Revised and Recirculated
Initial Study/Mitigated Negative Declaration

Regina Caeli Priory

Prepared for:

Town of Loomis

December 2011

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Initial Study/Mitigated Negative Declaration

Regina Caeli Priory

Prepared for:

Town of Loomis
Planning Department
3665 Taylor Road
Loomis, CA 95650

Contact:

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December 2011

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ADT	average daily trips
ANSI	American National Standards Institute
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
CAA	Clean Air Act
CAAA	Federal Clean Air Act Amendments of 1990
CAAQS	California ambient air quality standards
CAT	Climate Action Team
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDMG	California Division of Mines and Geology
CEQA	California Environmental Quality Act
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CH4	methane
CHRIS	California Historical Resources System
CMA	congestion management agency
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2-equivalents
COHb	carboxyhemoglobin
CRHR	California Register of Historical Resources
dBA	A-weighted decibels
DFG	California Department of Fish and Game
DMG	California Department of Conservation Division of Mines and Geology
DSMME	Dominican Sisters of Mary, Mother of the Eucharist
DWR	California Department of Water Resources
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Phase I Environmental Site Assessment
FEMA	Federal Emergency Management System
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
GHG	greenhouse gases
GWP	Global warming potential
HAP	hazardous air pollutants
HAS	hydrologic sub-area

HEC-HMS	Hydrologic Modeling System
HFC	hydrofluorocarbons
IS/MND	initial study/mitigated negative declaration
ITE	Institute of Transportation Engineers
LDL	Larson Davis Laboratories
L_{dn}	Day-Night Noise Level
L_{eq}	energy-equivalent noise level
L_{max}	maximum noise level
LOS	Level of Service
msl	mean sea level
N2O	nitrous oxide
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NO_2	nitrogen dioxide
NOA	Naturally Occurring Asbestos
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OPR	Office of Planning and Research
PCAPCD	Placer County Air Pollution Control District
PCWA	Placer County Water Agency
PFC	perfluorocarbons
PM_{10}	respirable particulate matter
$PM_{2.5}$	fine particulate matter
ppm	part per million
RA	Residential Agricultural
REC	Recognized Environmental Condition
ROG	reactive organic gases
SB	Senate Bill
SF6	sulfur hexafluoride
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
SPMUD	South Placer Municipal Utility District
SVAB	Sacramento Valley Air Basin
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminant
the Town	Town of Loomis
USACE	U.S. Army Corps of Engineers
v/c	volume / capacity ratio
WPWMA	Western Placer Waste Management Authority
WWTP	Wastewater Treatment Plant

1 INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

This document is the revised and recirculated initial study/mitigated negative declaration (IS/MND) for the proposed Regina Caeli Priory Project (proposed project) located in the Town of Loomis. This IS/MND has been prepared in accordance with the California Environmental Quality Act (CEQA), Section 21000 et seq. of the California Public Resources Code; and the State CEQA Guidelines, Title 14, Section 15000 et seq. of the California Code of Regulations.

An IS is prepared by a lead agency to determine if a project may have a significant effect on the environment (State CEQA Guidelines, Section 15063[a]) and thus to determine the appropriate environmental document. In accordance with Section 15070 of the State CEQA Guidelines:

> …[a] public agency shall prepare…a proposed negative declaration or mitigated negative declaration…when: (a) The initial study shows that there is no substantial evidence…that the project may have a significant effect on the environment, or (b) The initial study identifies potentially significant effects, but revisions in the project plans or proposal… agreed to by the applicant…would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and [t]here is no substantial evidence…that the project as revised may have a significant effect on the environment.

In this circumstance, the lead agency prepares a written statement describing its reasons for concluding that the proposed project would not have a significant effect on the environment and, therefore, does not require the preparation of an environmental impact report.

An IS/MND for the proposed project was circulated for public review from September 21 to October 21, 2011. Subsequent to that time, the project proponent, the Dominican Sisters of Mary, Mother of the Eucharist (DSMME), revised the proposed project in response to public and agency comments received on the IS/MND and to avoid impacts on potential jurisdictional wetlands regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act that were identified subsequent to circulation of the original IS/MND. The proposed revisions to the project include moving the location of the proposed Priory building approximately 250 feet northwest from its original site, reducing the number of exterior playing fields from two to one and relocating the field to the southeast corner of the property, reducing the height of the proposed bell tower from 55 feet in height to 43 feet in height, and adding two wildlife passage openings to the fencing along Barton and Rocklin Roads. As stated in CEQA Guidelines Section 15073.5, "Recirculation of a Negative Declaration Prior to Adoption," a lead agency is required to recirculate a negative declaration when the document must be substantially revised after public notice of its availability has previously been given pursuant to Section 15072, but prior to its adoption. Although the proposed changes to the project are not significant alterations (e.g., new or expanded land uses), the Town of Loomis is taking a conservative approach and is considering the aforementioned changes to the project as substantial revisions to the previously circulated IS/MND and is recirculating the document. This revised IS/MND is being recirculated for a 30-day period of public and agency review.

As described in this IS (in Chapter 3, "Environmental Checklist"), the proposed project would result in certain significant environmental impacts, but those impacts would be reduced to a less-than-significant level by implementation of revisions (in the form of mitigation measures) that have been agreed to and will be implemented by the Town of Loomis, or the Town of Loomis will ensure they are implemented by others. Therefore, an IS/MND is the appropriate document for compliance with CEQA requirements. This revised and recirculated IS/MND conforms to these requirements and to the content requirements presented in Section 15071 of the State CEQA Guidelines.

1.2 INTENDED USES OF THE IS/MND AND AGENCY ROLES AND RESPONSIBILITIES

This IS/MND will be used by the Town of Loomis and CEQA responsible agencies to fulfill the requirements of CEQA. It will also be used as an informational document by agencies that could have permitting or approval authority over aspects of the project and by other local and state agencies, including CEQA trustee agencies that may have an interest in the project.

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

A CEQA responsible agency is a state agency, board, or commission or any local or regional agency other than the lead agency that has a legal responsibility for reviewing, carrying out, or approving aspects of a project. Responsible agencies must actively participate in the lead agency's CEQA process and review the lead agency's CEQA document. This IS/MND will be used by responsible agencies to ensure that the requirements of CEQA have been met before deciding whether to approve or permit project elements over which they have authority.

A CEQA trustee agency is a state agency that has jurisdiction by law over natural resources that are held in trust for the people of the State of California. The California Department of Fish and Game (DFG) is a trustee agency that has jurisdiction over resources (fish and wildlife resources) potentially affected by the proposed project. For this proposed project, DFG is a responsible as well as a trustee agency.

The agencies that may have responsibility or jurisdiction over the implementation of components of the proposed project are listed below.

LEAD AGENCY

- Town of Loomis: Overall project approval.

RESPONSIBLE AGENCIES

- Placer County Air Pollution Control District: Permit to construct.

1.3 PURPOSE OF THIS DOCUMENT

The Town of Loomis, as the lead agency for the Regina Caeli Priory Project, has directed the preparation of an IS/MND in compliance with CEQA. The purpose of this document is to present to decision makers and the public the environmental consequences of implementing the proposed project. The disclosure document is being made available to the public for review and comment. The IS/MND is available for a 30-day public review period from December 9, 2011, to January 9, 2012.

Comments must be received by close of business on January 9, 2012 and should be addressed to:

Town of Loomis
Planning Department
Attn: Matt Lopez
3665 Taylor Road
Loomis, CA 95650

A copy of the IS/MND and supporting documents are available for public review at the following address:

Town of Loomis
Planning Department
3665 Taylor Road
Loomis, CA 95650

A copy of the IS/MND is also available for public review online at www.loomis.ca.gov/mp_loomis.html and www.loomis.ca.gov/loomis_projects.html.

1.4 SUMMARY OF FINDINGS

Chapter 3 of this document contains the analysis and discussion of potential environmental impacts of the proposed project.

Based on the issues evaluated in Chapter 3, it was determined that the proposed project would have no impact or a less-than-significant impact in the following resource areas:

- aesthetics
- agricultural and forest resources,
- greenhouse gas emissions,
- hazards and hazardous materials,
- land use and planning,
- mineral resources,
- population and housing,
- public services,
- recreation, and
- transportation and traffic

Impacts of the proposed project were determined to be less than significant with the implementation of mitigation measures described in Chapter 3 in the following resource areas:

- air quality,
- biological resources,
- cultural resources,
- geology and soils,
- hydrology and water quality,
- noise, and
- utilities and service systems.

The applicant has agreed to adopt each of the mitigation measures described in Chapter 3, "Environmental Checklist." A Mitigation Monitoring and Reporting Program will be prepared and will include those mitigation measures that would reduce potentially significant environmental impacts to the resource areas stated above to less-than-significant levels.

1.5 DOCUMENT ORGANIZATION

This IS is divided into the following five chapters:

Chapter 1: Introduction. This chapter introduces the project and describes the purpose and organization of this document.

Chapter 2: Project Description. This chapter describes the details of the proposed project.

Chapter 3: Environmental Analysis. This chapter describes the environmental setting for each of the environmental subject areas; evaluates a range of impacts identified as "no impact," "less than significant," "less than significant with mitigation incorporated," or "potentially significant" in response to the environmental checklist; and provides mitigation measures, where appropriate, to mitigate potentially significant impacts to a less-than-significant level. If any impacts were determined to be potentially significant after mitigation, an EIR would be required. For this project, however, mitigation measures have been incorporated where needed, to reduce all potentially significant impacts to a less-than-significant level. Thus, an EIR is not required.

Chapter 4: References. This chapter lists the references used in preparation of this IS.

Chapter 5: List of Preparers. This chapter identifies the preparers of this IS.

2 PROJECT BACKGROUND AND DESCRIPTION

2.1 INTRODUCTION

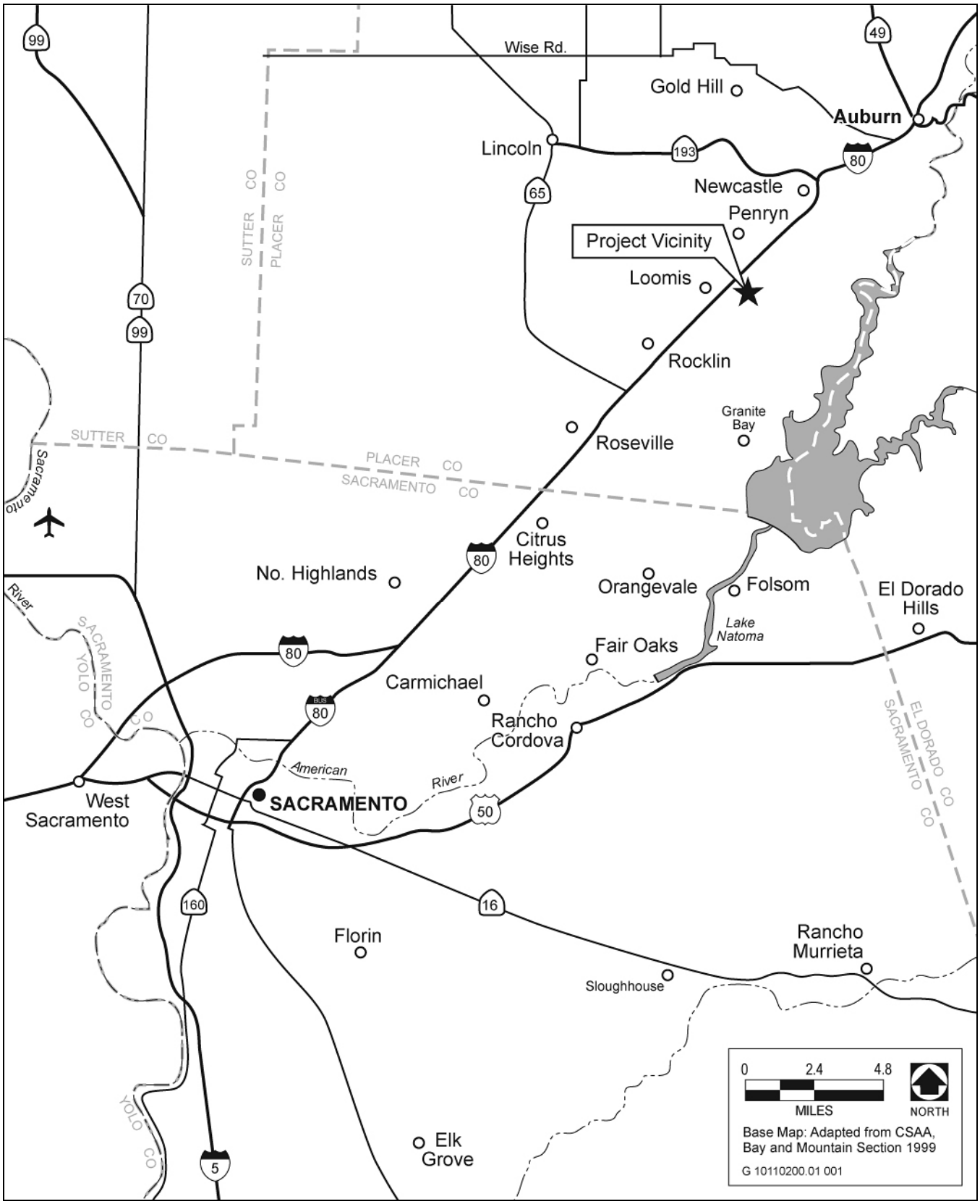
This Initial Study and Notice of Intent to Adopt a Mitigated Negative Declaration (IS/MND) was prepared pursuant to the California Environmental Quality Act (CEQA) of 1970 (as amended) (California Public Resources Code 21000 *et seq.*), in accordance with the State Guidelines for the California Environmental Quality Act (CEQA Guidelines). The project addressed in this Draft IS/MND is the Regina Caeli Priory[1] ("proposed project" or "Priory"). The proposed project consists of the construction and operation of a priory used to house and educate the Dominican Sisters of Mary, Mother of the Eucharist ("Sisters" or DSMME) in the Town of Loomis. The lead agency for the proposed project is the Town of Loomis ("the Town"). The project proponent is the DSMME.

An IS/MND for the proposed project was circulated for public review from September 21 to October 21, 2011. Subsequent to that time, the project proponent, the DSMME, revised the proposed project in response to public and agency comments received on the IS/MND and to avoid impacts on potential jurisdictional wetlands regulated by the USACE under Section 404 of the Clean Water Act that were identified subsequent to circulation of the original IS/MND. The proposed revisions to the project include moving the location of the proposed Priory building approximately 250 feet northwest from its original site, reducing the number of exterior playing fields from two to one and relocating the field to the southeast corner of the property, reducing the height of the proposed bell tower from 55 feet in height to 43 feet in height, and adding two wildlife passage openings to the fencing along Barton and Rocklin Roads. As stated in CEQA Guidelines Section 15073.5, "Recirculation of a Negative Declaration Prior to Adoption," a lead agency is required to recirculate a negative declaration when the document must be substantially revised after public notice of its availability has previously been given pursuant to Section 15072, but prior to its adoption. Although the proposed changes to the project are not significant alterations (e.g., new or expanded land uses), the Town of Loomis is taking a conservative approach and is considering the aforementioned changes to the project as substantial revisions to the previously circulated IS/MND and is recirculating the document. This revised IS/MND is being recirculated for a 30-day period of public and agency review.

2.2 PROJECT LOCATION AND SURROUNDING USES

The 40.07-acre project site is located on the southwest corner of Rocklin Road and Barton Roads in the Town of Loomis, in Placer County, California (Exhibits 2-1 and 2-2). The project site is located approximately one-half mile east of Sierra College Boulevard and one mile southeast of Interstate 80. The project site is largely undeveloped grassland and oak woodland. Two single-family residences (one permanent structure and one manufactured home) are located in the northwestern portion of the project site. The permanent residence is currently occupied by three Sisters and would remain in place with implementation of the proposed project. A caretaker lives in the manufactured home, but this position would not be needed with the Priory present and the Sisters intend to remove the manufactured home with project implementation. A strawberry field is located in the northeastern corner of the project site. The project site includes a portion of a pond in the southwest corner of the site, which is shared with the adjacent St. Francis Woods residential subdivision.

[1] **Priory** – A house of religious observance for a religious community. Priories generally serve as a combined house of formation where novices and postulants reside as they continue to discern their call to a religious community, as well as housing for professed Sisters who teach and study in the vicinity of the house.



Source: AECOM 2011

Exhibit 2-1 **Regional Location**

Source: Placer County 2006

Exhibit 2-2 **Proposed Project Site**

The project site is bounded on the north by Rocklin Road, one single-family residence, a Placer County Water Agency water tank, and the Shepherd of the Sierra Presbyterian Church; on the east by Barton Road and the Sierra de Montserrat residential subdivision; and on the south and west by St. Francis Woods with 5-acre minimum home sites to the south and 1-acre minimum home sites to the west.

The project site is within the Residential Agricultural (RA) zoning and is designated by the Town of Loomis General Plan as Residential Agricultural. Zoning and land use designations surrounding the project site are Residential Estate to the north, Rural Residential to the west, and Residential Agricultural to the south and east.

The residences on the project site are currently served by PG&E for electricity and by Placer County Water Agency for domestic water. Wastewater is addressed by on-site septic tanks and leach fields.

2.3 PROJECT BACKGROUND

The DSMME are associated with the Dominican Order of the Roman Catholic Church. The original DSMME community was formed in Ann Arbor, Michigan in 1997. The Sisters are an active order dedicated to the education of youth, with Sisters[2] teaching in Catholic schools as well as teaching novices[3] and postulants[4] considering joining the Order. The DSSME Motherhouse is located in Ann Arbor, and the Sisters now have seven teaching missions located in six states: Michigan, South Carolina, Florida, Texas, Arizona, and California.

Substantial growth within in the DSMME community and requests for DSMME sisters as teachers in Catholic schools from diocese throughout the United States has led to the need for additional priories where sisters can pursue their vocations and receive advanced teachers credentials. A priory was considered in Loomis, in part, in response to an invitation from Bishop Jaime Soto of Sacramento. In addition, the land evaluated for the priory in this IS/MND was donated to DSMME for this purpose by the Cordova Family Trust.

On November 18, 2010, the Sisters submitted an application to the Town of Loomis for the proposed project. Along with the planning application, the project applicant submitted detailed site and architectural plans, a traffic impact study, an arborist report and tree inventory, a tree removal plan, a wetland delineation report, a special-status species assessment report, environmental site assessments, a geotechnical study, a preliminary drainage study, and other documents required by the Town of Loomis. Since the initial application was submitted, the Sisters have supplemented the special-status species assessment reports with both dry-land and wet-land species surveys and provided an acoustical analysis to consider the potential impacts of the project's proposed bell tower (described below under subsection 2.5, "Project Elements"). These documents are referenced as appropriate in Chapter 3 of this IS/MND, "Environmental Checklist," and Chapter 4, "References."

As discussed above, an IS/MND for the proposed project was circulated for public review from September 21 to October 21, 2011. Subsequent to that time, the DSMME revised the proposed project in response to public and

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2 **Sister/Professed Sister** – A Sister who has met the three vows of chastity, poverty, and obedience. Professed Sisters may be in temporary vows, continuing their formation and teaching as they prepare to make their final vows after a period of 5-years in temporary vows.

3 **Novice** – A Sister who has received the Holy Habit and a new religious name, but has not yet taken vows. Much of the novice's time is spent in further study.

4 **Postulant/Aspirant** – Newly welcomed members of the community. They do not yet wear the habit. The time of the Postulant/Aspirant is meant as a period of study as well as a time to test their vocation by experiencing emersion in the religious life.

agency comments received on the IS/MND and to avoid impacts on potential jurisdictional wetlands regulated by the USACE. Because the aforementioned changes to the project require substantial revisions to the previously circulated IS/MND, this revised IS/MND is being recirculated for a 30-day period of public and agency review.

2.4 PROJECT PURPOSE

The overall purpose of the proposed project is to create a priory that would allow for 75 to 80 permanent residents and up to 35 temporary, periodic guests. The priory would include individual cells, a chapel, community rooms, a library, an indoor gymnasium, an outdoor playing field, prayer walkways, gardens, and other features consistent with the Sisters' community and religious lifestyle.

In order to live faithfully the Dominican lifestyle, the Sisters live in community and observe monastic customs such as silence in certain places and times of the day, prayer and study in common, eating and recreating in common, wearing a distinctive religious habit[5], and an overall simplicity of life.

The proposed Regina Caeli Priory would serve as the west coast location for permanently housing 75 to 80 Sisters in various stages of formation. As they complete their formation, the Professed Sisters are able to engage in the education of young people in area schools and the formation[6] of women within the DSMME.

The design and size of the proposed project is intended to accommodate the varied needs of both professed and non-professed sisters. An integral part of formation is living in community, where new members can pursue religious and professional studies and live the religious life under the guidance of professed Sisters. Within the community, some separate facilities are required for non-professed and professed Sisters. Other facilities, such as the chapel and a gymnasium, would be used by all Sisters. The design of the chapel is suited to serve the liturgical prayer life of the Sisters as well as provide space for the Sisters to engage in private, personal prayer.

The Constitution of the DSMME Sisters states that a bell calls the Sisters to prayer three times daily. Specifically, the bell is rung at 5 a.m., noon, and 6 p.m. The 5 a.m. bell would be rung within the building only, and would not be audible outside the priory. The proposed project would include a 43-foot-high bell tower so the Sisters could continue the custom of ringing the bell at noon and 6 p.m.

The Constitutions of the Sisters also requires that each Sister have her own cell, or bedroom. In addition, individual cells are necessary as a place where the Sisters can retire for private prayer and contemplation in solitude.

Canon law and the Constitution of the Sisters require that the Sisters have cloistered[7] space reserved for their own use, into which others may not enter. To that end, additional rooms have been included in the project that are placed outside of the cloistered area for visitors and family members.

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5 **Habit** - The customary apparel of a particular occupation. Typically used to describe the dress of a nun or monk.

6 **Formation** – The period of time in religious life when young women continue to discern their call to a religious community. During the time of formation, candidates are instructed in the religious life as well as the teachings of the church.

7 **Cloister** – Portion of the house and property for the sole use of the Sisters. A cloister serves to increase the Sister's contemplative spirit and provide the necessary freedom to live and pray in solitude and silence.

The Sisters' obligations to charity dictate that they place the Priory and exterior elements (such as prayer walkways) in such a way as to avoid improper interference with the privacy and contentment of their neighbors. The site is also designed to provide the Sisters with quiet, secluded areas for the Sisters to spend time praying in solitude, close to the lake.

The Sisters are currently teaching in one grade school in the Sacramento area and one high school in Marin County. The Regina Caeli Priory, as designed to house 75 to 80 Sisters, would allow the Sisters to expand their presence in the local community in order to serve additional families seeking a Catholic education.

2.5 PROJECT ELEMENTS

The proposed project would include a 147,730-square-foot priory building, fencing along Barton Road and Rocklin Roads with two wildlife passage openings, a security gate along Barton Road, an outdoor playing field, gardens, prayer pathways, parking, and utility connections. The site plan is shown in Exhibit 2-3 and building elevations are shown in Exhibit 2-4.

The proposed priory building would be located in approximately the center of the project site, with the outdoor playing field south of the priory building and walking paths meandering throughout the property. The priory building would include two stories and a partial basement housing mechanical facilities and storage use. Within the priory, there would be a chapel, two wings of cells for the Sisters, kitchen and laundry facilities, a gymnasium, an auditorium, libraries, and study areas. The priory would include up to three natural gas fireplaces. The anticipated height of the priory building is 35 feet (not including the 8-foot bell tower). The building coverage is 4.6% of the entire project site and the actual exterior building mass would be substantially concealed from its neighbors and passing motorists by existing trees and vegetation and the topography of the project site.

The architectural style proposed for the priory building would be a modified mission style designed to reflect the historic religious nature of California's missions and to be compatible with existing homes in the St. Francis Woods and Sierra de Montserrat communities.

The bell tower, located in the southeast portion of the building, would be 38 feet high, with the top of the tower at a height of 43 feet. In keeping with the custom of the bells of Angelus, the exterior bells would ring twice daily, at noon and at 6 p.m. for approximately 60 to 90 seconds each time. A 5 a.m. bell would be rung within the priory and would not be audible outside the property.

The entrance to the priory would include a recessed security gate at the entrance on Barton Road. The perimeter of the project site would be fenced along Barton Road and Rocklin Road with wrought-iron fencing interspersed with pillars. The fence design would be consistent with Loomis requirements such as rounding of the wrought iron spires (or capping) to avoid potential injuries to wildlife. The fencing also will have a three foot break along Barton and Rocklin Roads to allow for easier passage of wildlife. Although the proposed fence meets Town of Loomis design standards and most, if not all resident species of wildlife could cross the fence, the breaks in the fence will further minimize the potential that it could alter wildlife movement.

South of the priory building would be one outdoor playing field for the Sisters. Athletic recreation is part of the daily regime in the priory, with the Noviate and Sisters in formation participating together in outside organized activities, typically in the early afternoon, weather permitting. Other exterior features would include prayer

Source: Perkins, Williams & Cotterill Architects, 2011

Exhibit 2-3 **Proposed Site Plan**

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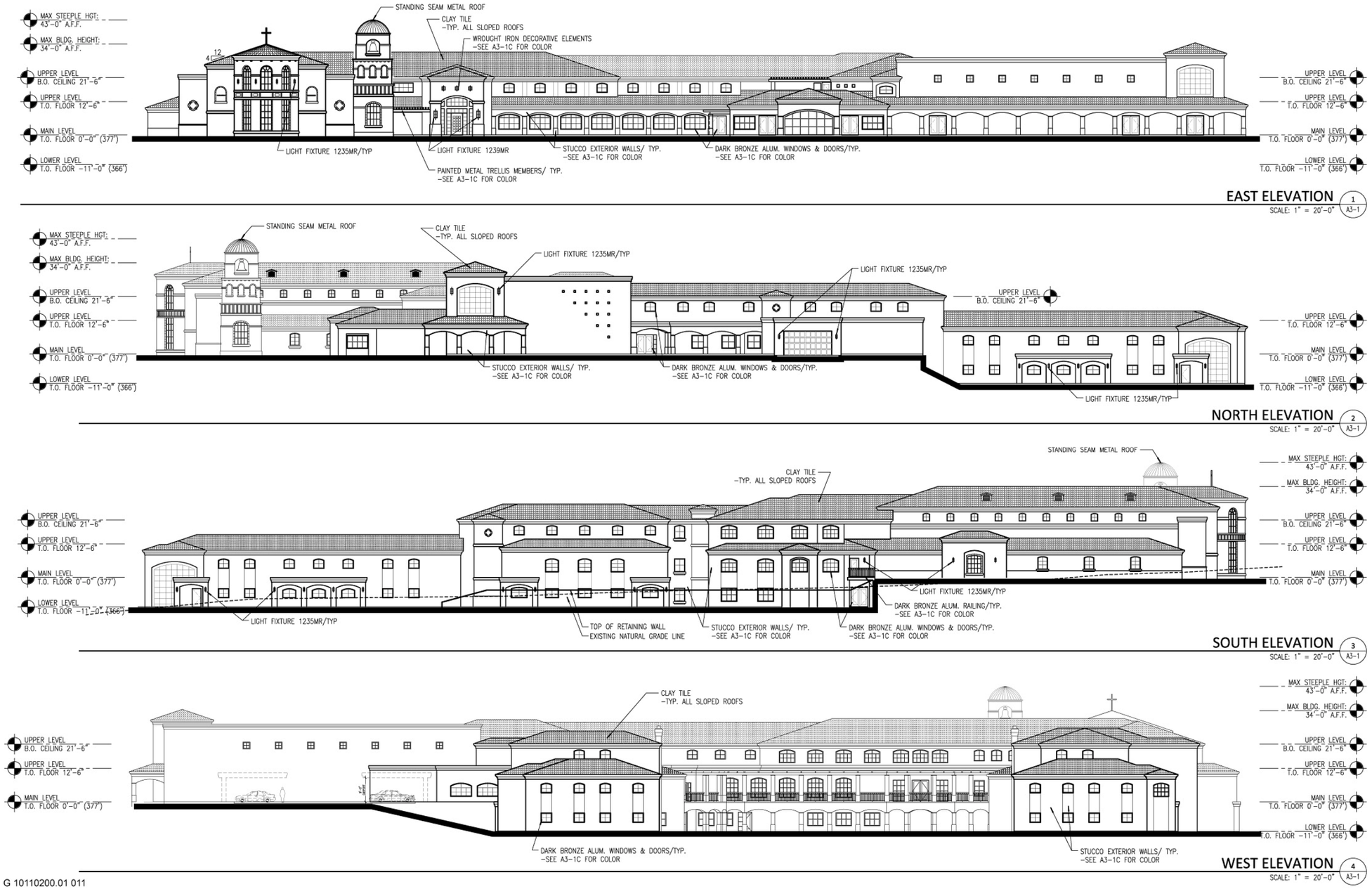

Source: PK Architects, 2011

Exhibit 2-4 **Proposed Building Elevations**

walkways including the Stations of the Cross[8] between the priory and the pond, vegetable and flower gardens and a grotto[9] where the Sisters can pray in quiet solitude.

Parking for the priory would be located on the northwest and northeast sides of the building and would include 53 parking spaces. A project of this size would normally require 130 spaces based on the Town's code. However, the Sisters do not own personal vehicles and travel in groups via van due to their community lifestyle and would therefore have much lower parking needs than required for other land uses. The project would require a waiver from the Town of Loomis for this reduction in parking.

Development of the project site would require the removal of approximately 199 of the 697 oak trees on the project site. An arborist report dated October 19, 2010 was prepared by Sierra Nevada Arborists. As required by the Town of Loomis, the proposed project is required to mitigate for the loss of these trees. The proposed project would include landscaping and gardens around the priory. The conceptual landscape plan includes a variety of shade and accent trees, garden flowers, shrubs and groundcovers, and turf.

Water for the proposed project would be supplied by the Placer County Water Agency (PCWA) by connecting to the existing water line along Rocklin Road. The priory would connect to South Placer Municipal Utility District sewer via a 6-inch stub located at the intersection of Barton Road and Wells Road. Electricity and natural gas for the priory would be supplied by Pacific Gas & Electric.

2.6 SITE PREPARATION AND CONSTRUCTION

Assuming project approvals in 2012, site preparation and construction could begin in 2012. Full build-out of all proposed features would take a minimum of two years after construction is begun. As part of site preparation activities, approximately 7.45 acres would be graded. The maximum vertical cut would be approximately 15 feet and the maximum vertical fill is anticipated to be about 12 feet. The approximate cut (excavation) quantity is 24,000 cubic yards and fill (embankment) quantity is 22,000 cubic yards. The excess 2,000 cubic yards of material would be placed on the project site such that no material would be imported to or exported from the project site. The excess material would be placed outside of tree driplines, outside the 100 year floodplain, and 50 feet outside of wetland areas throughout areas of the site. The material would be placed on the site to provide a natural, aesthetically pleasing appearance.

2.7 RESIDENTIAL ALTERNATIVE

As discussed above under "Project Location and Surrounding Uses" the project site is zoned for Residential Agricultural and is designated by the Town of Loomis General Plan as Residential Agricultural. Under this zoning and land use designation, the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences.

Within this IS/MND, the Residential Alternative is analyzed concurrently with the proposed project. Each checklist item includes discussion of potential impacts related to the proposed project, and compares the conclusion regarding the proposed project to the potential impacts of the Residential Alternative.

[8] **Stations of the Cross** – fourteen locations where the Sisters will pause and reflect on Christ's Passion and Death.

[9] **Grotto** – A grotto is a place set apart for silent prayer and contemplation. Grottos are often modeled after sacred pilgrimage sites. The proposed Grotto will be dedicated to Mary.

2.8 REQUIRED APPROVALS

The project applicant seeks the following entitlements from the Town of Loomis:

- Conditional use permit to allow an organizational house within a Residential Agricultural (RA) zoning district
- Design review for a 147,730-square-foot priory building
- Waiver of parking requirement due to specific use (i.e., allow fewer parking spaces than typically required for a similar-sized facility).
- Lot line adjustment to provide for the Priory building to be located within one parcel.

The proposed project would require approval by the Town of Loomis Planning Commission, and pursuant to Section 15074 of the CEQA Guidelines, the Planning Commission will consider the findings of this IS/MND together with any comments received during the public review process in its decision on whether to adopt the proposed MND.

3 ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION		
1.	Project Title:	Regina Caeli Priory
2.	Lead Agency Name and Address:	Town of Loomis Planning Department 3665 Taylor Road Loomis, CA 95650
3.	Contact Person and Phone Number:	Matt Lopez, Assistant Planner 916/652-1480
4.	Project Location:	The project site (APNs 045-0161-018, 045-0161-020, and 045-0161-021) located on the southwest corner of Rocklin Road and Barton Road approximately one-half mile east of Sierra College Boulevard and one mile southeast of Interstate 80 in the Town of Loomis, in Placer County, California.
5.	Project Sponsors Name and Address:	Dominican Sisters of Mary, Mother of the Eucharist 5820 Rocklin Road Loomis, CA 95650
6.	General Plan Designation:	Residential Agriculture
7.	Zoning:	Residential Agriculture (RA)
8.	Description of Project: Please refer to Chapter 2, Project Description.	
9.	Surrounding Land Uses and Setting: Please refer to Chapter 2, Project Description.	
10.	Other public agencies whose approval is required: Placer County Air Pollution Control District	

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
☐ Biological Resources	☐ Cultural Resources	☐ Geology and Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality
☐ Land Use and Planning	☐ Mineral Resources	☐ Noise
☐ Population and Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Utilities and Service Systems	☐ Mandatory Findings of Significance
☒ None With Mitigation		

DETERMINATION (To be completed by the Lead Agency)

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 on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed. ☐

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

12-7-11
Date

Matt Lopez
Printed Name

Assistant Planner
Title

Town of Loomis
Agency

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

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

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

4. "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 (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

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 Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

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:
   the significance criteria or threshold, if any, used to evaluate each question; and
   the mitigation measure identified, if any, to reduce the impact to less than significance.

3.1 AESTHETICS

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

ENVIRONMENTAL SETTING

The 40.07-acre project site is located on the southwest corner of Rocklin Road and Barton Road in the Town of Loomis, in Placer County, California (Exhibits 2-1 and 2-2). The project site is located approximately one-half mile east of Sierra College Boulevard and one mile southeast of Interstate 80. The project site is largely undeveloped grassland and oak woodland. Two single-family residences (one permanent structure and one manufactured home) are located in the northwestern area of the project site. A strawberry field is located in the northeastern area of the project site. The project site includes a portion of a pond in the southwest corner of the site, which is shared with the adjacent St. Francis Woods residential subdivision. The project site is surrounded on three sides by residential development varying from one-acre to five-acre parcels. Those viewing the project site would consist if surrounding residents in line of site of the project site and travelers (vehicle, bicycle, pedestrian) on Rocklin Road and Barton Road.

DISCUSSION

a) Have a substantial adverse effect on a scenic vista?

A scenic vista is generally considered a view of an area that has remarkable scenery or a natural or cultural resource that is indigenous to the area. Views of the project area include oak woodland and the pond shared with adjacent residential parcels, but none would qualify as a scenic vista. Because there are no designated scenic vistas in the project area, the proposed project would have **no impact**.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no designated state scenic highways within Placer County (Caltrans 2011a). The project site is located more than 21 miles northwest of the nearest designated state scenic highway, U.S. Highway 50 between Placerville and South Lake Tahoe (Caltrans 2011b). No views of the project site are available from this highway. The project site contains no historic buildings or notable rock outcroppings. Although the project site is

predominantly oak woodland and approximately 199 trees would be removed by the proposed project, the design of the proposed project is such that the Priory building would be mostly concealed by existing trees. Therefore, the proposed project would have a **less-than-significant** impact on scenic resources.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Views of the project site are available from the residences bordering the project site, Barton Road, and Rocklin Road. The existing views are primarily of the grassland and oak woodland that characterize the project site. While the Priory building would be centrally located on the project site and mostly obscured from view by on-site trees, some features would be visible from adjacent areas. Photosimulations of the proposed project (Exhibits 3.1-1 and 3.1-2) show the anticipated views of the proposed project from adjacent properties. While the fence along Barton Road and Rocklin Road would be visible from those roadways, the fence is designed such that it would blend into the existing landscape. Although the fence would alter views of the project site, it would not substantially degrade the existing visual character or quality of the site or its surroundings.

The proposed project would include a 43-foot-high bell tower. While the bell tower could be visible from outside of the project site due to its height, it is a small feature and would not substantially alter the visual character of the area.

Although implementation of the proposed project would alter views of the project site relative to existing conditions, because of the proposed project's site design, location, and small scale of the bell tower, the proposed project would not result in a substantial degradation of the existing visual character and quality of the site and this impact would be **less-than-significant**.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

None of the building materials included in the proposed project would generate substantial glare. The proposed project would include lighting along Barton Road, exterior lighting on the Priory building, and light poles in the parking areas. These new sources of light would be required to comply with applicable Town of Loomis general plan policies and zoning requirements. Community Design and Character Policy 9 of the general plan requires that "new lighting (including lighted signage) that is part of residential, commercial, industrial or recreational development shall be oriented away from sensitive uses, and shielded to the extent possible to minimize spillover light and glare. Lighting plans shall be required for all proposed commercial and industrial development prior to issuance of building permits." Additionally, Town of Loomis zoning code section 13.30.080 requires that "Outdoor lighting on private property shall comply with the following requirements.

A. Outdoor light fixtures shall be limited to a maximum height of twenty feet or the height of the nearest building, whichever is less.

B. Lighting shall be energy-efficient, and shielded or recessed so that:

    1. The light source (i.e., bulb, etc.) is not visible from off the site; and

2. Glare and reflections are confined to the maximum extent feasible within the boundaries of the site.

Each light fixture shall be directed downward and away from adjoining properties and public rights-of-way, so that no light causes areas off the site to be directly illuminated.

