	0	0	1	4	1	7	89
	5:15 PM	1	35	3	2	29	0	0	1	0	4	1	8	84
	5:30 PM	0	37	14	0	20	0	0	0	0	7	0	4	82
	5:45 PM	0	38	7	2	18	0	0	0	0	4	1	6	76
	VOLUMES	9	269	56	18	212	0	0	7	2	42	7	37	658
	APPROACH %	3%	81%	17%	8%	92%	0%	0%	78%	22%	49%	8%	43%	
	APP/DEPART	334	/	306	230	/	256	9	/	81	86	/	16	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	5	124	25	13	124	0	0	3	1	18	4	22	339
	APPROACH %	3%	81%	16%	9%	91%	0%	0%	75%	25%	41%	9%	50%	
	PEAK HR FACTOR		0.808			0.729			0.500			0.846		0.956
	APP/DEPART	154	/	146	137	/	143	4	/	41	44	/	9	0

Main Street at Harkness Street Axle Count - AM

		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00	CARS	0	9	2	2	22	0	0	2	1	0	1	1
	2-axle	0	0	0	0	1	0	0	0	0	0	0	0
	3-axle	0	1	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	1	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
7:15	CARS	0	19	3	1	29	0	0	1	0	0	0	1
	2-axle	0	0	0	0	0	0	0	0	0	0	0	0
	3-axle	0	4	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	2	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
7:30	CARS	0	21	3	4	20	0	0	0	0	1	0	0
	2-axle	0	1	0	0	0	0	0	0	0	0	0	0
	3-axle	0	3	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	1	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
7:45	CARS	0	35	9	3	23	0	0	0	0	6	2	5
	2-axle	0	0	0	0	0	0	0	0	0	0	0	0
	3-axle	0	4	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
8:00	CARS	0	47	16	6	47	0	0	1	0	12	2	8
	2-axle	0	1	0	0	4	0	0	0	0	0	0	0
	3-axle	0	2	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	4	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
8:15	CARS	1	35	24	8	45	0	0	0	0	32	1	8
	2-axle	0	0	0	0	3	0	0	0	0	0	0	0
	3-axle	0	1	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
8:30	CARS	1	31	7	5	31	0	0	0	0	9	4	3
	2-axle	0	1	1	1	1	0	0	0	0	0	0	1
	3-axle	0	6	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	4	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
8:45	CARS	0	16	4	1	29	0	0	0	0	9	0	3
	2-axle	0	3	0	0	1	0	0	0	0	1	0	0
	3-axle	0	3	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	4	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0

MOVEMENT TOTALS

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
CARS	2	213	68	30	246	0	0	4	1	69	10	29
2-axle	0	6	1	1	10	0	0	0	0	1	0	1
3-axle	0	24	0	0	0	0	0	0	0	0	0	0
4-axle	0	0	0	0	16	0	0	0	0	0	0	0
5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	2	243	69	31	272	0	0	4	1	70	10	30
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*

Main Street at Harkness Street Axle Count - PM

		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	CARS	1	34	4	1	19	0	0	3	0	6	1	3
	2-axle	0	5	0	0	1	0	0	0	0	0	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	CARS	3	27	6	2	28	0	0	1	1	7	1	2
	2-axle	0	1	0	0	1	0	0	0	0	0	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	CARS	3	20	5	3	44	0	0	0	0	6	1	5
	2-axle	0	0	0	0	0	0	0	0	0	0	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	CARS	1	32	6	4	27	0	0	2	0	4	1	2
	2-axle	0	0	0	0	0	0	0	0	0	0	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	CARS	0	37	9	4	24	0	0	0	1	4	1	7
	2-axle	0	0	1	0	0	0	0	0	0	0	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	CARS	1	35	3	2	29	0	0	1	0	4	1	8
	2-axle	0	0	0	0	0	0	0	0	0	0	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	CARS	0	35	14	0	20	0	0	0	0	7	0	4
	2-axle	0	0	0	0	0	0	0	0	0	0	0	0
	3-axle	0	1	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	CARS	0	38	7	2	16	0	0	0	0	4	1	6
	2-axle	0	0	0	0	1	0	0	0	0	0	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0

MOVEMENT TOTALS

CARS	9	258	54	18	207	0	0	7	2	42	7	37
2-axle	0	6	1	0	3	0	0	0	0	0	0	0
3-axle	0	1	0	0	0	0	0	0	0	0	0	0
4-axle	0	0	0	0	0	0	0	0	0	0	0	0
5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	9	265	55	18	210	0	0	7	2	42	7	37
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*

ALL TRAFFIC DATA

City of Georgetown
All Vehicles on Unshifted
Heavy Trucks on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-001 Main Street-Harkness Street.ppd
Date : 3/12/2015

Unshifted Count = All Vehicles

	Main Street Southbound					Harkness Street Westbound					Main Street Northbound					Harkness Street Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
07:00	2	22	0	0	24	0	1	1	0	2	0	9	2	0	11	0	2	1	0	3	40	0
07:15	1	29	0	0	30	0	0	1	0	1	0	19	3	0	22	0	1	0	0	1	54	0
07:30	4	20	0	0	24	1	0	0	0	1	0	21	3	0	24	0	0	0	0	0	49	0
07:45	3	23	0	0	26	6	2	5	0	13	0	35	9	0	44	0	0	0	0	0	83	0
Total	10	94	0	0	104	7	3	7	0	17	0	84	17	0	101	0	3	1	0	4	226	0
08:00	6	47	0	0	53	12	2	8	0	22	0	47	16	1	64	0	1	0	0	1	140	1
08:15	8	45	0	0	53	32	1	8	0	41	1	35	24	0	60	0	0	0	0	0	154	0
08:30	5	31	0	0	36	9	4	3	0	16	1	31	7	0	39	0	0	0	0	0	91	0
08:45	1	29	0	0	30	9	0	3	0	12	0	16	4	1	21	0	0	0	0	0	63	1
Total	20	152	0	0	172	62	7	22	0	91	2	129	51	2	184	0	1	0	0	1	448	2
16:00	1	19	0	0	20	6	1	3	0	10	1	34	4	1	40	0	3	0	0	3	73	1
16:15	2	28	0	0	30	7	1	2	0	10	3	27	6	1	37	0	1	1	0	2	79	1
16:30	3	44	0	0	47	6	1	5	0	12	3	20	5	0	28	0	0	0	0	0	87	0
16:45	4	27	0	0	31	4	1	2	0	7	1	32	6	1	40	0	2	0	0	2	80	1
Total	10	118	0	0	128	23	4	12	0	39	8	113	21	3	145	0	6	1	0	7	319	3
17:00	4	24	0	0	28	4	1	7	0	12	0	37	9	1	47	0	0	1	0	1	88	1
17:15	2	29	0	0	31	4	1	8	0	13	1	35	3	1	40	0	1	0	0	1	85	1
17:30	0	20	0	0	20	7	0	4	0	11	0	35	14	0	49	0	0	0	0	0	80	0
17:45	2	16	0	0	18	4	1	6	0	11	0	38	7	0	45	0	0	0	0	0	74	0
Total	8	89	0	0	97	19	3	25	0	47	1	145	33	2	181	0	1	1	0	2	327	2
Grand Total	48	453	0	0	501	111	17	66	0	194	11	471	122	7	611	0	11	3	0	14	1320	7
Apprch %	9.6%	90.4%	0.0%	0.0%		57.2%	8.8%	34.0%	0.0%		1.8%	77.1%	20.0%	1.1%		0.0%	78.6%	21.4%	0.0%			
Total %	3.6%	34.3%	0.0%	0.0%	38.0%	8.4%	1.3%	5.0%	0.0%	14.7%	0.8%	35.7%	9.2%	0.5%	46.3%	0.0%	0.8%	0.2%	0.0%	1.1%	100.0%	

ALL TRAFFIC DATA

City of Georgetown
(916) 771-8700
orders@atdtraffic.com

All Vehicles on Unshifted
Heavy Trucks on Bank 1
Nothing on Bank 2

File Name : 15-7217-001 Main Street-Harkness Street.ppd
Date : 3/12/2015

Unshifted Count = All Vehicles

AM PEAK HOUR	Main Street Southbound					Harkness Street Westbound					Main Street Northbound					Harkness Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
07:45	3	23	0	0	26	6	2	5	0	13	0	35	9	0	44	0	0	0	0	0	83
08:00	6	47	0	0	53	12	2	8	0	22	0	47	16	1	64	0	1	0	0	1	140
08:15	8	45	0	0	53	32	1	8	0	41	1	35	24	0	60	0	0	0	0	0	154
08:30	5	31	0	0	36	9	4	3	0	16	1	31	7	0	39	0	0	0	0	0	91
Total Volume	22	146	0	0	168	59	9	24	0	92	2	148	56	1	207	0	1	0	0	1	468
% App Total	13.1%	86.9%	0.0%	0.0%		64.1%	9.8%	26.1%	0.0%		1.0%	71.5%	27.1%	0.5%		0.0%	100.0%	0.0%	0.0%		
PHF	.688	.777	.000	.000	.792	.461	.563	.750	.000	.561	.500	.787	.583	.250	.809	.000	.250	.000	.000	.250	.760

PM PEAK HOUR	Main Street Southbound					Harkness Street Westbound					Main Street Northbound					Harkness Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	3	44	0	0	47	6	1	5	0	12	3	20	5	0	28	0	0	0	0	0	87
16:45	4	27	0	0	31	4	1	2	0	7	1	32	6	1	40	0	2	0	0	2	80
17:00	4	24	0	0	28	4	1	7	0	12	0	37	9	1	47	0	0	1	0	1	88
17:15	2	29	0	0	31	4	1	8	0	13	1	35	3	1	40	0	1	0	0	1	85
Total Volume	13	124	0	0	137	18	4	22	0	44	5	124	23	3	155	0	3	1	0	4	340
% App Total	9.5%	90.5%	0.0%	0.0%		40.9%	9.1%	50.0%	0.0%		3.2%	80.0%	14.8%	1.9%		0.0%	75.0%	25.0%	0.0%		
PHF	.813	.705	.000	.000	.729	.750	1.000	.688	.000	.846	.417	.838	.639	.750	.824	.000	.375	.250	.000	.500	.966

ALL TRAFFIC DATA

City of Georgetown
Heavy Trucks 2 Axle on Unshifted
Heavy Trucks 3 Axle on Bank 1
Heavy Trucks 4+ Axle on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-001 Main Street-Harkness Street.ppd
Date : 3/12/2015

ıshifted Count = Heavy Trucks 2 A›

	Main Street Southbound					Harkness Street Westbound					Main Street Northbound					Harkness Street Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
07:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0
08:00	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	5	0
08:15	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
08:30	1	1	0	0	2	0	0	1	0	1	0	1	1	0	2	0	0	0	0	0	5	0
08:45	0	1	0	0	1	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	5	0
Total	1	9	0	0	10	1	0	1	0	2	0	5	1	0	6	0	0	0	0	0	18	0
16:00	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6	0
16:15	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	8	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0
Grand Total	1	13	0	0	14	1	0	1	0	2	0	12	2	0	14	0	0	0	0	0	30	0
Apprch %	7.1%	92.9%	0.0%	0.0%		50.0%	0.0%	50.0%	0.0%		0.0%	85.7%	14.3%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	3.3%	43.3%	0.0%	0.0%	46.7%	3.3%	0.0%	3.3%	0.0%	6.7%	0.0%	40.0%	6.7%	0.0%	46.7%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

ALL TRAFFIC DATA

City of Georgetown
(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-001 Main Street-Harkness Street.ppd
Date : 3/12/2015

Heavy Trucks 2 Axle on Unshifted
Heavy Trucks 3 Axle on Bank 1
Heavy Trucks 4+ Axle on Bank 2

ɪshifted Count = Heavy Trucks 2 A›

AM PEAK HOUR	Main Street Southbound					Harkness Street Westbound					Main Street Northbound					Harkness Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	5
08:15	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:30	1	1	0	0	2	0	0	1	0	1	0	1	1	0	2	0	0	0	0	0	5
08:45	0	1	0	0	1	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	5
Total Volume	1	9	0	0	10	1	0	1	0	2	0	5	1	0	6	0	0	0	0	0	18
% App Total	10.0%	90.0%	0.0%	0.0%		50.0%	0.0%	50.0%	0.0%		0.0%	83.3%	16.7%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.250	.563	.000	.000	.625	.250	.000	.250	.000	.500	.000	.417	.250	.000	.500	.000	.000	.000	.000	.000	.900

PM PEAK HOUR	Main Street Southbound					Harkness Street Westbound					Main Street Northbound					Harkness Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
16:15	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	8
% App Total	0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.300	.000	.000	.300	.000	.000	.000	.000	.000	.333

ALL TRAFFIC DATA

City of Georgetown
Heavy Trucks 2 Axle on Unshifted
Heavy Trucks 3 Axle on Bank 1
Heavy Trucks 4+ Axle on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-001 Main Street-Harkness Street.ppd
Date : 3/12/2015

3ank 1 Count = Heavy Trucks 3 Axl

	Main Street Southbound					Harkness Street Westbound					Main Street Northbound					Harkness Street Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Ped Total
07:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
07:15	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4	0
07:30	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	0
07:45	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4	0
Total	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	12	0
08:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	0
08:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
08:30	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6	0
08:45	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	0
Total	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	12	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	25	0
Apprch %	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%				
Total %	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	100.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	100.0%	