C. No lighting on private property shall produce an illumination level greater than one foot candle on any property within a residential zoning district except on the site of the light source.

D. No permanently installed lighting shall blink, flash, or be of unusually high intensity or brightness, as determined by the director. (Ord. 205 § 1 (Exh. A), 2003)"

Although implementation of the proposed project would create a source of light that is not currently present on the project site, adherence to the Town's general plan policies and zoning code during the building permit review process would ensure that the proposed project would not create a substantial source of light or glare; therefore, the proposed project would result in **less-than-significant** impacts associated with light and glare.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. If the project site were to be developed with single-family residences, potential aesthetic impacts could be greater than those expected from the proposed project. While the proposed project would remove approximately 199 of the 697 trees on the project site, development of eight single-family residences would likely also require the removal of a similar number (or more) trees because of the density of trees on the project site and additional elements of residential development such as driveways, lawns, and landscaping. It is unclear how mitigation for the loss of these trees might be implemented, such as the location and density of on-site tree planting. Development of the site with single-family residences would also necessitate exterior lighting. While the proposed Priory would be centrally located on the project site, single-family houses would likely be placed closer to adjacent properties and roadways. If residences are placed closer to roadways and existing residences, it is likely that these new sources of lighting would have a greater impact within the project area. Although the residential development considered under this alternative would alter the visual character of the project site, it is unlikely to exceed the significance threshold of substantially degrading the visual character of the project site and surroundings" or other thresholds related to aesthetic resources. Aesthetic impacts are anticipated to be greater under the Residential Alternative, but no new significant impacts would be generated.

View 1, from South Property Line

View 2, from Rocklin Road

G 10110200.01 009

Source: Perkins, Williams & Cotterill Architects, 2011

Exhibit 3.1-1 **Photosimulations of the Proposed Project**

View 3, from Barton Road

View 4, from Pond

G 10110200.01 010

Source: Perkins, Williams & Cotterill Architects, 2011

Exhibit 3.1-2 **Photosimulations of the Proposed Project**

3.2 AGRICULTURE AND FORESTRY RESOURCES

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

ENVIRONMENTAL SETTING

The project site is within the Residential Agricultural (RA) zoning and is designated by the Town of Loomis General Plan as Residential Agricultural. The project site is largely undeveloped grassland and oak woodland. A strawberry field is located in the northeastern corner of the project site. The 40.07 acre project site contains approximately 697 mature oak trees (Sierra Nevada Arborists 2010) as well as scattered mature foothill pines.

DISCUSSION

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

As detailed on the California Department of Conservation's Placer County Important Farmland 2008 map, the project site is classified as Grazing Land, which is land which has vegetation that is suitable for the grazing of livestock (California Department of Conservation 2010). Because the project site does not include any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, **no impact** would occur.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

The project site is not under a Williamson Act contract. The project site is zoned RA, which is intended for very low density residential development (minimum 4.6-acre parcels) and appropriate for agriculture uses such as orchards, nurseries and vineyards, and grazing. Section 13-24.040 of the Town of Loomis Zoning Code identifies the requirement of a use permit for an organizational house (sorority, monastery, etc.) within the RA zoning. Because an organizational house such as the proposed Priory is permitted with a use permit, the proposed project would not conflict with existing RA zoning. In addition, the presence of the Priory does not preclude continued farming on the existing strawberry field, or initiation of agricultural practices on other portions of the parcel consistent with the RA zoning. Therefore, this impact would be **less than significant**.

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))?

The project site contains approximately 697 mature oak trees (Sierra Nevada Arborists 2010) and scattered mature foothill pines. While the project site is forested land, it is not managed as such and none of the trees is suitable for timber harvesting other than for firewood. No commercial timber production is practiced on the project site or in the vicinity. The project site and surrounding parcels are zoned for residential use, and no timberland zones are located in the vicinity. Therefore, **no impact** would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

As stated above, the project site is forested land but it is not managed as such. Forestland is defined in PRC section 12220(g) as land that can support 10% native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Currently the 40.07 acre project site supports greater than 10% native tree cover. Although development of the proposed project would result in the removal of approximately 199 oak trees over an approximately 3.28 acre area, additional oak trees would be planted over approximately 6.49 acres of the project site. After project development and associated tree planting, the parcel would support approximately 15.37 acres of oak woodland habitat and the 40.07 acre parcel would still support 10% or greater overall native tree cover. Oak woodland on the project site would also remain capable of providing forest resource benefits consistent with existing use. Therefore, this impact would be **less than significant**.

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?

While the project site is designated as Grazing Land, it does not include any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The project site is surrounded by existing residential development and there is not adjacent agricultural land or forest land that would be affected by project implementation. The proposed project would not interfere with any agricultural activities and would not convert Farmland to non-agricultural use. Therefore, there would be **no impact**.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. If the project site were to be developed with single-family residences, impacts to Farmland would be substantially similar to those of the proposed project. Under either development scenario, land designated as Grazing Land would be developed. However, whether the site is developed with the proposed Priory or with single-family residences, the site would have sufficient space for orchards, grazing, vineyards, or nurseries. It is expected that with development of single-family residences a minimum 10% native tree cover could be retained; thereby continuing the classification as forestland.

3.3 AIR QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

This section includes a description of ambient air quality conditions, a summary of applicable regulations, and an analysis of the potential direct and indirect impacts of the proposed project on air quality. For a discussion of GHG emissions and effects, refer to Section 3.7, "Greenhouse Gas Emissions."

ENVIRONMENTAL SETTING

The ambient concentrations of air pollutant emissions are determined by the amount of emissions released by pollutant sources and the atmosphere's ability to transport, transform, and dilute such emissions. Natural factors that affect pollutant transport and fate include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the vicinity of the project site are determined by such natural factors as topography, meteorology, and climate, in addition to the types and quantities of emissions released by existing air pollutant sources.

Placer County is divided into three air basins due to the differences in topography, meteorology, and climate that occur as the County trends west to east: the Sacramento Valley Air Basin (SVAB), the Mountain Counties Air Basin, and the Lake Tahoe Air Basin. The project site is located within the SVAB portion of the County and is located within the jurisdiction of the Placer County Air Pollution Control District (PCAPCD).

CRITERIA POLLUTANTS

Ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable and fine particulate matter (PM_{10} and $PM_{2.5}$), and lead are all criteria air pollutants, the pollutants identified by the U.S. Environmental Protection Agency (EPA) as characterizing an area's air quality. A brief description of each criteria air pollutant (source types and health effects) is provided below, along with the most current attainment area designations and monitoring data for the study area.

Both EPA and ARB designate areas of the state as attainment, nonattainment, or unclassified for various pollutant standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A "nonattainment" designation signifies that a pollutant concentration violated the standard, excluding those occasions when a violation was caused by an exceptional event, as identified in the criteria. An "unclassified" designation signifies that data do not support either an attainment or nonattainment status. In addition, EPA uses several classification levels to further describe the severity of nonattainment conditions for ozone and carbon monoxide. EPA assigns ozone nonattainment areas to moderate, serious, severe, or extreme air pollution categories, mandating increasingly strict control requirements for each. Currently, Placer County is in non-attainment for ozone and PM_{10} within the project area.

Ozone is a photochemical oxidant, a substance whose oxygen combines chemically with another substance in the presence of sunlight, and the primary component of smog. Ozone is not directly emitted into the air, but is formed through complex chemical reactions between precursor emissions of reactive organic gases (ROG) and NO_X in the presence of sunlight. ROG are gaseous organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_X are a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels.

The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthmatics, children, and the elderly but healthy adults as well. Exposure to ambient levels of ozone ranging from 0.10 to 0.40 part per million (ppm) for 1–2 hours has been found to substantially alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes, and impairing respiratory mechanics. Ambient levels of ozone above 0.12 ppm are linked to symptomatic responses that include such symptoms as throat dryness, chest tightness, headache, and nausea. Ground-level ozone can also damage forests, agricultural crops, and some human-made materials, such as rubber, paint, and plastics.

Carbon Monoxide (CO) is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during the winter morning, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Motor vehicles operating at slow speeds are the primary source of CO in the Basin because the CO is emitted directly from internal combustion engines. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for

oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (oxygen deficiency) as seen at high altitudes.

Sulfur dioxide (SO_2) is a colorless, extremely irritating gas or liquid which enters the atmosphere as a pollutant, mainly as a result of burning high sulfur-content fuel oils and coal, as well as from chemical processes occurring at chemical plants and refineries. When sulfur dioxide oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_X).

A few minutes of exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Particulate matter is a complex mixture of extremely small particles and liquid droplets emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by condensation and/or transformation of SO_2 and ROG. Inhalable coarse particulate matter with an aerodynamic diameter of 10 microns or less, such as that found near roadways and dusty industries, is referred to as PM_{10}. Fine particulate matter ($PM_{2.5}$) includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 microns or less. Fine particulate matter can be directly emitted into the air or be formed when emissions gases react in the atmosphere (EPA 2010).

The adverse health effects associated with PM_{10} depend on the specific composition of the particulate matter. For example, health effects may be associated with adsorption of metals, polycyclic aromatic hydrocarbons, and other toxic substances onto fine particulate matter ("the piggybacking effect") or with fine dust particles of silica or asbestos. Generally, adverse health effects associated with PM_{10} may result from both short-term and long-term exposure to elevated concentrations and may include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, carcinogenesis, and premature death (EPA 2010).

$PM_{2.5}$ poses an increased health risk because the particles can deposit deep in the lungs and may contain substances that are particularly harmful to human health. The health effects associated with $PM_{2.5}$ are similar to those described for PM_{10}.

On the national level, the Clean Air Act (CAA) required EPA to establish primary and secondary national ambient air quality standards (NAAQS) and required each state, including California, to prepare an air quality control plan referred to as a State Implementation Plan (SIP) that would demonstrate how attainment of the NAAQS would be achieved. The Federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. Within California, the California Air Resources Board (ARB) is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required ARB to establish California ambient air quality standards (CAAQS), which are, in general, more stringent than the corresponding

NAAQS. CCAA requires that all local air districts in the state endeavor to achieve and maintain CAAQS by the earliest practical date. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and area wide emission sources, and provides districts with the authority to regulate indirect sources. Other ARB responsibilities include, but are not limited to, overseeing local air district compliance with California and Federal laws; approving local air quality plans; submitting SIPs to EPA; monitoring air quality; determining and updating area attainment designations and maps; and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

Criteria air pollutant concentrations are measured at several monitoring stations in Placer County. The Roseville, CA station is the closest to the project construction area with recent data for ozone and PM that is representative of the air quality conditions at the project site. Table 3.3-1 summarizes the air quality data from the most recent 3 years.

Table 3.3-1
Summary of Annual Ambient Air Quality Data (2008–2010)[1]

	2008	2009	2010
Ozone			
Maximum concentration (1-hour/8-hour, ppm)	0.134/0.107	0.113/0.101	0.124/0.105
Number of days state standard exceeded (1-hour/8-hour)	20/38	13/32	9/21
Number of days national standard exceeded (8-hour)	22	19	15
Carbon Monoxide (CO)			
Maximum concentration (8-hour, ppm)	2.84	2.84	1.89
Number of days state standard exceeded (8-hour)	—	—	—
Number of days national standard exceeded (1-hour/8-hour)	—/—	—/—	—/—
Nitrogen Dioxide (NO_2)			
Maximum concentration (1-hour, ppm)	0.067	0.061	0.071
Number of days state standard exceeded	—	—	—
Annual average (ppm)	0.012	0.010	0.010
Fine Particulate Matter ($PM_{2.5}$)			
Maximum concentration ($\mu g/m^3$) (National/California[2])	60.0/149.7	22.6/38.5	27.3/60.1
Number of days national standard exceeded	6.5	—	—
Annual average ($\mu g/m^3$) (National/California)	10.0/13.8	8.5/10.7	6.6/10.9
Respirable Particulate Matter (PM_{10})			
Maximum concentration ($\mu g/m^3$) (National/California[2])	74.2/73.9	33.5/33.6	36.3/35.1
Number of days standard exceeded (National/California)	—/6	—/—	—/—
Annual average ($\mu g/m^3$) (California)	22.7	17.9	15.4

Notes: $\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million; — = data not available

[1] Measurements were recorded at the N Sunrise Boulevard monitoring station.

[2] State and national statistics may differ for the following reasons: state statistics are based on California-approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. State statistics are based on local conditions while national statistics are based on standard conditions. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Source: ARB 2011.

All projects with potential to cause air emissions are subject to adopted PCAPCD rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the proposed project may include, but are not limited to: Rules 202, 205, 217, 218, 228, and 246.

TOXIC AIR CONTAMINANTS

EPA and ARB air quality regulations also address toxic air contaminants (TACs), or in federal parlance, hazardous air pollutants (HAPs). In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health effects may not be expected to occur. This contrasts with the criteria air pollutants, for which acceptable levels of exposure can be determined and for which the ambient standards have been established. Instead, EPA and ARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology for toxics (Maximum Achievable Control Technology and Best Available Control Technology, respectively) to limit emissions. These, in conjunction with additional rules set forth by the air districts, establish the regulatory framework for TACs. To date, ARB has identified more than 21 TACs and has adopted EPA's list of HAPs as TACs. Most recently, diesel particulate matter was added to the ARB list of TACs.

NATURALLY OCCURRING ASBESTOS

Naturally Occurring Asbestos (NOA), often found in serpentine rock formations, is present in many areas within Placer County. When material that contains naturally occurring asbestos is disturbed, asbestos fibers may be released and become airborne, thereby creating a potential health hazard. Exposure to asbestos may result in inhalation or ingestion of asbestos fibers, which over time may result in damage to the lungs or membranes that cover the lungs, leading to illness or even death.

The California Geological Survey (CGS) has identified areas of Placer County that are more or less likely to contain naturally occurring asbestos, based on available soil and geologic studies and some field verification. Where an area is characterized as having a lower overall probability of presence of naturally occurring asbestos, the likelihood of presence is slight, but in some instances naturally occurring asbestos might be found within such an area. Similarly, a location in the area identified as being most likely to have naturally occurring asbestos may not contain it. Based on the mapping conducted for Placer County by CGS, the project site is located within an area that is considered "least likely to contain NOA" (CGS 2008).

THRESHOLDS OF SIGNIFICANCE

As identified by PCAPCD (Chang, pers. comm., 2010), in concert with the State CEQA Guidelines, implementation of the proposed project would result in significant air quality impacts if:

- construction-generated emissions of ROG, NO_X, or PM_{10} would exceed the PCAPCD-recommended mass emissions threshold of 82 pounds per day (lbs/day);
- long-term operational (regional) emissions of ROG, NO_X, or PM_{10} would exceed PCAPCD's project-specific mass emissions threshold of 82 lbs/day;
- long-term operational (regional) emissions of ROG or NO_X would exceed PCAPCD's cumulative mass emissions threshold of 10 lbs/day;

- sensitive receptors would be exposed to substantial pollutant concentrations (i.e., result in exposure to a toxic air contaminant [TAC], as identified by ARB and/or EPA, at a level for which the risk of contracting cancer exceeds 10 in one million or the noncancer-risk hazard index exceeds 1 for the maximally exposed individual); or

- objectionable odors would be created that would affect a substantial number of people in the short or long term.

DISCUSSION

a) Conflict with or obstruct implementation of the applicable air quality plan?

Air quality plans describe air pollution control strategies to be implemented by a city, county, or region. The primary purpose of an air quality plan is to maintain attainment of a CAAQS or an NAAQS or to bring an area that does not attain a CAAQS or an NAAQS into compliance with the requirements of the CAA and CCAA. The various air districts are responsible for formulating and implementing air quality plans to address several state and federal planning requirements. The air quality attainment plans and reports present comprehensive strategies to reduce emissions of ROG, NO_X, and PM_{10} from stationary, area, mobile, and indirect sources. Such strategies include the adoption of rules and regulations; enhancement of CEQA participation; adoption of local air quality plans; and implementation of control measures for stationary, mobile, and indirect sources. The Sacramento Regional Air Quality Attainment Plan is based on current population and employment projections for the region, based on local and regional planning efforts. Any development that would be anticipated to exceed the population and employment projections for a particular area, in this case Loomis, could also be considered to be inconsistent with the Sacramento Regional Air Quality Attainment Plan.

The proposed project involves the construction of a 147,730-square-foot priory building and associated facilities. The air quality impacts of the proposed project would occur during construction and operational activities. Construction-related emissions would be associated with the operation of heavy construction equipment at the site and the import/export of construction-related materials. Construction emissions would also be temporary and short-term in nature. Long-term operational emissions would be largely associated with vehicle activity, but some area source emissions associated with landscaping and heating would also occur. At full operation, the proposed project would provide permanent accommodations for up to 80 residents.

The addition of 80 residents to Loomis would not be considered to exceed current population projections for the Town. Furthermore, the Sisters that would inhabit the priory would also be employed at the priory and would not affect current employment projections. Furthermore, as shown below under item b), the proposed project would not exceed the daily thresholds established by PCAPCD in order to achieve attainment of NO_X and PM_{10}. Therefore, the proposed project would not be anticipated to conflict with current air quality planning efforts in the area, and impacts would be **less than significant**. No mitigation is required.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction

Construction-related activities would result in project-generated emissions of criteria air pollutants (e.g., PM_{10}) and ozone precursors (e.g., ROG and NO_X) from site preparation (e.g., clearing, grading, and excavation); off-road equipment, material transport, and worker-commute exhaust emissions; paving; and other miscellaneous activities. Construction-related emissions are described as "short-term" or temporary in duration and have the potential to represent a significant impact with respect to air quality, especially NO_x and fugitive PM_{10} dust emissions. Fugitive PM_{10} dust emissions are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, and size of disturbance area. Ozone precursor emissions of ROG and NO_X are primarily associated with gas and diesel equipment exhaust on and off site and paving. Exact project-specific data (e.g., construction equipment types and number, and maximum daily acreage disturbed, schedule) were not available at the time of this analysis. To best characterize the emission that would likely be generated during project construction, mass emissions were estimated using the ARB-approved URBEMIS 2007 Version 9.2.4 computer program. Complete modeling input parameters and results are provided in Appendix A. For the purposes of this analysis, it was assumed that the total disturbed area would be approximately 7.45 acres in size, based on the length and width of the proposed paths, and the size of the entry plaza and parking area.

Table 3.3-1 summarizes the modeled project-generated, construction-related emissions of criteria air pollutants and precursors from initial site preparation and building construction of the proposed project. Construction-related air quality effects were determined by comparing these modeling results with applicable PCAPCD significance thresholds. As shown in Table 3.3-2, construction-related activities would result in maximum daily emissions of approximately 25.94 lbs/day of ROG, 21.99 lbs/day of NO_X, 18.33 lbs/day of CO, 81.08 lbs/day of PM_{10}, and 9.34 lbs/day of $PM_{2.5}$, which would not exceed PCAPCD's project-specific thresholds. However, PCAPCD requires that standard equipment exhaust (i.e., ROG and NO_X) and fugitive dust (i.e. PM_{10} and $PM_{2.5}$) control measures be incorporated into project design and implemented during project construction. Therefore, the following mitigation (Mitigation Measure AQ-1) would be necessary to ensure that air emissions would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Table 3.3-2
Summary of Modeled Unmitigated Construction-Related Emissions of Criteria Air Pollutants and Precursors

Source	Emissions				
	ROG (lbs/day)	NO_X (lbs/day)	CO (lbs/day)	PM_{10} (lbs/day)[2]	$PM_{2.5}$ (lbs/day)[2]
Grading[2]	2.71	21.99	12.30	81.08	17.70
Trenching	1.83	15.28	8.80	0.74	0.68
Building Construction	3.47	16.89	18.33	1.18	1.05
Paving	2.61	14.39	10.6	1.19	1.09
Painting	25.94	0.01	0.22	0.00	0.00
Total Maximum Daily Unmitigated	25.94	21.99	18.33	81.08	9.34
PCAPCD Threshold (lbs/day)	82	82	550	82	82
Potentially Significant?	No	No	No	No	No

Notes:
[1] Emissions sources include the use of heavy construction equipment (e.g., ground disturbance, trenching), worker commute trips, haul trips associated with the import of material and supplies, and fugitive PM10 dust associated with ground disturbance.
[2] It was assumed that up to 2 acres could be graded in a single day.
Refer to Appendix A for detailed modeling input parameters and results.
Source: Modeling performed by AECOM 2011

Mitigation Measure AQ-1: Reduce Temporary Construction Emissions of ROG, NO_X, and PM_{10} (Dust)

In accordance with PCAPCD Rule 228, the applicant will implement the following recommended mitigation measures during construction of the proposed project.

1. No more than four acres of active grading shall occur per day at the project site.

2. Prepare and submit a construction emission/dust control plan to PCAPCD for approval before groundbreaking. This plan will address the minimum administrative requirements found in Sections 300 and 400 of District Rule 228, (Placer County 2010).

3. Ensure that fugitive dust on-site will not exceed 40% opacity and not go beyond the boundary of the project site at any time. If lime or other drying agents are utilized to dry out wet grading areas, they will be controlled so as to not exceed Rule 228 limitations. Activities which may help minimize fugitive dust include installation and maintenance of shaker grates at site entrances and exits, limiting on-site speeds to 15 miles per hour, watering the site throughout the day, , and covering any temporary storage piles or using soil stabilizers.

4. Ensure that construction equipment exhaust emissions will not exceed Rule 202 limitations. Operators of vehicles and equipment that exceed opacity limits will be immediately notified and the equipment shall be repaired within 72 hours.

5. Prohibit open burning of vegetation removed during infrastructure improvements.

6. Enforce a 5-minute maximum idling time for all diesel-power equipment.

7. Require the construction contractor to use ARB-recommended low sulfur diesel fuel for all diesel–powered equipment.

8. Ensure that water is applied to control dust as needed to prevent dust impacts off-site. Operational water truck(s) shall be on-site, as required, to control fugitive dust. Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt from being released or tracked off-site.

9. Require that effective soil cover (e.g., mulch, approved chemical soil stabilizers, vegetative mats, or other appropriate material) be applied to all inactive construction areas (previously disturbed areas which remain inactive for 14 days), following best management practices to manufacturer's specifications.

10. Require the construction contractor to implement effective wind erosion control measures (e.g., applying water and/or other dust palliatives) as necessary to prevent or alleviate erosion by the forces of wind on unpaved roads and employee/equipment parking areas. Sediment and other construction related materials shall be removed from paved roadways by vacuuming or sweeping.

11. Use existing power sources (e.g., power poles) or use clean fuel where feasible or low-sulfur fuel in diesel-powered generators.

12. As part of the construction specifications, include a list of the PCAPCD rules that would apply to construction of the proposed project and require compliance with these rules as part of the construction contract.

With implementation of Mitigation Measure AQ-1, impacts would be **less than significant**.

Operation

Operation of the proposed project would result in increases in long-term operation-related emissions of criteria air pollutants (i.e., ROG, NO_X, PM_{10}, or CO) from mobile sources (e.g., people driving to and from the site) and area sources. Based on the size and type of development proposed, approximately 97 average daily trips (ADT) would be anticipated as a result of project implementation (KD Anderson & Associates 2010). Area source emissions associated with heating, repainting, and landscaping activities would also occur during operation of the proposed project. It should be noted that no wood-burning appliances would be included as part of the proposed project. Up to three natural gas fireplaces would be provided on-site. Table 3.3-3 identifies the anticipated operational emissions of the proposed project.

Total operational criteria pollutant emissions associated with the proposed project would equate to approximately 7.97 lbs/day of ROG 1.95 lbs/day of NO_X, 9.46 lbs/day of CO, 1.45 lbs/day of PM_{10}, and 0.29 lbs/day of $PM_{2.5}$, which would not exceed PCAPCD's emissions thresholds shown above in Table 3.3-1. Furthermore, the proposed project's emissions would not exceed PCAPCD's cumulative operational emissions threshold of 10 lbs/day for ROG and NO_X. Thus, project-generated emissions would not violate an air quality standard or contribute substantially to an existing or projected air quality violation. Impacts would be **less than significant**.

Table 3.3-3
Summary of Modeled Operational Emissions of Criteria Air Pollutants and Precursors

Source	Emissions				
	ROG (lbs/day)	NO_X (lbs/day)	CO (lbs/day)	PM_{10} (lbs/day)[2]	$PM_{2.5}$ (lbs/day)[2]
Mobile Source	1.38	1.06	7.54	1.44	0.28
Area Source					
Natural Gas	0.07	0.87	0.37	0.00	0.00
Hearth[1]	0.00	0.03	0.01	0.00	0.00
Landscaping	0.12	0.02	1.55	0.01	0.01
Consumer Products	5.63	0.00	0.00	0.00	0.00
Architectural Coatings[2]	0.77	0.00	0.00	0.00	0.00
Total Operational Emissions	7.97	1.98	9.47	1.45	0.29
PCAPCD Threshold (lbs/day)	82	82	550	82	82
Potentially Significant?	No	No	No	No	No

Notes:
[1] Up to three natural gas fireplaces would be provided on-site.
[2] Up to 10% of building surface area would be repainted each year.
Refer to Appendix A for detailed modeling input parameters and results.
Source: Modeling performed by AECOM 2011

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)?

The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the affected regions are in nonattainment (i.e. ROG, NO_X, and PM_{10}). As discussed previously under Item 3.3 b), potential operational emissions associated with the proposed project would be less than the cumulative emissions thresholds established by PCAPCD for ROG and NO_X. Furthermore, the construction emissions associated with implementation of the proposed project as shown in Table 3.3-1 would not exceed PCAPCD project-specific thresholds and would implement mitigation to reduce ozone precursor and fugitive dust emissions in compliance with PCAPCD requirements during construction. Therefore, the proposed project's regional air emissions would be less than the applicable air district's air quality thresholds, which are designed to assist the region in attaining the applicable CAAQS and NAAQS, by reducing potential criteria air pollutant emissions that would otherwise occur without their incorporation into the proposed project. Therefore, the proposed project would not contribute to cumulatively considerable air quality effects with respect to ROG and NO_X, and this impact would be **less than significant**. No mitigation is required.

d) Expose sensitive receptors to substantial pollutant concentrations?

Implementation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations for the reasons described below.

Criteria Pollutant Concentrations

Project-generated emissions of criteria air pollutants and precursors would not expose sensitive receptors to substantial criteria pollutant concentrations. Sensitive receptors (primarily residences) are located near the proposed project site and could be exposed to localized pollutant concentrations. Pollutants that could be generated by the proposed project during construction and could result in adverse health effects on sensitive receptors include CO, ozone precursors (i.e., ROG and NO_X), respirable particulate matter (i.e., PM_{10} and $PM_{2.5}$), TACs, and NOA. However, as discussed above, emissions generated during construction and operation under the proposed project would not substantially contribute to or result in an existing or projected violation of air quality standards. Construction-related and operational emissions would be below appropriate district significance thresholds with incorporation of Mitigation Measure AQ-1 and would not be anticipated to result in a contribution to a violation of air quality standards or conflict with implementation of air quality planning efforts.

Construction activities would result in temporary, short-term emissions of particulate exhaust emissions from off-road heavy-duty diesel equipment (diesel particulate matter). Diesel particulate matter was identified as a TAC by ARB in 1998. The dose to which the receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. The risks estimated for an exposed receptor are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the proposed project.

The possible sensitive receptor exposure period for the construction is short (approximately 24 months) and mobile equipment would not operate in the immediate vicinity of any off-site sensitive receptor for an extended period of time. Thus, because off-road, heavy-duty equipment would be used for a relatively small period of time and would be temporary and intermittent in nature, and because of the highly dispersive properties of diesel particulate matter, construction-related TAC emissions would not be anticipated to expose sensitive receptors to substantial concentrations of TACs. It should also be noted that the existing modular home that would be removed as part of the proposed project may include asbestos containing material. Prior to demolition of this structure, it would be evaluated and any asbestos-containing material would be removed in accordance with PCAPCD rules related to the treatment of asbestos prior to demolition.

During operation of the proposed project, no new stationary or area sources of TACs would be operated on-site, and the proposed project would not result in a substantial increase in vehicle activity and associated mobile-source TAC emissions. For example, a CO hotspot analysis is typically recommended when an intersection would operate at Level of Service (LOS) D or worse with implementation of a proposed project. Within the project area, no intersections would operate less than LOS A under future with project conditions (KD Anderson & Associates 2010). Therefore, this impact would be **less than significant**. No mitigation is required.

Naturally Occurring Asbestos

Within Placer County, the potential for naturally occurring asbestos to be exposed during earth moving in previously undisturbed terrain is a concern. The California Geologic Survey (CGS) has prepared detailed maps of Placer County, identifying areas where NOA may be present (CGS 2008). If soil containing NOA is disturbed as

part of construction, nearby sensitive receptors and construction contractors could be exposed to NOA. People exposed to low levels of asbestos may be at elevated risk (e.g., above background rates) of lung cancer and mesothelioma. The risk is proportional to the cumulative inhaled dose (number of fibers), and also increases with the time since first exposure. Although numerous factors influence the disease-causing potency of any given asbestos (such as fiber length and width, fiber type, and fiber chemistry), all forms are carcinogens. However, per CGS mapping, the proposed project site is not located within an area known to contain NOA, and as a result, the proposed project would not be expected to result in the exposure of sensitive receptors to unsafe levels of NOA. Therefore, this impact would be **less than significant**. No mitigation is required.

e) Create objectionable odors affecting a substantial number of people?

The proposed project does not involve creation or construction of materials or facilities that would generate objectionable odors or create new sources of odor in the short or long term that would affect a substantial number of people. **No impact** would occur. No mitigation is required.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. If the project site were to be developed with single-family residences, potential air quality impacts would be less than those expected from the proposed project. It is assumed that construction activities would be similar; however, operational emissions associated with eight single-family residences versus a priory that could house up to 115 people at one time would be less. There would be fewer vehicle trips generated by the single-family residences, which as stated above would generate approximately 10 ADT (KD Anderson & Associates 2010), and it is assumed that the overall square footage and corresponding area emissions would also be less than that of the proposed project.

3.4 BIOLOGICAL RESOURCES

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

ENVIRONMENTAL SETTING

The approximately 40-acre site is located in the Town of Loomis within Section 21, Township 11 North, Range 7 East of Placer County, California within the USGS *Rocklin, California* 7.5 minute quadrangle. The site is in the Sierra foothills at an average elevation of approximately 375 feet. Rocklin Road forms the northern boundary of the site and Barton Road forms the eastern boundary. Residential developments are located on the parcels to the south and west of the site (Gibson and Skordal 2010).

Oak woodland/savannah and non-native annual grassland are the two dominant habitat types within the site. Oak woodland/savannah encompasses the majority of the parcel and is dominated by interior live oak (*Quercus wislizenii*). Scattered valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*) and foothill pines (*Pinus sabiniana*) are also found within this community. The herbaceous understory of the oak woodland is primarily

composed of wild oats (*Avena fatua*), soft chess (*Bromus mollis*), rip-gut brome (*Bromus diandrus*), Bermuda grass (*Cynodon dactylon*), perennial rye (*Lolium perenne*), prickly lettuce (*Lactuca serriola*), dogtail grass (*Cynosurus echinatus*), and barley (*Hordeum leporinum*) (Gibson and Skordal 2010).

Species found in the non-native annual grassland are similar to the understory of the oak woodland community and include wild oats, rip-gut brome, Bermuda grass, and perennial rye grass (Gibson and Skordal 2010).

A permanently inundated pond and associated adjacent wetlands are located in the southwest corner of the project site. Approximately two-thirds of the pond is located within the project site and one-third is located outside the study area. The wetlands adjacent to the pond are influenced by backwater flooding from the pond were mapped as part of the pond in the wetland delineation report for the site (Gibson and Skordal 2009, 2011). The seasonal wetlands are depressional wetlands that inundate during the wet season. The seasonal wetlands and swales generally drain into the pond. The wetland delineation for the site was updated in September of 2011.

SENSITIVE HABITATS

Potentially Jurisdictional Waters of the United States

Sensitive habitats encountered within the project site include wetland features potentially regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. A wetland delineation was conducted on the site in 2009 (Gibson and Skordal 2009). The wetland delineation was updated in September of 2011. (Gibson and Skordal 2011). The updated delineation identified 5.42 acres of wetland features that may be under the jurisdiction of the USACE. The delineation report did not determine whether the features were jurisdictional. A determination of jurisdictional status of the wetland features is pending with the USACE. The current project is designed to avoid all impacts to potentially jurisdictional wetland features.

Oak Woodland

The site contains oak woodland habitat that is considered a sensitive vegetation community, and individual oak trees within this community are regulated under the Town of Loomis tree ordinance. Impacts to this community would require mitigation as described in the Town of Loomis tree ordinance.

SPECIAL-STATUS SPECIES

Special-status plant and wildlife species are generally defined as those species that are legally protected or otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. This definition includes species covered under the federal or California Endangered Species Act and species identified in the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants in California (CNPS 2008).

Based on searches of California Natural Diversity Database (CNDDB) and CNPS databases, evaluation of habitats within in the project area, and focused surveys conducted for fairy shrimp species (Helm Biological 2011), three special-status plant species, and ten special-status wildlife species were identified as having potential to occur within the project site (Table 3.4-1). These species are discussed in more detail below in Table 3.4-1. Comments received on the first IS/MND indicated additional occurrences of special-status species beyond those identified below. However, these comments provided no documentation or substantial evidence, consistent with

Table 3.4-1
Special-Status Species With Potential to be Affected by the Proposed Loomis Priory Project

Species	Regulatory Status[1] USFWS DFG CNPS	Habitat	Potential for Occurrence
Plants			
Clarkia biloba ssp. *brandegeeae* (Brandegee's clarkia)	CNPS 1B	Chaparral and cismontane woodland, but may occur in foothill oak woodland and grassland.	Could occur within grassland and oak woodland habitats on the site. Species has not been observed onsite.
Sagittaria sanfordii (Sanford's arrowhead)	CNPS 1B	Emergent marsh habitat typically associated with drainages, canals, or irrigation ditches.	Could occur on the margins of the pond. Species has not been observed onsite.
Juncus leiospermus (Red Bluff dwarf rush)	CNPS 1B	Typically found in wet meadows and vernal pools. Can be found in wet areas in cismontane woodland and annual grassland.	Marginal habitat exists on the site. Species has not been observed onsite.
Reptiles and Amphibians			
Emys marmorata (western pond turtle)	CSC	Ponds, rivers, streams, wetlands, and irrigation ditches with associated marsh habitat.	Could occur within pond onsite; however species has not been observed during site assessments.
Spea (=Scaphiopus) hammondii (western spadefoot toad)	CSC	Breeds in vernal pools, seasonal wetlands and associated swales. Forages and hibernates in adjacent grasslands.	Could breed within seasonal wetland habitats onsite and utilize upland grassland refugia onsite outside of breeding season. Species has not been observed onsite.
Birds			
Agelaius tricolor (tricolored blackbird)	CSC	Colonially nests in emergent marsh habitats. Typically requires larger swathes of suitable habitat to support colonies.	Could occur within wetland communities on margins of pond. However, species has not been observed onsite. Unlikely that nesting colonies are present since species is a colonial breeder and requires relatively large emergent wetland patches.
Ammodramus savannarum (grasshopper sparrow)	CSC	Nests in open grassland habitats.	Could occur in grassland habitats on site. Species has not been observed onsite.
Athene cunicularia (burrowing owl)	CSC	Nests on the ground in open grassland and agricultural areas.	Could occur in grassland habitats on site; however, habitat is marginal due to lack of suitable burrows available. Species has not been observed during site assessments.
Buteo swainsoni (Swainson's hawk)	T	Nests on woodland edges adjacent to open foraging habitat.	Could nest within oak woodland habitat onsite. Species has not been observed onsite.
Elanus leucurus (white-tailed kite)	FP	Nests on woodland edges adjacent to open foraging habitat.	Could nest within oak woodland habitat onsite. Species has not been observed onsite.
Laterallus jamaicensis coturniculus (California black rail)	T FP	Nests on the edges of emergent wetland habitats.	Could nest within emergent wetland habitat on margins of pond. However, highly unlikely to occur. Project site is outside species' identified range, Species is mentioned because of a single recorded occurrence approximately 2-miles northwest of the project site.
Mammals			
Antrozous pallidus (pallid bat)	CSC	Roosts in rocky outcrops, cliffs, and large tree cavities throughout western U.S.	Could forage onsite. No known roost sites available onsite. Species has not been observed onsite.
Corynorhinus townsendii (Townsend's big-eared bat)	CSC	Roosts in caves, mines, and large tree cavities throughout western U.S.	Could forage onsite. No known roost sites available onsite. Species has not been observed onsite.

1 Regulatory Status Definitions:

U.S. Fish and Wildlife Service (USFWS):
T = Federal Threatened
E = Federal Endangered

California Department of Fish and Game (DFG):
T = Threatened
FP = Fully Protected
CSC = Species of special concern

California Native Plant Society (CNPS):
CNPS 1B = Rare, Threatened, or Endangered in California and Elsewhere

Source: Department of Fish and Game 2011

the requirements of CEQA (Guidelines Section 15384), to support the reported observations. Although the reported observations may be accurate, the commenters provided no information to allow verification of the sightings. Therefore, the information on special-status species in this section continues to reflect information included in the various sources listed above.

Brandegee's Clarkia (*Clarkia biloba* ssp. *brandegeeae*) is a member of the evening primrose (Onograceae) family. It is found within cismontane woodland, chaparral, and low-elevation coniferous forests. Its blooming period is May through July. It is often found associated with the shoulders of road cuts. It is categorized as a CNPS 1B species by the California Native Plant Society (CNPS), meaning it is considered rare, threatened, or endangered in California and elsewhere by the CNPS. The nearest record for this species in the CNDDB is approximately eight miles north of the site (CNDDB 2011). This species was not observed onsite during site assessments.

Sanford's Arrowhead (*Sagittaria sanfordii*) is an aquatic perennial member of the water-plantain Family (Alismataceae). Sanford's arrowhead occupies freshwater marsh habitats associated with the shallow margins of small lakes and ponds and relative still water within sloughs, creeks, rivers, canals and ditches. It blooms from May through October. It is categorized as a CNPS 1B species by the CNPS. There are no records of this species in the CNDDB within 10 miles of the site (CNDDB 2011). This species was not observed onsite during site assessments.

Red Bluff Dwarf Rush (*Juncus leiospermus*) is a member of the rush (Juncaceae) family. It is typically associated with vernal pools and moist meadows. However, it can be found in wet areas within chaparral, cismontane woodland, and foothill annual grassland habitats. The blooming period is March through May. It is categorized as a CNPS 1B species by the California Native Plant Society (CNPS). The nearest record for this species in the CNDDB is approximately eight miles west of the site (CNDDB 2011). This species was not observed onsite during site assessments.

Western Pond Turtle (*Emmys marmorata*) is a California species of special concern. It is found in streams, large rivers and canals containing slow-moving water, emergent aquatic vegetation, and open basking sites. Although pond turtles must live near water, they can tolerate drought by burrowing into the muddy beds of dried drainages. This species breeds from mid- to late spring in adjacent open grasslands or sandy banks. The nearest documented occurrence of this species in the CNDDB is approximately 5 miles east of the site (CNDDB 2011). The pond and its adjacent wetlands onsite are suitable habitat for the western pond turtle. No western pond turtles were observed during site assessments.

Western Spadefoot Toad (*Spea hammondii)* is a California species of special concern. This species breeds from January to May in vernal pools and other seasonal wetland features. The tadpoles must complete their metamorphosis before the temporary pools dry. The nearest occurrence of this species in the CNDDB is approximately nine miles south of the site (CNDDB 2011). The seasonal wetland swales onsite provide marginally suitable breeding habitat for the western spadefoot toad. The grassland areas onsite also provide upland refugia for the species. No western spadefoot toads were observed during site assessments.

Tricolored Blackbird (*Agelaius tricolor*) is a California species of special concern. They are colonial nesters favoring dense stands of cattails, bulrush, or blackberry thickets associated with drainages, ditches, and canals. The nearest recorded occurrence is located approximately 4 miles to the south near Granite Bay High School

(CNDDB 2011, Gibson and Skordal 2010). The emergent marsh areas adjacent to the pond provides suitable breeding habitat for tricolored blackbirds and the grasslands underlying the oak woodlands are suitable foraging habitat. No tricolored blackbirds were observed during site assessments. Nesting colonies are typically very visible and would have likely been reported in the past if present.

Grasshopper Sparrow (*Ammodramus savannarum*) is a California species of special concern. This relatively small song bird favors open grasslands. It builds nests on the ground within grassland communities. It is also known to form loose breeding colonies. There are no records in the CNDDB for this species within 10 miles of the project site (CNDDB 2011). The open grasslands onsite provide suitable foraging and nesting habitat for the grasshopper sparrow. None were observed during the site assessments.

Burrowing owl (*Athene cunicularia*) is a California species of special concern. They typically inhabit open grasslands and nest in abandoned ground squirrel burrows. The nearest occurrence recorded by the CNDDB is about 9 miles west of the project area (CNDDB 2011, Gibson and Skordal 2010). The project site provides suitable foraging habitat; however, the quality of potential nesting habitat is very limited due to the absence of ground squirrel burrows. No burrowing owls or potential nest burrows were observed during site assessments.

Swainson's hawk (*Buteo swainsoni*) is a raptor species currently listed as threatened in California under CESA. Breeding pairs typically nest in tall cottonwoods, valley oaks, or willows associated with riparian corridors, grassland, irrigated pasture, and cropland. The Central Valley populations breed and nest in the late spring through early summer. The two closest recorded occurrences on CNDDB are approximately 8 miles west of the site (CNDDB 2011, Gibson and Skordal 2010). The open grassland provides suitable foraging habitat. There is marginal nesting habitat present within the project site. None were observed during site assessments.

White-tailed kite (*Elanus leucurus*) is a DFG fully protected species. It builds a platform nest of sticks in trees or shrubs. The kite's distinct style of hunting includes hovering before diving onto its target. The nearest occurrence of this species in the CNDDB is approximately nine miles southeast of the site (CNDDB 2011). Suitable nesting and foraging habitat for white-tailed kite is present within the project site. None were observed during site assessments.

California Black Rail (*Laterallus jamaicensis coturniculus*) is listed as threatened in California under CESA. It favors salt, brackish, and fresh marshes at low elevations. It nests on the edges of wetlands with tall grass and open space. The CNDDB contains a single occurrence within the Rocklin quadrangle on Clover Creek about two miles northwest of Loomis or approximately 2 miles to the northwest of the project site (CNDDB 2011, Gibson and Skordal 2010). However, this occurrence is well outside the typical range for the species, which in northern California, is centered around the San Francisco Bay and parts of the Sacramento-San Joaquin Delta (DFG 2011). The pond and its adjacent wetlands provide marginally suitable nesting and foraging habitat for the California black rail. However, this species was not observed during the site assessments and due to the project site being well outside the species' established range, it is considered highly unlikely to occur.

Pallid bat (*Antrozous pallidus*) is a listed DFG species of special concern. It favors roosting sites in crevices in rock outcrops, caves, abandoned mines, and human-made structures such as barns, attics, hollow trees, and sheds (Western Bat Working Group Species Account 2011, Gibson and Skordal 2010). The nearest occurrence in the CNDDB for this species is approximately seven miles southwest of the site (CNDDB 2011). There is no known

suitable roosting habitat for pallid bat within the project site and no evidence of any bat species (e.g., guano accumulations below potential roost sites) was found during site assessments.

Townsend's Big-Eared Bat (*Corynorhinus townsendii*) is currently listed by DFG as a species of special concern. Colonies favor open roosting areas such as ceilings, walls, or well ventilated parts of caves or mines (Western Bat Working Group Species Account 2011, Gibson and Skordal 2010). They are extremely sensitive to human activities. There are no occurrences of this species in the CNDDB within ten miles of the site (CNDDB 2011). There is no known suitable roosting habitat for Townsend's big-eared bat within the project area and no evidence of any bat species (e.g., guano accumulations below potential roost sites) was found during site assessments.

DISCUSSION

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 the U.S. Fish and Wildlife Service?

As described previously, the proposed project site contains suitable habitat for a number of special-status plant and wildlife species. No special-status species have been observed on the property during biological site assessments and there are no CNDDB occurrences for special-status plant or wildlife species reported on the site. However, focused surveys have generally not been conducted on the site for special-status plant and wildlife species with the exception of protocol surveys for fairy shrimp. No fairy shrimp species were found during protocol surveys (Helm Biological 2011).

Special-Status Plants

No special-status plant species have been found on the site. However, focused surveys for special-status plants have not been conducted. The three special-status plant species that were identified as having potential to occur based on habitats present on the site and known occurrences of special-status plants in the region are Brandegee's clarkia, Sanford's arrowhead, and Red Bluff dwarf rush. Impacts to these plant species are expected to be **less than significant** with incorporation of the following mitigation measure.

Mitigation Measure BIO-1: Conduct Focused Special-status Plant Surveys and Establish Appropriate Avoidance Areas as Necessary

Prior to project construction, the project applicant shall retain a qualified botanist to conduct focused surveys for potentially occurring special-status plant surveys on the site during the appropriate blooming season. The focused plant survey shall be conducted by a qualified botanist familiar with special-status plants known to occur in the vicinity of the site. The plant survey shall be conducted according to CNPS and DFG rare plant survey guidelines. If no special-status plants are found during focused surveys, then no further action will be necessary.

If special-status plants are found during focused surveys, a special-status plant mitigation plan shall be developed in coordination with the Town of Loomis and any appropriate oversight agency (e.g., DFG, CNPS). The mitigation plan will determine if plant populations can be avoided and protected onsite within designated preserve areas. Any designated preserve areas shall be marked on construction plans prior to construction and protected in perpetuity after completion of construction. If special-status plants cannot feasibly be avoided during project

construction, then plant salvage/transplantation techniques will be instituted to preserve populations of special-status plants. Transplanting will be considered successful if new populations match the number and health/vigor of removed populations. Any plant avoidance or salvage/transplantation plan shall be approved by the Town of Loomis and the identified over site agency prior to the initiation of construction. Any required plant salvage shall occur prior to the initiation of construction.

Special-Status Reptiles and Amphibians

No special-status reptiles or amphibians have been found on the project site. However, the site provides potential habitat for western pond turtle and western spadefoot toad. Therefore, construction activities could result in impacts to these species if they are present. The seasonal wetland features onsite also provide marginal breeding habitat for western spadefoot toad; therefore, impacts to seasonal wetland features and adjacent upland habitats could result in impacts to this species. Impacts to western pond turtle and western spadefoot toad would be reduced to **less-than-significant** with implementation of the following mitigation measure.

Mitigation Measure BIO-2: Conduct Preconstruction Surveys for Special-Status Reptiles and Amphibians and Consult with Wildlife Agencies as Appropriate

Prior to project construction, the project applicant shall retain a qualified biologist to conduct a preconstruction survey for western pond turtle and western spadefoot toad. Surveys shall be conducted within all suitable aquatic and adjacent upland habitats for each species by a qualified biologist familiar with the habitat requirements of each species. The survey for western pond turtle shall be conducted no more than 14 days prior to the initiation of construction activities. The survey for western spadefoot toad shall be conducted during an appropriate time to observe the species (e.g., when adults or tadpoles would be present). A summary report of the findings shall be sent to the Town of Loomis and DFG prior to the initiation of construction. If no special status reptiles or amphibians are found, no additional measures will be necessary.

If preconstruction surveys detect special status reptiles or amphibians within the project site, the project applicant shall consult with the appropriate agencies to determine appropriate avoidance and minimization measures. Construction shall not commence until an agency-approved avoidance, minimization, and mitigation plan is prepared for any special-status reptiles or amphibians present on the site. Full avoidance of the species and occupied habitat will be the preferred approach; however, impact minimization, exclusion of species from construction area, capture and relocation, and habitat compensation will also be considered and implemented as appropriate to ensure no substantial adverse affect on the species. The project applicant shall be responsible for implementing and funding all measures contained within the plan and submitting any required monitoring reports to the appropriate agencies.

Nesting Birds (Including Raptors)

The project site contains suitable nesting habitat for several bird species including Swainson's hawk, burrowing owl, Cooper's hawk, white-tailed kite, and marginal nesting habitat for tricolored blackbird. Nesting birds are protected by a variety of federal and state regulations including the Migratory Bird Treaty Act and California Fish and Game Codes. Removal or disturbance of the active nests could result from project implementation and construction. Disturbance of nesting birds from construction activity could result in nest abandonment and loss of active nests. The construction equipment involved in project implementation would result in a temporarily

elevated noise level in the immediate area of the project site. In addition, loss of nests of special-status species could result in adverse effects to local populations of the affected species. However, potential impacts to nesting birds on the project site would be reduced to **less-than-significant** with implementation of the following mitigation measure.

Mitigation Measure BIO-3: Conduct Preconstruction Nesting Surveys and Establish Appropriate Buffers

If vegetation removal and/or project construction would occur during the nesting season (February 1 to August 30), preconstruction surveys for nesting birds, including raptors, shall be conducted by a qualified biologist. Surveys for raptors shall cover all areas of suitable nesting habitat within ¼ mile of project activity as prescribed by the DFG Swainson's hawk guidelines. Surveys shall be conducted within 14 days prior to commencement of project activity. If no active nests are found, no further action shall be required.

If active nests are found, impacts shall be avoided by establishing appropriate nest buffers. Typically, implementation of a 500-foot to ¼ mile buffer for active Swainson's hawk nests is considered appropriate by DFG to protect an active nest from disturbance. The size of the buffer may be adjusted with agency approval if a qualified biologist determines it would not be likely to adversely affect the nest. A 500-foot or smaller buffer is often appropriate for other nesting bird species. A qualified biologist shall determine the appropriate nest buffer size according to species and current level of disturbance in the vicinity of the nest. Monitoring of the nest by a qualified biologist may be required to confirm that prescribed buffers do not adversely affect the nest. No project activity shall commence within the buffer area until a qualified biologist confirms that young have fledged from the nest or the biologist has confirmed that the nest is no longer active.

Special Status Bats

Pallid bat and Townsend's big-eared bat could potentially forage on the site but are not expected to roost on the site due to lack of suitable roosting habitat. Given the lack of suitable roosting habitat on the site and the extent of suitable foraging habitat that would remain on the project site and in the immediate vicinity of the project site after project implementation, the potential impact to special-status bats from the proposed project is considered to be **less than significant**. No mitigation is required.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

The proposed project would not affect any riparian habitat. The site contains oak woodland habitat that is considered a sensitive natural community by the Town of Loomis. Development of the project would result in the removal of approximately 199 oak trees (see Appendix B), which, without mitigation would be inconsistent with the Town's Tree Protection Ordinance (a local regulation per the significance criteria above). The following mitigation measure would bring the project into compliance with the Town's Tree Protection Ordinance and reduce this impact to **less-than-significant**.

Mitigation Measure BIO-4: Prepare and Implement an Oak Tree Preservation and Mitigation Plan

Prior to project construction, the project applicant shall prepare an oak tree preservation and mitigation plan according to the guidelines and requirements contained within the Town of Loomis Tree Protection Ordinance. The plan shall at a minimum include the following elements:

- A site map for all oak trees to be preserved onsite. Oak preserve areas shall be designated on all construction plans and marked in the field with orange fencing to avoid construction-related impacts to preserved oak trees.

- A mitigation plan for all protected trees slated for removal that have not been previously recommended for removal based on their current health and condition in the arborist report for the site (Sierra Nevada Arborists 2010). Mitigation may include mitigation plantings of oak trees in a designated preserve area as specified in the replacement requirements of the tree protection ordinance. A preliminary evaluation by the applicant indicates that sufficient space is available on the project site to plant 400 replacement oak trees. However, this is not sufficient on its own to meet the Town's Tree Protection Ordinance replacement requirements. The Tree Protection Ordinance provides additional mechanisms to support compliance beyond on-site replacement plantings. For example, the project applicant may also submit an in-lieu fee payment to the Town of Loomis for oak tree replacement according to the tree preservation ordinance guidelines.

Trees to be preserved onsite shall be marked prior to the initiation of construction activities and any mitigation plantings or in-lieu fee payments shall be finalized prior to any onsite tree removals. Via mitigation plantings, payment of fees, and other mechanisms available in the Tree Protection Ordinance (as needed), the proposed project will be in compliance with local regulations related to the protection of oak woodlands.

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?

The project site contains 5.42 acres of wetland habitats that may be regulated by USACE (Gibson and Skordall 2009, 2011). The proposed project plan is currently expected to avoid all impacts to wetland habitats. If jurisdictional features onsite cannot be avoided by the project, then the project applicant will apply for the appropriate Clean Water Act 404 permit with the USACE. The permit will include all necessary avoidance, minimization, and mitigation measures to fully mitigate for impacts to federally protected waters of the U.S. If the project will impact jurisdictional waters, the project will also have to acquire a 401 water quality certification from the Regional Water Quality Control Board. All required mitigation will be contained within the 404 and 401 permits and additional mitigation beyond that contained in these permits is not considered necessary. Therefore, impacts to federally protected wetlands would be expected to be **less than significant** with the incorporation of mitigation contained within required permits.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The proposed project site does not contain a significant wildlife movement corridor such as a riparian corridor or other significant movement corridor that could be utilized by migratory wildlife species. The site does not contain

suitable riverine features for use by migratory fish species. Further, there are no known nursery sites on the project site or migratory corridors identified by resource agencies (e.g., deer migration corridors). Therefore, the project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. In addition, the perimeter fence included as part of the proposed project will meet Town of Loomis design standards and include wildlife passage openings intended to minimize the potential of the proposed project to obstruct local wildlife movement. Although the proposed project could provide some level of hindrance to movement of some local wildlife in the area, it would not cross the threshold of "interfering substantially" with wildlife movement or a migratory wildlife corridor. Therefore, there would be **a less than significant impact** to migratory wildlife corridors or wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

As mentioned previously, the project is proposing the removal of approximately 199 oak trees during project development. A tree mitigation replacement plan shall be prepared for the project in accordance with the Town of Loomis tree protection ordinance (see Mitigation Measure BIO-4). By complying with the avoidance, minimization, and mitigation measures required under the Town of Loomis tree ordinance, the impacts to oak woodland will be less than significant with mitigation and will be in compliance with the Town of Loomis tree ordinance. Therefore, with implementation of Mitigation Measure BIO-4, there will be no conflict with local policies and ordinances and this impact would be **less than significant**.

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?

There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans or other approved local, regional or state habitat conservations plans that encompass the area that would be affected by the proposed project. Therefore, the proposed project would not conflict with any adopted or approved habitat conservation plans, and **no impact** would occur.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. Impacts on biological resources would be potentially greater than those associated with the proposed project because a greater portion of the project site would be disturbed with implementation of the Residential Alternative and/or with the more dispersed development there would be smaller and less contiguous pockets of habitat remaining on the project site after development. While the proposed project would remove approximately 199 of the 697 trees on the project site, development of eight single-family residences under the Residential Alternative would likely require the removal of a similar number, and potentially more trees to accommodate the greater and more diverse development footprint and thus result in greater impacts on oak woodland. In addition, the potentially greater development footprint of the Residential Alternative would also result in increased impacts on wetland features onsite. Mitigation measures BIO 1, BIO 2, BIO 3, and BIO 4 would still be required for the Residential Alternative.

3.5 CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

ENVIRONMENTAL SETTING

This section of the IS/MND is based on the report titled *Cultural Resources Investigation for the Regina Caeli Priory Project* (AECOM 2011).

The first inhabitants of the Loomis area were indigenous tribes living in small villages along the creeks and streams. The Maidu people were the predominant Native American group in the area and subsisted primarily on acorns from the native oaks of the region. By 1825, trappers and hunters had discovered the Loomis area while traveling down the present American River. Through the early part of the 1800s, what is now the Town of Loomis was inhabited by only a few lone pioneers.

After the discovery of gold in the Sierra Nevada foothills in 1848, prospectors swarmed into the Loomis area and small mining camps sprang up. Between the gold rush and the organization of the County of Placer in 1851, the area experienced an influx of miners, farmers, and businessmen. By the 1860s, several granite quarries were operating in the nearby areas of Rocklin and Penryn.

The Central Pacific Railroad extended through Placer County in the 1860s, prompting further growth in the Loomis area. In 1890, the community took on the name of "Loomis," the name of one of the original pioneers.

Toward the end of the nineteenth century lots were developed and roads were extended toward the American River and the community began to develop into a town. Stone quarries were established and local farmers began planting fruit orchards. The completion of the Central Pacific Railroad over the Sierra Nevada in 1872 established an overland route for markets in the eastern states to receive fruit cultivated by Loomis area farmers. By 1880, considerable acreage had been planted in fruit orchards and many of the early mining ditches were used for irrigation water.

Today, most of the Town's land area is occupied by large-lot residential/agricultural and single-family residential development. Many local landowners maintain small-scale agricultural activities on small ranches. Higher density residential development is concentrated near the Taylor Road commercial corridor. The proposed project site is mostly undeveloped, with a strawberry field on the northeast corner. A two-story, wood-frame, residential structure built in 1984 is located on the northwest corner of the project site. Two metal storage structures are located immediately south of the residence. The strawberry field and a water tank are situated directly south of the field. No historic-age (i.e., 45 years old or older) buildings or structures are located on the project site.

DISCUSSION

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Under CEQA, public agencies must consider the effects of their actions on historical resources. "Historical resource" is a term of art with a defined statutory meaning (see Public Resources Code section 21084.1 and CEQA Guidelines section 15064.5). The term embraces any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP), as well as some California State Landmarks and Points of Historical Interest.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be "historical resources" for purposes of CEQA unless a preponderance of evidence indicates otherwise (Public Resources Code, section 5024.1 and California Code of Regulations, Title 14, section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

Pursuant to Public Resources Code section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment."

The cultural resources investigation for the proposed project included a records search of the North Central Information Center (NCIC) of the California Historical Resources System (CHRIS), Native American consultation, and a pedestrian archaeological survey of the project site by an AECOM archaeologist and an AECOM historian.

The records search identified no previously recorded historical resources on the project site. No historic-age (i.e., 45 years old or older) buildings or structures that could qualify as historical resources pursuant to CEQA are located on the project site. Therefore, the project would not cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines section 15064.5 and **no impact** would occur.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 or disturb human remains, including those interred outside of formal cemeteries?

Under CEQA, public agencies must also consider the effects of their actions on "unique archaeological resources." Public Resources Code, Section 21083.2 states that "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person" (Public Resources Code, Section 21083.2 (g)).

As discussed above, the cultural resources investigation for the proposed project included a records search of the NCIC, Native American consultation, and a pedestrian archaeological survey of the project site by an AECOM archaeologist and an AECOM historian.

The records search identified two prehistoric resources (bedrock mortars), a historic-era hotel and barn complex, and a prehistoric isolated artifact within a one-quarter-mile radius of the project site but no recorded resources on the project site.

AECOM requested a search of the Native American Heritage Commission (NAHC) sacred lands file on August 11, 2011 to determine if any Native American cultural resources are present in or near the vicinity of the proposed project site. The NAHC response letter stated that the sacred lands file failed to indicate the presence of Native American resources in the immediate project area. The NAHC letter included a list of Native American organizations and individuals who may have knowledge of cultural resources in the project area. As requested by the NAHC, letters that included a brief description of the project and a project map were sent to each individual identified on the NAHC list. As of printing of this report, there have been two responses. The Shingle Springs Band of Miwok Indians indicated in a letter dated September 8, 2011 that they are not aware of any known cultural resources on the project site but would like to be kept up to date as the project progress and would like to be notified if human remains are discovered during project construction. The United Auburn Indian Community in a letter dated September 26, 2011 indicated that they would like to receive a copy of any archaeological reports that have been prepared for the project and would also like to visit the project site to determine if any Native American cultural resources would be affected by the proposed project.

While ground visibility on the site is poor due to vegetation, the pedestrian survey encountered no archaeological resources. Rock outcroppings located in numerous locations across the project site were inspected for bedrock mortars, which are circular depressions in rock outcrops used by prehistoric peoples for grinding of grain, acorns, or other food products. No bedrock mortars or other evidence of prehistoric or Native American activity was encountered on the project site.

The proposed project would include extensive earth disturbance, including grading, excavation, and trenching for the development of the priory building, fencing, outdoor playing field, gardens, prayer pathways, utilities, and

other project elements. While the records search, Native American consultation, and pedestrian survey encountered no evidence of archaeological or Native American resources on the project site, material evidence and historical records demonstrate that the project area has been subject to intensive prehistoric and historic human use, and it is possible that previously unknown significant prehistoric and historic-era archaeological resources or human remains could be damaged or destroyed by earth-disturbing project construction activities. Project impacts on previously undocumented significant archaeological resources or human remains are therefore considered potentially significant. Potential impacts on archaeological resources or human remains would be reduced to **less-than-significant** with implementation of the following mitigation measure.

Mitigation Measure CUL-1: Discovery Procedures for Cultural Resources and Human Remains

In the event that any prehistoric or historic subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits, animal bone, obsidian and/or mortar are discovered during construction-related earth-moving activities, all ground-disturbing activity within 100 feet of the resources shall be halted and the Town of Loomis Planning Department shall be notified. The Town shall consult with a qualified archeologist retained at the applicant's expense to assess the significance of the find. If the find is determined to be significant by the qualified archaeologist (i.e., because the find is determined to constitute either an historical resource or a unique archaeological resource), representatives of the Town and the qualified archaeologist shall meet to determine the appropriate course of action, with the Town making the final decision. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report shall be prepared by the qualified archaeologist according to current professional standards.

If the archaeologist determines that some or all of the affected property qualifies as a Native American Cultural Place, including a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine (Public Resources Code §5097.9) or a Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historical Resources pursuant to Public Resources Code §5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site (Public Resources Code §5097.993), the archaeologist shall recommend to the Town potentially feasible mitigation measures that would preserve the integrity of the site or minimize impacts on it, including any or a combination of the following:

- Avoidance, preservation, and/or enhancement of all or a portion of the Native American Cultural Place as open space or habitat, with a conservation easement dedicated to the most interested and appropriate tribal organization, if such an organization is willing to accept and maintain such an easement, or alternatively, a cultural resource organization that holds conservation easements;

- An agreement with any such tribal or cultural resource organization to maintain the confidentiality of the location of the site so as to minimize the danger of vandalism to the site or other damage to its integrity; or

- Other measures, short of full or partial avoidance or preservation, intended to minimize impacts on the Native American Cultural Place consistent with land use assumptions and the proposed design and footprint of the development project for which the requested grading permit has been approved.

After receiving such recommendations, the Town shall assess the feasibility of the recommendations and impose the most protective mitigation feasible in light of land use assumptions and the proposed design and footprint of

the development project. The Town shall, in reaching conclusions with respect to these recommendations, consult with both the project applicant and the most appropriate and interested tribal organization.

If human remains are discovered at any project construction sites during any phase of construction, all ground-disturbing activity within 50 feet of the remains shall be halted immediately, and the Town of Loomis Planning Department and the County coroner shall be notified immediately. If the remains are determined by the County coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The project applicant shall also retain a professional archaeologist with Native American burial experience to conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. As necessary, the archaeologist may provide professional assistance to the Most Likely Descendant, including the excavation and removal of the human remains. The Town shall be responsible for approval of recommended mitigation as it deems appropriate, taking account of the provisions of state law, as set forth in CEQA Guidelines section 15064.5(e) and Public Resources Code section 5097.98. The project applicant shall implement approved mitigation, to be verified by the Town, before the resumption of ground-disturbing activities within 50 feet of where the remains were discovered.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Paleontological resources may be present in fossil-bearing soils and rock formations below the ground surface of the project site. Earth-disturbing activities in fossil-bearing soils and rock formations have the potential to damage or destroy paleontological resources that may be present below the ground surface. Therefore, any earth-disturbing activities resulting from implementation of the proposed project could damage or destroy fossils in these rock units. Project impacts on paleontological resources are therefore considered potentially significant. However, potential impacts to paleontological resource or site or unique geologic features would be reduced to **less-than-significant** with implementation of the following mitigation measure.

Mitigation Measure CUL-2: Discovery Procedures for Cultural Resources and Human Remains

Should paleontological resources be identified at any project construction sites during any phase of construction, the construction manager shall cease operation at the site of the discovery and immediately notify the Town of Loomis Planning Department. The project applicant shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less-than-significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the Town of Loomis shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. As with the proposed project, no impacts on historical resources would occur with implementation of the Residential Alternative. Impacts on undiscovered subsurface

archaeological resources, human remains, and paleontological resources would be potentially greater than those associated with the proposed project because a greater portion of the project site would be disturbed with implementation of the Residential Alternative. Mitigation Measures CUL-1 and CUL-2 would still be required under this alternative to ensure that impacts on undiscovered subsurface archaeological resources, human remains, and paleontological resources would be less than significant.

3.6 GEOLOGY AND SOILS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Geology and Soils. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?	☐	☐	☒	☐
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?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

Information regarding the geotechnical conditions on the site is summarized from the Feasibility Geotechnical Study Cordova Parcel SWC Rocklin and Barton Roads, Loomis, California, Earthtec, LTD., November 3, 2005. The topography of the site slopes gently to moderately down toward the southwest and the pond, with numerous seasonal drainage swales. Indications of surface and/or subsurface structures and/or human-caused disturbances were not observed on the site during the geotechnical field reconnaissance. The subsurface earth material consists of silty sand in the uppermost one to six feet of soil. The uppermost material is considered to be derived from the underlying granitic rock. Soil material underlying the sand is very dense, dry, and variably weathered and decomposed granitic bedrock. The total thickness of the bedrock underlying the site was not determined by the

geotechnical investigation. Free groundwater was not observed in any of the test borings on the site, however, it is possible that perched groundwater may occur during the winter and spring wet season.

The nearest major fault system to Loomis is the Foothills Fault System, which traverses Amador, El Dorado, and Placer counties in a path more than 350 kilometers long and several kilometers wide. Two segments of this system are relatively close to Loomis: the segment of the Bear Mountain Fault Zone (Spenceville Fault) between Folsom and Auburn, and the Melones Fault Zone, about 15 miles to the east.

No active faults are known to exist in Placer County, and no Alquist-Priolo Special Studies Zones are designated in the County. The nearest known active fault that has been mapped is the Dunnigan Hills Fault, well to the northwest of the Town across the Central Valley. However, investigations performed for the proposed Auburn Dam indicate that the Foothill Fault System may be undergoing reactivation in the vicinity of Folsom Lake and may be capable of producing a magnitude 6.5 Richter Scale event.

The underlying geologic foundation of the region is a relatively unbroken granitic batholith that extends along the Sierra Nevada. During seismic events, this material tends to react as a uniform block, which has the effect of reducing ground movement, acceleration, and the likelihood of ground rupture. Consequently, the California Division of Mines and Geology (CDMG) classifies the region as a low-severity earthquake area. Typical seismic hazards include surface rupture, groundshaking, and various types of ground failure. The potential for these hazards to exist on or near the project site is discussed below.

DISCUSSION

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 California Geological Survey Special Publication 42.)

Surface rupture during earthquakes is typically limited to those areas immediately adjacent to the fault on which the event is occurring. Because the project site is located in an area that contains no active faults, the likelihood of surface rupture in the area is considered low. Impacts would be **less than significant**.

ii) Strong seismic ground shaking?

The most serious direct earthquake hazard is the damage or collapse of buildings caused by groundshaking, which, in addition to property damage, can cause injury or death. The potential for groundshaking may be considered highest on the alluvial deposits along the creeks and ravines, conditions that do not exist on the project site. Therefore, the likelihood of damage from strong groundshaking is low. Impacts would be **less than significant**.

iii) Seismic-related ground failure, including liquefaction?

Ground failure effects include liquefaction, subsidence, lurch cracking, and lateral spreading. The potential for these hazards to occur in the project area is discussed below.

Liquefaction in soils and sediments can occur during earthquake events, when material is temporarily transformed from a solid to a liquid (gelatinous). Earthquake-induced liquefaction most often occurs in low-lying areas with soils composed of unconsolidated, saturated, clay-free sands and silts, but can also occur in dry, granular soils or saturated soils with some clay content. Liquefaction also occurs in areas overlain by unconsolidated fill, particularly artificial fill. A moderate liquefaction potential is identified in the Loomis area, particularly on the alluvial soils found along the low-lying ravines and creeks. The project site does not contain ravines or creeks, but may have potential for liquefaction due to soil conditions.

Subsidence is the compaction of soils and alluvium caused by groundshaking. It occurs irregularly and is largely a function of the underlying soils. Depending on the event, the amount of compaction can vary from a few inches to several feet. No significant subsidence problems have been identified in the Loomis area, including the project site.

Lurch cracking refers to fractures, cracks and fissures produced by groundshaking, and may occur far from an earthquake's epicenter. Lateral spreading is the horizontal movement of soil toward an open face of a stream bank or the side of a levee. Steep-sided artificial fill embankments are most susceptible to damage. The potential for these hazards is greatest on steep-sided alluvial soils where the groundwater table is high. The project site does not have steep topography, however, perched groundwater may occur during the winter and spring wet season.

The State of California provides minimum standards for structural design and site development through the California Building Code (CBC – California Code of Regulations (CCR), Title 24, Part 2). Until January 1, 2008, the CBC was based on the then-current Uniform Building Code and contained Additions, Amendments, and Repeals specific to building conditions and structural requirements in the State of California. The 2007 CBC, effective January 1, 2008, is based on the current (2006) International Building Code and contains prominent enhancement of the sections dealing with fire safety, equal access for disabled persons, and environmentally friendly construction. Each jurisdiction in the state may adopt its own building code based on the 2007 CBC. Local codes are permitted to be more stringent than Title 24, but, at a minimum, are required to meet all state standards and to enforce the regulations of the 2007 CBC beginning January 1, 2008. The Town's enforcement of its Building Code ensures the project would be consistent with the CBC.

State and local regulations require design-level geotechnical investigations for the foundations of any structure for human occupancy proposed at the project site, including specific recommendations to reduce or eliminate post-construction settlement. The design-level geotechnical investigation for the project would be reviewed by the Town for compliance with existing building codes and ordinances. Implementation of the recommended site preparation activities would be inspected by the Town.

Compliance with the above regulations would ensure that the underlying soil conditions are known through geotechnical investigation and that the appropriate design features are included to reduce or eliminate post-construction settlement due to ground shaking or liquefaction. Implementation of these regulations would ensure that impacts related to seismic-related ground failure, including liquefaction, would be **less than significant**.

iv) Landslides

Landslides may be triggered by oversaturated soils (after heavy rains) or by earthquakes. Landslide potential is highest in steeply-sloped areas, particularly those areas underlain with saturated and unconsolidated soil. No

landslides, slumps, or other indications of slope instabilities were observed in the project area during the geotechnical study field reconnaissance. Impacts would be **less than significant**.

b) Result in substantial soil erosion or the loss of topsoil?

The project would include grading of the site and placement of fill, which could lead to soil erosion from wind and storm water runoff. The effects of erosion range from nuisance problems, such as increased siltation in storm drains, to extreme cases where watercourses are downcut and gullies develop that can eventually undermine adjacent structures or vegetation. Potential impacts related to soil erosion or the loss of topsoil would be reduced to **less-than-significant** with implementation of the following mitigation measure.

Mitigation Measure GEO-1: Prepare a Grading and Erosion Control Plan

The project applicant shall retain a California Registered Civil Engineer to prepare a grading and erosion control plan. The plan shall be consistent with the NPDES permit required by the Central Valley Regional Water Quality Control Board. The plan shall include the location, implementation schedule, and maintenance schedule of all erosion and sediment control measures, a description of measures designed to control dust and stabilize the construction-site road and entrance and a description of the location and methods of storage and disposal of construction materials. The grading and erosion control plan shall be approved by the Town of Loomis prior to project construction.

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?

See (a)(iii) above.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?

According to the geotechnical study prepared for the project, the sands and underlying decomposed granitic bedrock found on the site are considered to be low plasticity materials that are not considered to have a significant potential for developing expansive soil pressures. Impacts would be **less than significant**.

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?

The project proposes to connect to the South Placer Municipal Utility District sewer collection system. Therefore no wastewater disposal would occur on site and there would be **no impact**.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. If the project site were to be developed with single-family residences, impacts related to geology and soils, including rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, landslides, and soil erosion, would be similar to those that would occur with development of the proposed project. Mitigation GEO-2, Prepare a Grading and Erosion Control Plan, would be required under the Residential Alternative to ensure that potential impacts related to soil erosion or the loss of topsoil would be reduced to less-than-significant.

3.7 GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHG), play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters the earth's atmosphere is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. Infrared radiation is absorbed by GHGs; as a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on Earth. Without the naturally occurring greenhouse effect, the earth would not be able to support life as we know it.

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The following are the gases that are widely seen as the principal contributors to human-induced global climate change:

- carbon dioxide (CO2),
- methane (CH4),
- nitrous oxide (N2O),
- hydrofluorocarbons (HFCs),
- perfluorocarbons (PFCs), and
- sulfur hexafluoride (SF6).

GHG emissions related to human activities are responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of the earth's atmosphere and oceans, with corresponding effects on global circulation patterns and climate (IPCC 2007).

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas; the global warming potential is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. GHGs with lower emissions rates than CO_2 may still contribute to climate change because they are more effective at absorbing outgoing infrared radiation than CO_2. The concept of CO_2-equivalents (CO_2e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

In September 2006, California Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions, and is the first of its kind worldwide. It requires statewide GHG emissions be reduced to 1990 levels by 2020. To meet the goals of AB 32, California would need to generate fewer GHG emissions than current levels. AB 32 requires 1990 GHG emission levels to be achieved by the year 2020, or about a 28% reduction from "business as usual" (BAU) emissions levels in 2020 (ARB 2008). AB 32 applies to major stationary sources of emissions only, but acknowledges the urgency of this potential threat to the environment.

Additional laws related to climate change are summarized in Table 3.7-1, below.

Table 3.7-1
Summary of State Laws and Executive Orders that Address Climate Change

Legislation Name	Signed into Law/ Ordered	Description	CEQA Relevance
SB 1771	09/2000	Establishment of California Climate Registry to develop protocols for voluntary accounting and tracking of GHG emissions.	In 2007, DWR began tracking GHG emissions for all departmental operations.
AB 1473	07/2002	Directs ARB to establish fuel standards for noncommercial vehicles that would provide the maximum feasible reduction of GHGs.	Reduction of GHG emissions from noncommercial vehicle travel.
SB 1078, 107, EO S-14-08	09/2002, 09/2006, 11/2008	Establishment of renewable energy goals as a percentage of total energy supplied in the State.	Reduction of GHG emissions from purchased electrical power.
EO S-3-05, AB 32*	06/2005, 09/2006	Establishment of statewide GHG reduction targets and biennial science assessment reporting on climate change impacts and adaptation and progress toward meeting GHG reduction goals.	Projects required to be consistent with statewide GHG reduction plan and reports will provide information for climate change adaptation analysis.
SB 1368	9/2006	Establishment of GHG emission performance standards for base load electrical power generation.	Reduction of GHG emissions from purchased electrical power.
EO S-1-07	01/2007	Establishment of Low Carbon Fuel Standard.	Reduction of GHG emissions from transportation activities.
SB 97*	08/2007	Directs OPR to develop guideline amendments for the analysis of climate change in CEQA documents.	Requires climate change analysis in all CEQA documents.
SB 375	09/2008	Requires metropolitan planning organizations to include sustainable communities strategies in their regional transportation plans.	Reduction of GHG emissions associated with housing and transportation.
EO S-13-08*	11/2008	Directs the Natural Resources Agency to work with the National Academy of Sciences to produce a California Sea Level Rise Assessment Report and directs CAT to develop a California Climate Adaptation Strategy.	Information in the reports will provide information for climate change adaptation analysis.