ALL TRAFFIC DATA

City of Georgetown
Heavy Trucks 2 Axle on Unshifted
Heavy Trucks 3 Axle on Bank 1
Heavy Trucks 4+ Axle on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-001 Main Street-Harkness Street.ppd
Date : 3/12/2015

3ank 1 Count = Heavy Trucks 3 Axl

AM PEAK HOUR	Main Street Southbound					Harkness Street Westbound					Main Street Northbound					Harkness Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
08:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
08:30	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
08:45	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	12
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.500	.000		.500	.000	.000	.000		.000	.500

PM PEAK HOUR	Main Street Southbound					Harkness Street Westbound					Main Street Northbound					Harkness Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000

ALL TRAFFIC DATA

City of Georgetown
Heavy Trucks 2 Axle on Unshifted
Heavy Trucks 3 Axle on Bank 1
Heavy Trucks 4+ Axle on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-001 Main Street-Harkness Street.ppd
Date : 3/12/2015

ank 2 Count = Heavy Trucks 4+ Axl

	Main Street Southbound					Harkness Street Westbound					Main Street Northbound					Harkness Street Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Ped Total
07:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
07:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
08:00	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
08:45	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
Total	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0
Apprch %	0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%				
Total %	0.0%	100.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	

ALL TRAFFIC DATA

City of Georgetown
Heavy Trucks 2 Axle on Unshifted
Heavy Trucks 3 Axle on Bank 1
Heavy Trucks 4+ Axle on Bank 2

(916) 771-8700
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File Name : 15-7217-001 Main Street-Harkness Street.ppd
Date : 3/12/2015

ank 2 Count = Heavy Trucks 4+ Axl

AM PEAK HOUR	Main Street Southbound					Harkness Street Westbound					Main Street Northbound					Harkness Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
08:45	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
% App Total	0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.750	.000		.750	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.750

PM PEAK HOUR	Main Street Southbound					Harkness Street Westbound					Main Street Northbound					Harkness Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000

INTERSECTION TURNING MOVEMENT COUNTS

Modified By: Kunzman Associates, Inc.

DATE:	LOCATION:	County of El Dorado	PROJECT #:	5833c
3/12/15	NORTH & SOUTH:	Main Street	LOCATION #:	1
THURSDAY	EAST & WEST:	Orleans Street	CONTROL:	CSS

ALL CLASSES

NOTES:

In Passenger Car Equivalent's

▲ N ◄ W E ► S ▼

		NORTHBOUND Main Street			SOUTHBOUND Main Street			EASTBOUND Orleans Street			WESTBOUND Orleans Street			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:00 AM	0	12	0	3	24	0	0	0	0	6	0	1	45
	7:15 AM	0	31	2	1	32	0	0	0	0	0	0	1	67
	7:30 AM	0	31	1	0	24	0	0	0	0	0	0	0	56
	7:45 AM	0	53	0	0	30	0	0	0	0	1	0	0	84
	8:00 AM	0	68	0	2	71	0	0	0	0	1	0	2	144
	8:15 AM	0	65	6	3	83	0	0	0	0	5	0	0	162
	8:30 AM	0	51	3	1	51	0	0	0	0	0	0	1	107
	8:45 AM	0	28	0	2	54	0	0	0	0	3	0	2	89
	VOLUMES	0	339	12	12	368	0	0	0	0	16	0	7	753
	APPROACH %	0%	97%	3%	3%	97%	0%	0%	0%	0%	69%	0%	31%	
	APP/DEPART	351	/	346	380	/	383	0	/	24	23	/	0	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	0	212	9	8	258	0	0	0	0	9	0	5	501
	APPROACH %	0%	96%	4%	3%	97%	0%	0%	0%	0%	64%	0%	36%	
	PEAK HR FACTOR		0.778			0.778			0.000			0.700		0.776
	APP/DEPART	221	/	217	266	/	267	0	/	17	14	/	0	0
PM	4:00 PM	0	46	6	0	24	0	0	0	0	6	0	1	82
	4:15 PM	0	41	3	0	38	0	0	0	0	2	0	0	84
	4:30 PM	0	28	7	6	41	0	0	0	0	7	0	1	89
	4:45 PM	0	45	4	1	31	0	0	0	0	6	0	0	87
	5:00 PM	0	43	1	1	28	0	0	0	0	3	0	2	78
	5:15 PM	0	45	6	2	36	0	0	0	0	6	0	1	96
	5:30 PM	0	52	0	0	21	0	0	0	0	3	0	1	77
	5:45 PM	0	41	4	1	23	0	0	0	0	5	0	3	77
	VOLUMES	0	341	31	11	241	0	0	0	0	38	0	9	669
	APPROACH %	0%	92%	8%	4%	96%	0%	0%	0%	0%	81%	0%	19%	
	APP/DEPART	371	/	350	252	/	278	0	/	42	47	/	0	0
	BEGIN PEAK HR		4:30 PM											
	VOLUMES	0	161	18	10	136	0	0	0	0	22	0	4	350
	APPROACH %	0%	90%	10%	7%	93%	0%	0%	0%	0%	84%	0%	16%	
	PEAK HR FACTOR		0.875			0.777			0.000			0.850		0.911
	APP/DEPART	179	/	165	146	/	158	0	/	28	26	/	0	0

Main Street at Orleans Street Axle Count - AM

		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
7:00	CARS	0	10	0	3	19	0	0	0	0	4	0	1
	2-axle	0	0	0	0	1	0	0	0	0	1	0	0
	3-axle	0	1	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	1	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
7:15	CARS	0	23	2	1	26	0	0	0	0	0	0	1
	2-axle	0	0	0	0	0	0	0	0	0	0	0	0
	3-axle	0	4	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	2	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
7:30	CARS	0	23	1	0	21	0	0	0	0	0	0	0
	2-axle	0	1	0	0	0	0	0	0	0	0	0	0
	3-axle	0	3	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	1	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
7:45	CARS	0	45	0	0	30	0	0	0	0	1	0	0
	2-axle	0	0	0	0	0	0	0	0	0	0	0	0
	3-axle	0	4	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
8:00	CARS	0	61	0	2	53	0	0	0	0	1	0	2
	2-axle	0	2	0	0	4	0	0	0	0	0	0	0
	3-axle	0	2	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	4	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
8:15	CARS	0	63	6	3	78	0	0	0	0	5	0	0
	2-axle	0	0	0	0	3	0	0	0	0	0	0	0
	3-axle	0	1	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
8:30	CARS	0	36	3	1	39	0	0	0	0	0	0	1
	2-axle	0	2	0	0	0	0	0	0	0	0	0	0
	3-axle	0	6	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	4	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
8:45	CARS	0	19	0	2	37	0	0	0	0	3	0	2
	2-axle	0	2	0	0	3	0	0	0	0	0	0	0
	3-axle	0	3	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	4	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0

MOVEMENT TOTALS

CARS	0	280	12	12	303	0	0	0	0	14	0	7
2-axle	0	7	0	0	11	0	0	0	0	1	0	0
3-axle	0	24	0	0	0	0	0	0	0	0	0	0
4-axle	0	0	0	0	16	0	0	0	0	0	0	0
5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	311	12	12	330	0	0	0	0	15	0	7
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*

Main Street at Orleans Street Axle Count - PM

		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
4:00 PM	CARS	0	38	6	0	22	0	0	0	0	6	0	1
	2-axle	0	5	0	0	1	0	0	0	0	0	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	CARS	0	38	3	0	36	0	0	0	0	2	0	0
	2-axle	0	2	0	0	1	0	0	0	0	0	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	CARS	0	28	5	6	41	0	0	0	0	5	0	1
	2-axle	0	0	1	0	0	0	0	0	0	1	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	CARS	0	45	4	1	31	0	0	0	0	6	0	0
	2-axle	0	0	0	0	0	0	0	0	0	0	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	CARS	0	43	1	1	28	0	0	0	0	3	0	2
	2-axle	0	0	0	0	0	0	0	0	0	0	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	CARS	0	45	6	2	36	0	0	0	0	6	0	1
	2-axle	0	0	0	0	0	0	0	0	0	0	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	CARS	0	50	0	0	21	0	0	0	0	3	0	1
	2-axle	0	0	0	0	0	0	0	0	0	0	0	0
	3-axle	0	1	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	CARS	0	41	4	1	21	0	0	0	0	5	0	3
	2-axle	0	0	0	0	1	0	0	0	0	0	0	0
	3-axle	0	0	0	0	0	0	0	0	0	0	0	0
	4-axle	0	0	0	0	0	0	0	0	0	0	0	0
	5-axle +	0	0	0	0	0	0	0	0	0	0	0	0

MOVEMENT TOTALS

CARS	0	328	29	11	236	0	0	0	0	36	0	9
2-axle	0	7	1	0	3	0	0	0	0	1	0	0
3-axle	0	1	0	0	0	0	0	0	0	0	0	0
4-axle	0	0	0	0	0	0	0	0	0	0	0	0
5-axle +	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	0	336	30	11	239	0	0	0	0	37	0	9
	NL	*NT*	*NR*	*SL*	*ST*	*SR*	*EL*	*ET*	*ER*	*WL*	*WT*	*WR*

ALL TRAFFIC DATA

City of Georgetown
All Vehicles on Unshifted
Heavy Trucks on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-002 Main Street-Orleans Street.ppd
Date : 3/12/2015

Unshifted Count = All Vehicles

	Main Street Southbound					Orleans Street Westbound					Main Street Northbound					Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
07:00	3	19	0	0	22	4	0	1	0	5	0	10	0	0	10	0	0	0	0	0	37	0
07:15	1	26	0	0	27	0	0	1	0	1	0	23	2	0	25	0	0	0	0	0	53	0
07:30	0	21	0	0	21	0	0	0	0	0	0	23	1	0	24	0	0	0	0	0	45	0
07:45	0	30	0	0	30	1	0	0	0	1	0	45	0	0	45	0	0	0	0	0	76	0
Total	4	96	0	0	100	5	0	2	0	7	0	101	3	0	104	0	0	0	0	0	211	0
08:00	2	53	0	0	55	1	0	2	0	3	0	61	0	0	61	0	0	0	0	0	119	0
08:15	3	78	0	0	81	5	0	0	0	5	0	63	6	0	69	0	0	0	0	0	155	0
08:30	1	39	0	0	40	0	0	1	0	1	0	36	3	0	39	0	0	0	0	0	80	0
08:45	2	37	0	0	39	3	0	2	0	5	0	19	0	0	19	0	0	0	0	0	63	0
Total	8	207	0	0	215	9	0	5	0	14	0	179	9	0	188	0	0	0	0	0	417	0
16:00	0	22	0	0	22	6	0	1	0	7	0	38	6	0	44	0	0	0	0	0	73	0
16:15	0	36	0	0	36	2	0	0	0	2	0	38	3	0	41	0	0	0	0	0	79	0
16:30	6	41	0	0	47	5	0	1	0	6	0	28	5	0	33	0	0	0	0	0	86	0
16:45	1	31	0	0	32	6	0	0	0	6	0	45	4	0	49	0	0	0	0	0	87	0
Total	7	130	0	0	137	19	0	2	0	21	0	149	18	0	167	0	0	0	0	0	325	0
17:00	1	28	0	0	29	3	0	2	0	5	0	43	1	0	44	0	0	0	0	0	78	0
17:15	2	36	0	0	38	6	0	1	0	7	0	45	6	0	51	0	0	0	0	0	96	0
17:30	0	21	0	0	21	3	0	1	0	4	0	50	0	0	50	0	0	0	0	0	75	0
17:45	1	21	0	0	22	5	0	3	0	8	0	41	4	0	45	0	0	0	0	0	75	0
Total	4	106	0	0	110	17	0	7	0	24	0	179	11	0	190	0	0	0	0	0	324	0
Grand Total	23	539	0	0	562	50	0	16	0	66	0	608	41	0	649	0	0	0	0	0	1277	0
Apprch %	4.1%	95.9%	0.0%	0.0%		75.8%	0.0%	24.2%	0.0%		0.0%	93.7%	6.3%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	1.8%	42.2%	0.0%	0.0%	44.0%	3.9%	0.0%	1.3%	0.0%	5.2%	0.0%	47.6%	3.2%	0.0%	50.8%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

ALL TRAFFIC DATA

City of Georgetown
All Vehicles on Unshifted
Heavy Trucks on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-002 Main Street-Orleans Street.ppd
Date : 3/12/2015

Unshifted Count = All Vehicles

AM PEAK HOUR	Main Street Southbound					Orleans Street Westbound					Main Street Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
07:45	0	30	0	0	30	1	0	0	0	1	0	45	0	0	45	0	0	0	0	0	76
08:00	2	53	0	0	55	1	0	2	0	3	0	61	0	0	61	0	0	0	0	0	119
08:15	3	78	0	0	81	5	0	0	0	5	0	63	6	0	69	0	0	0	0	0	155
08:30	1	39	0	0	40	0	0	1	0	1	0	36	3	0	39	0	0	0	0	0	80
Total Volume	6	200	0	0	206	7	0	3	0	10	0	205	9	0	214	0	0	0	0	0	430
% App Total	2.9%	97.1%	0.0%	0.0%		70.0%	0.0%	30.0%	0.0%		0.0%	95.8%	4.2%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.500	.641	.000	.000	.636	.350	.000	.375	.000	.500	.000	.813	.375	.000	.775	.000	.000	.000	.000	.000	.694