Key:
AB = Assembly Bill
ARB = California Air Resources Board
CAT = Climate Action Team
CEQA = California Environmental Quality Act
DWR = California Department of Water Resources
EO = Executive Order
GHG = greenhouse gas
OPR = Office of Planning and Research
SB = Senate Bill

DISCUSSION

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

At the time of this analysis, the PCAPCD has not adopted a significance threshold for GHG emissions. Therefore, in order to establish context, other regional guidance has been applied to the proposed project. Within the Sacramento Valley, the Sacramento Metropolitan Air Quality Management District (SMAQMD) released updated CEQA guidance, *Guide to Air Quality Assessment in Sacramento County*, in December 2009 (SMAQMD 2009b). SMAQMD includes recommendations for GHG emissions in the guidance, which states that thresholds of significance for GHG emissions should be related to AB 32's GHG reduction goals. For example, a possible threshold of significance could be to determine whether a proposed project's emissions would substantially hinder the State's ability to attain the goals identified in AB 32 (i.e., reduction of statewide GHG emissions to 1990 levels by 2020). Neither state legislation nor executive order suggests that California intends to limit population growth to reduce the state's GHG emission levels. Therefore, the intent is to accommodate population growth in California, but achieve a lower *rate* of GHGs despite this larger population. In other words, California jurisdictions must become more GHG *efficient*.

SMAQMD allows the CEQA lead agency to develop the specific methodology for making this determination of significance. While SMAQMD has not adopted specific quantitative thresholds for global climate change, other air districts in the State have developed specific thresholds. The most conservative threshold was adopted by the Bay Area Air Quality Management District (BAAQMD) in June 2010. The BAAQMD recommends a threshold of 1,100 metric tons of CO_2e per year for operational emissions and 10,000 metric tons of CO_2e per year for stationary source emissions (BAAQMD 2010). Other proposed or adopted thresholds for GHG emissions for both land use and stationary sources range from 3,000 to 25,000 metric tons of CO_2e per year.

The proposed project would generate GHG emissions as a result of short-term construction activities and long-term operational activities. Construction-generated GHG emissions and operational GHG emissions are discussed separately below.

Construction-Generated Greenhouse Gas Emissions

Emission factors and calculation methods for estimating GHG emissions associated with the development of wastewater treatment plant projects have not been formally adopted for use by the State of California, PCAPCD, or any other air district. Therefore, the construction-related GHG emissions associated with the proposed facility upgrades were calculated using URBEMIS 2007 Version 9.2.4.

Construction activities associated with construction of the proposed project would occur over a 2-year period, beginning in spring 2012. During this time, a net increase in GHG emissions would result from various construction activities. Construction-related GHG emissions would be associated with engine exhaust from heavy-duty construction equipment, material (e.g., building materials, soil) transport trucks, and worker commute trips. Although any increase in GHG emissions would add to the quantity of emissions that contribute to global climate change, emissions associated with project construction would occur over a finite period. Following full project buildout, all construction emissions would cease.

Table 3.7-2 shows the annual GHG emissions associated with construction of the proposed project. Detailed calculations and related assumptions are presented in Appendix A.

Table 3.7-2
Summary of Modeled Construction-Generated Emissions of Greenhouse Gases

Source	Total Mass CO_2 Emissions (metric tons)[1]
Construction Emissions[2]	
2012	254.0
2013	244.9
2014	0.6
Total construction emissions (2012–2014)	499.5

Note: CO_2 = carbon dioxide. See Appendix A for detailed model input, assumptions, and threshold calculations.

[1] The values presented do not include the full life-cycle of greenhouse gas (GHG) emissions that occur over the production/transport of materials used during project construction, solid waste that occurs over the project life, and the end of life of the materials and processes that indirectly result from the project. Estimation of the GHG emissions associated with these processes would be speculative, would require analysis beyond the current state of the art in impact assessment, and might lead to a false or misleading level of precision in reporting of project-related GHG emissions. Further, indirect emissions associated with in-state energy production and management of solid waste would be regulated under Assembly Bill (AB) 32 directly at the source or facility that would handle these processes. The emissions associated with off-site facilities in California would be closely controlled, reported, capped, and traded under AB 32 and California Air Resources Board programs. Therefore, GHG emissions associated with these life-cycle stages likely would be consistent with AB 32 requirements.

[2] Building construction emissions were modeled with the URBEMIS 2007 computer model.

Source: Modeling conducted by AECOM in 2011

Facilities (i.e., stationary, continuous sources of GHG emissions) that generate greater than 25,000 metric tons of CO_2 per year are mandated to report their GHG emissions to ARB, pursuant to AB 32. As noted previously, PCAPCD has not established a GHG threshold methodology for construction activities. As shown in Table 3.7-2, estimated GHG emissions associated with construction of the entire project would be a maximum of approximately 254 metric tons of CO_2 per year, totaling 499.5 metric tons over the estimated 2-year construction schedule. Absent any air quality regulatory agency–adopted threshold for GHG emissions for construction, the proposed project would generate substantially fewer emissions than 25,000 metric tons of CO_2 per year. This information is presented for informational purposes only, and it is not the intention of PCAPCD to adopt 25,000 metric tons of CO_2 per year as a numeric threshold. Rather, the intention is to put project-generated construction GHG emissions in the appropriate statewide context to evaluate whether the proposed project's contribution to the global impact of climate change would be considered substantial. Because construction-related emissions would be temporary and finite and would be below the minimum standard for reporting requirements under AB 32, the project's GHG emissions would not be a considerable contribution to the cumulative global impact. Therefore, this impact would be **less than significant**.

Operational GHG Emissions

Operation of the proposed project would involve vehicle trips to and from the site, the use of electricity and natural gas, and solid waste generation, all of which would generate GHG emissions. With respect to motor vehicle use, the proposed project would generate approximately 97 ADT. Electricity and natural gas consumption and solid waste emissions were based on development type and size. As shown in Table 3.7-3, GHG emissions

from methane, nitrous oxide, and CO_2 would generate approximately 658 metric tons of CO_2e per year during operation of the proposed project.

As stated above, facilities (i.e., stationary, continuous sources of GHG emissions) that generate greater than 25,000 metric tons of CO_2 per year are mandated to report their GHG emissions to ARB, pursuant to AB 32. In addition, as stated above, BAAQMD has established the most conservative annual operational emissions threshold (1,100 metric tons of CO2 per year) in the state. PCAPCD has not established a GHG threshold methodology for stationary source emissions. As shown in Table 3.7-3, the proposed project would generate fewer emissions than the most conservative adopted GHG emissions threshold (BAAQMD's threshold of 1,100 metric tons CO_2 per year). Although emissions with the cogeneration facility would be substantially lower than without cogeneration, both project scenarios generate GHG emissions below reporting thresholds.

Table 3.7-3
Summary of Modeled Stationary Source-Generated Emissions of Greenhouse Gases

Source	Total Mass CO_2e Emissions (metric tons)
Mobile Source	136
Electricity Use	264
Natural Gas Use	311
Solid Waste	72
Water Use/Treatment	11
Total emissions	**658**

Notes: CO_2e = carbon dioxide equivalent. See Appendix A for detailed model input, assumptions, and calculations.
Source: Modeling conducted by AECOM in 2010

As above, this information is presented for informational purposes only, and it is not the intention of PCAPCD to adopt 1,100 metric tons of CO_2 per year as a numeric threshold. Rather, the intention is to put project-generated operational GHG emissions in the appropriate statewide context in order to evaluate whether the project's contribution to the global impact of climate change is considered substantial. Because project–related emissions would be below the minimum standard for reporting requirements under AB 32 and mobile and area (natural gas, landscaping) source emissions would remain the same as under existing conditions, the project's operational GHG emissions would not be a considerable contribution to the cumulative global impact and therefore would be **less than significant**. No mitigation is required.

a) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As discussed above, under (a), the short-term construction and long-term operational GHG emissions from the proposed project would be less than cumulatively considerable, and because they are much lower than any reporting limits or adopted GHG thresholds of significance for stationary sources, the proposed project would not conflict with AB 32 or any other climate-change related plans, policies, or regulations. There are currently no applicable local climate-change related plans, policies, or regulations. This impact is considered **less than significant**. No mitigation is required.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. Similar to what was discussed under air quality, potential GHG emissions associated with eight single-family residences would be less than that of the proposed project. There would be fewer vehicle trips generated by the single-family residences, thereby reducing mobile source emissions. In addition, it is assumed that the overall square footage would be less than the proposed project and, as a result, corresponding area emissions would also be less than that of the proposed project.

3.8 HAZARDS AND HAZARDOUS MATERIALS

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

ENVIRONMENTAL SETTING

The following analysis is based on the Phase I Environmental Site Assessment (ESA) and a Phase II ESA that have been prepared for the proposed project (Earthtec 2008; 2010).

The Phase I ESA included a records search, which indicated that the project site was not listed as a hazardous materials or release site, and there are no such properties within the project vicinity. The records search also indicated that there is no evidence of any oil or gas wells located onsite or any groundwater wells. Past uses of the project site have been forested land, residential, and agricultural. There are no known or permitted above- or

underground storage tanks located within the property. A septic system is used at the two-story residence located on the site. Overall, the Phase I ESA concluded that there were no Recognized Environmental Conditions (RECs) or any evidence that there could be major soil contamination within the project site.

A Phase II ESA was also prepared specifically to investigate the potential for soil contamination that could result from agricultural practices at the strawberry field located within the project site. Soil borings taken from the strawberry field were tested for the presence of organochlorinated pesticides, lead, and arsenic. One of the four samples showed arsenic levels higher than the accepted threshold and higher than background concentrations. However, the Phase II ESA indicated that the elevated arsenic levels are not the result of pesticide application at the strawberry field, and that this is more likely naturally occurring, consistent with many other sites in California.

DISCUSSION

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The proposed project would develop a priory that would house the Sisters and include cells, a chapel, study areas, an auditorium, and similar uses. The project would not use or store hazardous materials, aside from those that would be consistent with common household use, such as bleach, detergents, cleaning products, paints, and other household chemicals. There would be no routine transport or storage of hazardous materials. Therefore, the proposed project would not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials. This impact is **less than significant**.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?

There is no evidence that the project site contains any soil or groundwater contamination that could inadvertently be released into the environment during site preparation or construction activities. The project does not include any demolition activities that could result in the release of lead or asbestos into the air. The project does not include any components that could be hazardous to the public, or result in the release of hazardous materials into the environment. This impact is **less than significant**.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no existing or planned schools within one-quarter mile of the project site, and the project does not include any components that would result in the emission of or involve handling of hazardous materials. There is **no impact**.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The proposed project is not located on listed hazardous materials site, and the Phase I ESA and Phase II ESA indicated that the site contains no RECs. Therefore, there is **no impact**.

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?

The project site is not located within an airport land use plan or within two miles of a public airport. Therefore, there is **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?

The project is not located within the vicinity of a private airstrip. Therefore, there is **no impact**.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The proposed project does not include any components that would interfere with an adopted emergency response plan or emergency evacuation plan. All of the project elements would be constructed within the project site, and there are no planned off-site improvements. Roads constructed within the project site are planned to have proper access for fire equipment and fire department access gates are planned to maintain emergency access. Therefore, this impact is **less than significant**.

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?

The project site is located in the Sierra Nevada foothills among oak woodlands. The surrounding area is intermixed with rural residential development and oak woodlands. A large-lot residential subdivision is located directly to the west and south, and further beyond to the west residential development becomes more intensified. Although the project site and surrounding areas are wooded, vegetation is not dense and particularly susceptible to wildfire risk, although some risk does exist. The project is located in an area with good emergency access for fire trucks, in the event of a wildfire. The project does not include any components that make it more susceptible wildfire than the site in its existing condition. The project includes fire department access gates and access roads, which help to reduce risk. The project site is not located in an area that is at a particularly high risk for wildfire, there is defensible space, and adequate emergency access is provided. This impact is **less than significant**.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. If the project site were to be developed with single-family residences, impacts related to hazards and hazardous materials would remain less than significant. As with the proposed project, construction-related impacts related exposure of the public or the environment to hazardous materials would be less than significant because the site conditions would remain the same. Also, as with development of the proposed project, the Residential Alternative would not involve the use or storage of hazardous materials, aside from those that would be consistent with common household use, such as bleach, detergents, cleaning products, paints, and other household chemicals. Under the Residential Alternative, the project would still be located in an area that is not at a particularly high risk for wildfire, and roads constructed

within the project site under the Residential Alternative would be required to have proper access for fire equipment and fire department access gates are planned to maintain emergency access.

3.9 HYDROLOGY AND WATER QUALITY

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

ENVIRONMENTAL SETTING

The proposed project is located in the Secret Ravine hydrologic sub-area (HSA), which is within the American River hydrologic unit. The HSA drains approximately 60 square miles and receives approximately 24.2 inches of rainfall annually (Caltrans 2011). There are no groundwater basins underlying the proposed project site as defined by the California Department of Water Resources (DWR 2003), and a geotechnical study conducted at the proposed project site showed no groundwater present (Earthtec 2005).

The proposed project site drains into an existing pond in the southwest corner of the property with a weir outlet that controls flows downstream and attenuates peak flows from the upgradient watershed areas. The site consists of 40.07 acres consists of 0.32 acres of impervious areas from a single-family residence, a manufactured home, and associated paving and walkways. The remaining 39.75 acres is undeveloped and is consists of groves of oak and pine trees, grasses, weeds, and thorn bushes, and seasonal riparian vegetation surrounding the pond. The topography of the site slopes gently to moderately down-gradient toward the southwest and the pond and includes numerous seasonal drainage swales. The proposed project lies within the Federal Emergency Management System (FEMA) Flood Insurance Rate Map (FIRM) panel 06061C0481G in Zone X, which is the FEMA FIRM classification of areas outside of the 500-year flood boundary (RFE Engineering, Inc. 2010).

DISCUSSION

a) Violate any water quality standards or waste discharge requirements?

Construction of the proposed project could result in water quality impacts without proper controls. Soil loosened during grading, spills of fluids or fuels from vehicles and equipment or miscellaneous construction materials and debris, if mobilized and transported off-site in overland flow, could degrade water quality. In the event of heavy rainfall, flow from the construction areas could flow off-site or to the pond via swales or other drainage conveyances. Because the area of ground disturbance affected by construction-related activities would exceed 1 acre, the proposed project would be subject to the requirements of the statewide National Pollutant Discharge Elimination System (NPDES) stormwater permit for construction activity (Order 2009-0009-DWQ).

As described in Chapter 1, "Project Background and Description," the project applicant has completed a conceptual grading and drainage plan as part of the design and construction process to reduce potential water quality impacts. In addition, the following mitigation measure would reduce the potentially significant impact of water quality degradation from project-related construction activities to a **less-than-significant** level.

Mitigation Measure HYDRO-1: Prepare and Implement Stormwater Pollution Prevention Plan (SWPPP)

Before the approval of proposed project plans, the project applicant shall consult with the SWRCB and the Central Valley RWQCB to acquire the appropriate regulatory approvals that may be necessary to obtain a statewide NPDES Stormwater Permit for General Construction Activity (Order 2009-0009-DWQ), and any other necessary site-specific waste discharge requirements or waivers under the Porter-Cologne Act. The Project Proponent shall prepare a Stormwater Pollution Prevention Plan (SWPPP) and any other necessary engineering plans and specifications for pollution prevention and control. The SWPPP and other appropriate plans shall identify and specify:

- the use of erosion and sediment-control best management practices (BMPs), including construction techniques that will reduce the potential for runoff as well as other measures to be implemented during construction;
- the means of waste disposal;
- the implementation of approved local plans, non-stormwater-management controls, permanent post-construction BMPs, and inspection and maintenance responsibilities;

- the pollutants that are likely to be used during construction that could be present in stormwater drainage and non-stormwater discharges, and other types of materials used for equipment operation;
- spill prevention and contingency measures, including measures to prevent or clean up spills of hazardous waste and hazardous materials used for equipment operation, and emergency procedures for responding to spills;
- personnel training requirements and procedures that will be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP; and
- the appropriate personnel responsible for supervisory duties related to implementation of the SWPPP.

Where applicable, BMPs identified in the SWPPP shall be in place during all site work and construction and shall be used in all subsequent site development activities. BMPs may include the following measures:

- Implementing temporary erosion-control measures in disturbed areas to minimize discharge of sediment into nearby drainage conveyances. These measures may include silt fences, staked straw bales or wattles, sediment/silt basins and traps, geofabric, sandbag dikes, and temporary vegetation.
- Establishing permanent vegetative cover to reduce erosion in areas disturbed by construction by slowing runoff velocities, trapping sediment, and enhancing filtration and transpiration.
- Using drainage swales, ditches, and earthen dikes to control erosion and runoff by conveying surface runoff down sloping land, intercepting and diverting runoff to a watercourse or channel, preventing sheet flow over sloped surfaces, preventing runoff accumulation at the base of a grade, and avoiding flood damage along roadways and facility infrastructure.

All construction contractors shall retain a copy of the approved SWPPP on the construction site. The SWPPP shall be submitted to the Central Valley RWQCB pursuant to NPDES requirements, and completed and implemented before Project work begins.

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 that would not support existing land uses or planned uses for which permits have been granted)?

Construction activities and new structures would create approximately 147,730 square feet (3.39 acres) of additional impervious surface areas in the form of a new priory building, plus associated roads, pathways, recreation, and parking facilities. This addition of impervious surfaces could reduce infiltration of precipitation into the groundwater. However, the total percentage of impervious surface proposed is small in relation to the overall area (the building coverage is 4.6% of the entire project site), and this increase would not measurably impact recharge to the local groundwater basin. In addition, no local groundwater would be used for construction purposes, nor is local groundwater a domestic or agricultural water source in the proposed project site area. No wells are located on or near the proposed project site (Earthtec Ltd. 2008). This impact is **less than significant**.

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 on- or off-site erosion or siltation?

The existing drainage pattern of the proposed project site would be altered as a result of grading and construction of facilities. A preliminary drainage study was conducted which evaluated the impacts to downstream stormdrain facilities as a result of the proposed project (RFE Engineering Inc. 2010). The approximate peak flows for pre-development and post-development at the site for the 2- year, 10-year, 25-year and 100-year storm frequencies were estimated utilizing the Hydrologic Modeling System (HEC-HMS) software, developed by the Army Corps of Engineers, in accordance with requirements in the Town of Loomis Land Development Manual (Town of Loomis 2004) and the Placer County Stormwater Management Manual (County of Placer 1994). Precipitation values are based on Table 5-A-2 "Depths for Selected Elevations" from County of Placer (1994), adjusted for an average elevation of 375 feet above mean sea level (msl) for the proposed project site.

The basin area for both the pre-development and post-development was divided into five sub-watersheds, A-1 through A-5 plus the pond. For analysis the pond was included in the sub-watershed A-3 and was assumed to be 100% impervious. An evaluation of the overall upstream sub-watersheds that include the site pre-project and post-project scenarios was completed for comparison and based on the increase in impervious areas within the project area. The total sub-watershed area including the pond is 56.52 acres. The total pre-development impervious area used for the study was 8.16 acres, and the post-development impervious area used was11.57 acres.

Because the proposed project site drains into the pond with a weir outlet that controls flows downstream and attenuates peak flows from the upgradient watershed areas, pre- and post-development flow volumes were calculated at the pond outlet weir. For the Post-Development, sub-sheds A-3 and A-4 include the project area and include in the increased impervious areas. Estimated pre- and post-development peak flows at the pond outlet weir are shown in Table 3.9-1.

Table 3.9-1
Estimated Pre- and Post-Development Peak Flows at the Pond Outlet Weir

Storm Frequency	Flow Volume (in cfs)	
	Pre-Development	Post-Development
2-year	1.6	1.6
10-year	3.8	4.0
25-year	5.7	5.9
100-year	8.6	9.0

cfs – cubic feet per second.
Source: RFE Engineering Inc. 2010.

Stormwater from the proposed project area would be conveyed to the pond. The pond water surface elevation is estimated to be 350.8 feet above msl for both the pre- and post-development 100-year 24-hour storm event, providing a freeboard of approximately 1.7 feet. Therefore the pond would generally attenuate the increased flows with minimal increase of peak flows downstream of the pond as shown in Table 3.9-1 and no noticeable increase of pond depth resulting from the proposed project.

The project has been revised to move the proposed convent building 250 feet northwest of its original location. Although the drainage shed areas would change slightly as a result the impact to the site would be less, due to the fact that the kickball field would no longer be part of the project, tree removal would be less, and more of the area would remain in its natural state. These factors would translate into reduced drainage flows compared with the original project design (RFE Engineering 2011). Although it appears that, based on the preliminary drainage study the proposed project would adequately convey stormwater flows, because final specifications have not been completed, including stormwater flow paths and drainage system based on a finalized project plan and revision of sub-watershed boundaries to reflect project grading and flow paths around the proposed project areas, this impact is considered potentially significant.

With the implementation of the mitigation measures below, the proposed project would meet the requirements of the Town of Loomis Land Development Manual and the Placer County Stormwater Management Manual criteria that 100-year flood flows would be appropriately channeled and contained, such that the risk to people or damage to structures within or down gradient of the project site would not occur. This impact is **less-than-significant** after mitigation.

Mitigation Measure HYDRO-2: Prepare and Submit Final Drainage Plans for Town Approval

Prior to any construction-related ground disturbance, the project applicant shall prepare and submit final drainage plans for Town approval. The plans shall demonstrate that all runoff would be appropriately conveyed through the project site so as to expose adjacent or downstream areas to an increased potential for off-site flooding, erosion or siltation. The plan shall include, but not be limited to, the following items:

- an accurate calculation of pre-project and post-project runoff scenarios, obtained using appropriate engineering methods, that accurately evaluates potential changes to runoff, including increased surface runoff;
- a description of the proposed maintenance program for the on-site drainage system; and
- project-specific standards for installing the drainage system.

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 on- or off-site flooding?

As described in c) above, project implementation would alter the existing drainage pattern of the site. Implementation of the final drainage plan would ensure that such alterations do not result in adverse impacts related to on- or off-site flooding. This impact is **less than significant.**

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?

As described in c) above, project implementation would result in an increase of impervious surfaces and land use changes, with corresponding changes in runoff. However, implementation of the final drainage plan would ensure that these increases do not result in runoff volumes exceeding the capacity of drainage systems. The proposed retention basin would provide some treatment of total suspended solids, phosphorus, and particulate metals, as well as maintain pre-project hydrology. However, additional treatment may be necessary to address potential

increased pollutant loads anticipated from the addition of the proposed buildings, parking areas, maintained recreational areas, and other associated infrastructure. The permanent BMPs included in the mitigation measure below have been shown to be effective in reducing contaminant levels in urban runoff to a less than significant level (CASQA 2003, County of Placer 2007). Therefore, this impact is **less than significant** with mitigation.

Mitigation Measure HYDRO-3: Incorporate BMPs to Reduce Pollutant Loads in Runoff to the Maximum Extent Practicable

Before any construction-related ground disturbance, the project applicant shall prepare a SWPPP to include the incorporation of source control, site design, and treatment control post-construction BMPs to address anticipated and potential pollutants. The project will incorporate BMPs to reduce pollutant loads in runoff to the maximum extent practicable that may include but are not limited to the following:

- Drought-tolerant native or naturalized landscaping will be used to the maximum extent practicable to reduce the need for pesticides, fertilizers, and irrigation.
- Maintenance personnel will be educated on effective and efficient use of pesticides and fertilizers and encouraged to minimize use of their application.
- All storm drain inlets and catch basins will be stenciled or have a tile placed with prohibitive language and/or graphical icons to discourage illegal dumping.
- Maintenance personnel will inspect the site routinely for trash and debris to reduce the potential discharge of materials into the storm drain system. Maintenance personnel will also monitor storm drain inlets and catch basins for trash and debris.
- Runoff from roofs will be directed to landscaped areas or infiltration basins to allow for infiltration and reduced runoff to the maximum extent practicable.
- Pavers or other porous surfaces such as grass paver systems, gravel paver systems, porous concrete, porous asphalt, or granular surfaces will be used where possible to reduce impervious areas.
- The project will maintain existing flow patterns and control runoff from impervious areas, particularly from pavement, by directing flow to an engineered stormwater drain system that will control runoff from the development.

f) Otherwise substantially degrade water quality?

As above in a), any water quality impacts from construction activities would be temporary and would not result in any significant long-term degradation of water quality. Implementation of the SWPPP, final drainage plan, and post-construction BMPs would provide reasonable assurance that the proposed project would not contribute measurably to the degradation of water quality. Impacts would be **less than significant.**

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?

The project site is located outside of the 100-year and 500-year flood hazard area. There would be **no impact.**

h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

The project site is located outside of the 100-year and 500-year flood hazard area. There would be **no impact.**

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?

The proposed project site and Loomis are not in a dam or levee inundation area for any major stream or river in the region. There are no dams or reservoirs (except small local detention facilities) upstream of the proposed project site. Therefore, there would be **no impact.**

j) Result in inundation by seiche, tsunami, or mudflow?

The project site is not located in an area that is subject to seiche or tsunami, and the topography in the project vicinity is relatively level and not subject to mudflow. There would be **no impact.**

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. The total impervious surface area of the Residential Alternative with eight single-family residences and associated infrastructure including roads and sidewalks, would likely be less than that of the 147,730 square-foot priory and its associated infrastructure. Although under the Residential Alternative a greater portion of the project site could be subject to grading and drainage changes and additional impervious surfaces from connecting roads depending on the layout of the parcels (e.g., clustered versus dispersed over the project site), the runoff volumes from the proposed project would still likely be greater than that of the Residential Alternative. The proposed project, although housing more people than would be likely under the Residential Alternative scenario, would be a monastic environment with lower per capita impacts on water quality from vehicle trips (atmospheric deposition, oil leaks, etc), illegal spills to storm drains, over-application of pesticides and fertilizers, and other activities. Therefore, contaminant loadings in runoff resulting from land use changes in either the proposed project or Residential Alternative and associated water quality impacts would be similar. Although the Residential Alternative would potentially generate more stormwater volume, all applicable local, state, and federal regulations pertaining to drainage, stormwater conveyance, and stormwater quality would be in place for the Residential Alternative. In addition, Mitigation Measures HYDRO-1, HYDRO-2, and HYDRO-3 would be required under both Alternatives. Therefore impacts to hydrology and water quality would be similar under both Alternatives.

3.10 LAND USE AND PLANNING

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

ENVIRONMENTAL SETTING

The 40.07-acre project site is located on the southwest corner of Rocklin Road and Barton Road in the Town of Loomis, in Placer County, California. The project site is largely undeveloped grassland and oak woodland. Two single-family residences (one permanent structure and one manufactured home) are located in the northwestern area of the project site. A strawberry field is located in the northeastern area of the project site. The project site includes a portion of a pond in the southwest corner of the site, which is shared with the adjacent St. Francis Woods residential subdivision.

The project site is bounded on the north by Rocklin Road, one single-family residence, a Placer County Water Agency water tank, and the Shepherd of the Sierra Presbyterian Church; on the east by Barton Road and the Sierra de Montserrat residential subdivision; and on the south and west by St. Francis Woods with 4.6-acre minimum home sites to the south and 1-acre minimum home sites to the west.

The project site is within the Residential Agricultural (RA) zoning and is designated by the Town of Loomis General Plan as Residential Agricultural. Zoning and land use designations surrounding the project site is Residential Estate to the north, Rural Residential to the west, and Residential Agricultural to the south and east.

DISCUSSION

a) Physically divide an established community?

The proposed project would be located on vacant land within an area characterized by sparse development. The proposed project would not include the removal or impedance of any roadways or existing paths of circulation. The proposed project would include fencing along two side of the project site, but this fencing would not impede any existing paths of circulation. Therefore, the proposed project would not physically divide an established community and there would be **no impact**.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The project site is zoned by the Town of Loomis and designated by the Town of Loomis General Plan as Residential Agricultural (RA). Organizational houses (such as a sorority house or a monastery) are permitted in the RA zone with a use permit as identified in Section 13-24.040 of the Town of Loomis Zoning Code. The purpose of a use permit is to allow Town Planning Department staff and the Planning Commission to evaluate a proposed use and determine whether the particular use is appropriate with the intended uses in the zoning district or land use designation; to provide the public with an opportunity to review a proposed project and express their concerns in a public hearing; to work with a project applicant to adjust the project through conditions of approval to solve any potential problems that are identified; or to disapprove a project if identified problems cannot be acceptably corrected. Because the proposed project would be permitted subject to issuance by the Town of Loomis of a use permit, there would be **no impact** related to conflicts with any land use plans.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

There are no adopted habitat conservation plans, natural community conservation plans or other approved local, regional or state habitat conservations plans that encompass the area that would be affected by the proposed project. Therefore, the proposed project would not conflict with any adopted or approved habitat conservation plans, and **no impact** would occur.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. If the project site were to be developed with single-family residences, land use and planning impacts would be substantially similar to those of the proposed project. The zoning and general plan designation of the project site would allow for up to eight residences. Development of single-family residences would be consistent with site zoning and land use designation and would not conflict with any applicable habitat conservation plans or natural community conservation plans.

3.11 MINERAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. Mineral Resources. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

According to the California Department of Conservation Division of Mines and Geology (DMG), the project site is located in an area designated as a Mineral Resource Zone 4 (MRZ-4). Areas zoned as MRZ-4 are defined as areas of unknown mineral resource significance (DMG 1995). In Placer County, most of the mineral resources are found either as clay and gravel in areas on the flat valley floor, or further up in the mountainous areas of the county north and east of Auburn, where there are large pockets of quartz, chromite, and stone. In the foothill areas, mineral resources are only found in limited locations, three areas with dimension stone within approximately five miles of the project site, and two areas with decomposed granite mineral resources between Loomis and Auburn. There are currently no mineral resource recovery efforts or plans located within the immediate vicinity of the project site.

DISCUSSION

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?

The project site is not located in an area with known mineral resources, so implementation of the project would not result in the loss of availability of mineral resources. There is **no impact**.

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?

There are no locally important mineral resource recovery sites or plans to recover any minerals within the immediate vicinity of the project site. In addition, the proposed project does not include components that would interfere with any such efforts or plans, if they did exist. There is **no impact**.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. Development of the project site with single-family residences would result in no impact to mineral resources because the project site is not in an area of known mineral resources and there are no locally important mineral recovery sites or plans within the immediate vicinity of the project site.

3.12 NOISE

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

ENVIRONMENTAL SETTING

Existing Noise Sources and Sensitive Receptors

The nearest sensitive receptors to the project site include residences located approximately 200 feet to the south of the proposed development, a single-family residential home located 350 feet northwest of the proposed development, and a single-family residential neighborhood located 600 feet to the west of the proposed priory. The noise environment in the project vicinity is dominated by surface transportation noise, emanating from vehicular traffic on Rocklin Road and Barton Road. Intermittent noise from outdoor activities at the surrounding residences (e.g., people talking, operation of landscaping equipment, car doors slamming, and dogs barking), although minor, also influences the noise environment.

Ambient noise monitoring was conducted at three separate locations within the limits of the project site to characterize the existing noise environment. The results of these measurements are shown in Table 3.12-1. Noise measurements were taken using a Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meter. The meter was calibrated prior to measurements using an LDL Model CA200 acoustical calibrator. The

equipment used to conduct the on-site noise measurements meets American National Standards Institute (ANSI) standards for Type 1 sound level meters (ANSI S1.4) (Bollard 2011).

Table 3.12-1
Summary of Ambient Noise Measurements

Location	Daytime		Nighttime		L_{dn}
	L_{eq}	L_{max}	L_{eq}	L_{max}	
Western Property Line, adjacent to single family neighborhood	49	62	49	60	56
Northern Property Line, along Rocklin Road	61	79	52	68	61
Southeastern Property Line, along Barton Road	50	69	46	59	53

Notes:
L_{eq} = average noise level over a given period; L_{max} = highest measured noise level; L_{dn} = Day-Night Noise Level; dBA = A-weighted decibels
Source: Bollard Acoustical Consultants, Inc, 2011

As noted above, local roadway traffic currently contributes and will continue to contribute to the background noise levels at the project site and in the vicinity. Existing roadway traffic volumes were measured along local roadways by KD Anderson & Associates in 2010. Based on the data provided and using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model (FHWA-RD-77-108), existing daily roadway noise levels were identified, as shown in Table 3.12-2. The FHWA model is based on California Vehicle Noise Reference Energy Mean Emission Levels for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receptor, and ground attenuation factors. Table 3.12-1 presents the modeled day-night noise levels (L_{dn}), based on existing average daily traffic volumes at 100 feet from centerline of the roadway, and distances to the 60, 65, and 70 L_{dn} noise contours.

Table 3.12-2
Summary of Modeled Existing Traffic Noise Levels

Roadway	Noise Level at 100 Feet (dBA L_{dn})	70-dBA L_{dn} Contour (feet)	65-dBA L_{dn} Contour (feet)	60-dBA L_{dn} Contour (feet)
Barton Road, between Rocklin Road and the proposed driveway of the site	61	24	52	113
Rocklin Road, west of Barton Road	61	25	53	115
Wells Avenue, between Barton Road and Laird Road	57	13	28	61

Notes:
L_{dn} = Day-Night Noise Level; dBA = A-weighted decibels
Source: Bollard Acoustical Consultants, Inc, 2011

Existing Noise Standards

The Town of Loomis General Plan establishes separate standards for transportation and non-transportation noise sources. With respect to transportation noise sources, the Town's Noise Element states that residential land uses are considered compatible where exterior noise levels do not exceed 65 dBA L_{dn}. In instances where noise levels

range between 65 and 70 dBA L_{dn}, residential uses should be permitted only upon a study and inclusion of potential noise attenuating features. The interior noise standard for residential structures is 45 dBA L_{dn}.

The Town also takes into account non-transportation noise sources that are not adequate accounted for by 24-hour weighted standards. As a result, the Town has also established standards for short duration events near residential areas, as shown in Table 3.12-3.

Table 3.12-3
Noise Standards for Short Duration Events Near Residential Areas

Noise Level Descriptor	Noise Standards	
	Daytime Hours (7 a.m. to 10 p.m.)	Nighttime Hours (10 p.m. to 7 a.m.)
Hourly, L_{eq}	50	40
Maximum, L_{max} [1]	70	60

Notes: dBA = A-weighted decibels; $L_{eq}(h)$ = hourly equivalent noise level; L_{max} = maximum noise level
[1] Up to one-minute duration
Sources: Bollard Acoustical Consultants, Inc, 2011; Town of Loomis General Plan, 2001

In addition, Section 13.30.070 of the Town's Municipal Code establishes limitations on the hours of construction that can occur during development of a particular site. In general, construction activities are permitted Monday through Friday between the hours of 7 a.m. and 7 p.m. and on Saturdays between 8:00 a.m. and 7:00 p.m. Construction on Sundays and holidays are not permitted unless special approval is granted by Loomis and even then shall only take place between the hours of 9 a.m. and 5 p.m. The Town of Loomis has established these limitations to insure that nearby residents, as well as nonresidential activities, are not disturbed.

THRESHOLDS OF SIGNIFICANCE

Under CEQA, a significant noise impact is determined by whether or not a project would substantially increase ambient noise levels in the vicinity of a project. In community noise assessments, the impact is "generally not significant" if no noise-sensitive sites are located within the project vicinity, or if increases in community noise levels associated with project implementation would not exceed 3 dB at noise-sensitive locations in the project vicinity (California Department of Transportation 2009).

A limitation in using a single value to evaluate an impact related to a noise-level increase would be the failure to account for the existing ambient noise environment to which a person has become accustomed. Studies assessing the percentage of people highly annoyed by changes in ambient noise levels indicate that when ambient noise levels are low, a greater change is needed to cause a response. As ambient noise levels increase, a lesser change in noise levels is required to elicit substantial annoyance. The significance criteria listed in Table 3.12-4, "Significant Change in Ambient Noise Levels," are considered to correlate well with human response to changes in ambient noise levels and assess degradation of the ambient community noise environment.

Table 3.12-4 Significant Change in Ambient Noise Levels	
Existing Ambient Noise Level, L_{dn}	Significant Increase
< 60 dB	5 dB or greater
60–65 dB	3 dB or greater
> 65 dB	1.5 dB or greater
Note: CNEL = community noise equivalent level; dB = decibels; L_{dn} = day-night average noise level Sources: Adapted by AECOM in 2009 from Federal Interagency Committee on Noise. 1992 (August). *Federal Agency Review of Selected Airport Noise Analysis Issues*. Washington, DC. Page 3-5.	

DISCUSSION

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

Construction

Construction of the proposed project would involve the use of certain heavy pieces of construction equipment, such as backhoes, bulldozers, and pneumatic tools. Haul trucks used to transport materials to and from the site would also generate noise during construction. Based on the type of equipment anticipated, construction noise levels at the nearest receptor would average approximately 67.6 dBA L_{eq}, taking into account equipment, usage factors, where the proposed facilities would be located on-site, and ground type. Construction activities would be temporary and would cease upon completion of the priory facility. Furthermore, construction activities would adhere to the requirements of Municipal Code Section 13.30.070, which permits construction activities between the hours of 7 a.m. and 7 p.m. Monday through Friday and between 8 a.m. and 7 p.m. on Saturdays, to ensure that local receptors are not adversely affected by construction noise. As a result, impacts would be **less than significant**. No mitigation is required.

Operation

Operation of the proposed project would generate additional vehicle trips and involve the use of a bell tower and playfield, all of which could generate additional noise that could be perceived by nearby receptors. With respect to vehicle-related noise, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The FHWA model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. Average daily traffic volumes were provided by KD Anderson & Associates, Inc., for existing and future, project and no-project conditions. To determine the relative differences between project and no-project conditions, the predicted traffic noise levels at a standardized distance of 100 feet from each roadway centerline were evaluated, as shown in Table 3.12-5. As shown in this table, the proposed project would not measurably increase roadway noise levels, although it would add up to 97 daily vehicle trips. Projected roadway noise levels would also not exceed the compatibility standards established for residential uses in proximity to transportation-related noise sources.

Table 3.12-5
Summary of Modeled Traffic Noise Levels

Roadway	Noise Level at 100 Feet (dBA L_{dn})							
	Existing	Existing + Project	Increase	Significant?	Cumulative	Cumulative + Project	Increase	Significant?
Barton Road, between Rocklin Road and the proposed driveway of the site	61	61	0	No	64	64	0	No
Rocklin Road, west of Barton Road	61	61	0	No	65	65	0	No
Wells Avenue, between Barton Road and Laird Road	57	57	0	No	58	58	0	No

Notes: L_{dn} = Day-Night Noise Level; dBA = A-weighted decibels
Source: Bollard Acoustical Consultants, Inc, 2011

During operation of the proposed priory, periodic use of the proposed outdoor playing field would occur during daytime hours. Based on the type and location of the proposed outdoor playing field, noise levels, as a result of operation of the aforementioned facilities would be below 40 dBA L_{eq} and 55 dBA L_{max} at the nearest existing residences (Bollard 2011). It should be noted that the predicted noise levels are measured from the focal point of the playfield to the nearest property line. As a result, the projected noise levels from playfield activities would not exceed the noise compatibility standards established in the Town of Loomis General Plan.

With respect to the proposed bell tower, the bell tower would operate during the daytime and would periodically provide a recorded chime played through speakers located in the bell tower. Noise level measurements were conducted by Bollard Acoustical Consultants, Inc. at a similar facility (Saints Peter and Paul Catholic Church) in Rocklin, California at a distance of 100 feet from the bell tower speakers. Noise levels at the similar facility ranged from 65-70 dBA L_{max}. If similar volume settings are used at the project site for the proposed bell tower, maximum noise levels at the nearest receptor would be approximately 47-55 dBA L_{max}. Typically, noise such as bell chimes would be subject to a 70 dBA L_{max} standard established by the Town of Loomis for noise occurring for less than 1 minute per hour over the daytime period (7 a.m. to 10 p.m.). However, due to the tonal nature of the proposed bell tower chimes, this threshold has been lowered by 5 dBA to account for additional sensitivities related to perception of tonal sound. Nonetheless, the proposed bell tower chimes would be well below 65 dBA L_{max}.

Implementation of the mitigation measure below would ensure that noise associated with the proposed project would not exceed the standards established in the Town of Loomis General Plan and Municipal Code, and impacts would be **less than significant**.

Mitigation Measure NOISE- 1: Ensure that Bell Tower Chime Sound Levels do not Exceed 65 dBA L_{max} Along any Project Boundary

The proposed bell tower chime system amplifier, once operational, shall be set and tested such that chime sound levels do not exceed 65 dBA L_{max} along any project boundary.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

The proposed project would not involve the use of any equipment or processes that would generate potentially high levels of ground vibration, such as impact pile drivers or blasting. Construction operations associated with the proposed project would be anticipated to include backhoes, loaders, excavators, and trucks. Pile operations proposed for the construction of the boardwalk would use cast-in-drill-hole piles, which do not generate high levels of groundborne vibration as associated with impact piles. During operation, activities at the project site would be similar to those of a residential neighborhood. No substantial vibration generating activities would occur at the project site that could be reasonably perceived by on-site or off-site residents. As a result, the proposed project would be **less than significant** with respect to the exposure or generation of excessive ground-borne noise or vibration levels. No mitigation is required.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

As noted above under 3.12.3 a), the proposed project would increase roadway volumes in the project area by approximately 97 daily vehicle trips. Per Table 3.12-5, the addition of project-related traffic would not substantially increase existing or future roadway noise levels beyond conditions existing without the proposed project. Therefore, the proposed project would not result in a substantial permanent increase in ambient noise levels, and impacts would be **less than significant**. No mitigation is required.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction

As noted above under 3.12.3 a), the proposed project could increase ambient noise levels in the vicinity of the project site during construction activities. Noise levels would be approximately 67.6 dBA L_{eq} at the nearest receptor. However, construction activities would be limited to the daytime hours in accordance with the Town of Loomis Municipal Code requirements, as established in Section 13.30.070, to prevent disturbances to adjacent receptors, and would cease upon completion of the proposed priory. The town, through its limitations on construction noise, recognizes noise as an environmental pollutant that must be managed and mitigated through the planning and development process, and the requirements of the Municipal Code are intended to maintain noise levels through all practicable means to promote community health. Therefore, the temporary increases in construction noise would not be considered substantial. Furthermore, the following mitigation measure would be implemented to insure that adjacent receptors are not subjected to excessive construction noise. With implementation of Mitigation Measure 3.12-2, potential temporary increases in ambient noise levels as a result of construction activities would be **less than significant**.

Mitigation Measure NOISE-2: Notify Adjacent Property Owners of Construction Activity and Manage and Respond to Noise Complaints

Notice of construction scheduling and activities shall be provided to the adjacent property owners. A designated contact person shall be provided by the applicant and made available to manage and respond to noise complaints from nearby sensitive receptors. In the event that a noise complaint is received, the contact person shall coordinate

additional noise attenuating features, as needed and where appropriate, such as erecting additional temporary noise barriers at either the source or the receptor.

Operation

Based on the measured ambient noise levels at the project site, existing noise levels at the project site range from 49-61 dBA L_{eq} during daytime hours and 53-61 dBA L_{dn}. As noted above under 3.12.3 a), playfield activities and the bell tower would not generate noise levels that would exceed 55 dBA L_{max}. Therefore, the projected temporary and periodic noises associated with the proposed project would be consistent with existing noise levels at the project site and would not be expected to result in a substantial increase in ambient noise levels. Impacts would be **less than significant**. No mitigation is required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project site is not located within an airport land use plan or within two miles of a public or public use airport. Thus, the proposed project would not result in the exposure of people residing or working in the project area to excessive airport noise levels. As a result, **no impact** would occur with respect to airport noise.

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?

The project site is not located within two miles of a private airstrip. Thus, the proposed project would not result in the exposure of people residing or working in the project area to excessive noise levels because of aircraft activity at private airports. As a result, the proposed project would have **no impact** with respect to airport noise.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative, the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. Construction activities associated with these residences could occur at a shorter distance between the edge of construction and adjacent existing receptors. As a result, impacts related to construction noise could be greater than that of the proposed project. However, with respect to operational noise, lesser vehicle trips would result in lesser road noise, and in addition, there would be no noise associated with operation of a bell tower under this alternative. Therefore, operational noise impacts would be less than that of the proposed project under this alternative.

3.13 POPULATION AND HOUSING

ENVIRONMENTAL ISSUES	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 (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

ENVIRONMENTAL SETTING

The 40.07-acre project site is located on the southwest corner of Rocklin Road and Barton Road in the Town of Loomis, in Placer County, California. The project site is largely undeveloped grassland and oak woodland. The project site is bounded on the north by Rocklin Road, one single-family residence, a Placer County Water Agency water tank, and the Shepherd of the Sierra Presbyterian Church; on the east by Barton Road and the Sierra de Montserrat residential subdivision; and on the south and west by St. Francis Woods with 4.6-acre minimum home sites to the south and 1-acre minimum home sites to the west.

The project site is within the Residential Agricultural (RA) zoning and is designated by the Town of Loomis General Plan as Residential Agricultural. Zoning and land use designations surrounding the project site is Residential Estate to the north, Rural Residential to the west, and Residential Agricultural to the south and east.

DISCUSSION

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The project site is within a developed area of the Town of Loomis and was previously developed with two single-family homes and a strawberry field. The proposed project would house 75 to 80 permanent residents and allow for up to 35 visitors. While the proposed project would increase population, the addition of 75 to 80 Sisters would be a very small increase relative to the 2010 Town of Loomis population of 6,430 (U.S. Census Bureau 2010).

Construction of the proposed project would create temporary employment opportunities. These opportunities would likely be fulfilled by local construction workers, making it unlikely that construction of the proposed project would induce construction workers to relocate to the project area. During operation, the proposed project may require periodic handyman-type services, which would likely be met by local workers.

The proposed project would not include extension of roadways or new infrastructure which could indirectly induce population growth in the area.

Because the proposed project would not substantially increase population, either directly or indirectly, this would be a **less than significant** impact.

b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?

The proposed project would involve construction and operation of a Priory on land which currently includes two single-family residences. Both structures would remain on the project site, though the manufactured home may be removed at some later date. Possible removal of this single manufactured home would not necessitate the construction of replacement housing elsewhere as the Sisters currently occupying the manufactured home would relocate to the Priory building upon its completion. Therefore, the proposed project would result in a **less than significant** impact.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

As discussed in b) above, the manufactured home on the project site could be removed in the future. However, removal would not displace a substantial number of people as the few people currently residing in the manufactured home would relocate to the Priory building upon its completion. Therefore, construction of replacement housing would not be required and this would be a **less than significant** impact.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. If the project site were to be developed with single-family residences, these residences would add fewer new residents to the Town of Loomis than would the proposed project. Development of eight single-family residences could require the demolition of the on-site single-family residence and removal of the manufactured home. Removal of these two residences would not result in a substantial number of persons displaced or a corresponding need for building new structures elsewhere.

3.14 PUBLIC SERVICES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. Public Services. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

ENVIRONMENTAL SETTING

The Loomis Fire Protection District would provide fire protection services to the project site. Station 28 is the closest fire station and is located at 5840 Horseshoe Bar Road, approximately 2.6 miles north of the project site.

Law enforcement services would be provided to the project site by the Placer County Sheriff's Department South Placer Substation. The substation is located at 6140 Horseshoe Bar Road, approximately 2.5 miles north of the project site.

Franklin Elementary School is located at 7050 Franklin School Road, approximately 1.8 miles northeast of the project site, and serves students in grades K–8. Del Oro High School is located at 3301 Taylor Road, approximately 3.7 miles north of the project site, and serves grades 9–12.

The public park nearest the project site is the Franklin School Community Park, which is located at 7050 Franklin School Road, approximately 1.8 miles northeast of the project site. The Franklin School Community Park is managed by the Placer County Parks and Grounds Division.

DISCUSSION

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:

Fire protection?

The Loomis Fire Protection District would provide fire protection services to the project site. First-response service would be provided by Station 28, which is located approximately 2.6 miles north of the project site. Project designs would include fire suppression and safety equipment. Two fire department access gates and a 20-foot-wide looping fire road would provide fire department access to all portions of the project site (Exhibit 2-3). On-site fire hydrants would provide adequate water flow for fire suppression and an automatic fire sprinkler system would be installed in the priory. Therefore, no new fire protection facilities and services would be required to serve the proposed project, but the proposed project would be required to pay all applicable impact fees. This impact would be considered **less than significant**.

Police protection?

Police protection services would be provided by the Placer County Sheriff's Department South Placer Substation, which is located approximately 2.5 miles north of the project site. Response time by the Sheriff's Department is approximately 5 minutes (Lopez, pers. comm., 2011). Because of its small size relative to the entire service area, the proposed project would not likely cause the response time to lengthen. The proposed project would include on-site security measures to ensure the safety of the Sisters residing in the priory. The entrance to the priory would include a recessed security gate at the entrance on Barton Road and the perimeter of project site would be fenced along Barton Road and Rocklin Road. In addition, security lightning would provided in parking areas. Therefore, no new police protection facilities and services would be required to serve the proposed project, but the proposed project would be required to pay all applicable impact fees. This impact would be considered **less than significant**.

Schools?

The proposed project would not generate new elementary school (K–8) or high school students (9–12), but would be required to pay all applicable impact fees. Therefore, there would be **no impact**.

Parks?

No parks are proposed as part of the project; however, the proposed project would include an outdoor playing field (Exhibit 2-3). This facility would be adequate to meet the recreational needs of the Sisters residing in the priory and no new parks would be required to serve the proposed project, but the proposed project would be required to pay all applicable impact fees. Therefore, there would be **no impact**.

Other public facilities?

The proposed project would not generate any new demand for other public facilities beyond those currently provided. Therefore, there would be **no impact**.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. If the project site were to be developed with eight single-family residences, these residences would add fewer new residents to the Town of Loomis than would the proposed project. Consequently, the Residential Alternative would likely generate less demand for public services such as fire and police protection. However, unlike the proposed project, the Residential Alternative could generate new elementary or high school students, but it is unlikely that these new students would require the construction of new schools or result in significant impacts on existing schools. Similarly the Residential Alternative could generate new park users, but it is unlikely that the minor increase in users would require the construction of new park facilities.

3.15 RECREATION

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

ENVIRONMENTAL SETTING

The existing public park nearest the project site is the Franklin School Community Park, which is located at 7050 Franklin School Road, approximately 1.8 miles northeast of the project site. The park consists of a multiuse synthetic turf soccer/baseball field and is managed by the Placer County Parks and Grounds Division.

DISCUSSION

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The proposed project would include construction of an indoor gymnasium and outdoor playing field (Exhibit 2-3). These facilities would be adequate to serve the recreational needs of the Sisters residing in the priory; therefore, the proposed project would not 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. This impact would be considered **less than significant**.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The proposed project includes an indoor gymnasium and an outdoor playing field and does not require or propose the construction or expansion of existing recreational facilities for the reasons discussed in a) above. The adverse physical effects from development of these facilities are addressed throughout this IS/MND in connection with discussions of the impacts of overall site development. Therefore, this impact would be considered **less than significant**.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative, the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. Unlike the proposed project, which would include an

indoor gymnasium and an outdoor playing field and would not require the construction or expansion of existing recreational facilities, the Residential Alternative could generate new park users. Nonetheless, it is unlikely that the minor increase in users would require the construction of new park facilities. Impacts under the Residential Alternative would likely remain less than significant.

3.16 TRANSPORTATION/TRAFFIC

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

ENVIRONMENTAL SETTING

The proposed project site is located in the southern area of the Town of Loomis on the southwest corner of Rocklin Road and Barton Road. The project site is located approximately one-half mile east of Sierra College Boulevard and one mile southeast of Interstate 80. The following discussion and analysis is based on the traffic impact analysis prepared for the proposed project by KD Anderson & Associates, Inc. (KD Anderson & Associates 2010), which is included as Appendix C of this IS/MND.

Barton Road is an important collector street that extends south from the Town of Loomis into the Granite Bay community of Placer County. Barton Road originates at an intersection on Brace Road south of the Interstate 80 / Horseshoe Bar Road interchange and continues south through an intersection on Rocklin Road to the project site. Barton Road then extends south across Douglas Boulevard before ending near the Sacramento County line.

Barton Road is a two lane road in the area of the project. This portion of Barton Road was recently reconstructed and is in good condition. Barton Road follows the generally rolling terrain of the Loomis basin, and there is a horizontal curve in the road immediately south of the Wells Avenue intersection. The width of pavement on Barton Road varies along its length, but in the area of the project the road is 32 feet wide. The road is striped to create shoulders to help accommodate bicycles, but there are no sidewalks on this rural road. The speed limit on Barton Road is posted at 40 mph.

New daily traffic counts conducted for this study during the fall of 2010 indicated that Barton Road carried an *Average Daily Traffic (ADT)* volume of 5,920 ADT between the Rocklin Road and Wells Avenue intersections. These volumes are representative of conditions occurring when Sierra College and other area schools are in session.

Rocklin Road is a major east-west arterial street that links the Town of Loomis with Interstate 80 in the city of Rocklin. Rocklin Road originates near the UPRR tracks in Rocklin and extends across Interstate 80 through the Sierra College Boulevard intersection and into Loomis where the road terminates at Barton Road. Rocklin Road provides access to Sierra College. The width of Rocklin Road varies, as the portion of Rocklin Road west of the Sierra College Boulevard intersection is a four lane arterial with a center median and access controlled by signalized intersections. While Rocklin Road is planned to eventually be a four lane road east of Sierra College Boulevard to Barton Road, today the road is a two lane facility. The south side of the road in Rocklin has been widened to its ultimate 4 lane width. The portion of Rocklin Road within the Town of Loomis is a rolling two lane rural road lacking sidewalks and bicycle lanes. The speed limit on Rocklin Road is posted at 35 mph within the Town of Loomis. Traffic counts conducted for this study identified the current traffic volume on Rocklin Road just west of Barton Road. In September 2010 the road carried 6,100 ADT west of Barton Road.

Sierra College Boulevard is a major arterial street that links Loomis with the City of Lincoln to the north and with Interstate 80 and the City of Rocklin to the south. Today, Sierra College Boulevard ranges from a 2 lane rural highway to a 6 lane urban street. Sierra College Boulevard has one travel lane in each direction in the area from Rocklin Road to Interstate 80 and from Granite Drive to its northern terminus at SR 193. Sierra College Boulevard has been widened in the area south of Rocklin Road, and an ongoing construction project is widening the road to 4 lanes south of Interstate 80. New traffic counts made on Sierra College Boulevard made by the City of Rocklin in the summer of 2010 indicated that the road carried a weekday volume of 17,740 ADT south of Rocklin Road and 15,560 ADT between Rocklin Road and I-80.

Wells Avenue is an east-west collector street that extends east from Barton Road from part of the circuitous system of Town and County roads that link Intestate 80 with Auburn-Folsom Road. Wells Avenue originates at an intersection on Barton Road near the project site and continues east across Laird Road before terminating at an intersection with Val Verde Road. Wells Avenue is a two lane rural road that follows rolling terrain. The road is in fair condition but lacks paved shoulders, room for bicycles or sidewalks. The posted speed limit on Wells Avenue is 40 mph. Traffic counts made just east of Barton Road in September 2010 indicated that Wells Avenue carried 2,350 ADT on a weekday.

The Rocklin Road / Barton Road intersection is controlled by all-way stop signs. The geometric configuration of the intersection includes a separate northbound left turn lane on Barton Road, but the other two approaches are single lanes. The intersection was recently reconstructed and has the width to accommodate large trucks.

The Wells Avenue / Barton Road intersection is controlled by a stop sign on the westbound Wells Avenue approach. There are no auxiliary turn lanes at the intersection. Sight distance looking south from the Wells Avenue approach is limited by the horizontal alignment of Barton Road south of the intersection, but adequate sight distance is available looking across the corner of the intersection.

DISCUSSION

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?

The Town of Loomis strives to maintain level of service (LOS) C at intersections under its jurisdiction, with the exception of the Taylor Road / King Road intersection near Del Oro High School where LOS D is accepted in the morning peak hour. The Loomis General Plan also contains LOS thresholds based on the volume of traffic on individual roadway segments. Levels of Service and v/c ratio for roadway segments were calculated using the capacity thresholds identified in the Loomis General Plan. Measured in terms of the volume / capacity ratio (v/c), unsatisfactory conditions occur when the v/c ratio exceeds 0.80.

The traffic impact analysis prepared for the proposed project specifically examined the following roadway segments: Barton Road (between Rocklin Road and Wells Avenue); Rocklin Road (Rocklin city limit to Barton Road); and, Wells Avenue (from Barton Road to Laird Road). The current LOS for these roadway segments is LOS A (see Table 1 on page 8 of Appendix C). The v/c ratios for the three segments are 0.40, 0.41, and 0.16, respectively (see Table 1 on page 8 of Appendix C).

The amount of vehicular traffic associated with development proposals is typically estimated using nationally published trip generation rates. In this case, however, priories are unusual uses that are not included in the Institute of Transportation Engineers (ITE) standard reference. Therefore, manual traffic counts were conducted at the Motherhouse in Ann Arbor which is similar in size and capacity to the proposed priory. The Ann Arbor facility was determined to generate 70 trips on an average weekday (35 inbound and 35 outbound), with lower estimates for traffic occurring on Saturday and Sunday. However, relatively little trip generation was observed during the weekday commute hours.

One additional factor has been considered in estimating trip generation. Because the Ann Arbor Motherhouse counts were made in August, trips by sisters to teaching assignment at area schools are excluded. At the proposed project site, approximately 24 Sisters may eventually have teaching assignments at Catholic schools. In the morning these Sisters will generate 5 outbound trips, with 5 inbound trips generated in the p.m. peak hour. Adding school traffic, the project could generate 97 daily trips with 12 trips in the a.m. peak hour and 6 trips occurring in the p.m. peak hour. Table 3.16-1 below identifies traffic volumes and levels of service under existing conditions and existing plus project conditions.

As shown in Table 3.16-1, under existing plus project conditions, roadways in the vicinity of the project site would continue to operate at LOS A.

Table 3.16-1
Existing Plus Project Daily Traffic Volumes and Levels of Service

Roadway	Segment	Number of Lanes	Existing			Existing Plus Project			
			Average Daily Traffic	V/C	LOS	Average Daily Traffic		V/C	LOS
						Project Only	Total		
Barton Road	Rocklin Road to Access	2	5,920	0.40	A	80	6,000	0.40	A
	Access to Wells Avenue	2				15	5,935	0.40	A
Rocklin Road	West of Barton Road	2	6,100	0.41	A	75	6,175	0.41	A
Wells Avenue	Barton Rd to Laird Road	2	2,350	0.16	A	5	2,355	0.16	A

Source: KD Anderson & Associates, Inc., 2010.

The Town of Loomis recently adopted a Bicycle Master Plan which outlines the Town's future intentions. The Master Plan indicates that bicycles and automobiles will continue to share Rocklin Road, Barton Road and Wells Avenue (i.e., Class II designation). The project applicant would be required to either construct or pay its fair share towards improvements identified in the Bicycle Master Plan along the portions of Barton Road and Rocklin road that correspond with the project site.

As discussed above, roadways in the project area currently operate to LOS A. Project construction would generate additional temporary traffic in the project area due to construction employee vehicles and construction equipment. Given the size of the proposed project, this additional traffic would be minor, especially when considered relative to existing traffic volumes and capacity. As the majority of construction activities would take place within the project site, it is unlikely that construction-related activities and traffic would interfere with bicycle or pedestrian movement in the project area.

Due to the temporary nature of construction-related traffic, available roadway capacity to accommodate project traffic without deterioration in the level of service, payment of all applicable traffic impact fees required by the Town, construction of or fair share contribution to improvements identified in the Bicycle Master Plan, traffic related to the construction and operation of the proposed project would not result in considerable changes in the performance of the circulation system. Therefore, this impact would be **less than significant**.

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?

Placer County Transportation Planning Agency (PCTPA) was designated as the congestion management agency (CMA) for Placer County in 1991 (PCTPA 2010:2-7). While PCTPA does not have a congestion management program, PCTPA maintains this effort through provisions for alternative transportation outreach designed to encourage trip reduction in those who live and work in Placer County (PCTPA 2010:2-7). Caltrans implements the Interstate 80 Corridor System Management Plan for Interstate 80 as far east as Sierra College Boulevard (Caltrans 2008). The intersection of Interstate 80 and Sierra College Boulevard is approximately one mile northwest of the project site. Given the distance of the project site from Interstate 80 and the relatively small amount of traffic expected to be generated during construction and operation of the proposed project, the

proposed project would be expected to result in a **less than significant** impact related to any congestion management programs.

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?

The project site is located approximately 11.25 miles southeast of the nearest runway at the Lincoln Regional Airport. The proposed project would not change or increase existing air traffic patterns, or result in any safety risks associated with air traffic. Therefore, would be **no impact**.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The proposed project would not result in incompatible uses. The proposed project would include construction of an access point along Barton Road, approximately 400 feet south of the intersection of Barton Road and Rocklin Road (see Exhibit 2-3). This driveway would be required to comply with all applicable Town of Loomis requirements, including minimum sight distance. Because the proposed project would not include any hazardous design features and would not introduce any incompatible uses, impacts related to increased hazardous would be **less than significant**.

e) Result in inadequate emergency access?

As shown in Exhibit 2-3, the project site would be accessible through one driveway along Barton Road and would include a 20-foot wide fire access road around the entire priory building. Construction activities on the project site would be expected to be completely within the project site. Because the site design features fire access roads and project construction would not be expected to impede traffic along Barton Road, the proposed project would result in **less than significant** impacts related to emergency access.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The Town of Loomis recently adopted a Bicycle Master Plan which outlines the Town's future intentions. The Master Plan indicates that bicycles and automobiles will continue to share Rocklin Road, Barton Road and Wells Avenue (i.e., Class II designation). The project applicant would be required to either construct or pay its fair share towards improvements identified in the Bicycle Master Plan along the portions of Barton Road and Rocklin road that correspond with the project site. Therefore, the proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. This impact would be **less than significant**.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. According to the Traffic Impact Assessment prepared for the project, at typical trip generation rates, these residences could generate 77 daily trips, with 6 trips in the a.m. peak hour and 8 trip ends in the p.m. peak hour. The proposed project could generate 97 daily trips with 12 trips in the a.m. peak hour and 6 trips occurring in the p.m. peak hour. Consequently, the Residential Alternative would be expected to generate 20 fewer daily trips. The Residential Alternative would generate 6 more trips in the a.m.

peak hour than the proposed project and 2 more trips in the p.m. peak hour than the proposed project. Taken as a whole, the Residential Alternative would have lesser traffic impacts that the proposed project, but roadways in the project vicinity would continue to operate at acceptable service levels under either development scenario.

3.17 UTILITIES AND SERVICE SYSTEMS

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

ENVIRONMENTAL SETTING

The Placer County Water Agency (PCWA) provides domestic water service to the project site through connection to an existing 6-inch water main located in Rocklin Road. To meet water supply demands within its service area, the PCWA primary uses surface water from the Middle Fork Project water from the American River, water purchased from Pacific Gas & Electric Company from the Yuba and Bear Rivers, and Central Valley Project water from the American River (PCWA 2011:3-1). PCWA also uses a limited amount of surface water from small creeks under pre-1914-water rights. The total available water supply available to the PCWA is currently 223,800 acre-feet per year (PCWA 2011:3-14).

The project site is presently not served by any municipal wastewater collection and treatment systems. Sanitary-sewer service for the project site would be provided by the South Placer Municipal Utility District (SPMUD) through a connection to an existing 6-inch stub located at the intersection of Barton Road and Wells Road (Moore 2011). The SPMUD owns, operates, and maintains a wastewater collection system that includes over 247 miles of pipe with over 5,000 manholes and 10 pump stations (SPMUD 2008). Wastewater is transported via two major

pipelines to the City of Roseville's Pleasant Grove and Dry Creek Wastewater Treatment Plants (WWTPs) for treatment and disposal. Wastewater from the proposed project would be conveyed to the Dry Creek WWTP (Moore 2011).

Solid waste generated by the proposed project would be transported to and disposed of at the Western Regional Sanitary Landfill, which is operated by the Western Placer Waste Management Authority (WPWMA). The landfill has a total capacity of 36 million cubic yards, and a remaining capacity of 29 million cubic yards. Currently, the landfill has a closure date of 2036. (California Integrated Waste Management Board 2011.)

To meet the California Integrated Waste Management Act (i.e., Assembly Bill 939) requirements, the WPWMA's Western Placer Material Recovery Facility recovers recyclable materials such as glass, metals, paper, plastics, wood waste and other compostable materials. Locally, the Town implements a curbside recycling program for collection of recyclable household solid waste and green waste.

DISCUSSION

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The proposed project would contribute only household-type wastewater to the Dry Creek WWTP; therefore, the proposed project would not generate wastewater that would exceed the treatment requirements of the Dry Creek WWTP as established by the Central Valley RWQCB. This impact would be considered **less than significant**.

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?

Water and wastewater services for the proposed project would be provided by the PCWA and SPMUD, respectively. New water and wastewater infrastructure would be installed on-site to connect to existing 6-inch PCWA and SPMUD pipelines in Rocklin Road. The adverse physical effects from construction of on-site water and wastewater infrastructure are addressed throughout this IS/MND in connection with discussions of the impacts of overall site development.

However, on-site water and wastewater infrastructure has not yet been designed, nor have final design plans and specifications been submitted for proposed project and off-site water supply and wastewater infrastructure capacity to serve the proposed project has not been verified by PCWA or SPMUD; therefore, the adequacy of the water and wastewater systems cannot be determined. This impact would be considered **potentially significant**.

Mitigation Measure UTILITIES-1: Prepare Sewer Study Showing Adequacy of On-Site and Off-Site SPMUD Wastewater Collection and Conveyance Infrastructure.

Before a building permit is issued, the project applicant shall prepare a detailed sewer study that identifies wastewater flows generated by the proposed project and the proposed design of on-site wastewater collection and conveyance infrastructure. Proposed on-site wastewater infrastructure shall be sized to accommodate planned wastewater flows, based on SPMUD design and construction standards identified in the *SPMUD Standard*

Specifications and Improvement Standards for Sanitary Sewers (2009) and the *SPMUD Sewer System Management Plan* (2009) or the most current versions of these plans.

Wastewater infrastructure improvement plans and specifications shall be submitted to SPMUD for review and approval. Approved wastewater infrastructure improvement plans and specifications shall be signed by SPMUD. The project applicant shall pay all connection and capacity fees pursuant to SPMUD Sewer Use Ordinance 09-02.

The project applicant shall submit written verification to the Town of Loomis Public Works and Engineering Department that wastewater infrastructure improvement plans and specifications have been approved by SPMUD, showing that sufficient wastewater collection and conveyance infrastructure to provide adequate service to the project has been designed before issuance of a building permit.

Mitigation Measure UTILITIES-2: Prepare Water Infrastructure Improvement Plans and Specifications Showing Adequacy of On-Site and Off-Site PCWA Water Infrastructure.

Before a building permit is issued, the project applicant shall prepare a detailed on-site water supply infrastructure improvement plans and specifications. Proposed on-site water infrastructure shall be designed based on PCWA design and construction standards identified in the *PCWA Improvement Standards, Standard Specifications, and Standard Drawings* (2010) or the most current versions of this plan.

Water infrastructure improvement plans and specifications shall be submitted to PCWA for review and approval. Approved water infrastructure improvement plans and specifications shall be signed by SPMUD. The project applicant shall enter a Facilities Agreement with the PCWA after approval of water infrastructure improvement plans and specification and payment of all fees and charges as negotiated with the PCWA.

The project applicant shall submit written verification to the Town of Loomis Public Works and Engineering Department that water infrastructure improvement plans and specifications have been approved by PCWA, showing that sufficient water infrastructure to provide adequate service to the project has been designed before issuance of a building permit.

Implementation of the mitigation measures above would reduce potentially significant impacts associated with increased demand for water and wastewater infrastructure to a **less-than-significant** level because the adequacy of designed on-site water supply and wastewater infrastructure to serve the proposed project and connections to off-site PCWA and SPMUD facilities would be documented before issuance of a building permit.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

As discussed in Section 3.9, based on the preliminary drainage study, it appears that the proposed project would adequately convey stormwater flows. However, final specifications for drainage infrastructure have not been completed, including stormwater flow paths and drainage system based on a finalized project plan and revision of sub-watershed boundaries to reflect project grading and flow paths around the proposed project areas. Mitigation Measure HYDRO-2 in Section 3.9 requires the project applicant to prepare and submit final drainage plans for Town approval prior to any construction-related ground disturbance. The physical effects from construction of new on-site storm water drainage facilities are addressed throughout this IS/MND in connection with discussions

of the impacts of overall site development. Implementation of mitigation measures related to site disturbance in this IS/MND would ensure that impacts related to the development of the new storm water drainage facilities would be **less than significant**.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed

A water supply assessment (WSA) in accordance with section 10910 of the water code is not required for the proposed project. California Water Code Section 10910 requires that a water supply assessment be prepared for projects meeting the criteria set forth in Water Code Section 10912 (see also CEQA Guidelines Section15155[a]). Water Code Section 10912(a) includes residential projects that would include more than 500 dwelling units, hotels that would have more than 500 rooms, or any project that would have water demand equivalent to or greater than the amount required by 500 residential dwelling units. The proposed project does not meet any of the criteria requiring preparation of a WSA. As such, a WSA is not required and has not been prepared.

The proposed project's water supply infrastructure would connect to the 6-inch PCWA main in Rocklin Road. Water demand for the proposed project has not been identified and PCWA has not indicated that its water supply is capable of meeting the proposed project's water demands. This impact would be considered **potentially significant**.

Mitigation Measure UTILITIES-3: Submit Written Certification from PCWA Verifying Water Supply Availability.

Proposed water supplies shall be identified at the time of project approval and before issuance of a building permit to the satisfaction of the Town of Loomis Planning Development Department. PCWA shall demonstrate possession of legal entitlement to the water source and that the water source is available or reasonably foreseeable under normal, dry, and multiple dry years over a 20-year planning horizon for the amount of development proposed by the project. Such demonstration shall consist of written certification from PCWA verifying the availability of a long-term, reliable water supply for the amount of development that would be authorized by the project before approval of a final map and issuance of a building permit from the Town of Loomis Planning Department.

Implementing Mitigation Measure UTILITIES-3 would reduce potentially significant impacts associated with increased demand for water supplies under the proposed project to a **less-than-significant** level because written certification would be provided by PCWA verifying a long-term, reliable water supply is available to serve the proposed project before project approval and before issuance of a building permit.

e) Result in a determination by the wastewater treatment provider that 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?

Collected wastewater flows from the project site would ultimately be transported to the Dry Creek WWTP for treatment and disposal. The ultimate capacity of the treatment plant was based on the amount of growth expected within its service area, which includes the project site. Therefore, the Dry Creek WWTP would have adequate capacity to serve the proposed project. This impact would be considered **less than significant**.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

The proposed project would generate household-types of solid waste that would be transported to and disposed of at the Western Regional Sanitary Landfill. The landfill is anticipated to meet the solid-waste disposal needs of the region through 2036; therefore, this landfill has sufficient permitted capacity to accommodate solid-waste disposal needs of the proposed project. This impact would be considered **less than significant**.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

The proposed project would comply with all federal, state, and local statutes and regulations related to solid waste, including the Town's recycling program. This impact would be considered **less than significant**.

RESIDENTIAL ALTERNATIVE

Under the Residential Alternative the project site could be subdivided into parcels approximately 4.6 acres in size, which would allow for eight single-family residences. If the project site were to be developed with single-family residences, these residences would add fewer new residents to the Town of Loomis than would the proposed project. Consequently, the Residential Alternative generate less demand for water, would generate less wastewater and need for wastewater conveyance and treatment, and would generate less solid waste and need for waste disposal. Under the Residential Alternative, a potentially greater level of site disturbance would be required for the development of on-site utilities infrastructure. Mitigation measures related to site disturbance in this IS/MND would also be required under the Residential Alternative and would ensure that impacts would be less than significant.

3.18 MANDATORY FINDINGS OF SIGNIFICANCE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. Mandatory Findings of Significance.				
a) Does the project have the potential to substantially 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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

DISCUSSION

a) Does the project have the potential to substantially 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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

As evaluated in this IS/MND, the proposed project would not substantially 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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory.

Mitigation measures have been proposed to reduce adverse environmental effects that could occur to water quality, special status plants, special-status reptiles and amphibians, nesting raptors, oak trees, possible wetland habitat, and unknown cultural resources. Implementation of these measures will reduce all significant adverse impacts to a **less-than-significant** level.

b) Does the project 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.)

The IS identifies impacts related to air quality, biological resources, cultural resources, hydrology and water quality, noise, and utilities that could potentially result in cumulatively considerable impacts. However, mitigation measures identified in this initial study would reduce both project specific impacts, and the proposed project's incremental contribution to any potentially significant cumulative impacts would be **less than significant**.

c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The proposed project would develop a Priory to house 75 to 80 permanent residents and 35 visitors. This would result in environmental effects that, without mitigation, could affect human beings. In particular, impacts related air quality, hydrology and water quality, noise, and utilities could cause adverse effects on human beings, either directly or indirectly. Implementation of the mitigation measures proposed herein, however, would reduce these impacts to a **less-than-significant** level.

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Section 3.18, "Mandatory Findings of Significance"

No references cited.