PM PEAK HOUR	Main Street Southbound					Orleans Street Westbound					Main Street Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	6	41	0	0	47	5	0	1	0	6	0	28	5	0	33	0	0	0	0	0	86
16:45	1	31	0	0	32	6	0	0	0	6	0	45	4	0	49	0	0	0	0	0	87
17:00	1	28	0	0	29	3	0	2	0	5	0	43	1	0	44	0	0	0	0	0	78
17:15	2	36	0	0	38	6	0	1	0	7	0	45	6	0	51	0	0	0	0	0	96
Total Volume	10	136	0	0	146	20	0	4	0	24	0	161	16	0	177	0	0	0	0	0	347
% App Total	6.8%	93.2%	0.0%	0.0%		83.3%	0.0%	16.7%	0.0%		0.0%	91.0%	9.0%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.417	.829	.000	.000	.777	.833	.000	.500	.000	.857	.000	.894	.667	.000	.868	.000	.000	.000	.000	.000	.904

ALL TRAFFIC DATA

City of Georgetown
Heavy Trucks 2 Axle on Unshifted
Heavy Trucks 3 Axle on Bank 1
Heavy Trucks 4+ Axle on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-002 Main Street-Orleans Street.ppd
Date : 3/12/2015

ıshifted Count = Heavy Trucks 2 A›

	Main Street Southbound					Orleans Street Westbound					Main Street Northbound					Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
07:00	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3	0
08:00	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6	0
08:15	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
08:30	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	0
08:45	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5	0
Total	0	10	0	0	10	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	16	0
16:00	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6	0
16:15	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3	0
16:30	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	2	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	1	0	0	0	1	0	7	1	0	8	0	0	0	0	0	11	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Grand Total	0	14	0	0	14	2	0	0	0	2	0	14	1	0	15	0	0	0	0	0	31	0
Apprch %	0.0%	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	93.3%	6.7%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	0.0%	45.2%	0.0%	0.0%	45.2%	6.5%	0.0%	0.0%	0.0%	6.5%	0.0%	45.2%	3.2%	0.0%	48.4%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

ALL TRAFFIC DATA

City of Georgetown
Heavy Trucks 2 Axle on Unshifted
Heavy Trucks 3 Axle on Bank 1
Heavy Trucks 4+ Axle on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-002 Main Street-Orleans Street.ppd
Date : 3/12/2015

ıshifted Count = Heavy Trucks 2 A›

AM PEAK HOUR	Main Street Southbound					Orleans Street Westbound					Main Street Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6
08:15	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:30	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
08:45	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
Total Volume	0	10	0	0	10	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	16
% App Total	0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.625	.000	.000	.625	.000	.000	.000	.000	.000	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.667

PM PEAK HOUR	Main Street Southbound					Orleans Street Westbound					Main Street Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
16:15	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
16:30	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	2
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	2	1	0	0	0	1	0	7	1	0	8	0	0	0	0	0	11
% App Total	0.0%	100.0%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	87.5%	12.5%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.500	.000	.000	.500	.250	.000	.000	.000	.250	.000	.350	.250	.000	.400	.000	.000	.000	.000	.000	.458

ALL TRAFFIC DATA

City of Georgetown
Heavy Trucks 2 Axle on Unshifted
Heavy Trucks 3 Axle on Bank 1
Heavy Trucks 4+ Axle on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-002 Main Street-Orleans Street.ppd
Date : 3/12/2015

Bank 1 Count = Heavy Trucks 3 Axl

	Main Street Southbound					Orleans Street Westbound					Main Street Northbound					Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Ped Total
07:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
07:15	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4	0
07:30	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	0
07:45	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4	0
Total	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	12	0
08:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	0
08:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
08:30	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6	0
08:45	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	0
Total	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	12	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	25	0
Apprch %	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%				
Total %	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	100.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	100.0%	

ALL TRAFFIC DATA

City of Georgetown
Heavy Trucks 2 Axle on Unshifted
Heavy Trucks 3 Axle on Bank 1
Heavy Trucks 4+ Axle on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-002 Main Street-Orleans Street.ppd
Date : 3/12/2015

3ank 1 Count = Heavy Trucks 3 Axl

AM PEAK HOUR	Main Street Southbound					Orleans Street Westbound					Main Street Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
08:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
08:30	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
08:45	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
Total Volume	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	12
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.500	.000		.500	.000	.000	.000		.000	.500

PM PEAK HOUR	Main Street Southbound					Orleans Street Westbound					Main Street Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000

ALL TRAFFIC DATA

City of Georgetown
Heavy Trucks 2 Axle on Unshifted
Heavy Trucks 3 Axle on Bank 1
Heavy Trucks 4+ Axle on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-002 Main Street-Orleans Street.ppd
Date : 3/12/2015

ank 2 Count = Heavy Trucks 4+ Axl

	Main Street Southbound					Orleans Street Westbound					Main Street Northbound					Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Ped Total
07:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
07:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
08:00	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
08:45	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
Total	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0
Apprch %	0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%				
Total %	0.0%	100.0%	0.0%		100.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	

ALL TRAFFIC DATA

City of Georgetown
Heavy Trucks 2 Axle on Unshifted
Heavy Trucks 3 Axle on Bank 1
Heavy Trucks 4+ Axle on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7217-002 Main Street-Orleans Street.ppd
Date : 3/12/2015

ank 2 Count = Heavy Trucks 4+ Axl

AM PEAK HOUR	Main Street Southbound					Orleans Street Westbound					Main Street Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
08:45	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
% App Total	0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.750	.000		.750	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.750

PM PEAK HOUR	Main Street Southbound					Orleans Street Westbound					Main Street Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:00 to 17:00																					
Peak Hour For Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App Total	0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000	.000	.000		.000	.000

APPENDIX C

Explanation and Calculation of Intersection Delay

EXPLANATION AND CALCULATION OF INTERSECTION LEVEL OF SERVICE USING DELAY METHODOLOGY

The levels of service at the unsignalized and signalized intersections are calculated using the delay methodology in the Highway Capacity Manual. This methodology views an intersection as consisting of several lane groups. A lane group is a set of lanes serving a movement. If there are two northbound left turn lanes, then the lane group serving the northbound left turn movement has two lanes. Similarly, there may be three lanes in the lane group serving the northbound through movement, one lane in the lane group serving the northbound right turn movement, and so forth. It is also possible for one lane to serve two lane groups. A shared lane might result in there being 1.5 lanes in the northbound left turn lane group and 2.5 lanes in the northbound through lane group.

For each lane group, there is a capacity. That capacity is calculated by multiplying the number of lanes in the lane group times a theoretical maximum lane capacity per lane time's 12 adjustment factors.

Each of the 12 adjustment factors has a value of approximately 1.00. A value less than 1.00 is generally assigned when a less than desirable condition occurs.

The 12 adjustment factors are as follows:

1. Peak hour factor (to account for peaking within the peak hour)
2. Lane utilization factor (to account for not all lanes loading equally)
3. Lane width
4. Percent of heavy trucks
5. Approach grade
6. Parking
7. Bus stops at intersections
8. Area type (CBD or other)
9. Right turns
10. Left turns

11. Pedestrian activity

12. Signal progression

The maximum theoretical lane capacity and the 12 adjustment factors for it are all unknowns for which approximate estimates have been recommended in the Highway Capacity Manual. For the most part, the recommended values are not based on statistical analysis but rather on educated estimates. However, it is possible to use the delay method and get reasonable results as will be discussed below.

Once the lane group volume is known and the lane group capacity is known, a volume to capacity ratio can be calculated for the lane group.

With a volume to capacity ratio calculated, average delay per vehicle in a lane group can be estimated. The average delay per vehicle in a lane group is calculated using a complex formula provided by the Highway Capacity Manual, which can be simplified and described as follows:

Delay per vehicle in a lane group is a function of the following:

1. Cycle length

2. Amount of red time faced by a lane group

3. Amount of yellow time for that lane group

4. The volume to capacity ratio of the lane group

The average delay per vehicle for each lane group is calculated, and eventually an overall average delay for all vehicles entering the intersection is calculated. This average delay per vehicle is then used to judge Level of Service. The Level of Services are defined in the table that follows this discussion.

Experience has shown that when a maximum lane capacity of 1,900 vehicles per hour is used (as recommended in the Highway Capacity Manual), little or no yellow time penalty is used, and none of the 12 penalty factors are applied, calculated delay is realistic. The delay calculation for instance assumes that yellow time is totally unused. Yet experience shows that most of the yellow time is used.

An idiosyncrasy of the delay methodology is that it is possible to add traffic to an intersection and reduce the average total delay per vehicle. If the average total delay is 30 seconds per vehicle for all vehicles traveling through an intersection, and traffic is

added to a movement that has an average total delay of 15 seconds per vehicle, then the overall average total delay is reduced.

The delay calculation for a lane group is based on a concept that the delay is a function of the amount of unused capacity available. As the volume approaches capacity and there is no more unused capacity available, then the delay rapidly increases. Delay is not proportional to volume, but rather increases rapidly as the unused capacity approaches zero.

Because delay is not linearly related to volumes, the delay does not reflect how close an intersection is to overloading. If an intersection is operating at Level of Service C and has an average total delay of 18 seconds per vehicle, you know very little as to what percent the traffic can increase before Level of Service E is reached.

LEVEL OF SERVICE DESCRIPTION[1]

Level Of Service	Description	Average Total Delay Per Vehicle (Seconds)	
		Signalized	**Unsignalized**
A	Level of Service A occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	0 to 10.00	0 to 10.00
B	Level of Service B generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing higher levels of average total delay.	10.01 to 20.00	10.01 to 15.00
C	Level of Service C generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	20.01 to 35.00	15.01 to 25.00
D	Level of Service D generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35.01 to 55.00	25.01 to 35.00
E	Level of Service E is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent occurrences.	55.01 to 80.00	35.01 to 50.00
F	Level of Service F is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume to capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	80.01 and up	50.01 and up

[1] Source: Highway Capacity Manual Special Report 209, Transportation Research Board, National Research Council, Washington, D.C., 2000.

Existing

Dollar General - Georgetown
Existing
Morning Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 Main Street (NS) at Harkness Street (EW)

Average Delay (sec/veh): 2.9 Worst Case Level Of Service: B[14.1]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	1!	0	0		0	0	1!	0	0		0	0	1!	0	0		0	0	1!	0	0	
Volume Module:																								
Base Vol:	2	177		58			24	182		1			1		1		1		59		9		26	
Growth Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	2	177		58			24	182		1			1		1		1		59		9		26	
Added Vol:	0	0		0			0	0		0			0		0		0		0		0		0	
PasserByVol:	0	0		0			0	0		0			0		0		0		0		0		0	
Initial Fut:	2	177		58			24	182		1			1		1		1		59		9		26	
User Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.83	0.83		0.83			0.83	0.83		0.83			0.83		0.83		0.83		0.83		0.83		0.83	
PHF Volume:	2	215		70			29	221		1			1		1		1		72		11		32	
Reduct Vol:	0	0		0			0	0		0			0		0		0		0		0		0	
FinalVolume:	2	215		70			29	221		1			1		1		1		72		11		32	
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx				4.1	xxxx	xxxxx				7.1		6.5		6.2		7.1		6.5		6.2	
FollowUpTim:	2.2	xxxx	xxxxx				2.2	xxxx	xxxxx				3.5		4.0		3.3		3.5		4.0		3.3	
Capacity Module:																								
Cnflict Vol:	222	xxxx	xxxxx				285	xxxx	xxxxx				555		569		221		535		535		250	
Potent Cap.:	1359	xxxx	xxxxx				1289	xxxx	xxxxx				445		435		823		459		455		794	
Move Cap.:	1359	xxxx	xxxxx				1289	xxxx	xxxxx				412		424		823		449		443		794	
Volume/Cap:	0.00	xxxx	xxxx				0.02	xxxx	xxxx				0.00		0.00		0.00		0.16		0.02		0.04	
Level Of Service Module:																								
2Way95thQ:	0.0	xxxx	xxxxx				0.1	xxxx	xxxxx				xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx	
Control Del:	7.7	xxxx	xxxxx				7.9	xxxx	xxxxx				xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx	
LOS by Move:	A	*		*			A	*		*			*		*		*		*		*		*	
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx				xxxx		500		xxxxx		xxxx		510		xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx		0.0		xxxxx		xxxxx		0.8		xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx		12.3		xxxxx		xxxxx		14.1		xxxxx	
Shared LOS:	*	*		*			*	*		*			*		B		*		*		B		*	
ApproachDel:	xxxxxx						xxxxxx						12.3						14.1					
ApproachLOS:	*						*						B						B					

Note: Queue reported is the number of cars per lane.