5 REPORT PREPARERS AND REVIEWERS

Town of Loomis (Lead Agency)

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AECOM (IS/MND Preparation)

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Cori Resha ..... Deputy Project Manager, Aesthetics, Agricultural and Forest Resources, Land Use and Planning, Population and Housing, Transportation and Traffic
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Jesse Martinez ..... Cultural Resources
Melinda Rivasplata. ..... Geology and Soils
Jessica Heuer. ..... Hazards and Hazardous Materials
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APPENDIX A

Air Quality, Greenhouse Gas, and Noise Data

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\2010\10110200.01_LoomisPriory\03WRKG_DOCS_REFS\3.1 EEP_Design\Draft_Docs\IS-MND\IS-MND 1\Ad Draft IS-MND\Old\Sections\Old\AQ, GHG, Noise\Modeling Runs\Loomis Priory.urb924

Project Name: Loomis Priory

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (lbs/day unmitigated)	3.47	21.99	18.33	0.01	80.00	1.12	81.08	16.71	1.03	17.70	2,895.03
2012 TOTALS (lbs/day mitigated)	3.47	21.99	18.33	0.01	41.45	1.12	42.53	8.66	1.03	9.65	2,895.03
2013 TOTALS (lbs/day unmitigated)	25.94	15.74	17.38	0.01	0.06	1.18	1.19	0.02	1.08	1.09	2,895.30
2013 TOTALS (lbs/day mitigated)	14.14	15.74	17.38	0.01	0.06	1.18	1.19	0.02	1.08	1.09	2,895.30
2014 TOTALS (lbs/day unmitigated)	25.94	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00
2014 TOTALS (lbs/day mitigated)	9.21	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	6.59	0.89	1.92	0.00	0.01	0.01	1,109.98

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.38	0.73	6.88	0.01	1.44	0.28	852.82

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	7.97	1.62	8.80	0.01	1.45	0.29	1,962.80

Construction Unmitigated Detail Report:

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CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/1/2012-6/29/2012 Active Days: 87	2.71	**21.99**	12.30	0.00	**80.00**	1.07	**81.08**	**16.71**	0.99	**17.70**	2,349.68
Fine Grading 03/01/2012-06/30/2012	2.71	21.99	12.30	0.00	80.00	1.07	81.08	16.71	0.99	17.70	2,349.68
Fine Grading Dust	0.00	0.00	0.00	0.00	80.00	0.00	80.00	16.71	0.00	16.71	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.79	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.36
Time Slice 7/2/2012-7/31/2012 Active Days: 22	1.83	15.28	8.80	0.00	0.00	0.73	0.74	0.00	0.68	0.68	1,817.00
Trenching 07/01/2012-07/31/2012	1.83	15.28	8.80	0.00	0.00	0.73	0.74	0.00	0.68	0.68	1,817.00
Trenching Off Road Diesel	1.80	15.24	8.01	0.00	0.00	0.73	0.73	0.00	0.67	0.67	1,714.64
Trenching Worker Trips	0.02	0.04	0.79	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.36
Time Slice 8/1/2012-12/31/2012 Active Days: 109	3.47	16.89	**18.33**	**0.01**	0.06	1.12	1.18	0.02	1.03	1.05	2,895.03
Building 08/01/2012-08/31/2013	3.47	16.89	18.33	0.01	0.06	1.12	1.18	0.02	1.03	1.05	2,895.03
Building Off Road Diesel	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Vendor Trips	0.13	1.74	1.30	0.00	0.02	0.07	0.08	0.01	0.06	0.07	426.30
Building Worker Trips	0.20	0.34	6.52	0.01	0.04	0.02	0.06	0.01	0.02	0.03	847.54
Time Slice 1/1/2013-8/30/2013 Active Days: 174	3.18	15.74	17.38	**0.01**	0.06	1.01	1.07	0.02	0.93	0.95	**2,895.30**
Building 08/01/2012-08/31/2013	3.18	15.74	17.38	0.01	0.06	1.01	1.07	0.02	0.93	0.95	2,895.30
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.12	1.52	1.20	0.00	0.02	0.06	0.07	0.01	0.05	0.06	426.29
Building Worker Trips	0.18	0.31	5.97	0.01	0.04	0.02	0.06	0.01	0.02	0.03	847.82

Time Slice 9/2/2013-9/30/2013 Active Days: 21	2.61	14.39	10.60	0.00	0.02	**1.18**	1.19	0.01	**1.08**	1.09	1,623.30
Asphalt 09/01/2013-09/30/2013	2.61	14.39	10.60	0.00	0.02	1.18	1.19	0.01	1.08	1.09	1,623.30
Paving Off-Gas	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.19	13.60	8.91	0.00	0.00	1.15	1.15	0.00	1.05	1.05	1,272.04
Paving On Road Diesel	0.05	0.71	0.25	0.00	0.01	0.03	0.03	0.00	0.02	0.03	146.48
Paving Worker Trips	0.04	0.07	1.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	204.79
Time Slice 10/1/2013-12/31/2013 Active Days: 66	**25.94**	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.99
Coating 10/01/2013-02/28/2014	25.94	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.99
Architectural Coating	25.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.99
Time Slice 1/1/2014-2/28/2014 Active Days: 43	25.94	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00
Coating 10/01/2013-02/28/2014	25.94	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00
Architectural Coating	25.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00

Phase Assumptions

Phase: Fine Grading 3/1/2012 - 6/30/2012 - Default Fine Site Grading Description

Total Acres Disturbed: 7.45

Maximum Daily Acreage Disturbed: 4

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

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

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

Phase: Trenching 7/1/2012 - 7/31/2012 - Type Your Description Here

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 9/1/2013 - 9/30/2013 - Default Paving Description

Acres to be Paved: 2.7

Off-Road Equipment:

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

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

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

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

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

Phase: Building Construction 8/1/2012 - 8/31/2013 - Default Building Construction Description

Off-Road Equipment:

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

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

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

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

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

Phase: Architectural Coating 10/1/2013 - 2/28/2014 - Default Architectural Coating Description

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

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

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

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

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/1/2012-6/29/2012 Active Days: 87	2.71	**21.99**	12.30	0.00	41.45	1.07	42.53	8.66	0.99	9.65	2,349.68
Fine Grading 03/01/2012-06/30/2012	2.71	21.99	12.30	0.00	41.45	1.07	42.53	8.66	0.99	9.65	2,349.68
Fine Grading Dust	0.00	0.00	0.00	0.00	41.45	0.00	41.45	8.66	0.00	8.66	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.79	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.36
Time Slice 7/2/2012-7/31/2012 Active Days: 22	1.83	15.28	8.80	0.00	0.00	0.73	0.74	0.00	0.68	0.68	1,817.00
Trenching 07/01/2012-07/31/2012	1.83	15.28	8.80	0.00	0.00	0.73	0.74	0.00	0.68	0.68	1,817.00
Trenching Off Road Diesel	1.80	15.24	8.01	0.00	0.00	0.73	0.73	0.00	0.67	0.67	1,714.64
Trenching Worker Trips	0.02	0.04	0.79	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.36
Time Slice 8/1/2012-12/31/2012 Active Days: 109	3.47	16.89	**18.33**	**0.01**	0.06	1.12	1.18	0.02	1.03	1.05	2,895.03
Building 08/01/2012-08/31/2013	3.47	16.89	18.33	0.01	0.06	1.12	1.18	0.02	1.03	1.05	2,895.03
Building Off Road Diesel	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Vendor Trips	0.13	1.74	1.30	0.00	0.02	0.07	0.08	0.01	0.06	0.07	426.30
Building Worker Trips	0.20	0.34	6.52	0.01	0.04	0.02	0.06	0.01	0.02	0.03	847.54

Time Slice 1/1/2013-8/30/2013 Active Days: 174	3.18	15.74	17.38	**0.01**	0.06	1.01	1.07	0.02	0.93	0.95	**2,895.30**
Building 08/01/2012-08/31/2013	3.18	15.74	17.38	0.01	0.06	1.01	1.07	0.02	0.93	0.95	2,895.30
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.12	1.52	1.20	0.00	0.02	0.06	0.07	0.01	0.05	0.06	426.29
Building Worker Trips	0.18	0.31	5.97	0.01	0.04	0.02	0.06	0.01	0.02	0.03	847.82
Time Slice 9/2/2013-9/30/2013 Active Days: 21	2.61	14.39	10.60	0.00	0.02	**1.18**	1.19	0.01	**1.08**	1.09	1,623.30
Asphalt 09/01/2013-09/30/2013	2.61	14.39	10.60	0.00	0.02	1.18	1.19	0.01	1.08	1.09	1,623.30
Paving Off-Gas	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.19	13.60	8.91	0.00	0.00	1.15	1.15	0.00	1.05	1.05	1,272.04
Paving On Road Diesel	0.05	0.71	0.25	0.00	0.01	0.03	0.03	0.00	0.02	0.03	146.48
Paving Worker Trips	0.04	0.07	1.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	204.79
Time Slice 10/1/2013-12/31/2013 Active Days: 66	14.14	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.99
Coating 10/01/2013-02/28/2014	14.14	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.99
Architectural Coating	14.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.99
Time Slice 1/1/2014-2/28/2014 Active Days: 43	9.21	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00
Coating 10/01/2013-02/28/2014	9.21	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00
Architectural Coating	9.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 3/1/2012 - 6/30/2012 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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The following mitigation measures apply to Phase: Architectural Coating 10/1/2013 - 2/28/2014 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.07	0.87	0.37	0.00	0.00	0.00	1,107.17
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	5.63						
Architectural Coatings	0.77						
TOTALS (lbs/day, unmitigated)	6.59	0.89	1.92	0.00	0.01	0.01	1,109.98

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 5%

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	1.38	0.73	6.88	0.01	1.44	0.28	852.82
TOTALS (lbs/day, unmitigated)	1.38	0.73	6.88	0.01	1.44	0.28	852.82

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2014 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	10.80	0.85	dwelling units	115.00	97.75	835.73
					97.75	835.73

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	40.0	0.2	99.6	0.2
Light Truck < 3750 lbs	14.0	1.4	92.2	6.4
Light Truck 3751-5750 lbs	22.4	0.4	99.6	0.0
Med Truck 5751-8500 lbs	11.1	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.1	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	50.9	49.1	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

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

% of Trips - Commercial (by land use)

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\2010\10110200.01_LoomisPriory\03WRKG_DOCS_REFS\3.1 EEP_Design\Draft_Docs\IS-MND\IS-MND 1\Ad Draft IS-MND\Old\Sections\Old\AQ, GHG, Noise\Modeling Runs\Loomis Priory.urb924

Project Name: Loomis Priory

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
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2013 TOTALS (lbs/day unmitigated)	25.94	15.74	17.38	0.01	0.06	1.18	1.19	0.02	1.08	1.09	2,895.30
2013 TOTALS (lbs/day mitigated)	14.14	15.74	17.38	0.01	0.06	1.18	1.19	0.02	1.08	1.09	2,895.30
2014 TOTALS (lbs/day unmitigated)	25.94	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00
2014 TOTALS (lbs/day mitigated)	9.21	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	6.47	0.90	0.38	0.00	0.00	0.00	1,147.76

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.68	1.06	7.54	0.01	1.44	0.28	742.97

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	7.15	1.96	7.92	0.01	1.44	0.28	1,890.73

Construction Unmitigated Detail Report:

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CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/1/2012-6/29/2012 Active Days: 87	2.71	**21.99**	12.30	0.00	**80.00**	1.07	**81.08**	**16.71**	0.99	**17.70**	2,349.68
Fine Grading 03/01/2012-06/30/2012	2.71	21.99	12.30	0.00	80.00	1.07	81.08	16.71	0.99	17.70	2,349.68
Fine Grading Dust	0.00	0.00	0.00	0.00	80.00	0.00	80.00	16.71	0.00	16.71	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.79	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.36
Time Slice 7/2/2012-7/31/2012 Active Days: 22	1.83	15.28	8.80	0.00	0.00	0.73	0.74	0.00	0.68	0.68	1,817.00
Trenching 07/01/2012-07/31/2012	1.83	15.28	8.80	0.00	0.00	0.73	0.74	0.00	0.68	0.68	1,817.00
Trenching Off Road Diesel	1.80	15.24	8.01	0.00	0.00	0.73	0.73	0.00	0.67	0.67	1,714.64
Trenching Worker Trips	0.02	0.04	0.79	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.36
Time Slice 8/1/2012-12/31/2012 Active Days: 109	3.47	16.89	**18.33**	**0.01**	0.06	1.12	1.18	0.02	1.03	1.05	2,895.03
Building 08/01/2012-08/31/2013	3.47	16.89	18.33	0.01	0.06	1.12	1.18	0.02	1.03	1.05	2,895.03
Building Off Road Diesel	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Vendor Trips	0.13	1.74	1.30	0.00	0.02	0.07	0.08	0.01	0.06	0.07	426.30
Building Worker Trips	0.20	0.34	6.52	0.01	0.04	0.02	0.06	0.01	0.02	0.03	847.54
Time Slice 1/1/2013-8/30/2013 Active Days: 174	3.18	15.74	17.38	**0.01**	0.06	1.01	1.07	0.02	0.93	0.95	**2,895.30**
Building 08/01/2012-08/31/2013	3.18	15.74	17.38	0.01	0.06	1.01	1.07	0.02	0.93	0.95	2,895.30
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.12	1.52	1.20	0.00	0.02	0.06	0.07	0.01	0.05	0.06	426.29
Building Worker Trips	0.18	0.31	5.97	0.01	0.04	0.02	0.06	0.01	0.02	0.03	847.82

Time Slice 9/2/2013-9/30/2013 Active Days: 21	2.61	14.39	10.60	0.00	0.02	**1.18**	1.19	0.01	**1.08**	1.09	1,623.30
Asphalt 09/01/2013-09/30/2013	2.61	14.39	10.60	0.00	0.02	1.18	1.19	0.01	1.08	1.09	1,623.30
Paving Off-Gas	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.19	13.60	8.91	0.00	0.00	1.15	1.15	0.00	1.05	1.05	1,272.04
Paving On Road Diesel	0.05	0.71	0.25	0.00	0.01	0.03	0.03	0.00	0.02	0.03	146.48
Paving Worker Trips	0.04	0.07	1.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	204.79
Time Slice 10/1/2013-12/31/2013 Active Days: 66	**25.94**	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.99
Coating 10/01/2013-02/28/2014	25.94	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.99
Architectural Coating	25.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.99
Time Slice 1/1/2014-2/28/2014 Active Days: 43	25.94	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00
Coating 10/01/2013-02/28/2014	25.94	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00
Architectural Coating	25.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00

Phase Assumptions

Phase: Fine Grading 3/1/2012 - 6/30/2012 - Default Fine Site Grading Description

Total Acres Disturbed: 7.45

Maximum Daily Acreage Disturbed: 4

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

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

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

Phase: Trenching 7/1/2012 - 7/31/2012 - Type Your Description Here

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 9/1/2013 - 9/30/2013 - Default Paving Description

Acres to be Paved: 2.7

Off-Road Equipment:

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

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

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

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

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

Phase: Building Construction 8/1/2012 - 8/31/2013 - Default Building Construction Description

Off-Road Equipment:

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

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

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

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

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

Phase: Architectural Coating 10/1/2013 - 2/28/2014 - Default Architectural Coating Description

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

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

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

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

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/1/2012-6/29/2012 Active Days: 87	2.71	**21.99**	12.30	0.00	41.45	1.07	42.53	8.66	0.99	9.65	2,349.68
Fine Grading 03/01/2012-06/30/2012	2.71	21.99	12.30	0.00	41.45	1.07	42.53	8.66	0.99	9.65	2,349.68
Fine Grading Dust	0.00	0.00	0.00	0.00	41.45	0.00	41.45	8.66	0.00	8.66	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.02	0.04	0.79	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.36
Time Slice 7/2/2012-7/31/2012 Active Days: 22	1.83	15.28	8.80	0.00	0.00	0.73	0.74	0.00	0.68	0.68	1,817.00
Trenching 07/01/2012-07/31/2012	1.83	15.28	8.80	0.00	0.00	0.73	0.74	0.00	0.68	0.68	1,817.00
Trenching Off Road Diesel	1.80	15.24	8.01	0.00	0.00	0.73	0.73	0.00	0.67	0.67	1,714.64
Trenching Worker Trips	0.02	0.04	0.79	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.36
Time Slice 8/1/2012-12/31/2012 Active Days: 109	3.47	16.89	**18.33**	**0.01**	0.06	1.12	1.18	0.02	1.03	1.05	2,895.03
Building 08/01/2012-08/31/2013	3.47	16.89	18.33	0.01	0.06	1.12	1.18	0.02	1.03	1.05	2,895.03
Building Off Road Diesel	3.14	14.81	10.52	0.00	0.00	1.04	1.04	0.00	0.95	0.95	1,621.20
Building Vendor Trips	0.13	1.74	1.30	0.00	0.02	0.07	0.08	0.01	0.06	0.07	426.30
Building Worker Trips	0.20	0.34	6.52	0.01	0.04	0.02	0.06	0.01	0.02	0.03	847.54

Time Slice 1/1/2013-8/30/2013 Active Days: 174	3.18	15.74	17.38	**0.01**	0.06	1.01	1.07	0.02	0.93	0.95	**2,895.30**
Building 08/01/2012-08/31/2013	3.18	15.74	17.38	0.01	0.06	1.01	1.07	0.02	0.93	0.95	2,895.30
Building Off Road Diesel	2.88	13.91	10.20	0.00	0.00	0.93	0.93	0.00	0.86	0.86	1,621.20
Building Vendor Trips	0.12	1.52	1.20	0.00	0.02	0.06	0.07	0.01	0.05	0.06	426.29
Building Worker Trips	0.18	0.31	5.97	0.01	0.04	0.02	0.06	0.01	0.02	0.03	847.82
Time Slice 9/2/2013-9/30/2013 Active Days: 21	2.61	14.39	10.60	0.00	0.02	**1.18**	1.19	0.01	**1.08**	1.09	1,623.30
Asphalt 09/01/2013-09/30/2013	2.61	14.39	10.60	0.00	0.02	1.18	1.19	0.01	1.08	1.09	1,623.30
Paving Off-Gas	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.19	13.60	8.91	0.00	0.00	1.15	1.15	0.00	1.05	1.05	1,272.04
Paving On Road Diesel	0.05	0.71	0.25	0.00	0.01	0.03	0.03	0.00	0.02	0.03	146.48
Paving Worker Trips	0.04	0.07	1.44	0.00	0.01	0.00	0.01	0.00	0.00	0.01	204.79
Time Slice 10/1/2013-12/31/2013 Active Days: 66	14.14	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.99
Coating 10/01/2013-02/28/2014	14.14	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.99
Architectural Coating	14.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.99
Time Slice 1/1/2014-2/28/2014 Active Days: 43	9.21	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00
Coating 10/01/2013-02/28/2014	9.21	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00
Architectural Coating	9.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.00

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 3/1/2012 - 6/30/2012 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

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The following mitigation measures apply to Phase: Architectural Coating 10/1/2013 - 2/28/2014 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.07	0.87	0.37	0.00	0.00	0.00	1,107.17
Hearth	0.00	0.03	0.01	0.00	0.00	0.00	40.59
Landscaping - No Winter Emissions							
Consumer Products	5.63						
Architectural Coatings	0.77						
TOTALS (lbs/day, unmitigated)	6.47	0.90	0.38	0.00	0.00	0.00	1,147.76

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 5%

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	0.68	1.06	7.54	0.01	1.44	0.28	742.97
TOTALS (lbs/day, unmitigated)	0.68	1.06	7.54	0.01	1.44	0.28	742.97

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2014 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	10.80	0.85	dwelling units	115.00	97.75	835.73
					97.75	835.73

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	40.0	0.2	99.6	0.2
Light Truck < 3750 lbs	14.0	1.4	92.2	6.4
Light Truck 3751-5750 lbs	22.4	0.4	99.6	0.0
Med Truck 5751-8500 lbs	11.1	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.1	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	50.9	49.1	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

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

% of Trips - Commercial (by land use)

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\2010\10110200.01_LoomisPriory\03WRKG_DOCS_REFS\3.1 EEP_Design\Draft_Docs\IS-MND\IS-MND 1\Ad Draft IS-MND\Old\Sections\Old\AQ, GHG, Noise\Modeling Runs\Loomis Priory.urb924

Project Name: Loomis Priory

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (tons/year unmitigated)	0.33	2.05	1.63	0.00	3.48	0.12	3.60	0.73	0.11	0.83	279.98
2012 TOTALS (tons/year mitigated)	0.33	2.05	1.63	0.00	1.81	0.12	1.92	0.38	0.11	0.48	279.98
Percent Reduction	0.00	0.00	0.00	0.00	48.14	0.00	46.59	48.11	0.00	41.97	0.00
2013 TOTALS (tons/year unmitigated)	1.16	1.52	1.63	0.00	0.01	0.10	0.11	0.00	0.09	0.09	269.96
2013 TOTALS (tons/year mitigated)	0.77	1.52	1.63	0.00	0.01	0.10	0.11	0.00	0.09	0.09	269.96
Percent Reduction	33.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014 TOTALS (tons/year unmitigated)	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67
2014 TOTALS (tons/year mitigated)	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67
Percent Reduction	64.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.19	0.16	0.21	0.00	0.00	0.00	202.33

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.21	0.15	1.30	0.00	0.26	0.05	148.96

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.40	0.31	1.51	0.00	0.26	0.05	351.29

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

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

2012	0.33	2.05	1.63	0.00	3.48	0.12	3.60	0.73	0.11	0.83	279.98
Fine Grading 03/01/2012-06/30/2012	0.12	0.96	0.54	0.00	3.48	0.05	3.53	0.73	0.04	0.77	102.21
Fine Grading Dust	0.00	0.00	0.00	0.00	3.48	0.00	3.48	0.73	0.00	0.73	0.00
Fine Grading Off Road Diesel	0.12	0.95	0.50	0.00	0.00	0.05	0.05	0.00	0.04	0.04	97.76
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.45
Trenching 07/01/2012-07/31/2012	0.02	0.17	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	19.99
Trenching Off Road Diesel	0.02	0.17	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	18.86
Trenching Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13
Building 08/01/2012-08/31/2013	0.19	0.92	1.00	0.00	0.00	0.06	0.06	0.00	0.06	0.06	157.78
Building Off Road Diesel	0.17	0.81	0.57	0.00	0.00	0.06	0.06	0.00	0.05	0.05	88.36
Building Vendor Trips	0.01	0.09	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.23
Building Worker Trips	0.01	0.02	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.19

2013	1.16	1.52	1.63	0.00	0.01	0.10	0.11	0.00	0.09	0.09	269.96
Building 08/01/2012-08/31/2013	0.28	1.37	1.51	0.00	0.00	0.09	0.09	0.00	0.08	0.08	251.89
Building Off Road Diesel	0.25	1.21	0.89	0.00	0.00	0.08	0.08	0.00	0.07	0.07	141.04
Building Vendor Trips	0.01	0.13	0.10	0.00	0.00	0.01	0.01	0.00	0.00	0.01	37.09
Building Worker Trips	0.02	0.03	0.52	0.00	0.00	0.00	0.01	0.00	0.00	0.00	73.76
Asphalt 09/01/2013-09/30/2013	0.03	0.15	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	17.04
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.02	0.14	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	13.36
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.54
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.15
Coating 10/01/2013-02/28/2014	0.86	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
Architectural Coating	0.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
2014	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67
Coating 10/01/2013-02/28/2014	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67
Architectural Coating	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67

Phase Assumptions

Phase: Fine Grading 3/1/2012 - 6/30/2012 - Default Fine Site Grading Description

Total Acres Disturbed: 7.45

Maximum Daily Acreage Disturbed: 4

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

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

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

Phase: Trenching 7/1/2012 - 7/31/2012 - Type Your Description Here

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 9/1/2013 - 9/30/2013 - Default Paving Description

Acres to be Paved: 2.7

Off-Road Equipment:

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

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

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

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

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

Phase: Building Construction 8/1/2012 - 8/31/2013 - Default Building Construction Description

Off-Road Equipment:

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

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

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

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

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

Phase: Architectural Coating 10/1/2013 - 2/28/2014 - Default Architectural Coating Description

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

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

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

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

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012	0.33	2.05	1.63	0.00	1.81	0.12	1.92	0.38	0.11	0.48	279.98
Fine Grading 03/01/2012-06/30/2012	0.12	0.96	0.54	0.00	1.80	0.05	1.85	0.38	0.04	0.42	102.21
Fine Grading Dust	0.00	0.00	0.00	0.00	1.80	0.00	1.80	0.38	0.00	0.38	0.00
Fine Grading Off Road Diesel	0.12	0.95	0.50	0.00	0.00	0.05	0.05	0.00	0.04	0.04	97.76
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.45
Trenching 07/01/2012-07/31/2012	0.02	0.17	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	19.99
Trenching Off Road Diesel	0.02	0.17	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	18.86
Trenching Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13
Building 08/01/2012-08/31/2013	0.19	0.92	1.00	0.00	0.00	0.06	0.06	0.00	0.06	0.06	157.78
Building Off Road Diesel	0.17	0.81	0.57	0.00	0.00	0.06	0.06	0.00	0.05	0.05	88.36
Building Vendor Trips	0.01	0.09	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.23
Building Worker Trips	0.01	0.02	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.19

2013	0.77	1.52	1.63	0.00	0.01	0.10	0.11	0.00	0.09	0.09	269.96
Building 08/01/2012-08/31/2013	0.28	1.37	1.51	0.00	0.00	0.09	0.09	0.00	0.08	0.08	251.89
Building Off Road Diesel	0.25	1.21	0.89	0.00	0.00	0.08	0.08	0.00	0.07	0.07	141.04
Building Vendor Trips	0.01	0.13	0.10	0.00	0.00	0.01	0.01	0.00	0.00	0.01	37.09
Building Worker Trips	0.02	0.03	0.52	0.00	0.00	0.00	0.01	0.00	0.00	0.00	73.76
Asphalt 09/01/2013-09/30/2013	0.03	0.15	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	17.04
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.02	0.14	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	13.36
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.54
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.15
Coating 10/01/2013-02/28/2014	0.47	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
Architectural Coating	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
2014	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67
Coating 10/01/2013-02/28/2014	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67
Architectural Coating	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 3/1/2012 - 6/30/2012 - Default Fine Site Grading Description

For Soil Stablizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

The following mitigation measures apply to Phase: Architectural Coating 10/1/2013 - 2/28/2014 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

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For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.16	0.07	0.00	0.00	0.00	202.06
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Landscape	0.01	0.00	0.14	0.00	0.00	0.00	0.25
Consumer Products	1.03						
Architectural Coatings	0.14						
TOTALS (tons/year, unmitigated)	1.19	0.16	0.21	0.00	0.00	0.00	202.33

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 5%

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	0.21	0.15	1.30	0.00	0.26	0.05	148.96
TOTALS (tons/year, unmitigated)	0.21	0.15	1.30	0.00	0.26	0.05	148.96

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2014 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Apartments low rise	10.80	0.85	dwelling units	115.00	97.75	835.73
					97.75	835.73

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	40.0	0.2	99.6	0.2
Light Truck < 3750 lbs	14.0	1.4	92.2	6.4
Light Truck 3751-5750 lbs	22.4	0.4	99.6	0.0
Med Truck 5751-8500 lbs	11.1	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.1	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	50.9	49.1	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

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

% of Trips - Commercial (by land use)

Operational Changes to Defaults

GHG Emissions Summary

Project: Loomis Priory

Project Totals	**Tonnage**		**Percent of total**
Construction			
Total	499	metric tons CO2	100%
Operation			
Vehicular Use	136	metric tons CO2e	21%
Electricity	264	metric tons CO2e	40%
Natural Gas	311	metric tons CO2e	47%
Solid Waste	72	metric tons CO2e	11%
Water Use	11	metric tons CO2e	2%
Total	**658**	**metric tons CO2e**	**121%**

Construction GHG Emissions

Project: Loomis Priory

1 ton (short, US) = 0.90718474 metric ton.

Off-Road Construction Equipment and On-Road Truck and Worker Trips

Year	Phase	tons CO2	metric tons CO2
2012	Several	279.96	254.0
2013	Several	269.96	244.9
2014	Painting	0.67	0.6
2015			0.0
2016			0.0
2017			0.0
2018			0.0
2019			0.0
2020			0.0
2021			0.0
2022			0.0
Total		**550.59**	**499.5**

Source: URBEMIS 2007, version 9.2.4

Operational GHG Emissions

Project: Loomis Priory

Indirect Emissions from Electricity Use

Total Project Annual KWh:	800,285	kWH/year	1 ton (short, US) = 0.90718474 metric ton.
Project Annual MWh:	800	MWH/year	1 metric ton = 2,204.62 pounds

Annual Emissions from Electricity Use:

	Total Emissions		Total CO2e	Units
CO2 emissions:	262.8582	metric tons	262.9	metric tons CO2e
CH4 emissions:	0.0110	metric tons	0.2	metric tons CO2e
N2O emissions:	0.0029	metric tons	0.9	metric tons CO2e
		Project Total	*264*	*metric tons CO2e*

Emission Factors for Electricity Use:

CO2	724.12	lbs/MWh/year
CH4	0.0302	lbs/MWh/year
N2O	0.0081	lbs/MWh/year

Sources:
Table C.1 Comparison of GWPs from the IPCC's 2nd and 3rd TAR, App. C of the CCAR General Reporting Protocol (GAR), Ver. 3.1, Jan. 2009
Table C.2: CO2, CH4, and N2O Electricity Emission Factors by eGRID Subregion, Subregion CAMX, App C of the CCAR GAR, Ver. 3.1, Jan. 2009.

Emissions from Natural Gas Use

Total Project Usage:	58,650	therms/year	1 Therm = 0.1 Million Btu (MMBtu)

Annual Emissions from Natural Gas Use:

	Total Emissions		Total CO2e	Units
CO2 emissions:	310.4596	metric tons	310.5	metric tons CO2e
CH4 emissions:	0.0266	metric tons	0.6	metric tons CO2e
N2O emissions:	0.0005	metric tons	0.2	metric tons CO2e
		Project Total	*311*	*metric tons CO2e*

Emission Factors for Natural Gas Use:

CO2	11.67	lbs/therm
CH4	0.001	lbs/therm
N2O	0.00002	lbs/therm

Sources:
Table C.7: CO2 Emission Factors for Stationary Combustion, Appendix C of the CCAR GAR, Ver. 3.1, Jan. 2009
Table C.8 CH4 and N2O Emission Factors for Stationary Combustion by Fuel Type and Sector,
Appendix C of the CCAR Protocol, 2009 (for redisential, commercial, institutional uses).

Indirect Emissions from Solid Waste

Total Solid Waste:	84	tons/year
Landfill Gas:	10	tons/year

Annual Emissions from Solid Waste:

	Total Emissions		Total CO2e	Units
CO2 emissions:	6	tons	6	metric tons CO2e
CH4 emissions:	3	tons	66	metric tons CO2e
		Project Total	*72*	*metric tons CO2e*

Sources:
State Workbook: Methodologies for Estimating Greenhouse Gas Emissions (pages 5-1 to 5-3)

Indirect Emissions from Water Use

Indoor Uses	6.03	MG/year
Outdoor Uses*	0.00	MG/year
Total Project Usage:	6.03	MG/year
Northern or Southern Ca?	Northern	

Emission Factors for Electricity Use:

CO2	742.12	lbs/MWh/year
CH4	0.0302	lbs/MWh/year
N2O	0.0081	lbs/MWh/year

Water-energy proxies: (kWh/MG)

	No CA	So CA
Indoor	5.411	13.022
Outdoor	3.5	11.111

* Indoor uses includes average use type demand, which includes typical property needs including outdoor. To be modified if special use proposed.

Annual Electricity Generation Associated with Water Uses

	Water Consumption (MG)	Energy Factor MWh/MG)		
Indoor Uses	6.03	5.411	33	MWh/year
Outdoor Uses	0.00	3.5	0	MWh/year
Total Project Usage			33	MWh/year

Annual Emissions from Water Use:

	Total Emissions		Total CO2e	Units
CO2 emissions:	11.0	metric tons	11.0	metric tons CO2e
CH4 emissions:	0.0	metric tons	0.0	metric tons CO2e
N2O emissions:	0.0	metric tons	0.0	metric tons CO2e
		Project Total	*11*	*metric tons CO2e*

Sources:
Table C.5: CO2 Emission Factors and Oxidation Rates for Stationary Combustion, Appendix C of the CCAR Protocol, 2009
Table C.6 Methane and Nitrous Oxide Emission Factors for Stationary Combustion by Fuel Type, Appendix C of the CCAR Protocol, 2009.
Table ES-1: Recommended Revised Water-energy Proxies, Refining Estimates of Water-Related Energy Use in California, CEC-500-2006-118.

Mobile GHG Emissions

Project: Loomis Priory

* from URBEMIS output
1 ton (short, US) = 0.90718474 metric ton
1g = 0.000001 metric ton

Daily Vehicle Miles Traveled (VMT)*: **836.0**
Annual VMT: 305,140

Vehicle Type	Percent Type	CH4 Emission Factor (g/mile)	CH4 Emission (g/mile)	N2O Emission Factor (g/mile)	N2O Emission (g/mile)
Light Auto	47.5%	0.0147	0.0069825	0.0079	0.0037525
Light Truck < 3750 lbs	11.0%	0.0157	0.001727	0.0101	0.001111
Light Truck 3751-5750 lbs	22.2%	0.0157	0.0034854	0.0101	0.0022422
Med Truck 5751-8500 lbs	9.9%	0.0326	0.0032274	0.0177	0.0017523
Lite-Heavy Truck 8501-10,000 lbs	1.8%	0.0326	0.0005868	0.0177	0.0003186
Lite-Heavy Truck 10,001-14,000 lbs	0.7%	0.0326	0.0002282	0.0177	0.0001239
Med-Heavy Truck 14,001-33,000 lbs	1.1%	0.0326	0.0003586	0.0177	0.0001947
Heavy-Heavy Truck 33,001-60,000 lbs	0.9%	0.0326	0.0002934	0.0177	0.0001593
Other Bus	0.1%	0.0326	0.0000326	0.0177	0.0000177
Urban Bus	0.1%	0.0326	0.0000326	0.0177	0.0000177
Motorcycle	3.5%	0.0147	0.0005145	0.0079	0.0002765
School Bus	0.1%	0.0326	0.0000326	0.0177	0.0000177
Motor Home	1.1%	0.0326	0.0003586	0.0177	0.0001947
Total			**0.0178602**		**0.0101788**

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
CO2 Emissions*:	**149.0**	tons CO2	**135**	metric tons CO2e
CH4 Emissions:	**0.0**	metric tons CH4	**0**	metric tons CO2e
N20 Emissions:	**0.0**	metric tons N2O	**1**	metric tons CO2e
		Project Total:	***136***	***metric tons CO2e***

Sources:
Table C.4: CH4 and N2O Emission Factors for Highway Vehicles by Model Year (g/mile),CCAR GAR, Version 3.1, January 2009.
Assume Model year 2005-present, gasoline fueled.
URBEMIS 2007, version 9.2.4.

APPENDIX B

Preliminary Tree Removal Plan

TREE REMOVAL LEGEND

×—— Remove Protected Tree - Requires Mitigation

⊠—— Remove Protected Tree - Mitigation not required due to existing health of existing tree - See Sierra Nevada Arborists Report, dated October 19, 2010.

TREE REMOVAL SUMMARY

190 - Interior Live Oaks

6 - Blue Oaks

14 - Valley Oaks

(11) - Number of Oak Trees removed due to poor existing health, per Arborist Report

199 - Total Removed Protected Oak Trees
* There are 23 total retained Protected Oak Trees from original Tree Removal Plan dated 11/15/11

Notes:

1. Tree Removal numbers are preliminary and may increase or decrease depending on final grading.
2. Tree Numbers shown correspond to the Initial Arborist Report and Protected Tree Inventory Summary, Appendix B, by Sierra Nevada Arborists, dated October 19, 2010.
3. Trees shown with a '⊠' are scheduled for removal and do not require any mitigation per Sierra Nevada Arborists Report, dated 10/19/2010, as they maintain a poor rating and are recommended for removal.
4. The faded background represents existing topographic features. Base information for this plan was taken from the Autocad Loomis Priory.dwg, prepared by RFE Engineering, inc. GSM landscape architects assumes no liability, real or alleged, regarding the accuracy of the base information shown.

TREE MITIGATION LEGEND

— Areas for possible on-site tree mitigation

Approximately +/- 400 mitigation trees will fit within the combined areas shown and with a 27' on center spacing.

PRELIMINARY
NOT FOR CONSTRUCTION

NORTH

0 60' 120'
GRAPHIC SCALE IN FEET
1"=60'-0"

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LICENSED ARCHITECT
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DOMINICAN SISTERS OF MARY, MOTHER OF THE EUCHARIST

PRIORY
LOOMIS,
CALIFORNIA

REVISION:	DATE:	COMMENTS:

BE ADVISED THAT THIS SET OF PLANS HAS BEEN PREPARED FOR BUILDING PLAN REVIEW PURPOSES ONLY. AT THIS TIME, THIS SET OF PLANS SHOULD BE CONSIDERED PRELIMINARY IN NATURE AND NOT FOR CONSTRUCTION. THIS SET OF PLANS SHALL NOT BE DEEMED FINAL UNTIL ALL APPROVALS HAVE BEEN OBTAINED FROM ALL AUTHORITIES HAVING JURISDICTION. THIS SET OF PLANS SHALL NOT BE USED FOR FINAL BIDDING PURPOSES AND ANY BID SUBMITTED THAT HAS BEEN BASED ON THIS SET OF PLANS SHALL BE CONSIDERED PRELIMINARY.
THIS SET OF PLANS WILL CHANGE DUE TO PLAN REVIEW COMMENTS BY THE VARIOUS AUTHORITIES HAVING JURISDICTION AS WELL AS INTERNAL REVIEWS.

PROJECT NO:	1014
PRINT DATE:	11/08/11
PROJECT MGR:	MER
CHECKED BY:	GSM

SHEET TITLE:
PROPOSED ALTERNATIVE TREE REMOVAL PLAN

SHEET NUMBER:
L2.2

APPENDIX C

Traffic Study

KD Anderson & Associates, Inc.
Transportation Engineers

December 1, 2011

Ms. Brigit Barnes
Brigit S. Barnes & Associates
3262 Penryn Road, Suite 200
Loomis, CA

RE: REGINA CAELI PRIORY IS/MND: TRAFFIC STUDY, LOOMIS, CA

Dear Ms. Barnes:

As requested I have reviewed the latest site plan for the Regina Caeli Priory Project in Loomis. While the site plan has moved the location of buildings within the site, the location of site access has not changed. I understand that the number of sisters planned at the site has not changed nor has the schedule of activities been altered.

As a result, the new site plan has no effect on the analysis, results or conclusions contained in our traffic impact analysis (11/12/2010). Project impacts and mitigation requirements would be unchanged.

Please feel free to contact me if you have any questions or need additional information.

Sincerely,

KD Anderson & Associates, Inc.

Kenneth D. Anderson, P.E.
President

DSMME Site Plan Review.ltr

TRAFFIC IMPACT ANALYSIS

FOR THE

DOMINICAN SISTERS OF MARY, MOTHER OF THE EUCHARIST MONASTERY

Loomis, California

Prepared For:

Brigit S. Barnes & Associates
3262 Penryn Road, Suite 200
Loomis, CA 95650

Prepared By:

KD Anderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, CA 95650
(916) 660-1555

November 12, 2010

Job No. 0750-03

DSMME Traffic Study 11-12-10.rpt

TRAFFIC IMPACT ANALYSIS FOR THE
DSMME MONASTERY
Loomis, CA

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November 12, 2010

KDA

TRAFFIC IMPACT ANALYSIS FOR THE
DOMINICAN SISTERS OF MARY, MOTHER OF THE EUCHARIST MONASTERY
Loomis, California

INTRODUCTION

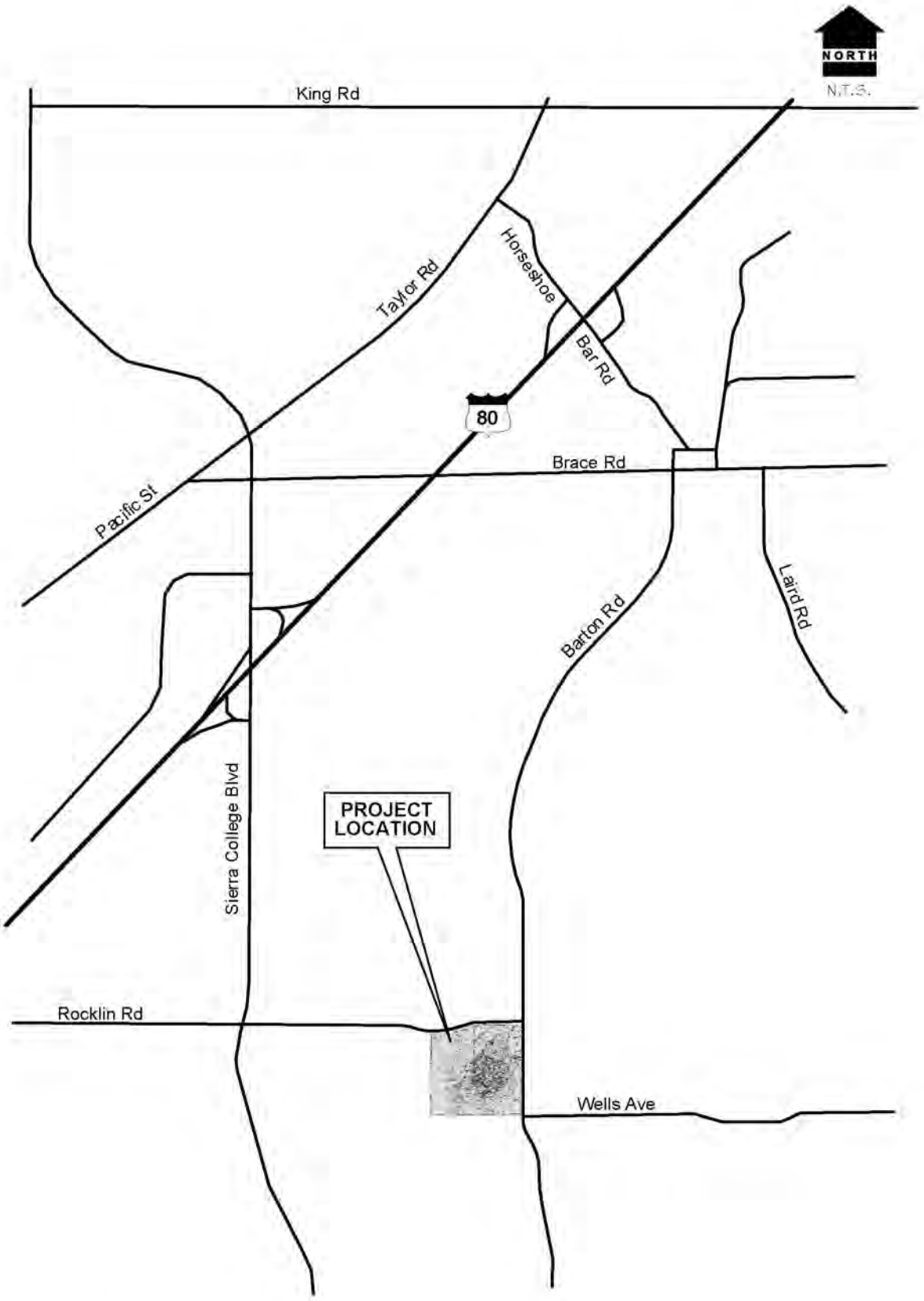
This report summarizes **KDAnderson & Associates** analysis of the traffic impacts associated with operating the proposed **Dominican Sisters of Mary, Mother of the Eucharist (DSMME) Monastery** project in Loomis, California. The proposed project will occupy 40 acres located near the intersection of Barton Road and Wells Avenue towards the southern end of the Town limits.

The project location is shown in Figure 1, while the project site plan is Figure 2. As noted, the project has access to Barton Road between the Rocklin Road and Wells Avenue intersections.

The project will provide residences and a private chapel for up to 100 to 115 sisters. The project will total roughly 135,000 sf of building floor area.

The scope of this traffic analysis is intended to conform to Town of Loomis guidelines for projects that are consistent with adopted General Plan land uses. "Existing" traffic conditions have been evaluated through observation of current weekday a.m. and p.m. peak hour traffic volumes at three major intersections in the vicinity of the project. The impacts of the proposed project have been evaluated by estimating probable project trip generation, assigning project trips to the study area street system and superimposing project traffic onto background conditions to determine whether development of this use will result in conditions in excess of the Town of Loomis' or City of Rocklin minimum Level of Service standards.

Per direction from the Town of Loomis, this study includes analysis of three scenarios: 1) "Existing" Conditions; 2) "Existing Plus Project" Conditions, and, with regard to site access only 3) "Cumulative Plus Project" Conditions.

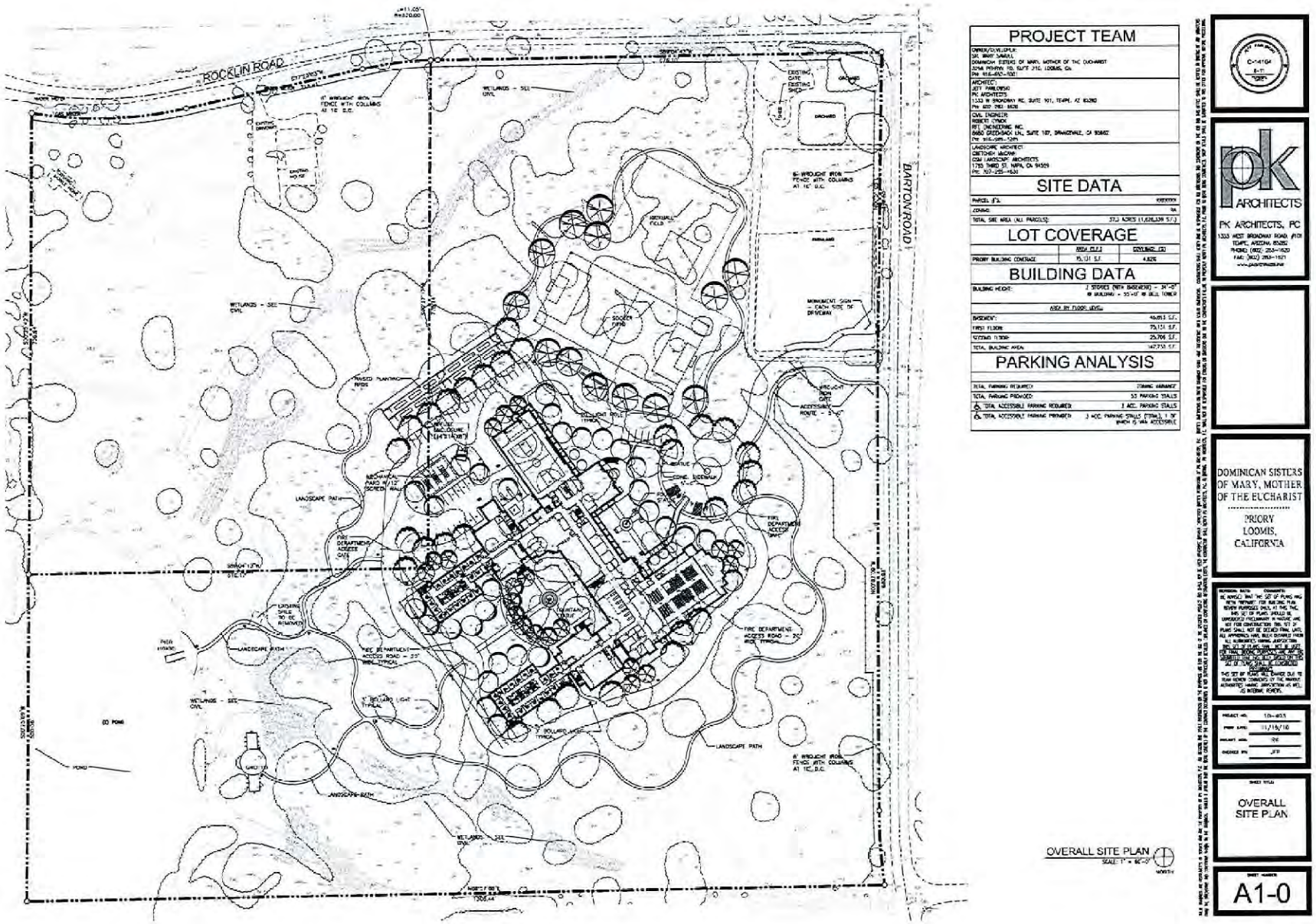


KD Anderson & Associates, Inc.
Transportation Engineers

VICINITY MAP

0750-03.VSD 11/12/2010

figure 1



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SITE PLAN

0750-03.VSD 11/12/2010

figure 2

EXISTING SETTING

Study Area Streets

Through discussions with Town of Loomis staff it was determined that this analysis should focus on project access and on impacts to the following two key intersections during the weekday a.m. and p.m. peak hour conditions:

1. Rocklin Road / Barton Road
2. Wells Avenue / Barton Road

The text that follows describes the physical characteristics of the streets that serve the site.

Barton Road. Barton Road is an important collector street that extends south from the Town of Loomis into the Granite Bay community of Placer County. Barton Road originates at an intersection on Brace Road south of the Interstate 80 / Horseshoe Bar Road interchange and continues south through an intersection on Rocklin Road to the DSMME site. Barton Road then extends south across Douglas Blvd before ending near the Sacramento County line.

Barton Road is a two lane road in the area of the project. This portion of Barton Road was recently reconstructed and is in good condition. Barton Road follows the generally rolling terrain of the Loomis basin, and there is a horizontal curve in the road immediately south of the Wells Avenue intersection. The width of pavement on Barton Road varies along its length, but in the area of the project the road is 32 feet wide. The road is striped to create shoulders to help accommodate bicycles, but there are no sidewalks on this rural road. The speed limit on Barton Road is posted at 40 mph.

New daily traffic counts conducted for this study during the fall of 2010 indicated that Barton Road carried an *Average Daily Traffic (ADT)* volume of 5,920 ADT between the Rocklin Road and Wells Avenue intersections. These volumes are representative of conditions occurring when Sierra College and other area schools are in session.

Rocklin Road. Rocklin Road is a major east-west arterial street that links the Town of Loomis with Interstate 80 in the city of Rocklin. Rocklin Road originates near the UPRR tracks in Rocklin and extends across Interstate 80 through the Sierra College Blvd intersection and into Loomis where the road terminates at Barton Road. Rocklin Road provides access to Sierra College. The width of Rocklin Road varies, as the portion of Rocklin Road west of the Sierra College Blvd intersection is a four lane arterial with a center median and access controlled by signalized intersections. While Rocklin Road is planned to eventually be a four lane road east of Sierra College Blvd to Barton Road, today the road is a two lane facility. The south side of the road in Rocklin has been widened to its ultimate 4 lane width. The portion of Rocklin Road within the Town of Loomis is a rolling two lane rural road lacking sidewalks and bicycle lanes. The speed limit on Rocklin Road is posted at 35 mph within the Town of Loomis.

Traffic counts conducted for this study identified the current traffic volume on Rocklin Road just west of Barton Road. In September 2010 the road carried 6,100 ADT west of Barton Road.

Sierra College Blvd. Sierra College Blvd is a major arterial street that links Loomis with the City of Lincoln to the north and with Interstate 80 and the City of Rocklin to the south. Today, Sierra College Blvd ranges from a 2 lane rural highway to a 6 lane urban street. Sierra College Blvd has one travel lane in each direction in the area from Rocklin Road to Interstate 80 and from Granite Drive to its northern terminus at SR 193. Sierra College Blvd has been widened in the area south of Rocklin Road, and an ongoing construction project is widening the road to 4 lanes south of Interstate 80. New traffic counts made on Sierra College Blvd made by the City of Rocklin in the summer of 2010 indicated that the road carried a weekday volume of 17,740 ADT south of Rocklin Road and 15,560 ADT between Rocklin Road and I-80.

Wells Avenue. Wells Avenue is an east-west collector street that extends east from Barton Road to from part of the circuitous system of Town and County roads that link Intestate 80 with Auburn-Folsom Road. Wells Avenue originates at an intersection on Barton Road near the project site and continues east across Laird Road before terminating at an intersection with Val Verde Road. Wells Avenue is a two lane rural road that follows rolling terrain. The road is in fair condition but lacks paved shoulders, room for bicycles or sidewalks. The posted speed limit on Wells Avenue is 40 mph. Traffic counts made just east of Barton Road in September 2010 indicated that Wells Avenue carried 2,350 ADT on a weekday.

The **Rocklin Road / Barton Road intersection** is controlled by all-way stop signs. The geometric configuration of the intersection includes a separate northbound left turn lane on Barton Road, but the other two approaches are single lanes. The intersection was recently reconstructed and has the width to accommodate large trucks.

The **Wells Avenue / Barton Road intersection** is controlled by a stop sign on the westbound Wells Avenue approach. There are no auxiliary turn lanes at the intersection. Sight distance looking south from the Wells Avenue approach is limited by the horizontal alignment of Barton Road south of the intersection, but adequate sight distance is available looking across the corner of the intersection.

Non-Automotive Facilities

Bus Service. Public bus service is provided to the Loomis area by Placer County Transit. The *Taylor Road Shuttle* links Loomis, Penryn, Auburn and Sierra College in Rocklin. This route stops within Loomis at the downtown multi-modal center. Service is provided between 6:30 a.m. and 4:15 p.m. Monday –Friday with four stops per day. The *Lincoln-Rocklin-Sierra College* route links these two communities with Sierra College but does not extend east towards the project site. Loomis is also served by *Placer Commuter Express*, which runs during commute hours and links the community with downtown Sacramento. The area is also served by *Placer County Transit Dial-a-Ride* from 6:00 a.m. to 8:00 p.m.

Bicycle Facilities. The Loomis bicycle system consists of various types of facilities. There are about 6½ miles of Class II (on-street lanes) facilities on major arterials throughout the Town. Paved shoulders that are only slightly narrower than Class II lanes exist on the east side of Barton Road in the area of the project. Paved shoulders (2-3 feet wide) also exist on about ½ of the site frontage on the west side of Barton Road. However, there are no shoulders on Wells Avenue or on Rocklin Road in the area of the project that are wide enough to accommodate bicycles.

The rural roads around the DSMME site see considerable recreational bicycle traffic, particularly on weekends. Organized groups of cyclists who share the road with automobiles are common.

The Town of Loomis recently adopted a Bicycle Master Plan which outlines the Town's future intentions. The Master Plan indicates that bicycles and automobiles will continue to share Rocklin Road, Barton Road and Wells Avenue (i.e., Class II designation), but while some improvements will be made for signs and shoulder widening, formal bicycle lanes will not be developed.

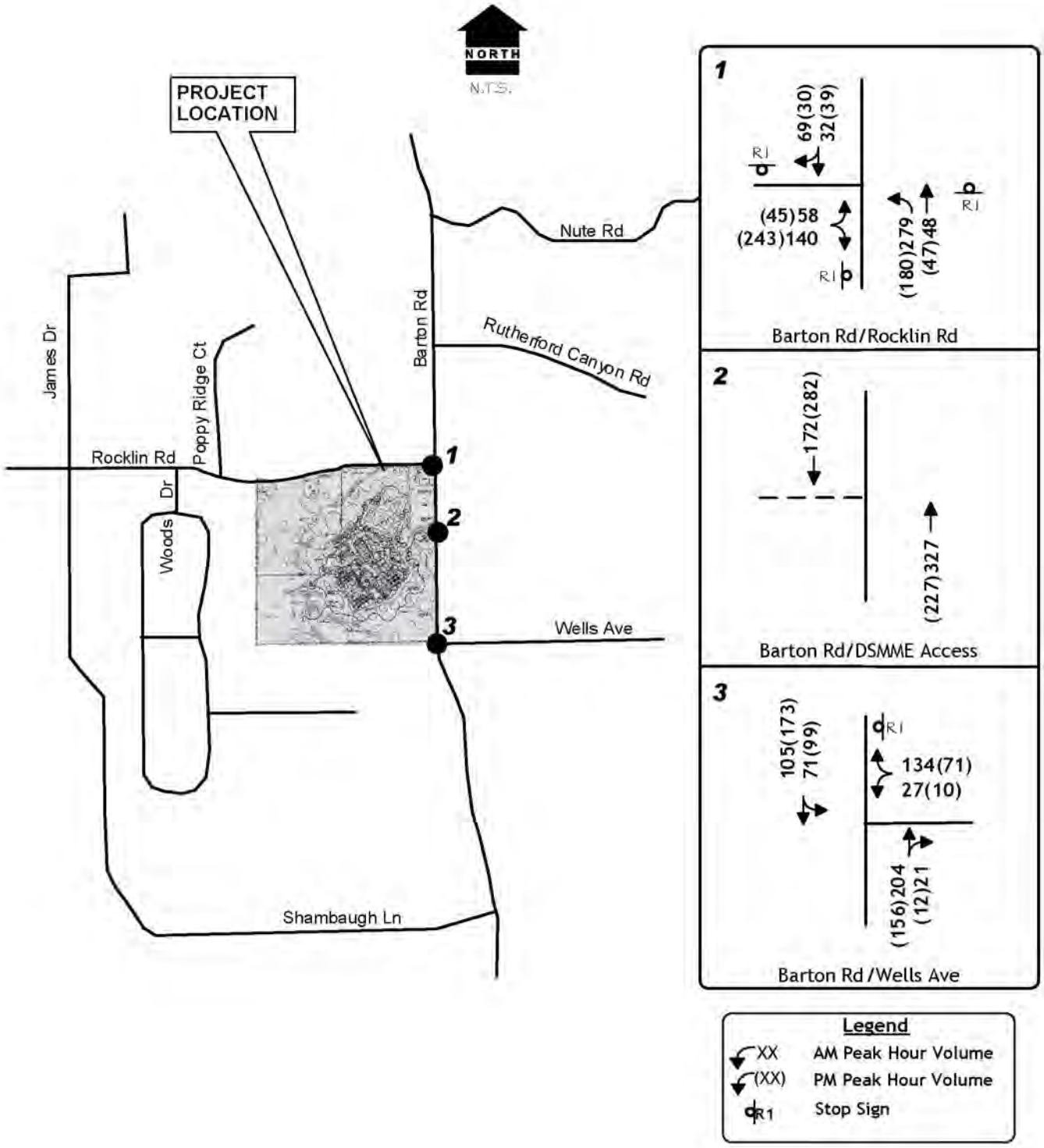
Sidewalks / Paths. Sidewalks are provided today in urban areas of Loomis and Rocklin and are constructed as new urban development proceeds. However, sidewalks have not been required with new development in the rural areas of Loomis. In rural areas pedestrians are expected to make use of paved and unpaved shoulders, and conflicts with automobiles can occur at locations where the width of these facilities is inadequate.

Some pedestrian activity occurs between rural areas of Loomis and the commercial areas of Rocklin. Thus, the availability of sidewalks and paved shoulders along Rocklin Road is a safety consideration. Today sidewalks extend for about ¼ mile along the south side of Rocklin Road from the Sierra College Blvd intersection to the eastern end of the Rocklin Manor apartments. From that point the road continues for another ¼ mile to the western DSMME site boundary, and paved shoulders of varying widths are available in this area. There are two locations where no shoulders are available and in theses areas pedestrians have to walk in the vehicular travel lane or in vegetated areas. A cut-bank roughly eight feet high extends for about 200 feet just west of the St Francis Woods subdivision entrance. In this area a separate eastbound right turn lane has been striped immediately adjoining the cut-bank leaving no space for a shoulder to accommodate pedestrians or bicycles for a distance of 100 feet. Beyond the St Francis Woods access Rocklin Road passes through a horizontal curve at the northeast corner of the DSMME site. The paved shoulder in this area is only 1-1½ feet wide.

Existing Traffic Volumes

Weekday a.m. and p.m. peak hour were made at the three study intersections. The p.m. counts were conducted in July 2010 and the a.m. counts were made in October 2010 when Sierra College and other areas schools were in session. Figure 3 displays these existing traffic volumes that were used for this analysis.

Conditions on major roads have also been evaluated within the context of current daily traffic volumes collected in September 2010, as shown in Table 1.



KD Anderson & Associates, Inc.
Transportation Engineers

EXISTING TRAFFIC VOLUMES
AND LANE CONFIGURATIONS

0750-03.VSD 11/12/2010

figure 3

TABLE 1
CURRENT DAILY TRAFFIC VOLUMES AND LEVELS OF SERVICE

Roadway	Segment	# of Lanes	Weekday (9/30/2010)		
			Average Daily Traffic	Daily Volume/ Capacity Ratio	Level of Service
Barton Road	Rocklin Road to Wells Avenue	2	5,920	0.40	A
Rocklin Road	Rocklin City limits to Barton Road	2	6,100	0.41	A
Wells Avenue	Barton Road to Laird Road	2	2,350	0.16	A
Counts made in October 2010					

Level of Service – Methodologies

To assess the quality of existing traffic conditions, operating Levels of Service were calculated at each study intersection. "Level of Service" (LOS) is a qualitative measure of traffic operating conditions whereby a letter grade "A" through "F", corresponding to progressively worsening traffic operating conditions, is assigned to an intersection or roadway segment.

Table 2 presents the characteristics associated with each LOS grade. As shown in Table 2, LOS "A", "B" and "C" are considered satisfactory to most motorists, while LOS "D" is marginally acceptable. LOS "E" and "F" are associated with increasingly long delays and congestion and are unacceptable to most motorists. .

Loomis Standards. At intersections controlled by the Town of Loomis Levels of Service are calculated using the methodologies contained in the 2000 Highway Capacity Manual (HCM). In the case of intersections controlled by side street stop signs, both the overall Level of Service for the intersection and the individual Level of Service for all movements that yield the right of way at stop signs has been identified. The Town of Loomis strives to maintain LOS C at intersections under its jurisdiction, with the exception of the Taylor Road / King Road intersection near Del Oro HS where LOS D is accepted in the morning peak hour.

The Loomis General Plan also contains Level of Service thresholds based on the volume of traffic on individual roadway segments. Levels of Service and v/c ratio for roadway segments were calculated using the capacity thresholds identified in the Loomis General Plan. Measured in terms of the volume / capacity ratio (v/c), unsatisfactory conditions occur when the v/c ratio exceeds 0.80.

TABLE 2
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.
Overall Level of Service for unsignalized intersections is weighted average of delays experienced by all motorists yielding the right of way, excluding through traffic.			
Sources: 2000 Highway Capacity Manual, Transportation Research Board (TRB) Special Report 209.			

Existing Levels of Service

Current a.m. and p.m. peak hour Levels of Service are summarized in Table 3. As shown, the peak hour Level of Service at the two study intersections is LOS A, which meets the Town of Loomis's LOS C minimum.

As was shown in Table 1, based on daily traffic volumes all roads carry volumes that are indicative of LOS A conditions.

TABLE 3
EXISTING INTERSECTION LEVEL OF SERVICE

Intersection	Control	Jurisdiction	AM Peak Hour		PM Peak Hour	
			Average Delay (seconds / vehicle)	LOS	Average Delay (seconds / vehicle)	LOS
Rocklin Road / Barton Road	All-Way Stop	Loomis	12	B	10	A
Wells Avenue / Barton Road	WB Stop	Loomis				
(overall)			(4)	(A)	(3)	(A)
SB left turn			8	A	8	A
WB Stop			12	B	10	A

Traffic Signal Warrants / Left Turn Channelization

The status of current traffic conditions have also been evaluated within the context of two additional criteria: the need for traffic signals and the need for left turn lanes.

Traffic Signal Warrants. Warrant requirements presented in the *California Manual on Uniform Traffic Control Devices (CMUTCD)* were reviewed to determine whether traffic signals might already be needed at study intersections. Peak hour traffic volumes were compared to the minimum warrant standards, as these criteria are the most directly comparable to available data. Current traffic volumes at each un-signalized intersection fall far below the level that would warrant a traffic signal.

Left turn lane channelization. The extent to which a left turn lane is already needed on Barton Road at the Wells Avenue intersection was evaluated using the criteria contained in the American Association of State Highway and Transportation Officials (AASHTO) publication *Policy on the Geometric Design of Streets and Highways.* Exhibit 9-75 of that document introduces guidelines predicated on a combination of opposing and advancing traffic volume, percentage of left turns and speed limit, as noted in Table 4.

Current peak hour traffic volumes at the Wells Avenue / Barton Road intersection were reviewed to determine whether a separate southbound lane is already warranted at this location. As noted in Table 5, left turning traffic represents 36% to 40% of the total southbound volume during these time periods. A turn lane is not currently justified at this intersection based on traffic volume.

TABLE 4
LEFT TURN LANE CRITERIA

Opposing Volume (vehicles/hour)	Advancing Volume (vehicles/hour)			
	5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns
40-mph operating speed				
800	330	240	180	160
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340
50-mph operating speed				
800	280	210	165	135
600	350	260	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
60-mph operating speed				
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240
Source:				

TABLE 5
LEFT TURN LANE EVALUATION AT WELLS AVENUE / BARTON ROAD

Opposing Volume (vehicles/hour)	Advancing Volume (vehicles/hour)			
	5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns
40-mph operating speed				
800	330	240	180	160
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340
225	**Observed AM Peak Hour**			**176 (40%)**
	More than 600 opposing vehicles needed in AM to satisfy guidelines			
168	**Observed PM Peak Hour**			**272 (36%)**
	More than 200 opposing vehicles needed in PM to satisfy guidelines			

PROJECT TRAFFIC IMPACTS

Traffic conditions resulting from operation of the DSMME Monastery project are described in this report section. Project impacts have been quantified by estimating the number and directional distribution of vehicular trips made to and from the site, and by superimposing those trips onto current traffic volumes at the study intersections. Levels of Service were then recalculated for the "Existing Plus Project" condition.

Information regarding the traffic characteristics of the project has been identified through a search of traffic studies published in other areas as well as through new traffic counts made at a similar facility in Ann Arbor Michigan.

Project Characteristics

Project Operational characteristics. Vehicular trips associated with the Monastery will occasionally result from travel by the sisters and from visitors to the site. Traffic counts made at a comparable convent in Ann Arbor Michigan were used as the initial basis to quantify site trip generation.

Trip Generation Estimates. The amount of vehicular traffic associated with development proposals is typically estimated using nationally published trip generation rates. In this case, however, monasteries are unusual uses that are not included in the Institute of Transportation Engineers (ITE) standard reference.

The number of sisters in residence at the DSMME convent in Ann Arbor Michigan varies throughout the year. The lowest population is 75 sisters, and the highest population on the site is 93 sisters in facilities that total 130,000 sf.

Manual weekday a.m. and p.m. were conducted at the site access, and this data was used as the basis for peak hour trip generation rates. These counts were made in August when the site population was highest. Access to the Ann Arbor site is via graveled roads that are not conducive to mechanical traffic counts, and this data was used to approximate daily trip generation forecasts. As shown, the Ann Arbor facility was determined to generate 70 trips on an average weekday (35 inbound and 35 outbound), with lower estimates for traffic occurring on Saturday and Sunday. However, relatively little trip generation was observed during the weekday commute hours.

TABLE 6
TRIP GENERATION RATES

Condition	Direction	Trips	# of sisters	Rate per sister
Average Weekday (M-F)	Both	70	93	0.753
Average Weekday A.M. Commute Hour (7:00 a.m. to 9:00 A.M.)	Inbound	3		0.032
	Outbound	2		0.022
	Both	5		0.054
Average Weekday P.M. Commute Hour (4:00 to 6:00 P.M.)	Inbound	1		0.011
	Outbound	0		0.000
	Both	1		0.011
Saturday	Both	24		0.258
Sunday	Both	30		0.323

The number of vehicular trips that could be generated by the DSMME Monastery in Loomis has been estimated based on the observed trip generation rates and on the maximum number of sisters residing at the facility. The number of sisters on site will range from a low of 75 occurring for 90% of the year to a high of 115 sisters occurring during peak times. As noted in Table 7, a facility housing 115 sisters could be expected to generate 87 trips on a typical weekday, with 7 trips occurring in the a.m. peak hour and 1 trip generated in the weekday p.m. peak hour.

One additional factor has been considered in estimating site trip generation. Because the Ann Arbor convent counts were made in August, trips by sisters to teaching assignment at area schools are excluded. At the Loomis site approximately 24 sisters may eventually have teaching assignments at Catholic schools. In the morning these sisters will generate 5 outbound trips, with 5 inbound trips generated in the p.m. peak hour.

Adding school traffic, the project could generate 97 daily trips with 12 trips in the a.m. peak hour and 6 trips occurring in the p.m. peak hour.

Current Site Uses. As a comparison, the site is currently occupied by three uses:

1. seasonal agricultural sales
2. single family residence
3. a mobile home

The number of trips typically generated by the residential uses can be estimated from ITE rates, but the number of trips generated by the agricultural sales will vary throughout the year as produce is available. Peak Hour traffic activity at the agricultural site was observed in July 2010. At that time the business opened following the typical am commute hour and generated a total of 13 trips in the p.m. peak hour.

Today the existing house on the project site is occupied by members of the DSMME and is expected to be occupied by one or two priests associated with the Monastery. A conventional single family home would generate roughly 10 trip ends per day and one trip during each of the peak commute hours. However, it is unlikely that the sisters generate trips at that rate today nor that the intended future use generates that much traffic.

The existing mobile home is not affiliated with the DSMME. Based on ITE rates, a mobile home generates roughly 5 trips per day and ½ a trip in each of the peak hours.

All together, in the summer the agricultural sales and mobile home probably generate approximately 105 daily trips with 15 trips in the p.m. peak hour. Based on this information, the proposed Monastery project will generate about the same amount of traffic as current uses over the course of the day. The Monastery will generate more traffic in the a.m. peak hour and less traffic during the p.m. peak hour.

TABLE 7
TRIP GENERATION FORECAST

Description	Quantity	Weekday Trip Generation						
		Daily	A.m. Peak Hour			P.m. Peak Hour		
			in	out	total	in	Out	total
Proposed Project								
DSMME Monastery, Loomis	115 sisters	87	4	3	7	1	0	1
	24 teachers	10	0	5	5	5	0	5
	total	97	4	8	12	6	0	8
Existing Uses on Site								
Single Family Residence	1 du	(10)	(0.2)	(0.6)	(0.8)	(0.6)	(0.4)	(1.0)
Existing Uses on site								
Mobile Home	1 du	5	0.1	0.5	0.5	0.4	0.2	0.6
Seasonal Agricultural sales	2½ ac	100	0	0	0	6	7	13
Total		105	<1	<1	<1	7	8	15
Site Development as Residential								
Single Family Residences	8 du's	77	2	4	6	5	3	8

Alternative Site Development. The current general plan designation for the property allows development of 8 single family residences. At typical trip generation rates, these residences could generate 77 daily trips, with 6 trips in the a.m. peak hour and 8 trip ends in the p.m. peak hour.

Special Events. The Ann Arbor facility reports occasional special events when visitors travel to the site, but these events occur infrequently. Generally during the year, the postulants and novices remain on site and almost never leave. These persons represent roughly 1/3 of the on-site population. There are four times a year that all or almost all the sisters re-assemble at the convent: 1) in October; 2) in late December for Christmas; and, 3) from Holy Thursday through Easter Week. An off-site summer retreat begins mid-July and runs to about August 10, however those gatherings do not materially increase traffic because the sisters travel in groups. Additionally, the Profession Days, which this year are August 4 and August 6 are very well attended by family of the newly professed sisters, but in Ann Arbor the actual ceremony occurs at a local parish church to accommodate the number of attendees, and the public is at the convent between 10:00 a.m. and 4:00 p.m. on those two days.

Trip Distribution. Having determined the number of trips that may typically be generated by the proposed project, it is necessary to identify the directional distribution of project traffic in order to assign these trips to the study area street system. This was accomplished by considering the purpose of project trips, as well as the location of possible destinations for these trips.

Vehicular travel to and from the DSMME Monastery is comprised of trips made by the sisters to and from local schools, parishes, etc Over the course of a year these trips could be made to/from origins / destinations throughout the Western Placer County / Eastern Sacramento County area.

The overall allocation of project trips to the study area circulation system is identified in Table 8. The resulting assignment of project trips onto the study area street system is shown in Figure 4.

TABLE 8
DIRECTIONAL TRIP DISTRIBUTION

	Percentage of Total Trips
North on Barton Road to Loomis	5%
East on Wells Avenue	5%
West on Rocklin Road beyond Sierra College Blvd	60%
South on Barton Road	10%
North on Sierra College Blvd	10%
South on Sierra College Blvd	10%
Total	100%

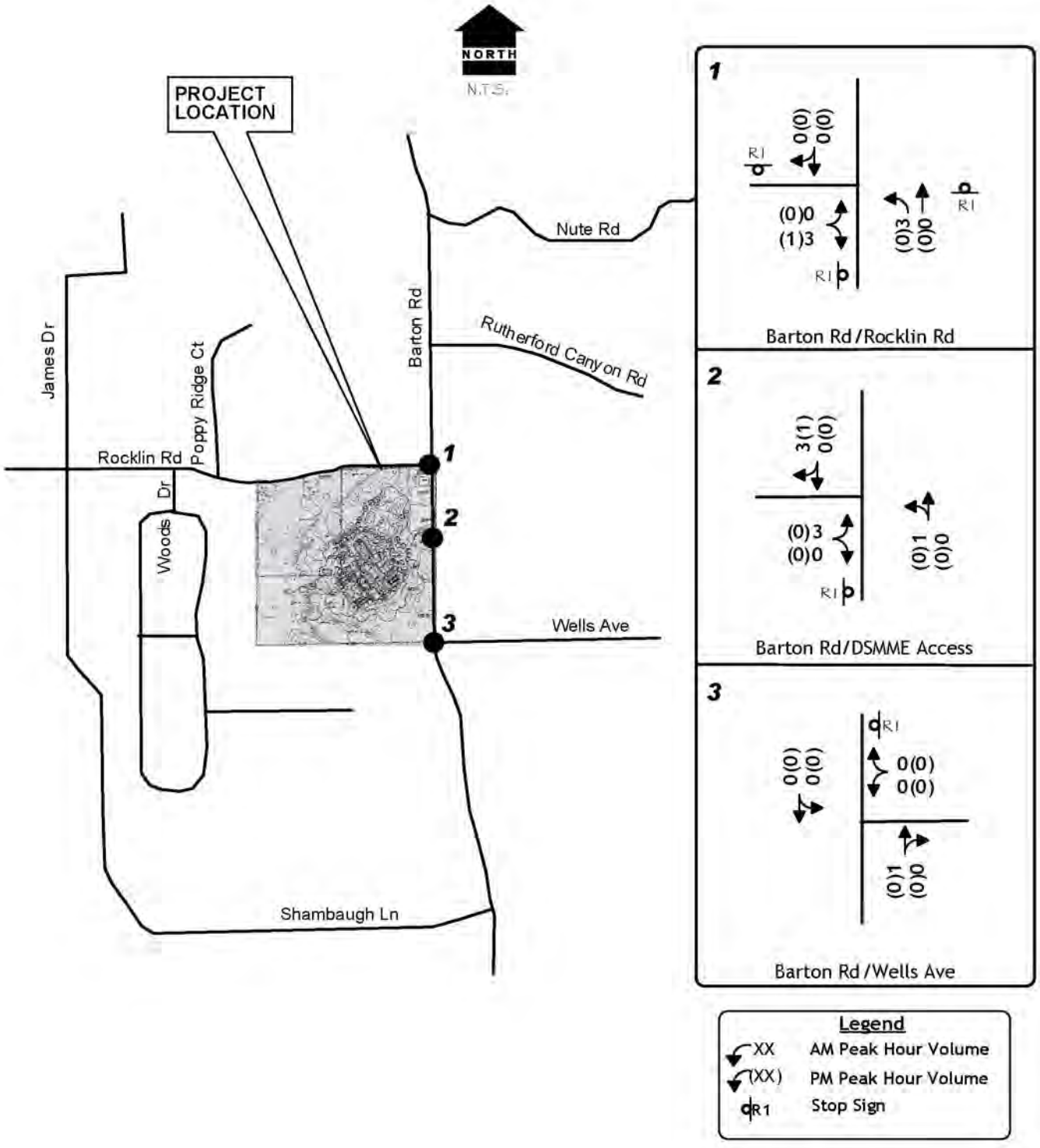
Existing Plus Project Conditions

Daily Traffic Volumes. Table 9 presents the daily traffic volume contribution of this project to study area roads and resulting Levels of Service. These projections conservatively assume that all Monastery traffic is "new" to the local street system, and no discount has been taken for elimination of any traffic created by existing uses. As shown, the addition of project traffic will not result in any road carrying traffic volumes that exceed the Town of Loomis' minimum Level of Service thresholds (i.e., LOS C standard), and LOS A conditions will remain on each road.