Dollar General - Georgetown
Existing
Evening Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 Main Street (NS) at Harkness Street (EW)

Average Delay (sec/veh): 1.9 Worst Case Level Of Service: B[10.7]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	5	124	25	13	124	1	1	3	1	18	4	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	124	25	13	124	1	1	3	1	18	4	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	124	25	13	124	1	1	3	1	18	4	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	5	130	26	14	130	1	1	3	1	19	4	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	5	130	26	14	130	1	1	3	1	19	4	23
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	131	xxxx	xxxxx	156	xxxx	xxxxx	324	324	130	313	311	143
Potent Cap.:	1467	xxxx	xxxxx	1437	xxxx	xxxxx	633	597	925	644	607	910
Move Cap.:	1467	xxxx	xxxxx	1437	xxxx	xxxxx	607	589	925	634	599	910
Volume/Cap:	0.00	xxxx	xxxx	0.01	xxxx	xxxx	0.00	0.01	0.00	0.03	0.01	0.03
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	640	xxxxx	xxxx	743	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	0.2	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.7	xxxxx	xxxxx	10.2	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			10.7			10.2		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

Dollar General - Georgetown
Existing
Morning Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 Main Street (NS) at Orleans Street (EW)

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: B[12.1]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0 1	0	0 1	0 0	0	0 0	0 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	0	212	9	8	258	0	0	0	0	9	0	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	212	9	8	258	0	0	0	0	9	0	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	212	9	8	258	0	0	0	0	9	0	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
PHF Volume:	0	273	12	10	332	0	0	0	0	12	0	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	273	12	10	332	0	0	0	0	12	0	6
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	285	xxxx	xxxxx	xxxx	xxxx	xxxxx	632	632	279
Potent Cap.:	xxxx	xxxx	xxxxx	1289	xxxx	xxxxx	xxxx	xxxx	xxxxx	448	400	765
Move Cap.:	xxxx	xxxx	xxxxx	1289	xxxx	xxxxx	xxxx	xxxx	xxxxx	445	397	765
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	0.00	0.01
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	523	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.1	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			12.1		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

Dollar General - Georgetown
Existing
Evening Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #3 Main Street (NS) at Orleans Street (EW)

****

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: B[10.6]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 0 0 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	161	18	10	136	0	0	0	0	22	0	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	161	18	10	136	0	0	0	0	22	0	4
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	161	18	10	136	0	0	0	0	22	0	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	0	177	20	11	149	0	0	0	0	24	0	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	177	20	11	149	0	0	0	0	24	0	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	196	xxxx	xxxxx	xxxx	xxxx	xxxxx	358	358	187
Potent Cap.:	xxxx	xxxx	xxxxx	1388	xxxx	xxxxx	xxxx	xxxx	xxxxx	645	572	861
Move Cap.:	xxxx	xxxx	xxxxx	1388	xxxx	xxxxx	xxxx	xxxx	xxxxx	641	567	861
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	0.00	0.01
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	667	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.6	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.6		
ApproachLOS:	*			*			*			B		

****

Note: Queue reported is the number of cars per lane.

****

Existing Plus Project

Dollar General - Georgetown
Existing Plus Project
Morning Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 Main Street (NS) at Harkness Street (EW)

Average Delay (sec/veh): 2.9 Worst Case Level Of Service: B[14.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	2	177	58	24	182	1	1	1	1	59	9	26
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	177	58	24	182	1	1	1	1	59	9	26
Added Vol:	0	2	1	0	3	0	0	0	0	2	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	179	59	24	185	1	1	1	1	61	9	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	2	217	72	29	224	1	1	1	1	74	11	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	2	217	72	29	224	1	1	1	1	74	11	32
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	225	xxxx	xxxxx	288	xxxx	xxxxx	562	576	225	542	541	253
Potent Cap.:	1355	xxxx	xxxxx	1285	xxxx	xxxxx	441	430	820	454	451	791
Move Cap.:	1355	xxxx	xxxxx	1285	xxxx	xxxxx	407	420	820	444	440	791
Volume/Cap:	0.00	xxxx	xxxx	0.02	xxxx	xxxx	0.00	0.00	0.00	0.17	0.02	0.04
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.7	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	495	xxxxx	xxxx	504	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	0.9	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.3	xxxxx	xxxxx	14.3	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			12.3			14.3		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

Dollar General - Georgetown
Existing Plus Project
Evening Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 Main Street (NS) at Harkness Street (EW)

Average Delay (sec/veh): 1.9 Worst Case Level Of Service: B[10.8]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	5	124	25	13	124	1	1	3	1	18	4	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	124	25	13	124	1	1	3	1	18	4	22
Added Vol:	0	5	3	0	5	0	0	0	0	3	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	129	28	13	129	1	1	3	1	21	4	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	5	135	29	14	135	1	1	3	1	22	4	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	5	135	29	14	135	1	1	3	1	22	4	23
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	136	xxxx	xxxxx	164	xxxx	xxxxx	336	337	135	325	323	150
Potent Cap.:	1461	xxxx	xxxxx	1426	xxxx	xxxxx	621	587	919	632	598	902
Move Cap.:	1461	xxxx	xxxxx	1426	xxxx	xxxxx	596	579	919	622	590	902
Volume/Cap:	0.00	xxxx	xxxx	0.01	xxxx	xxxx	0.00	0.01	0.00	0.04	0.01	0.03
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	629	xxxxx	xxxx	724	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	0.2	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.8	xxxxx	xxxxx	10.3	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			10.8			10.3		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

Dollar General - Georgetown
Existing Plus Project
Morning Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Main Street (NS) at Project Access (EW)

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: B[11.6]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0 1	0	0 1	0 0		0 0	0 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	0	254	0	0	227	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	254	0	0	227	0	0	0	0	0	0	0
Added Vol:	0	0	16	5	0	0	0	0	0	11	0	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	254	16	5	227	0	0	0	0	11	0	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	267	17	5	239	0	0	0	0	12	0	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	267	17	5	239	0	0	0	0	12	0	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	284	xxxx	xxxxx	xxxx	xxxx	xxxxx	525	525	276
Potent Cap.:	xxxx	xxxx	xxxxx	1290	xxxx	xxxxx	xxxx	xxxx	xxxxx	516	460	768
Move Cap.:	xxxx	xxxx	xxxxx	1290	xxxx	xxxxx	xxxx	xxxx	xxxxx	515	458	768
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	0.00	0.01
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	564	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.6	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			11.6		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

Dollar General - Georgetown
Existing Plus Project
Evening Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Main Street (NS) at Project Access (EW)

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: B[10.4]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 0 0 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	160	0	0	145	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	160	0	0	145	0	0	0	0	0	0	0
Added Vol:	0	0	23	8	0	0	0	0	0	23	0	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	160	23	8	145	0	0	0	0	23	0	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	168	24	8	153	0	0	0	0	24	0	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	168	24	8	153	0	0	0	0	24	0	8
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	193	xxxx	xxxxx	xxxx	xxxx	xxxxx	350	350	181
Potent Cap.:	xxxx	xxxx	xxxxx	1393	xxxx	xxxxx	xxxx	xxxx	xxxxx	651	577	867
Move Cap.:	xxxx	xxxx	xxxxx	1393	xxxx	xxxxx	xxxx	xxxx	xxxxx	648	574	867
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	0.00	0.01
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	694	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.4	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.4		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

Dollar General - Georgetown
Existing Plus Project
Morning Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 Main Street (NS) at Orleans Street (EW)

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: B[12.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	1	0	0 1 0	0	0	0 0 0	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	0	212	9	8	258	0	0	0	0	9	0	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	212	9	8	258	0	0	0	0	9	0	5
Added Vol:	0	15	0	1	10	0	0	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	227	9	9	268	0	0	0	0	9	0	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
PHF Volume:	0	293	12	12	345	0	0	0	0	12	0	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	293	12	12	345	0	0	0	0	12	0	8
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	304	xxxx	xxxxx	xxxx	xxxx	xxxxx	667	667	298
Potent Cap.:	xxxx	xxxx	xxxxx	1268	xxxx	xxxxx	xxxx	xxxx	xxxxx	427	382	746
Move Cap.:	xxxx	xxxx	xxxxx	1268	xxxx	xxxxx	xxxx	xxxx	xxxxx	424	379	746
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	0.00	0.01
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	513	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.3	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			12.3		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

Dollar General - Georgetown
Existing Plus Project
Evening Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 Main Street (NS) at Orleans Street (EW)

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: B[11.0]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 0 0 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	161	18	10	136	0	0	0	0	22	0	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	161	18	10	136	0	0	0	0	22	0	4
Added Vol:	0	22	0	2	22	0	0	0	0	0	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	183	18	12	158	0	0	0	0	22	0	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	0	201	20	13	173	0	0	0	0	24	0	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	201	20	13	173	0	0	0	0	24	0	7
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	221	xxxx	xxxxx	xxxx	xxxx	xxxxx	411	411	211
Potent Cap.:	xxxx	xxxx	xxxxx	1361	xxxx	xxxxx	xxxx	xxxx	xxxxx	601	534	835
Move Cap.:	xxxx	xxxx	xxxxx	1361	xxxx	xxxxx	xxxx	xxxx	xxxxx	597	529	835
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	0.00	0.01
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	636	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.0	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			11.0		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

APPENDIX D

Accident Data

Primary Rd **RT 193** Distance (ft) **528** Direction **N** Secondary Rd **GARDEN VALLEY** NCIC **9245** State Hwy? **Y** Route **193** Postmile Prefix **-** Postmile **19.3** Side of Hwy **W**
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **122** Type **1** CalTrans **3** Badge **17604** Collision Date **20120221** Time **0130** Day **TUE**
Primary Collision Factor **IMPROP TURN** Violation **22107** Collision Type **HIT OBJECT** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **Y** Process Date **20131112**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DARK - NO** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type **H** Ramp/Int **-**

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	23	M	W		FATG	RAN OFF RD	N	A	0100	ACURA	1990	-	3	N		-	P	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **RT 193** Distance (ft) **2640** Direction **N** Secondary Rd **GARDEN VALLEY** NCIC **9245** State Hwy? **Y** Route **193** Postmile Prefix **-** Postmile **18.9** Side of Hwy **E**
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **122** Type **1** CalTrans **3** Badge **17728** Collision Date **20120421** Time **1415** Day **SAT**
Primary Collision Factor **UNSAFE SPEED** Violation **22350** Collision Type **OVERTURNED** Severity **INJURY** #Killed **0** #Injured **2** Tow Away? **N** Process Date **20140128**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **NON-CLSN** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type **H** Ramp/Int **-**

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	41	M	W	HNBD		PROC ST	S	C	0200	VESPA	1981	-	3	N		-	P	W
2	DRVR	39	M	W	HNBD		PROC ST	S	C	0200	OTHER	2004	-	3	A	22350	-	P	W

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	41	M	1	1	P	W
DRVR	OTH VIS	39	M	1	0	P	W

Primary Rd **RT 193** Distance (ft) **250** Direction **S** Secondary Rd **KELSEY RD** NCIC **9245** State Hwy? **Y** Route **193** Postmile Prefix **-** Postmile **20.84** Side of Hwy **E**
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **122** Type **1** CalTrans **3** Badge **015609** Collision Date **20120104** Time **0800** Day **WED**
Primary Collision Factor **WRONG SIDE** Violation **21460A** Collision Type **SIDESWIPE** Severity **FATAL** #Killed **1** #Injured **0** Tow Away? **Y** Process Date **20120802**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **OTHER MV** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type **H** Ramp/Int **-**

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	68	M	W	HNBD		PASSING	S	A	0700	MERCE	2010	-	3	N		-	L	G
2	DRVR	46	M	W	HNBD		PROC ST	S	D	2200	TOYOT	1986	-	3	N		-	P	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	KILLED	68	M	1	0	L	G

Primary Rd **RT 193** Distance (ft) **60** Direction **W** Secondary Rd **LOWER MAIN ST** NCIC **9245** State Hwy? **Y** Route **193** Postmile Prefix **-** Postmile **12.69** Side of Hwy **W**
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **122** Type **1** CalTrans **3** Badge **18653** Collision Date **20120121** Time **1740** Day **SAT**
Primary Collision Factor **IMPROP TURN** Violation **22107** Collision Type **BROADSIDE** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **Y** Process Date **20131112**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **OTHER MV** Lighting **DARK - NO** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type **H** Ramp/Int **-**

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	91	F	W	HNBD		RGT TURN	W	A	0700	TOYOT	2008	-	3	A	21460	-	M	G
2	DRVR	28	F	W	HNBD		PROC ST	W	D	2200	TOYOT	1997	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **RT 193** Distance (ft) **3168** Direction **S** Secondary Rd **MINERS SPRING** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **122** Type **1** CalTrans Badge **17604** Collision Date **20120527** Time **2340** Day **SUN**
Primary Collision Factor **UNSAFE SPEED** Violation **22350** Collision Type **HIT OBJECT** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **Y** Process Date **20140311**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **OTHER** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DARK - NO** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	18	M	W	HNBD		RAN OFF RD	N	A	0100	HONDA	1997	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		15	M	3	0	M	G
PASS		15	M	6	0	M	G

Primary Rd **WENTWORTH** Distance (ft) **1320** Direction **E** Secondary Rd **SCHOOL ST** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORPRINGS RD** County **El Dorado** Population **9** Rpt Dist Beat **002** Type **3** CalTrans Badge **16059** Collision Date **20120529** Time **1400** Day **TUE**
Primary Collision Factor **UNSAFE SPEED** Violation **22350** Collision Type **HIT OBJECT** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **Y** Process Date **20130905**
Weather1 **SNOWING** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	36	F	W	HNBD		RAN OFF RD	W	A	0700	CHEVR	2003	-	3	N		- L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		998	F	3	0	M	Q

Primary Rd **WHITE ROCK RD** Distance (ft) **60** Direction **W** Secondary Rd **LATROBE RD** NCIC **9260** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **001** Type **3** CalTrans Badge **15367** Collision Date **20120107** Time **1250** Day **SAT**
Primary Collision Factor **UNSAFE SPEED** Violation **22350** Collision Type **REAR END** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **N** Process Date **20130910**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **OTHER MV** Lighting **DAYLIGHT** Ped Action Cntrl Dev **FNCTNG** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	17	F	W	HNBD		PROC ST	E	A	0100	TOYOT	2001	-	3	N		- M G
2	DRVR	19	F	W	HNBD		SLOWING	E	A	0100	FORD	2002	-	3	N		- M G
3	DRVR	50	M	W	HNBD		SLOWING	E	A	0100	HONDA	2005	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WHITE ROCK RD** Distance (ft) **0** Direction Secondary Rd **LATROBE RD** NCIC **9260** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **201** Type **2** CalTrans Badge **12781** Collision Date **20120207** Time **1250** Day **TUE**
Primary Collision Factor **R-O-W AUTO** Violation **21453C** Collision Type **BROADSIDE** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **Y** Process Date **20130822**
Weather1 **CLOUDY** Weather2 **RAINING** Rdwy Surface **WET** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **OTHER MV** Lighting **DAYLIGHT** Ped Action Cntrl Dev **FNCTNG** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	78	F	W	HNBD		LFT TURN	E	A	0100	CHEVR	2005	-	3	N		- M G
2	DRVR	48	M	W	HNBD		PROC ST	W	D	2200	FORD	2006	-	3	N		- B G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		90	M	3	0	M	G

Primary Rd **WHITE ROCK RD** Distance (ft) **0** Direction Secondary Rd **MANCHESTER DR** NCIC **9260** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **002** Type **3** CalTrans Badge **18316** Collision Date **20120201** Time **1852** Day **WED**
Primary Collision Factor **R-O-W AUTO** Violation **21802A** Collision Type **BROADSIDE** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **N** Process Date **20130829**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **OTHER MV** Lighting **DARK - NO** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	16	M	W	HNBD		LFT TURN	S	D	2200	CHEVR	1995	-	3	N		- M G
2	DRVR	24	F	W	HNBD		PROC ST	W	A	0100	ACURA	2002	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WHITE ROCK RD** Distance (ft) **100** Direction **E** Secondary Rd **POST ST** NCIC **9260** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **201** Type **2** CalTrans Badge **014749** Collision Date **20120505** Time **1230** Day **SAT**
Primary Collision Factor **DRVR ALC|DRG** Violation **23152A** Collision Type **REAR END** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **N** Process Date **20131216**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **OTHER MV** Lighting **DAYLIGHT** Ped Action Cntrl Dev **FNCTNG** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	53	M	W	HBD-UI		PROC ST	W	A	0100	TOYOT	2007	-	3	A	22350	- M G
2	DRVR	43	M	W	HNBD		STOPPED	W	A	0100	TOYOT	2007	-	3	N		- M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		47	F	3	0	M	G

Primary Rd **MAIN ST** Distance (ft) **40** Direction **N** Secondary Rd **HARKNESS ST** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **002** Type **3** CalTrans Badge **018653** Collision Date **20121017** Time **1410** Day **WED**
Primary Collision Factor **UNSAFE SPEED** Violation **22350** Collision Type **BROADSIDE** Severity **INJURY** #Killed **0** #Injured **2** Tow Away? **Y** Process Date **20140418**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **OTHER MV** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	59	M	W	HNBD		PROC ST	W	A	0100	VOLVO	1996	-	3	N		-	L	G
2	DRVR	33	M	W	HNBD		RGT TURN	W	A	0700	TOYOT	1990	-	3	N		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	59	M	1	0	L	G
PASS	OTH VIS	26	M	3	0	M	G
PASS		6	F	6	0	P	R
PASS		7	M	6	0	P	R
PASS		10	F	4	0	P	R

Primary Rd **MAIN ST** Distance (ft) **100** Direction **E** Secondary Rd **SACRAMENTO ST** NCIC **0901** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **Placerville** County **El Dorado** Population **2** Rpt Dist **0901** Beat **PP1** Type **0** CalTrans Badge **274** Collision Date **20120701** Time **0136** Day **SUN**
Primary Collision Factor **WRONG SIDE** Violation **21650** Collision Type **SIDESWIPE** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **Y** Process Date **20140212**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run **MSDMNR** Motor Vehicle Involved With **PKD MV** Lighting **DARK - ST** Ped Action Cntrl Dev **FNCTNG** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	998	-		HBD-UNK		PROC ST	W	-	- 00	CHEVR		-	3	A	21650	M	-	-
2	PRKD	998	-				PARKED	W	-	- 00	CHEVR	2008	-	3	M		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **MALCOLM DIXON** Distance (ft) **200** Direction **W** Secondary Rd **UPLANDS DR** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **001** Type **3** CalTrans Badge **011511** Collision Date **20121128** Time **1130** Day **WED**
Primary Collision Factor **IMPROP TURN** Violation **22107** Collision Type **HIT OBJECT** Severity **INJURY** #Killed **0** #Injured **1** Tow Away? **Y** Process Date **20140109**
Weather1 **CLOUDY** Weather2 **RAINING** Rdwy Surface **WET** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	19	M	W	HNBD		PROC ST	W	A	0700	GMC	2004	-	3	N		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	19	M	1	0	L	G

Primary Rd **MALLARD LN** Distance (ft) **235** Direction **S** Secondary Rd **DRAKE CT** NCIC **0901** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **Placerville** County **El Dorado** Population **2** Rpt Dist **0901** Beat **PP1** Type **0** CalTrans Badge **236** Collision Date **20120804** Time **0319** Day **SAT**
Primary Collision Factor **DRVR ALC|DRG** Violation **23152A** Collision Type **HIT OBJECT** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **N** Process Date **20140228**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DARK - ST** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	19	M	H	HBD-UI		PROC ST	N	-	- 00	CHRYS	2004	-	3	A	21650	L	M	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **MARSHALL RD** Distance (ft) **10** Direction **E** Secondary Rd **MOUNT MURPHY** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **021** Type **2** CalTrans Badge **013028** Collision Date **20121101** Time **0745** Day **THU**
Primary Collision Factor **UNSAFE SPEED** Violation **22350** Collision Type **OVERTURNED** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **Y** Process Date **20140509**
Weather1 **CLOUDY** Weather2 **RAINING** Rdwy Surface **WET** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	16	F	W	HNBD		RAN OFF RD	E	A	0100	CHEVR	2007	-	3	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WENTWORTH** Distance (ft) **1584** Direction **E** Secondary Rd **LEA WY** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORPORATED** County **El Dorado** Population **9** Rpt Dist Beat **002** Type **3** CalTrans Badge **13028** Collision Date **20130719** Time **0830** Day **FRI**
Primary Collision Factor **WRONG SIDE** Violation **21650** Collision Type **HIT OBJECT** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **Y** Process Date **20140228**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info																	Victim Info							
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	46	M	W	HNBD		RAN OFF RD	W	J	4398	FORD	2002	- 3	N		-	M G								

Primary Rd **WENTWORTH** Distance (ft) **1584** Direction **W** Secondary Rd **LEA WY** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORPORATED** County **El Dorado** Population **9** Rpt Dist Beat **002** Type **3** CalTrans Badge **13028** Collision Date **20130723** Time **1105** Day **TUE**
Primary Collision Factor **DRVR ALC|DRG** Violation **23152A** Collision Type **HIT OBJECT** Severity **INJURY** #Killed **0** #Injured **1** Tow Away? **Y** Process Date **20140925**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info																	Victim Info							
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	60	M	W	HBD-UI		RAN OFF RD	W	A	0100	TOYOT	2005	- 3	A	21650	-	M G	DRVR	OTH VIS	60	M	1	0	M	G

Primary Rd **WENTWORTH** Distance (ft) **400** Direction **E** Secondary Rd **LOFTY PEAK LN** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORPORATED** County **El Dorado** Population **9** Rpt Dist Beat **002** Type **3** CalTrans Badge **17728** Collision Date **20130818** Time **1535** Day **SUN**
Primary Collision Factor **IMPROP TURN** Violation **22107** Collision Type **OVERTURNED** Severity **INJURY** #Killed **0** #Injured **1** Tow Away? **Y** Process Date **20140325**
Weather1 **CLOUDY** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **NON-CLSN** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info																	Victim Info							
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	52	F	W	HNBD		PROC ST	W	C	0200	HARLE	2005	- 3	N		-	M W	DRVR	OTH VIS	52	F	1	2	P	W

Primary Rd **WENTWORTH** Distance (ft) **1584** Direction **E** Secondary Rd **MAIN ST** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORPORATED** County **El Dorado** Population **9** Rpt Dist Beat **002** Type **3** CalTrans Badge **011511** Collision Date **20130727** Time **1230** Day **SAT**
Primary Collision Factor **UNSAFE SPEED** Violation **22350** Collision Type **HIT OBJECT** Severity **INJURY** #Killed **0** #Injured **1** Tow Away? **N** Process Date **20140317**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **ANIMAL** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info																	Victim Info							
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	55	M	W	HNBD		PROC ST	E	C	0200	HONDA	2006	- 3	N		-	P W	DRVR	OTH VIS	55	M	1	2	P	W

Primary Rd **WENTWORTH** Distance (ft) **150** Direction **E** Secondary Rd **MT CEDAR RD** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORPORATED** County **El Dorado** Population **9** Rpt Dist Beat **002** Type **3** CalTrans Badge **011511** Collision Date **20130727** Time **1100** Day **SAT**
Primary Collision Factor **R-O-W AUTO** Violation **21804A** Collision Type **BROADSIDE** Severity **INJURY** #Killed **0** #Injured **1** Tow Away? **Y** Process Date **20140317**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **OTHER MV** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info																	Victim Info							
Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	29	M	W	HNBD		ENT TRAF	N	A	0700	GMC	2005	- 3	N		-	M G								
2	DRVR	25	M	W	HNBD		PROC ST	E	C	0200	HONDA	2001	- 3	N		-	P W	DRVR	OTH VIS	25	M	1	1	P	W

Primary Rd **WENTWORTH** Distance (ft) **1000** Direction **E** Secondary Rd **PIOLET CREEK RD** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCSPRINGS RD** County **El Dorado** Population **9** Rpt Dist Beat **002** Type **3** CalTrans Badge **017756** Collision Date **20130714** Time **2030** Day **SUN**
Primary Collision Factor **UNSAFE SPEED** Violation **22350** Collision Type **OTHER** Severity **INJURY** #Killed **0** #Injured **1** Tow Away? **Y** Process Date **20140313**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **ANIMAL** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	28	M	W	IMP UNK	IMP UNK	PROC ST	W	C	0200	HARLE	2005	-	N		-	P B

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	28	M	1	1	P	B

Primary Rd **WENTWORTH** Distance (ft) **600** Direction **W** Secondary Rd **ROWDY RD** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCSPRINGS RD** County **El Dorado** Population **9** Rpt Dist Beat **002** Type **3** CalTrans Badge **16465** Collision Date **20131006** Time **0005** Day **SUN**
Primary Collision Factor **IMPROP TURN** Violation **22107** Collision Type **HIT OBJECT** Severity **INJURY** #Killed **0** #Injured **1** Tow Away? **Y** Process Date **20140425**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DARK - NO** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	51	F	W	HNBD		RAN OFF RD	W	A	0700	LEXUS	2005	- 3	N		-	L G

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	51	F	1	0	L	G

Primary Rd **WENTWORTH** Distance (ft) **26** Direction **E** Secondary Rd **RT 193** NCIC **9245** State Hwy? **Y** Route Postmile Prefix Postmile Side of Hwy
City **UNINCSPRINGS RD** County **El Dorado** Population **9** Rpt Dist Beat **002** Type **3** CalTrans Badge **013279** Collision Date **20130902** Time **1234** Day **MON**
Primary Collision Factor **WRONG SIDE** Violation **21650** Collision Type **OVERTURNED** Severity **INJURY** #Killed **0** #Injured **1** Tow Away? **Y** Process Date **20140414**
Weather1 **CLOUDY** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **NON-CLSN** Lighting **DAYLIGHT** Ped Action Cntrl Dev **FNCTNG** Loc Type Ramp/Int

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	24	M		HNBD		RAN OFF RD	W	C	0200	TRIUM	1997	- 3	N		-	P W

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	OTH VIS	24	M	1	0	P	W

Primary Rd **WENTWORTH** Distance (ft) **2640** Direction **E** Secondary Rd **VOLCANOVILLE** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCSPRINGS RD** County **El Dorado** Population **9** Rpt Dist Beat **120** Type **1** CalTrans Badge **14424** Collision Date **20130811** Time **0805** Day **SUN**
Primary Collision Factor **IMPROP TURN** Violation **22107** Collision Type **HIT OBJECT** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **Y** Process Date **20141014**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DAYLIGHT** Ped Action Cntrl Dev **FNCTNG** Loc Type Ramp/Int

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	27	M	W	HNBD		PROC ST	W	C	0200	SUZUK	2006	- 3	A	22350	-	P W

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **WHITE ROCK RD** Distance (ft) **360** Direction **S** Secondary Rd **JOERGER CUT** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **003** Type **3** CalTrans Badge **14956** Collision Date **20130815** Time **0012** Day **THU**
Primary Collision Factor **IMPROP TURN** Violation **22107** Collision Type **HIT OBJECT** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **Y** Process Date **20141014**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DARK - NO** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	RAN OFF RD	N	A	0100	BMW	1998	- -	N		-	L B

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **MAIN ST** Distance (ft) **58** Direction **E** Secondary Rd **CEDAR RAVINE RD** NCIC **0901** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **Placerville** County **El Dorado** Population **2** Rpt Dist **0901** Beat **PP1** Type **0** CalTrans Badge **288** Collision Date **20130717** Time **1051** Day **WED**
Primary Collision Factor **STRTNG|BCKNG** Violation **22106** Collision Type **SIDESWIPE** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **N** Process Date **20140924**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **CONS ZONE** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **OTHER MV** Lighting **DAYLIGHT** Ped Action Cntrl Dev **FNCTNG** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	53	M	W	HNBD		PROC ST	E	-	-00	CHEVR	2002	- 2	N		-	M G
2	DRVR	85	M	W	HNBD		PROC ST	E	-	-00	TOYOT	2001	- 2	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **MAIN ST** Distance (ft) **528** Direction **S** Secondary Rd **HARKNESS ST** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **002** Type **3** CalTrans Badge **16629** Collision Date **20130808** Time **1755** Day **THU**
Primary Collision Factor **IMPROP PASS** Violation **21750** Collision Type **SIDESWIPE** Severity **INJURY** #Killed **0** #Injured **1** Tow Away? **N** Process Date **20140328**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **OTHER MV** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	21	M	W	HNBD		PASSING	N	A	0100	HONDA	1993	- 3	A	21460	-	L G
2	DRVR	49	M	W	HNBD		U-TURN	N	D	2200	CHEVR	1974	- 3	N		-	P G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN	19	F	3	0	M	G
PASS		47	M	2	0	P	C
PASS		49	M	3	0	P	G

Primary Rd **MAIN ST** Distance (ft) **80** Direction **E** Secondary Rd **RT 193** NCIC **9245** State Hwy? **Y** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **002** Type **3** CalTrans Badge **18653** Collision Date **20130713** Time **1625** Day **SAT**
Primary Collision Factor **STRTNG|BCKNG** Violation **22106** Collision Type **HIT OBJECT** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **N** Process Date **20141001**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run **MSDMNR** Motor Vehicle Involved With **MV ON OTHER RD** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	BACKING	W	A	0100	-		- 3	N		-	B -
2	PRKD	998	-				PARKED	E	D	2200	HONDA	2006	- 3	N		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **MAIN ST** Distance (ft) **100** Direction **E** Secondary Rd **STAGE COACH AL** NCIC **0901** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **Placerville** County **El Dorado** Population **2** Rpt Dist Beat **PP1** Type **0** CalTrans Badge **199** Collision Date **20130710** Time **1050** Day **WED**
Primary Collision Factor **STRTNG|BCKNG** Violation **22106** Collision Type **HIT OBJECT** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **N** Process Date **20140924**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	48	M	W	HNBD		BACKING	W	-	-00	TOYOT	2006	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **MARKET CT** Distance (ft) **430** Direction **E** Secondary Rd **PRODUCT DR** NCIC **9245** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **UNINCORP.** County **El Dorado** Population **9** Rpt Dist Beat **003** Type **3** CalTrans Badge **15607** Collision Date **20130817** Time **0014** Day **SAT**
Primary Collision Factor **DRVR ALC|DRG** Violation **23152A** Collision Type **HIT OBJECT** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **N** Process Date **20141006**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DARK - ST** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	54	F	W	HBD-UI		RAN OFF RD	E	A	0100	BUICK	1993	- 3	A	22107	-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

APPENDIX E

Traffic Signal Warrant Worksheets

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing Plus Project

Major Street Name = **Main Street**

Total of Both Approaches (VPH) = **450**

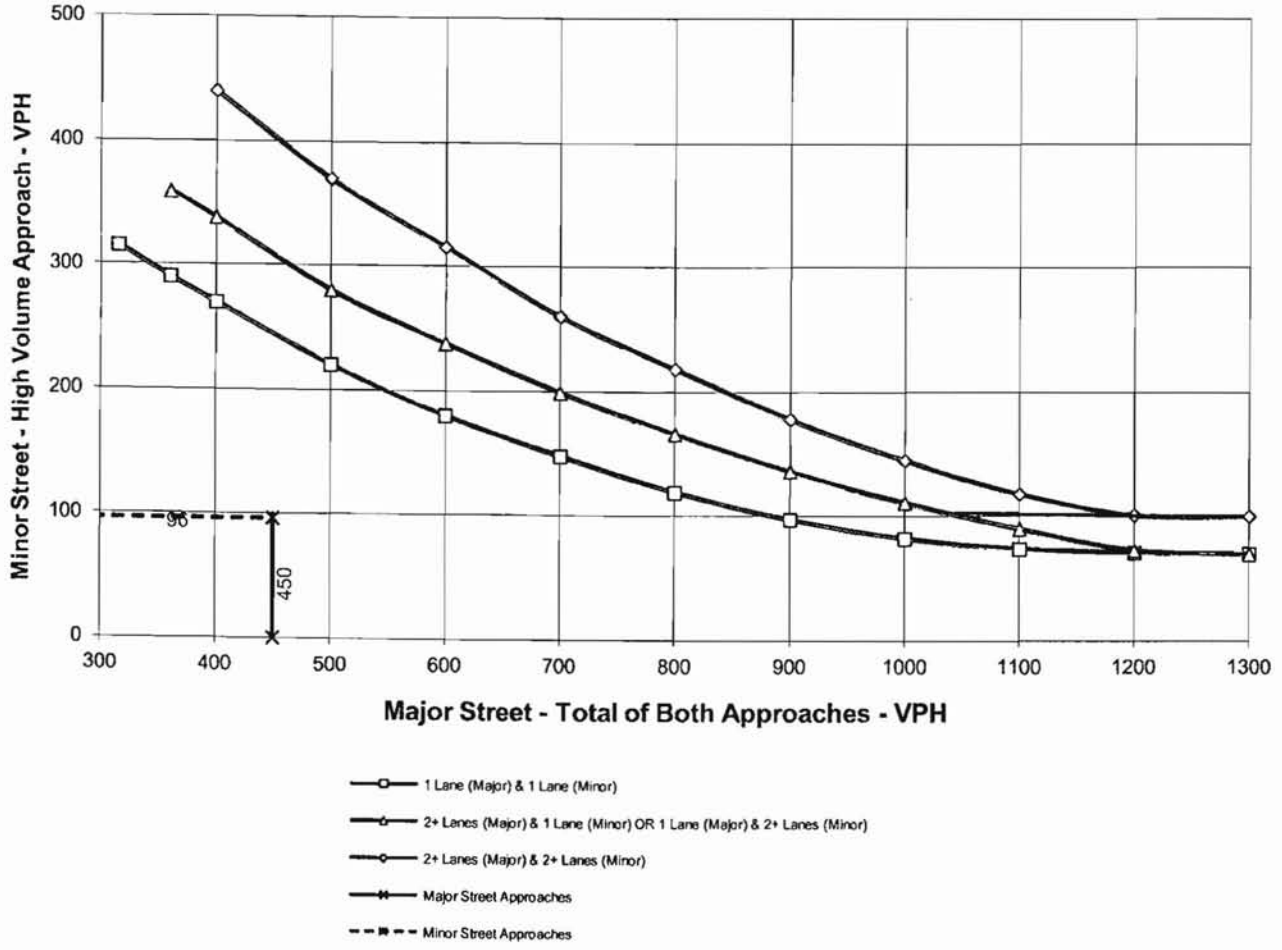
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Harkness Street**

High Volume Approach (VPH) = **96**

Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing Plus Project

Major Street Name = **Main Street**

Total of Both Approaches (VPH) = **502**

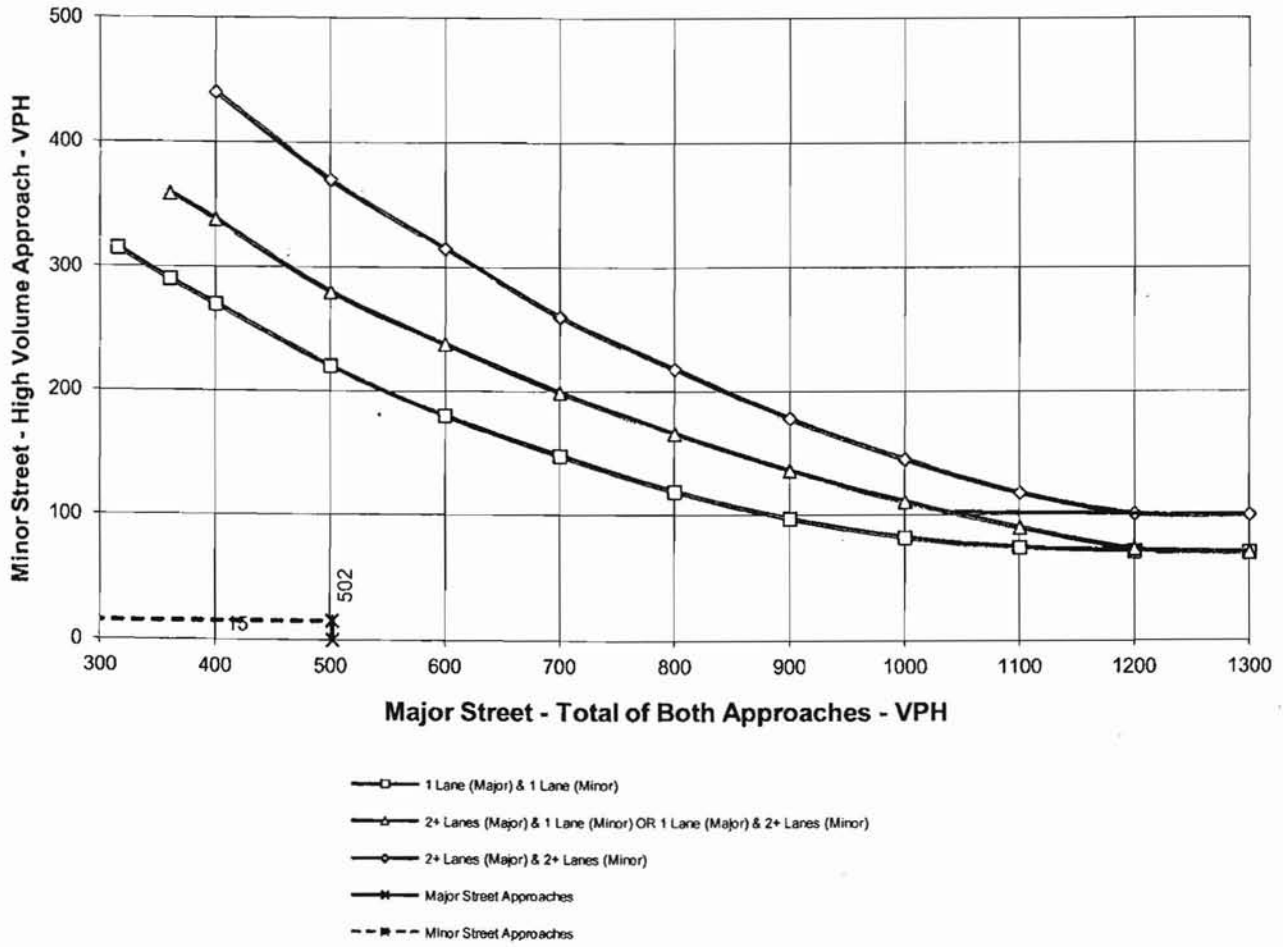
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Project Access**

High Volume Approach (VPH) = **15**

Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

PEAK HOUR VOLUME WARRANT
(Rural Areas)

Existing Plus Project

Major Street Name = **Main Street**

Total of Both Approaches (VPH) = **513**

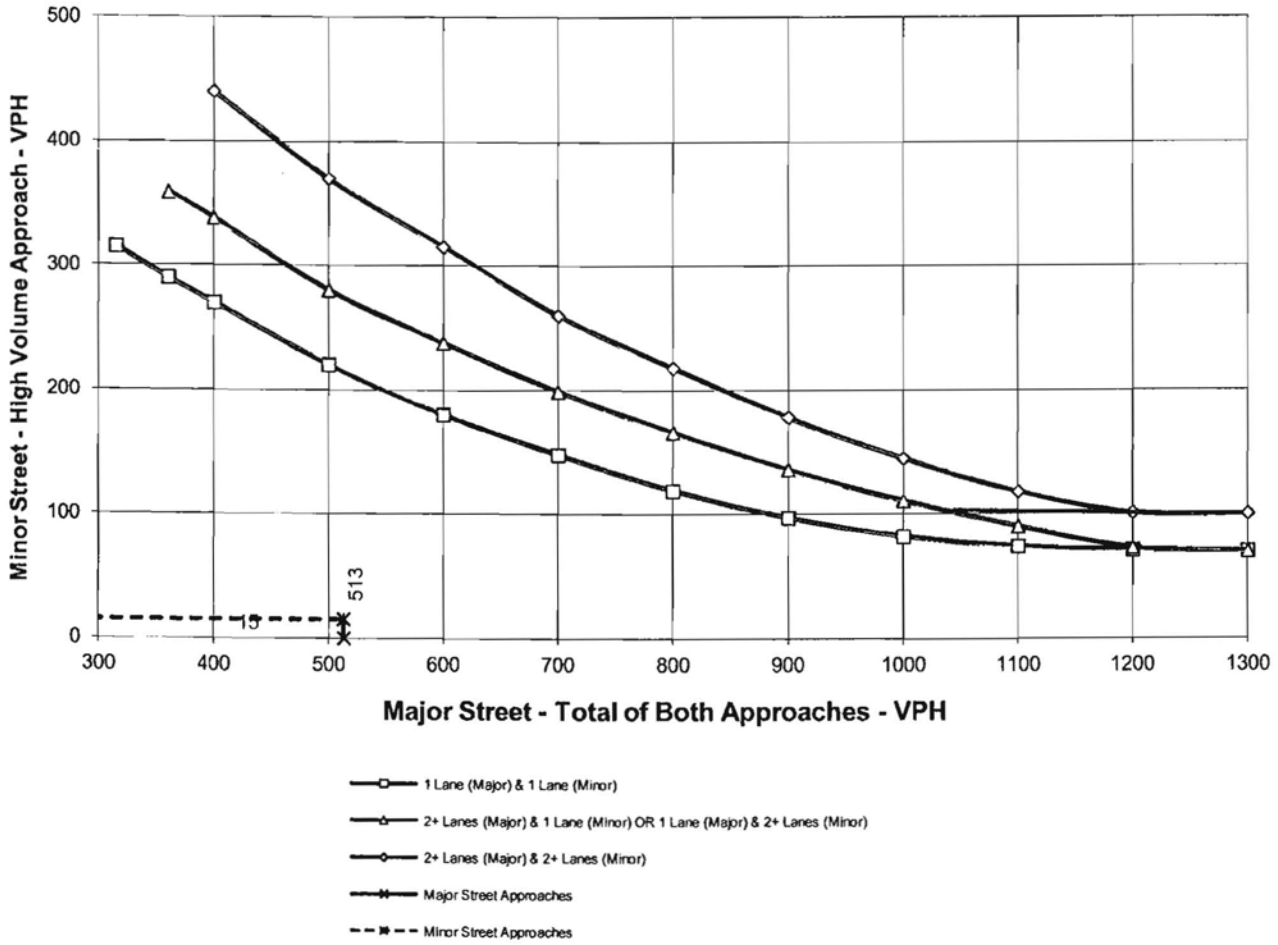
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Orleans Street**

High Volume Approach (VPH) = **15**

Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



** NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

APPENDIX F

Parking Code Requirements

A.Parking Requirements. Off-street parking shall be provided in accordance with the schedule shown in section 17.18.060 of this chapter, unless otherwise provided.

B.Uses Not Listed. Where parking requirements for a use are not specifically listed in the matrix, parking requirements for that use shall be determined on the basis of the parking requirements for the most similar use or activity for which parking requirements are established in the matrix.

C.Multiple Uses. In situations where a combination of uses or activities are developed on a single site, parking shall be provided for each of these uses according to the schedule given in this chapter unless a reduction is granted pursuant to section 17.18.040D.

D.Parking Requirements for Nonconforming Uses.

1. No additional parking spaces shall be required for those existing uses not in compliance with the parking standards on the effective date of the ordinance codified in this chapter.

2. Whenever the use of any premises which is not in compliance with the parking standards of this code is enlarged, expanded, or intensified additional parking spaces consistent with this code shall be provided only for the enlargement, expansion, or intensification and not for the entire use.

3. Whenever the use of any premises which is not in compliance with the parking standards of this code is changed to a use where a higher parking demand is identified, additional parking spaces consistent with this code shall be provided only for the additional intensity of the use and not for the entire use. When the new use generates a lower parking demand, no additional parking spaces will be required.

4. Improvement of existing parking area consistent with the standards of section 17.18.060 of this chapter in lieu of the provision of additional spaces required by subdivisions 2 and 3 of this subsection, may be permitted pursuant to approval of a special use permit. Such permit shall only be approved if the planning director or planning commission makes all of the findings of section 17.18.040D2 of this chapter.

E.Application for Previous Approvals. Projects with approved unexpired building permits, special use permits, planned development permits, variance permits, and design review or applications filed for permits, including design review, which have been deemed to be complete prior to the effective date of the ordinance codified in this chapter, must only meet the parking requirements in effect on the date those permits were approved or deemed complete. New permits and renewals for permits made after the effective date of the ordinance codified in this chapter, shall be subject to the provisions required in this chapter. (Ord. 3775 (part), 1987)

17.18.060 Schedule of Off Street Vehicle Parking Requirements.

Use Minimum Off-street Parking

Residential	
1. Conventional single family detached	2 spaces not in tandem
2. Single family with second unit (granny flat; guest house)	2 spaces not in tandem plus 1 space for each additional unit
3. Single family attached (townhouse, condominium, cluster development)	2 spaces not in tandem per unit
4. Apartments:	
Studio/1 bedroom	1.6 spaces per unit
Two or more bedrooms	2 spaces per unit
5. Rooming houses, boarding homes, clubs or fraternity housing with sleeping facilities	1 space per bedroom
6. Mobile home park space plus 1 visitor space for every 5 units	2 spaces per mobile home
Commercial	
7. Auto repair, auto parts sales and auto service stations plus 3 spaces for each service bay	1 space for each 300 square feet of retail space and office area
8. Auto sales square feet of gross sales area. Customer parking shall not be used for display areas	1 customer space per 500
9. Auto washing (self- service/coin-operated) credit will be given on a basis of 1 space per 24 feet of stacking lane, providing the stacking lane is separate from the access driveway and does not block access to any parking space	2 spaces per washing stall. Stacking lane
10. Barber or beauty shop station	2 spaces per chair or
11. Banks and savings institutions	1 space per 250 square feet of gross floor area
12. Hotel/motel recreational vehicle space for every ten units	1 space per room plus 1
13. Lumber yard (retail), nurseries, and home service center	1 space per 300 square feet of enclosed gross retail sales floor area
14. Offices (general) feet of gross floor area	1 space per 250 square

15. Offices (medical) feet of gross floor area	1 space per 150 square
16. Restaurant (nonfast food), bars, cocktail lounge Building Code plus 1 recreational vehicle space per each ten parking spaces	1 space per three fixed seats or equivalent occupancy per Uniform
17. Restaurant (fast food) (with drive-up/drive- through windows) up window. Where drive- up windows are provided, stacking lane credit will be given on a basis of 1 space per 24 feet of stacking lane, providing the stacking lane is separate from the access driveway and does not block access to any park- ing space. One recrea- tional vehicle space per each ten parking spaces	1 space per 3 fixed seats or equivalent occupancy plus 3 spaces per drive-
18. Retail (general merchan- dising not in a shopping center)	1 space per 300 square feet of gross floor area
19. Retail furniture and appliance sales and repair sales area plus 1 space per each 1000 square feet of warehouse storage area	1 space per 500 square feet of gross display and
20. Shopping centers:	
a. Neighborhood feet of gross floor area	1 space per 200 square
b. District/community feet of gross floor area	1 space per 250 square
c. Regional feet of gross floor area	1 space per 300 square
Educationa l	
21. Libraries, museums, and art galleries	1 space per 300 square feet of gross floor area
22. Preschool, nursery schools, and daycare facilities area is provided	1 space per each 5 chil- dren or 1 space for each 10 children if drop-off
23. Elementary, junior high schools, and administrative buildings	1½ spaces per classroom
24. High schools plus 1 space per each 35 square feet of auditorium area	6 spaces per classroom
25. Colleges plus 1 space per each 35 square feet of auditorium area	8 spaces per classroom
26. Business colleges and trade schools of classroom plus	1 space per 75

1 space per staff member	square feet of gross floor area
Health Services	
27. Convalescent hospitals, nursing homes, clinics	1 space per 3 beds
28. Hospitals	1½ spaces per bed
29. Veterinary clinics and hospitals sive of kennel boarding area	1 space per 250 feet of gross floor area exclu-
Industrial	
30. Light and limited industrial manufacturing devoted to manufacturing	1 space per 400 square feet of gross area
31. Research and development feet of gross floor area	1 space per 250 square
32. Heavy manufacturing feet of gross floor area up to 20,000 plus 1 space per each 1000 square feet of gross floor area over 20,000 square feet	1 space per 500 square
33. Warehousing (general) each 2000 square feet of floor area	1 space plus 1 space per
34. Warehouse (mini) each 30 units or fraction thereof	1 space plus 1 space per
Recreation	
35. Arcades, including video electronic games	1 space per 150 square feet of gross floor area
36. Bowling alleys [includes all other related uses (i.e., restaurant, bar)	5 spaces per alley
37. Campground every 3 day users plus 1 space per each designated camping space, or as other wise determined by the approving authority as provided in section 17.18.040D based on the size of the facility, number of activities provided, intensity of use and impacts to sur- rounding community.	1 parking space per
Campground parking facil- ities shall be graded and surfaced with 2 inches of aggregate base	
a. River Use Permits every 3 day users plus 1 space per each designated camping space, or as otherwise determined by the approving authority as provided in section 17.18.040D based on the size of the facility, number of activities provided, intensity of use and impacts to sur- rounding community	1 parking space per

38. Golf courses (regulation) [(includes all other re- lated uses (i.e., res- taurant, bar, etc.)]	8 spaces per hole
39. Golf courses (miniature) space per 250 square feet of gross building area used for commercial purposes	3 spaces per hole plus 1
40. Health spas, gym feet of gross use area	1 space per 300 square
41. Park (day use site) the approving authority as provided in section 17.18.040D based on the size of the facility, number of activities provided, intensity of use and impacts to surrounding community	Shall be determined by
42. Ski facility (day skier lift complex) lift area capacity. All parking areas shall be surfaced with a minimum of 2 inches of asphaltic concrete over 6 inches of Class 2 aggregate base surfacing. Modifications shall be determined based on the R values(hardness) of the area soils (Ref. Caltrans Highway Design Manual)	1 space per every 2.7 users based on total ski
43. Tennis, handball, racquetball facilities	3 spaces per court
44. Theaters, movies	1 space per 3 seats
Miscellaneous	
45. Churches and other places of public assembly includ- ing banquet facilities, convention facilities, and community centers exhibitions	1 space per 4 seats within the main audito- rium or 1 space per 300 square feet of gross floor area used for
46. Ranch marketing	
a. Agricultural product sales area area	1 space per 250 square feet of gross building
b. Craft sales area cession plus 1 space per 200 square feet of sales use area	3 spaces per each con-
c. Bakery feet of gross building area plus 1 space per every 3 seats	1 space per 250 square
d. Restaurant/cafe or equivalent occupancy per Uniform Building Code plus one recreational vehicle space per each ten parking spaces	1 space per 3 fixed seats
e. Picnic area	2 spaces per picnic table

Note: Off-street parking areas for Ranch Marketing activities shall be graded and surfaced with a minimum of two inches of aggregate base. Where such off-street parking is provided within an orchard or tree farm, parking areas need not be improved,

but shall be subject to a parking plan approved by the planning director. Where off street parallel parking is provided adjacent to a county-maintained prescriptive road, said parking shall maintain a minimum setback of four feet (4') from the edge of the improved road surface.

No parking shall be permitted within an improved public road surface or right-of-way. Parking areas shall be designed so that there shall be no backing of vehicles directly onto any improved road or right-of-way.

(Ord. 3775 (part), 1987)

17.18.070 Parking Lot Construction Standards.

A. Commercial and Industrial Parking. Parking areas for commercial and industrial developments shall be graded and surfaced with a minimum of two inches of asphaltic concrete over four inches (4") of aggregate base or equivalent in concrete.

B. Multiple Family and Mobile Home Park Parking. Parking areas for multiple family residential and mobile home park developments requiring more than four parking spaces shall be constructed to the same requirements as commercial and industrial parking areas. Parking access for multiple family developments and mobile home parks requiring four (4) or fewer parking spaces shall be graded and surfaced with a minimum of a double application of bituminous seal coating over four inches (4') of Class 2 aggregate base. The base shall be compacted to ninety-five percent (95%). Parking spaces within a carport shall be a minimum dimension of nine feet (9') in width and twenty feet (20') in depth.

C. Single Family Parking. Parking areas for single family residential developments in class 1 subdivisions and mobile home park developments shall be graded and surfaced with a minimum of two inches (2") of asphaltic concrete over four inches (4") of aggregate base or equivalent in concrete. All other single family residential parking areas may be constructed within a minimum of four inches (4") of gravel base or equivalent, compacted to ninety-five percent (95%).

D. Striping. All parking stall spaces shall be clearly delineated with white or yellow painting.

E. Vertical Clearance. Every parking stall and aisle shall have a minimum of eight feet (8') vertical clearance.

F. Maintenance. All parking stalls, aisles, and access driveways shall be maintained in good condition and shall be kept free of debris and outside storage.

G. Wheel Stops. All parking stalls other than for single-family residential parking shall provide concrete wheel stops to prevent vehicles from encroaching into or onto public right-of-way and adjoining properties. Wheel stops shall be anchored securely to the asphalt. In developments where sidewalks or concrete curbs are provided,

APPENDIX G

Sight Distance Standards

CHAPTER 200
GEOMETRIC DESIGN AND STRUCTURE STANDARDS

Topic 201 - Sight Distance

Index 201.1 - General

Sight distance is the continuous length of highway ahead visible to the driver. Four types of sight distance are considered here: passing, stopping, decision, and corner. Passing sight distance is used where use of an opposing lane can provide passing opportunities (see Index 201.2). Stopping sight distance is the minimum sight distance to be provided on multilane highways and on 2-lane roads when passing sight distance is not economically obtainable. Stopping sight distance also is to be provided for all elements of interchanges and intersections at grade, including private road connections (see Topic 504, Index 405.1, & Figure 405.7). Decision sight distance is used at major decision points (see Indexes 201.7 and 504.2). Corner sight distance is used at intersections (see Index 405.1, Figure 405.7, and Figure 504.3J).

Table 201.1 shows the standards for stopping sight distance related to design speed, and these shall be the minimum values used in design. Also shown are the values for use in providing passing sight distance.

Chapter 3 of "A Policy on Geometric Design of Highways and Streets," AASHTO, contains a thorough discussion of the derivation of stopping sight distance.

201.2 Passing Sight Distance

Passing sight distance is the minimum sight distance required for the driver of one vehicle to pass another vehicle safely and comfortably. Passing must be accomplished assuming an oncoming vehicle comes into view and maintains the design speed, without reduction, after the overtaking maneuver is started.

Table 201.1
Sight Distance Standards

Design Speed[1] (mph)	Stopping[2] (ft)	Passing (ft)
20	125	800
25	150	950
30	200	1,100
35	250	1,300
40	300	1,500
45	360	1,650
50	430	1,800
55	500	1,950
60	580	2,100
65	660	2,300
70	750	2,500
75	840	2,600
80	930	2,700

(1) See Topic 101 for selection of design speed.
(2) For sustained downgrades, refer to advisory standard in Index 201.3

The sight distance available for passing at any place is the longest distance at which a driver whose eyes are 3 ½ feet above the pavement surface can see the top of an object 4 ¼ feet high on the road. See Table 201.1 for the calculated values that are associated with various design speeds.

In general, 2-lane highways should be designed to provide for passing where possible, especially those routes with high volumes of trucks or recreational vehicles. Passing should be done on tangent horizontal alignments with constant grades or a slight sag vertical curve. Not only are drivers reluctant to pass on a long crest vertical curve, but it is impracticable to design crest vertical curves to provide for passing sight distance because of high cost where crest cuts are involved. Passing sight distance for crest vertical curves is 7 to 17 times longer than the stopping sight distance.

Ordinarily, passing sight distance is provided at locations where combinations of alignment and

profile do not require the use of crest vertical curves.

Passing sight distance is considered only on 2-lane roads. At critical locations, a stretch of 3- or 4-lane passing section with stopping sight distance is sometimes more economical than two lanes with passing sight distance.

Passing on sag vertical curves can be accomplished both day and night because headlights can be seen through the entire curve.

See Part 3 of the California Manual on Uniform Traffic Control Devices (California MUTCD) for criteria relating to the placement of barrier striping for no-passing zones. Note, that the passing sight distances shown in the California MUTCD are based on traffic operational criteria. Traffic operational criteria are different from the design characteristics used to develop the values provided in Table 201.1 and Chapter 3 of AASHTO, A Policy on Geometric Design of Highways and Streets. The aforementioned table and AASHTO reference are also used to design the vertical profile and horizontal alignment of the highway. Consult the Headquarters (HQ) Traffic Liaison when using the California MUTCD criteria for traffic operating-control needs.

Other means for providing passing opportunities, such as climbing lanes or turnouts, are discussed in Index 204.5. Chapter 3 of AASHTO, A Policy on Geometric Design of Highways and Streets, contains a thorough discussion of the derivation of passing sight distance.

201.3 Stopping Sight Distance

The minimum stopping sight distance is the distance required by the driver of a vehicle, traveling at a given speed, to bring the vehicle to a stop after an object on the road becomes visible. Stopping sight distance is measured from the driver's eyes, which are assumed to be 3 ½ feet above the pavement surface, to an object ½-foot high on the road. See Index 1003.1(9) for bicycle stopping sight distance guidance.

The stopping sight distances in Table 201.1 should be increased by 20 percent on sustained downgrades steeper than 3 percent and longer than one mile.

201.4 Stopping Sight Distance at Grade Crests

Figure 201.4 shows graphically the relationships between length of crest vertical curve, design speed, and algebraic difference in grades. Any one factor can be determined when the other two are known.

201.5 Stopping Sight Distance at Grade Sags

From the curves in Figure 201.5, the minimum length of vertical curve which provides headlight sight distance in grade sags for a given design speed can be obtained.

If headlight sight distance is not obtainable at grade sags, lighting may be considered. The Design Coordinator and the HQ Traffic Liaison shall be contacted to review proposed grade sag lighting to determine if such use is appropriate.

201.6 Stopping Sight Distance on Horizontal Curves

Where an object off the pavement such as a bridge pier, building, cut slope, or natural growth restricts sight distance, the minimum radius of curvature is determined by the stopping sight distance.

Available stopping sight distance on horizontal curves is obtained from Figure 201.6. It is assumed that the driver's eye is 3 ½ feet above the center of the inside lane (inside with respect to curve) and the object is ½-foot high. The line of sight is assumed to intercept the view obstruction at the midpoint of the sight line and 2 feet above the center of the inside lane when the road profile is flat (i.e. no vertical curve). Crest vertical curves can cause additional reductions in sight distance. The clear distance (m) is measured from the center of the inside lane to the obstruction.

The design objective is to determine the required clear distance from centerline of inside lane to a retaining wall, bridge pier, abutment, cut slope, or other obstruction for a given design speed. Using radius of curvature and minimum sight distance for that design speed, Figure 201.6 gives the clear distance (m) from centerline of inside lane to the obstruction.

When the radius of curvature and the clear distance to a fixed obstruction are known, Figure 201.6 also gives the sight distance for these conditions.

See Index 101.1 for technical reductions in design speed caused by partial or momentary horizontal sight distance restrictions. See Index 203.2 for additional comments on glare screens.

Cuts may be widened where vegetation restricting horizontal sight distance is expected to grow on finished slopes. Widening is an economic trade-off that must be evaluated along with other options. See Index 902.2 for sight distance requirements on landscape projects.

201.7 Decision Sight Distance

At certain locations, sight distance greater than stopping sight distance is desirable to allow drivers time for decisions without making last minute erratic maneuvers (see Chapter III of AASHTO, A Policy on Geometric Design of Highways and Streets, for a thorough discussion of the derivation of decision sight distance.)

On freeways and expressways the decision sight distance values in Table 201.7 should be used at lane drops and at off-ramp noses to interchanges, branch connections, roadside rests, vista points, and inspection stations. When determining decision sight distance on horizontal and vertical curves, Figures 201.4, 201.5, and 201.6 can be used. Figure 201.7 is an expanded version of Figure 201.4 and gives the relationship among length of crest vertical curve, design speed, and algebraic difference in grades for much longer vertical curves than Figure 201.4.

Decision sight distance is measured using the 3 ½-foot eye height and ½-foot object height. See Index 504.2 for sight distance at secondary exits on a collector-distributor road.

Table 201.7
Decision Sight Distance

Design Speed (mph)	Decision Sight Distance (ft)
30	450
35	525
40	600
45	675
50	750
55	865
60	990
65	1,050
70	1,105
75	1,180
80	1,260

Topic 202 - Superelevation

202.1 Basic Criteria

According to the laws of mechanics, when a vehicle travels on a curve it is forced outward by centrifugal force.

On a superelevated highway, this force is resisted by the vehicle weight component parallel to the superelevated surface and side friction between the tires and pavement. It is impractical to balance centrifugal force by superelevation alone, because for any given curve radius a certain superelevation rate is exactly correct for only one driving speed. At all other speeds there will be a side thrust either outward or inward, relative to the curve center, which must be offset by side friction.

If the vehicle is not skidding, these forces are in equilibrium as represented by the following equation, which is used to design a curve for a comfortable operation at a particular speed:

$$\text{Centrifugal Factor} = e + f = \frac{0.067V^2}{R} = \frac{V^2}{15R}$$

Topic 405 - Intersection Design Standards

405.1 Sight Distance

(1) Stopping Sight Distance. See Index 201.1 for minimum stopping sight distance requirements.

(2) *Corner Sight Distance.*

(a) General--At unsignalized intersections a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle.

Adequate time must be provided for the waiting vehicle to either cross all lanes of through traffic, cross the near lanes and turn left, or turn right, without requiring through traffic to radically alter their speed.

The values given in Table 405.1A provide 7-1/2 seconds for the driver on the crossroad to complete the necessary maneuver while the approaching vehicle travels at the assumed design speed of the main highway. The 7-1/2 second criterion is normally applied to all lanes of through traffic in order to cover all possible maneuvers by the vehicle at the crossroad. However, by providing the standard corner sight distance to the lane nearest to and farthest from the waiting vehicle, adequate time should be obtained to make the necessary movement. On multilane highways a 7-1/2 second criterion for the outside lane, in both directions of travel, normally will provide increased sight distance to the inside lanes. Consideration should be given to increasing these values on downgrades steeper than 3 percent and longer than 1 mile (see Index 201.3), where there are high truck volumes on the crossroad, or where the skew of the intersection substantially increases the distance traveled by the crossing vehicle.

In determining corner sight distance, a set back distance for the vehicle waiting at the crossroad must be assumed. **Set back for the driver on the crossroad shall be a minimum of 10 feet plus the shoulder width of the major road but not less than 15 feet.** Corner sight distance is to be measured from a 3.5-foot height at the location of the driver on the minor road to a 4.25-foot object height in the center of the approaching lane of the major road. If the major road has a median barrier, a 2-foot object height should be used to determine the median barrier set back.

In some cases the cost to obtain 7-1/2 seconds of corner sight distances may be excessive. High costs may be attributable to right of way acquisition, building removal, extensive excavation, or immitigable environmental impacts. In such cases a lesser value of corner sight distance, as described under the following headings, may be used.

(b) Public Road Intersections (Refer to Topic 205)--At unsignalized public road intersections (see Index 405.7) corner sight distance values given in Table 405.1A should be provided.

At signalized intersections the values for corner sight distances given in Table 405.1A should also be applied whenever possible. Even though traffic flows are designed to move at separate times, unanticipated vehicle conflicts can occur due to violation of signal, right turns on red, malfunction of the signal, or use of flashing red/yellow mode.

Where restrictive conditions exist, similar to those listed in Index 405.1(2)(a), the minimum value for corner sight distance at both signalized and unsignalized intersections shall be equal to the stopping sight distance as given in Table 201.1, measured as previously described.

(c) Private Road Intersections (Refer to Index 205.2) and Rural Driveways (Refer to Index 205.4)--**The minimum corner sight distance shall be equal to the stopping sight distance as given in**

Table 201.1, measured as previously described.

(d) Urban Driveways (Refer to Index 205.3)--Corner sight distance requirements as described above are not applied to urban driveways.

(3) Decision Sight Distance. At intersections where the State route turns or crosses another State route, the decision sight distance values given in Table 201.7 should be used. In computing and measuring decision sight distance, the 3.5-foot eye height and the 0.5-foot object height should be used, the object being located on the side of the intersection nearest the approaching driver.

The application of the various sight distance requirements for the different types of intersections is summarized in Table 405.1B.

(4) Acceleration Lanes for Turning Moves onto State Highways. At rural intersections, with stop control on the local cross road, acceleration lanes for left and right turns onto the State facility should be considered. At a minimum, the following features should be evaluated for both the major highway and the cross road:

- divided versus undivided
- number of lanes
- design speed
- gradient
- lane, shoulder and median width
- traffic volume and composition
- turning volumes
- horizontal curve radii
- sight distance
- proximity of adjacent intersections
- types of adjacent intersections

For additional information and guidance, refer to AASHTO, A Policy on Geometric Design of Highways and Streets, the Headquarters Traffic Liaison and the Design Coordinator.

Table 405.1A
Corner Sight Distance
(7-1/2 Second Criteria)

Design Speed (mph)	Corner Sight Distance (ft)
25	275
30	330
35	385
40	440
45	495
50	550
55	605
60	660
65	715
70	770

Table 405.1B
Application of Sight Distance Requirements

Intersection Types	Sight Distance		
	Stopping	Corner	Decision
Private Roads	X	X(1)	
Public Streets and Roads	X	X	
Signalized Intersections	X	(2)	
State Route Intersections & Route Direction Changes, with or without Signals	X	X	X

(1) Using stopping sight distance between an eye height of 3.5 ft and an object height of 4.25 ft. See Index 405.1(2)(a) for setback requirements.

(2) Apply corner sight distance requirements at signalized intersections whenever possible due to unanticipated violations of the signals or malfunctions of the signals. See Index 405.1(2)(b).

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