Intersection Levels of Service. Figure 5 presents "Existing Plus Project" peak hour traffic volumes. Table 10 presents Levels of Service at the project access and at study intersections with development of the project. As shown, of this project will not change the existing Level of Service result in conditions in excess of minimum Town standards the Level of Service at the two existing study intersections. No mitigation to address Level of Service is needed at these locations.

Under "Existing Plus Project" conditions the Level of Service for motorists accessing the site at the new driveway will also be within Town minimum standards.

Traffic Signal Warrants / Left Turn Channelization. Conditions occurring with operation of the project will not reach the level that satisfies warrants for traffic signals at the two existing study intersections. Similarly, projected traffic volumes under "Existing Plus Project" conditions do not reach the level that warrants a left turn lane at the site access nor at the Wells Avenue / Barton Road intersection.

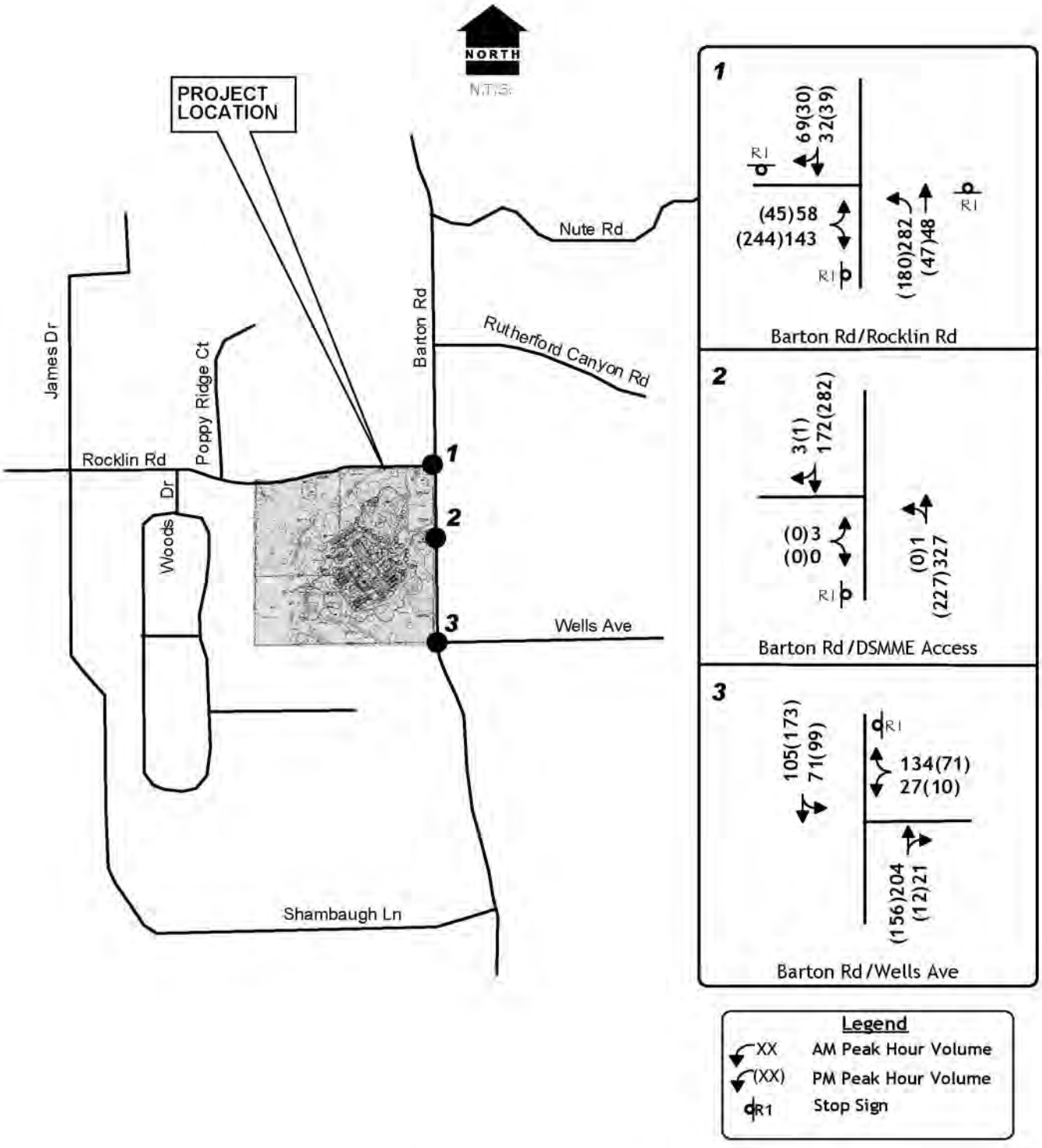


KD Anderson & Associates, Inc.
Transportation Engineers

PROJECT ONLY TRAFFIC VOLUMES
AND LANE CONFIGURATIONS

0750-03.VSD 11/12/2010

figure 4



EXISTING PLUS PROJECT
TRAFFIC VOLUMES
AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

0750-03.VSD 11/12/2010

figure 5

TABLE 9
EXISTING PLUS PROJECT DAILY TRAFFIC VOLUMES AND LEVELS OF SERVICE

Roadway	Segment	# of Lanes	Weekday						
			Existing			Existing Plus Project			
			Average Daily Traffic	V/C	LOS	Average Daily Traffic		V/C	LOS
						Project Only	Total		
Barton Rd	Rocklin Rd to Access	2	5,920	0.40	A	80	6,000	0.40	A
	Access to Wells Ave	2				15	5,935	0.40	A
Rocklin Rd	West of Barton Road	2	6,100	0.41	A	75	6,175	0.41	A
Wells Ave	Barton Road to Laird Rd	2	2,350	0.16	A	5	2,355	0.16	A

Impacts to Non-Automotive Transportation

Development of the site will not interfere with current use of Barton Road or Rocklin Road by non-automotive modes of transportation. The amount of automobile traffic accompanying the project will not appreciably increase conflicts between automobiles, pedestrians and bicyclists. Similarly, development of the project at this location will not interfere with any long term plans by the Town of Loomis for improvements to trails or bike lanes. The project itself would not be expected to generate appreciable bicycle and pedestrian traffic due to the nature of the activities at the Monastery and its rural location. Based on these considerations, the DSMME Monastery's impacts on non-automotive modes of transportation is not significant.

TABLE 10
EXISTING PLUS PROJECT INTERSECTION LEVEL OF SERVICE

Intersection	Control	AM Peak Hour				PM Peak Hour			
		Existing		Ex Plus Project		Existing		Ex Plus Project	
		Ave Delay (sec's)	LOS	Ave Delay (sec's)	LOS	Ave Delay (seconds)	LOS	Ave Delay (sec's)	LOS
Rocklin Road / Barton Road	All-Way Stop	10.9	B	11.1	B	9.9	A	9.9	A
Barton Road / Access	EB Stop	-	-			-	-		
(overall)				(0.2)	(A)			(0.0)	(A)
EB left+right				11.9	B			0.0	A
NB left turn				7.6	A			7.9	A
Wells Avenue / Barton Road	WB Stop								
(overall)		(4.3)	(A)	(4.3)	(A)	(3.1)	(A)	(3.1)	(A)
SB left turn		7.9	A	7.9	A	7.8	A	7.8	A
WB Stop		11.5	B	11.5	B	10.2	B	10.2	B

CUMULATIVE TRAFFIC CONDITIONS / ACCESS FEASIBILITY

The relative impacts of the proposed project have also been evaluated within the context of long term traffic conditions anticipated under the Town of Loomis General Plan. Under Town of Loomis traffic study guidelines, a cumulative analysis is not required if the proposed project is consistent with the General Plan and the project's long term traffic impact is already accounted for via the Town's Capital Improvement Program (CIP). As the project is consistent with the General Plan, its cumulative impact is addressed by existing Town of Loomis mitigation fees in those locations where improvements are planned.

Background Traffic Conditions

Year 2030 Traffic Volume Forecasts. The Town of Loomis has recently commissioned a regional travel demand forecasting model General Plan which is the basis for future traffic volume forecasts in the Loomis area. Because the regional traffic model is not exact, it is necessary to make use of these forecasts as a method for interpolating year 2030 daily volumes from current observations. As noted in Table 11, this is accomplished by identifying the increment of growth suggested by the model and adding this increment to current volumes.

As shown, Rocklin Road may carry 14,780 vehicles per day along the site frontage in 2030, with Barton Road carrying 13,450 vehicles per day.

TABLE 11
FUTURE TRAFFIC VOLUME PROJECTIONS

Road	Location	Raw Model Volume			2010 Count	Adjusted 2030
		2008	2030	Increment		
Barton Road	North of Rutherford Canyon	2,190	4,233	2,043	-	-
	Rutherford Canyon to Rocklin Road	4,260	7,691	3,431	2,070	5,500
	Rocklin Road to Wells Avenue	8,003	15,536	7,533	5,920	13,450
	South of Wells Avenue	5,571	12,384	6,813	-	-
Rocklin Road	West of Barton Road	9,650	18,326	8,676	6,100	14,780
Rutherford Canyon Rd	East of Barton Road	2,091	3,486	1,395	-	-
Wells Avenue	East of Barton Road	2,647	3,264	617	2,350	2,970

Access Evaluation

The adequacy of project access has been evaluated within the context of anticipated future traffic conditions assuming access to Barton Road for regular traffic.

The volume of peak hour background traffic occurring at the winery access point was determined by applying am identified growth factor to the current observed peak hour volume. Under year 2030 weekday conditions the background traffic volume is projected to be roughly 2.27 times the current daily volume. Applying that growth rate to current a.m. peak hour volumes suggests that there could be 1,130 vehicles passing the site on Barton Road in 2025.

Sight Distance. The sight distance that needs to be available at the project driveway is dependent on the speed of traffic and on adopted minimum standards for sight distance. The posted speed limit on Barton Road is 40 mph.

The Caltrans Highway Design Manual (HDM) is an accepted source for minimum stopping sight distance and corner sight distance at various speeds. HDM Table 201.1 notes that *minimum sight distance standard* is 300 feet at 40 mph. This is the distance required for an approaching motorist on Barton Road to see an obstacle in the road and stop before a collision. *Corner sight distance* requirements (Table 405.1A) provide the space needed to ensure that entering vehicles do not interfere with the flow of through traffic, and 440 feet of sight distance is required at 40 mph. In both cases Caltrans guidelines assume that the motorist's eye is located 15 feet from the edge of the travel way.

Measured centerline to center line, the proposed access is roughly 520 feet south of the Rocklin Road intersection and roughly 880 feet from the Wells Avenue intersection. Our field review revealed that the access is at the top of the more northerly the two vertical curves on Barton Road between the Wells Avenue and Rocklin Road. From that location approaching southbound vehicles are visible at the Rocklin Road intersection. Looking to the south, the top of approaching northbound vehicles are visible across the southern curve and it is possible to see vehicles at the Wells Avenue intersection.

Based on this information it should be possible to meet both minimum sight distance and corner sight distance standards at the new access. However, it will be necessary to review the available sight distance when improvement plans are prepared to ensure that the available distance is provided when grades are established for the driveway.

Level of Service. While background traffic volume on Barton Road will increase, the Level of Service at the DSMME Monastery access will remain within the Town of Loomis's LOS C minimum standard. LOS C conditions are forecast.

Queue Length. The length of driveway throat needed to accommodate vehicles waiting to leave the site was considered. Per Town guidelines, a 95% confidence level has been assumed, meaning that the forecast queue length should only be exceeded 5% of the time during the peak hour. In this case, because the volume of traffic turning onto Barton Road is relatively low, 95% of the time the peak

hour queue in the driveway is projected to be one (1) vehicle or less. The current site plan has a driveway throat of approximately 300 feet, which would be adequate for 12 vehicles.

It is possible that exiting vehicles may queue at the access after a special event. The number of waiting cars is dependent to the rate at which guests elect to leave at the conclusions of an event. While it is possible that on site traffic could extend back into the site, such queues would occur when relatively little traffic was expected to be entering the Monastery. As a result, queuing by special event traffic would not create an appreciable hazard for traffic on Barton Road.

Left Turn Lane Channelization. The extent to which long term traffic conditions warrant a northbound left turn lane on Barton Road at the site access was considered within the context of AASHTO guidelines and the available sight distance.

Because the volume of traffic into and out of the site is relatively low, a left turn lane would not be warranted under year 2025 conditions to accommodate the day-to-day operation of the project, even with increase background traffic.

MITIGATION MEASURES / RECOMMENDATIONS

The purpose of this section is to describe measures that will alleviate unacceptable traffic conditions. For the Town of Loomis, "unacceptable" conditions are identified as those under which weekday Level of Service (LOS) “D”, "E", or "F" is experienced.

Mitigations for Development of Project

Access Improvements. The project should construct its driveway in a manner that accommodates turning traffic and provides sight distance that meets Town of Loomis requirements.

Cumulative Mitigations. The project will need to contribute its fair share to the cost of long term local and regional improvements. Within the Town of Loomis, payment of adopted mitigation fees will suffice to address planned improvements to the Town’s streets and roads, to Sierra College Blvd and the Interstate 80 / Horseshoe Bar Road interchange.

APPENDIX

Volumes for: Thursday, September 30, 2010 City: Loomis Project #: 0750-03
Location: Rocklin Road west of Barton Road

Start	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	5	40			4	53				
12:15	1	37			0	52				
12:30	3	56			1	53				
12:45	4	64	13	197	0	41	5	199	18	396
1:00	2	41			1	43				
1:15	1	42			2	48				
1:30	3	36			1	39				
1:45	1	44	7	163	3	47	7	177	14	340
2:00	1	58			2	34				
2:15	0	62			0	41				
2:30	0	51			0	33				
2:45	1	48	2	219	0	35	2	143	4	362
3:00	0	59			0	50				
3:15	1	67			0	56				
3:30	1	45			2	54				
3:45	2	62	4	233	2	48	4	208	8	441
4:00	0	50			1	52				
4:15	0	66			1	48				
4:30	2	66			1	38				
4:45	1	61	3	243	2	42	5	180	8	423
5:00	2	64			2	36				
5:15	1	95			9	43				
5:30	4	87			9	56				
5:45	4	58	11	304	8	45	28	180	39	484
6:00	10	65			15	53				
6:15	12	57			12	63				
6:30	13	52			33	41				
6:45	19	51	54	225	38	38	98	195	152	420
7:00	28	57			40	38				
7:15	31	50			36	39				
7:30	41	66			61	34				
7:45	47	44	147	217	98	27	235	138	382	355
8:00	55	39			84	27				
8:15	46	32			75	29				
8:30	50	45			87	22				
8:45	34	49	185	165	77	28	323	106	508	271
9:00	53	22			62	7				
9:15	27	31			65	19				
9:30	47	35			70	24				
9:45	41	31	168	119	56	25	253	75	421	194
10:00	39	19			39	15				
10:15	33	21			43	6				
10:30	41	11			63	10				
10:45	36	10	149	61	57	5	202	36	351	97
11:00	56	12			55	7				
11:15	53	6			35	4				
11:30	37	6			40	4				
11:45	52	2	198	26	41	5	171	20	369	46
Total	941	2172	941	2172	1333	1657	1333	1657	2274	3829
Combined Total	3113		3113		2990		2990		6103	
AM Peak	7:45 AM				7:45 AM					
Vol.	198				344					
P.H.F.	0.900				0.878					
PM Peak		4:45 PM				5:30 PM				
Vol.		307				217				
P.H.F.		0.808				0.861				
Percentage	30.2%	69.8%			44.6%	55.4%				

Volumes for: Thursday, September 30, 2010 City: Loomis Project #: 0750-03
Location: Barton Road north of Rocklin Road

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	1	15			1	22				
12:15	1	15			1	15				
12:30	2	17			1	17				
12:45	0	25	4	72	1	20	4	74	8	146
1:00	0	21			0	15				
1:15	0	24			0	26				
1:30	0	12			1	11				
1:45	1	17	1	74	0	21	1	73	2	147
2:00	0	23			0	9				
2:15	0	16			0	11				
2:30	0	21			0	9				
2:45	0	15	0	75	0	11	0	40	0	115
3:00	0	20			0	13				
3:15	0	27			0	25				
3:30	0	27			0	21				
3:45	0	14	0	88	0	15	0	74	0	162
4:00	1	16			0	20				
4:15	0	15			0	13				
4:30	0	13			1	12				
4:45	1	29	2	73	0	12	1	57	3	130
5:00	1	25			0	11				
5:15	0	25			1	10				
5:30	3	27			1	17				
5:45	3	26	7	103	2	15	4	53	11	156
6:00	4	22			4	15				
6:15	4	16			4	19				
6:30	3	17			3	13				
6:45	6	26	17	81	6	8	17	55	34	136
7:00	12	22			14	12				
7:15	19	24			15	19				
7:30	23	20			19	15				
7:45	34	10	88	76	24	6	72	52	160	128
8:00	22	7			30	12				
8:15	31	6			21	6				
8:30	21	7			21	9				
8:45	18	7	92	27	21	16	93	43	185	70
9:00	32	6			12	3				
9:15	12	9			15	7				
9:30	19	9			10	14	0			
9:45	21	10	84	34	18	16	55	40	139	74
10:00	20	6			14	5				
10:15	14	10			19	0				
10:30	14	3			15	5				
10:45	13	5	61	24	13	1	61	11	122	35
11:00	13	2			11	0				
11:15	14	2			15	2				
11:30	9	1			12	2				
11:45	14	0	50	5	12	0	50	4	100	9
Total	406	732	406	732	358	576	358	576	764	1308
Combined Total	1138		1138		934		934		2072	
AM Peak	7:30 AM				7:45 AM					
Vol.	110				96					
P.H.F.	0.809				0.800					
PM Peak		4:45 PM				3:15 PM				
Vol.		106				81				
P.H.F.		0.897				0.810				
Percentage	35.7%	64.3%			38.3%	61.7%				

Volumes for: Thursday, September 30, 2010 City: Loomis Project #: 0750-03
Location: Barton Road south of Rocklin Road

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	3	52			4	51				
12:15	0	53			0	38				
12:30	0	51			2	54				
12:45	0	34	3	190	5	56	11	199	14	389
1:00	0	44			1	34				
1:15	2	52			1	44				
1:30	1	36			4	32				
1:45	3	43	6	175	0	47	6	157	12	332
2:00	2	35			1	44				
2:15	0	43			0	59				
2:30	0	37			0	41				
2:45	0	39	2	154	1	52	2	196	4	350
3:00	0	60			0	59				
3:15	0	54			1	69				
3:30	2	62			1	46				
3:45	2	42	4	218	2	62	4	236	8	454
4:00	2	44			0	51				
4:15	1	50			0	66				
4:30	1	41			3	68				
4:45	2	55	6	190	0	55	3	240	9	430
5:00	2	50			1	67				
5:15	9	48			1	85				
5:30	10	54			3	78				
5:45	8	47	29	199	4	56	9	286	38	485
6:00	17	53			12	59				
6:15	15	60			12	57				
6:30	31	41			13	51				
6:45	38	47	101	201	18	42	55	209	156	410
7:00	39	36			30	48				
7:15	41	37			31	41				
7:30	66	22			46	57				
7:45	101	25	247	120	37	40	144	186	391	306
8:00	69	21			56	40				
8:15	77	30			33	31				
8:30	74	20			46	45				
8:45	75	15	295	86	36	51	171	167	466	253
9:00	62	8			39	20				
9:15	63	16			29	24				
9:30	70	17			43	34	0			
9:45	55	18	250	59	37	29	148	107	398	166
10:00	45	19			33	21				
10:15	40	9			35	16				
10:30	60	7			35	12				
10:45	55	5	200	40	33	6	136	55	336	95
11:00	56	8			57	11				
11:15	40	5			49	7				
11:30	33	4			41	6				
11:45	47	4	176	21	51	2	198	26	374	47
Total	1319	1653	1319	1653	887	2064	887	2064	2206	3717
Combined Total	2972		2972		2951		2951		5923	
AM Peak	7:45 AM				11:00 AM					
Vol.	321				198					
P.H.F.	0.795				0.868					
PM Peak		3:00 PM				5:00 PM				
Vol.		218				286				
P.H.F.		0.960				0.841				
Percentage	44.4%	55.6%			30.1%	69.9%				

Volumes for: Thursday, September 30, 2010 City: Loomis Project #: 0750-03
Location: Wells Avenue east of Barton Road

Start	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	1	22			1	32				
12:15	0	14			0	10				
12:30	1	14			0	15				
12:45	2	22	4	72	0	14	1	71	5	143
1:00	1	13			0	16				
1:15	0	12			0	17				
1:30	0	10			0	11				
1:45	0	14	1	49	1	17	1	61	2	110
2:00	0	17			1	21				
2:15	0	24			0	16				
2:30	0	18			0	17				
2:45	1	31	1	90	0	25	1	79	2	169
3:00	0	37			0	33				
3:15	0	21			0	31				
3:30	0	14			0	25				
3:45	0	27	0	99	1	17	1	106	1	205
4:00	0	12			2	11				
4:15	0	24			1	11				
4:30	1	21			0	19				
4:45	0	19	1	76	0	23	3	64	4	140
5:00	0	25			1	15				
5:15	0	43			7	13				
5:30	1	35			4	18				
5:45	0	22	1	125	6	19	18	65	19	190
6:00	1	30			9	13				
6:15	4	21			6	20				
6:30	4	15			12	15				
6:45	3	21	12	87	18	13	45	61	57	148
7:00	13	22			11	15				
7:15	11	16			18	19				
7:30	16	19			20	7				
7:45	20	21	60	78	30	13	79	54	139	132
8:00	33	19			33	15				
8:15	19	13			54	20				
8:30	33	17			42	7				
8:45	14	18	99	67	50	14	179	56	278	123
9:00	11	12			20	3				
9:15	10	6			21	3				
9:30	19	4			21	4				
9:45	17	8	57	30	21	7	83	17	140	47
10:00	14	7			11	6				
10:15	16	6			15	4				
10:30	9	4			16	2				
10:45	12	3	51	20	31	1	73	13	124	33
11:00	21	6			17	1				
11:15	17	3			10	1				
11:30	13	1			10	1				
11:45	9	2	60	12	25	1	62	4	122	16
Total	347	805	347	805	546	651	546	651	893	1456
Combined Total	1152		1152		1197		1197		2349	
AM Peak	7:45 AM				8:00 AM					
Vol.	105				179					
P.H.F.	0.795				0.829					
PM Peak		5:15 PM				2:45 PM				
Vol.		130				114				
P.H.F.		0.756				0.864				
Percentage	30.1%	69.9%			45.6%	54.4%				

Volumes for: Tuesday, June 22, 2010 City: Rocklin Project #: 10-7242-040
Location: Rocklin Rd @ Loomis Town Limit

Start	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	2	52			5	61				
12:15	6	56			2	39				
12:30	7	70			4	45				
12:45	2	61	17	239	4	45	15	190	32	429
1:00	4	48			1	48				
1:15	0	45			1	48				
1:30	2	52			2	34				
1:45	3	49	9	194	0	37	4	167	13	361
2:00	1	45			1	47				
2:15	2	45			2	40				
2:30	0	39			0	37				
2:45	1	54	4	183	1	35	4	159	8	342
3:00	0	58			0	37				
3:15	0	64			1	51				
3:30	3	67			1	44				
3:45	0	60	3	249	0	54	2	186	5	435
4:00	1	65			1	48				
4:15	1	69			2	46				
4:30	1	48			2	44				
4:45	2	65	5	247	2	53	7	191	12	438
5:00	5	70			7	58				
5:15	2	72			6	56				
5:30	3	77			11	55				
5:45	5	72	15	291	16	63	40	232	55	523
6:00	9	77			17	59				
6:15	6	64			24	53				
6:30	27	76			21	43				
6:45	23	52	65	269	31	37	93	192	158	461
7:00	33	61			33	42				
7:15	28	60			41	29				
7:30	22	64			37	39				
7:45	32	43	115	228	73	33	184	143	299	371
8:00	45	31			91	21				
8:15	31	35			57	27				
8:30	41	41			68	21				
8:45	42	16	159	123	56	17	272	86	431	209
9:00	39	29			63	13				
9:15	37	28			56	19				
9:30	33	31			52	33				
9:45	34	27	143	115	50	37	221	102	364	217
10:00	37	17			68	19				
10:15	39	21			55	9				
10:30	46	13			37	7				
10:45	40	14	162	65	42	6	202	41	364	106
11:00	45	13			41	8				
11:15	48	8			45	5				
11:30	41	8			39	4				
11:45	56	7	190	36	48	5	173	22	363	58
Total	887	2239	887	2239	1217	1711	1217	1711	2104	3950
Combined Total	3126		3126		2928		2928		6054	
AM Peak	11:45 AM				7:45 AM					
Vol.	234				289					
P.H.F.	0.836				0.794					
PM Peak		5:15 PM				5:15 PM				
Vol.		298				233				
P.H.F.		0.968				0.925				
Percentage	28.4%	71.6%			41.6%	58.4%				

Volumes for: Tuesday, June 22, 2010 City: Rocklin Project #: 10-7242-042

Location: Sierra College Blvd between El Don & Rocklin Rd

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	8	115			20	196				
12:15	9	125			9	190				
12:30	2	195			7	183				
12:45	3	179	22	614	7	173	43	742	65	1356
1:00	2	142			11	151				
1:15	2	120			12	144				
1:30	4	110			4	122				
1:45	6	106	14	478	9	173	36	590	50	1068
2:00	5	95			8	151				
2:15	4	124			7	139				
2:30	1	119			2	124				
2:45	4	132	14	470	4	161	21	575	35	1045
3:00	5	152			2	167				
3:15	3	133			5	167				
3:30	4	153			4	181				
3:45	5	154	17	592	9	161	20	676	37	1268
4:00	3	145			5	187				
4:15	2	165			7	183				
4:30	7	186			11	173				
4:45	7	190	19	686	21	204	44	747	63	1433
5:00	5	178			18	207				
5:15	11	189			20	230				
5:30	9	256			30	213				
5:45	20	242	45	865	55	210	123	860	168	1725
6:00	20	238			61	200				
6:15	25	136			86	188				
6:30	23	111			88	161				
6:45	53	92	121	577	117	129	352	678	473	1255
7:00	47	70			138	108				
7:15	72	64			123	120				
7:30	84	51			157	90				
7:45	197	53	400	238	179	75	597	393	997	631
8:00	185	37			216	71				
8:15	93	53			225	103				
8:30	150	51			207	98				
8:45	87	43	515	184	177	70	825	342	1340	526
9:00	112	80			157	77				
9:15	124	73			165	75				
9:30	100	55			155	72	0			
9:45	136	36	472	244	153	67	630	291	1102	535
10:00	200	26			162	49				
10:15	173	23			174	44				
10:30	106	26			144	43				
10:45	91	26	570	101	123	27	603	163	1173	264
11:00	103	19			170	26				
11:15	100	17			142	26				
11:30	85	13			134	16				
11:45	76	14	364	63	168	19	614	87	978	150
Total	2573	5112	2573	5112	3908	6144	3908	6144	6481	11256
Combined Total	7685		7685		10052		10052		17737	
AM Peak	7:45 AM				7:45 AM					
Vol.	625				827					
P.H.F.	0.793				0.919					
PM Peak		5:15 PM				5:00 PM				
Vol.		925				860				
P.H.F.		0.907				0.935				
Percentage	33.5%	66.5%			38.9%	61.1%				

Volumes for: Tuesday, June 22, 2010 City: Rocklin Project #: 10-7242-043

Location: Sierra College Blvd between College's New Parking lot & I-80 EB

Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	10	108			7	132				
12:15	9	112			2	123				
12:30	4	178			3	125				
12:45	5	162	28	560	3	140	15	520	43	1080
1:00	7	132			8	134				
1:15	5	104			5	138				
1:30	2	116			5	120				
1:45	3	108	17	460	5	114	23	506	40	966
2:00	6	106			6	108				
2:15	5	121			6	145				
2:30	2	100			0	114				
2:45	8	130	21	457	1	129	13	496	34	953
3:00	4	138			0	123				
3:15	5	151			6	115				
3:30	6	159			3	137				
3:45	7	148	22	596	6	109	15	484	37	1080
4:00	4	151			3	141				
4:15	7	158			3	152				
4:30	9	167			8	133				
4:45	10	173	30	649	18	147	32	573	62	1222
5:00	10	179			12	154				
5:15	11	176			14	181				
5:30	15	186			26	159				
5:45	32	192	68	733	42	185	94	679	162	1412
6:00	44	180			64	144				
6:15	35	128			76	137				
6:30	49	114			108	106				
6:45	56	103	184	525	118	92	366	479	550	1004
7:00	73	92			124	77				
7:15	98	77			127	63				
7:30	112	68			163	61				
7:45	112	72	395	309	253	50	667	251	1062	560
8:00	166	58			307	46				
8:15	91	81			205	37				
8:30	124	63			169	52				
8:45	120	54	501	256	164	47	845	182	1346	438
9:00	115	69			139	44				
9:15	130	81			141	53				
9:30	97	72			125	38	0			
9:45	114	38	456	260	131	44	536	179	992	439
10:00	102	26			173	31				
10:15	126	25			135	32				
10:30	121	15			102	16				
10:45	87	30	436	96	98	22	508	101	944	197
11:00	88	25			108	15				
11:15	111	19			128	22				
11:30	88	14			97	8				
11:45	89	15	376	73	97	9	430	54	806	127
Total	2534	4974	2534	4974	3544	4504	3544	4504	6078	9478
Combined Total	7508		7508		8048		8048		15556	
AM Peak	8:00 AM				7:45 AM					
Vol.	501				934					
P.H.F.	0.755				0.761					
PM Peak		5:15 PM				5:00 PM				
Vol.		734				679				
P.H.F.		0.971				0.918				
Percentage	33.8%	66.2%			44.0%	56.0%				

Volumes for: Tuesday, June 22, 2010 City: Rocklin Project #: 10-7242-044
Location: Sierra College Blvd @ Loomis Town Limit (right after McDonalds)

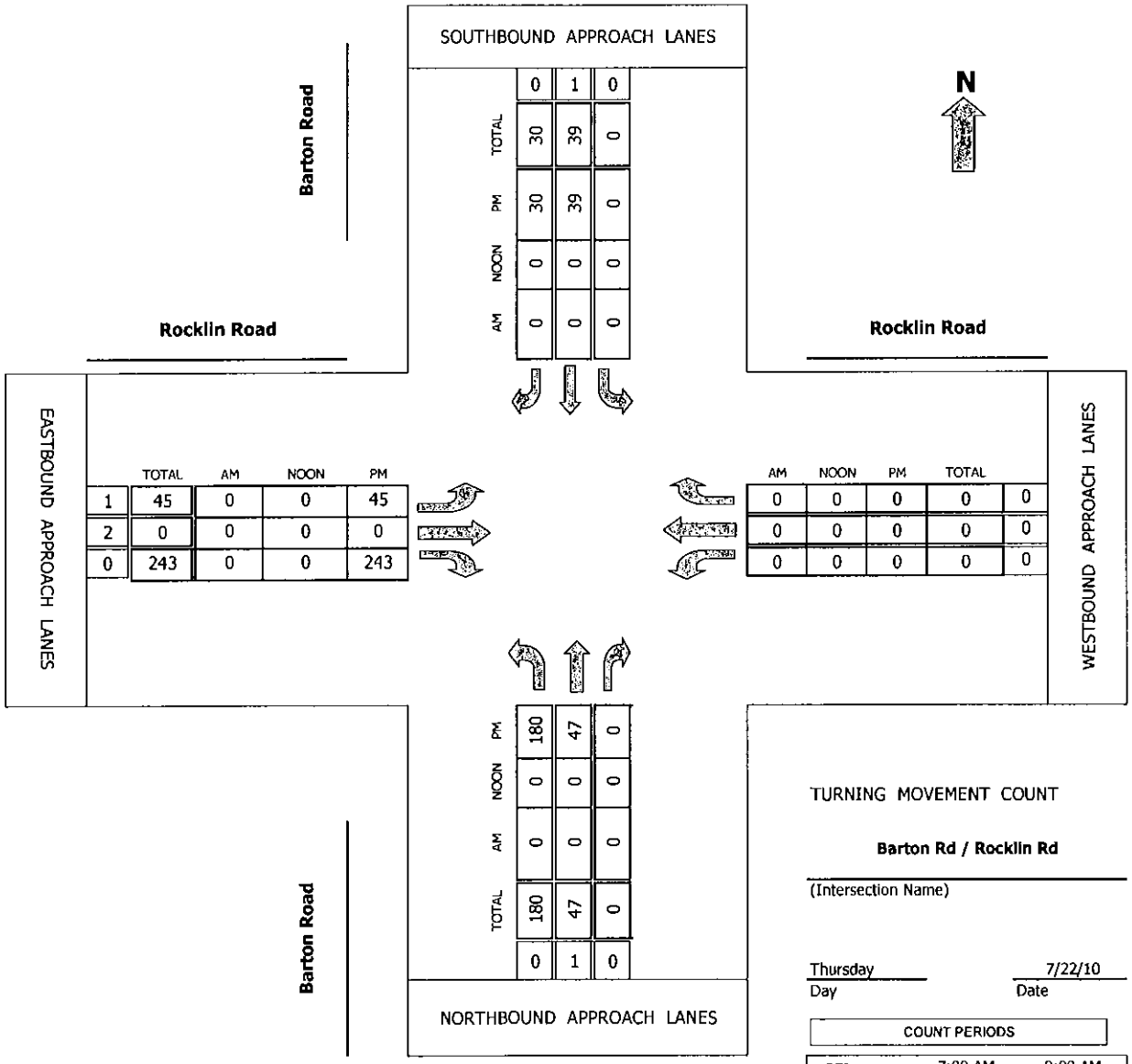
Start	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00	18	113			16	165				
12:15	5	113			7	158				
12:30	12	176			4	144				
12:45	8	170	43	572	8	144	35	611	78	1183
1:00	11	163			5	141				
1:15	13	143			6	144				
1:30	6	162			6	137				
1:45	9	129	39	597	10	124	27	546	66	1143
2:00	8	139			4	117				
2:15	10	146			4	129				
2:30	3	143			3	108				
2:45	6	147	27	575	1	139	12	493	39	1068
3:00	1	157			3	122				
3:15	3	152			15	128				
3:30	5	166			4	114				
3:45	4	166	13	641	9	108	31	472	44	1113
4:00	9	162			5	134				
4:15	4	151			9	136				
4:30	4	182			12	131				
4:45	5	186	22	681	14	144	40	545	62	1226
5:00	10	200			17	123				
5:15	9	191			26	179				
5:30	16	207			33	138				
5:45	23	187	58	785	54	158	130	598	188	1383
6:00	27	204			60	111				
6:15	28	132			82	107				
6:30	42	148			74	94				
6:45	56	114	153	598	104	99	320	411	473	1009
7:00	78	99			116	68				
7:15	69	104			159	68				
7:30	100	99			138	80				
7:45	75	100	322	402	175	75	588	291	910	693
8:00	139	71			213	57				
8:15	103	78			150	71				
8:30	141	96			160	68				
8:45	126	73	509	318	156	61	679	257	1188	575
9:00	116	68			145	49				
9:15	104	68			143	59				
9:30	90	72			146	38	0			
9:45	110	66	420	274	131	40	565	186	985	460
10:00	116	40			154	21				
10:15	119	39			144	37				
10:30	124	35			122	16				
10:45	99	46	458	160	127	17	547	91	1005	251
11:00	95	47			117	21				
11:15	113	29			144	17				
11:30	115	27			140	9				
11:45	114	21	437	124	121	8	522	55	959	179
Total	2501	5727	2501	5727	3496	4556	3496	4556	5997	10283
Combined Total	8228		8228		8052		8052		16280	
AM Peak	11:45 AM				7:45 AM					
Vol.	516				698					
P.H.F.	0.733				0.819					
PM Peak		5:15 PM				12:00 PM				
Vol.		789				611				
P.H.F.		0.932				0.926				
Percentage	30.4%	69.6%			43.4%	56.6%				

Intersection Turning Movement

Prepared by:
KD Anderson Associates, Inc.

TMC Summary of Barton Road/Rocklin Road

Project #: 0750-03



TURNING MOVEMENT COUNT

Barton Rd / Rocklin Rd

(Intersection Name)

Thursday — Day

7/22/10 — Date

COUNT PERIODS		
am	7:00 AM -	9:00 AM
noon	11:00 AM -	1:00 PM
pm	4:00 PM -	6:00 PM

AM PEAK HOUR	0 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	445 PM

Intersection Turning Movement

Prepared by:

N-S STREET: Barton Road DATE: 7/22/10 LOCATION: Loomis

E-W STREET: Rocklin Road DAY: THURSDAY PROJECT# 0750-03

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	29	13			7	4	9		40				102
4:15 PM	36	8			6	6	5		53				114
4:30 PM	37	11			10	9	7		48				122
4:45 PM	46	14			7	10	11		53				141
5:00 PM	33	13			8	8	13		77				152
5:15 PM	54	10			16	5	10		56				151
5:30 PM	47	10			8	7	11		57				140
5:45 PM	42	5			12	5	9		48				121
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL VOLUMES =	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	324	84	0	0	74	54	75	0	432	0	0	0	1043

PM Peak Hr Begins at: 445 PM

PEAK VOLUMES =	180	47	0	0	39	30	45	0	243	0	0	0	584
PEAK HR. FACTOR:		0.887			0.821			0.800			0.000		0.961

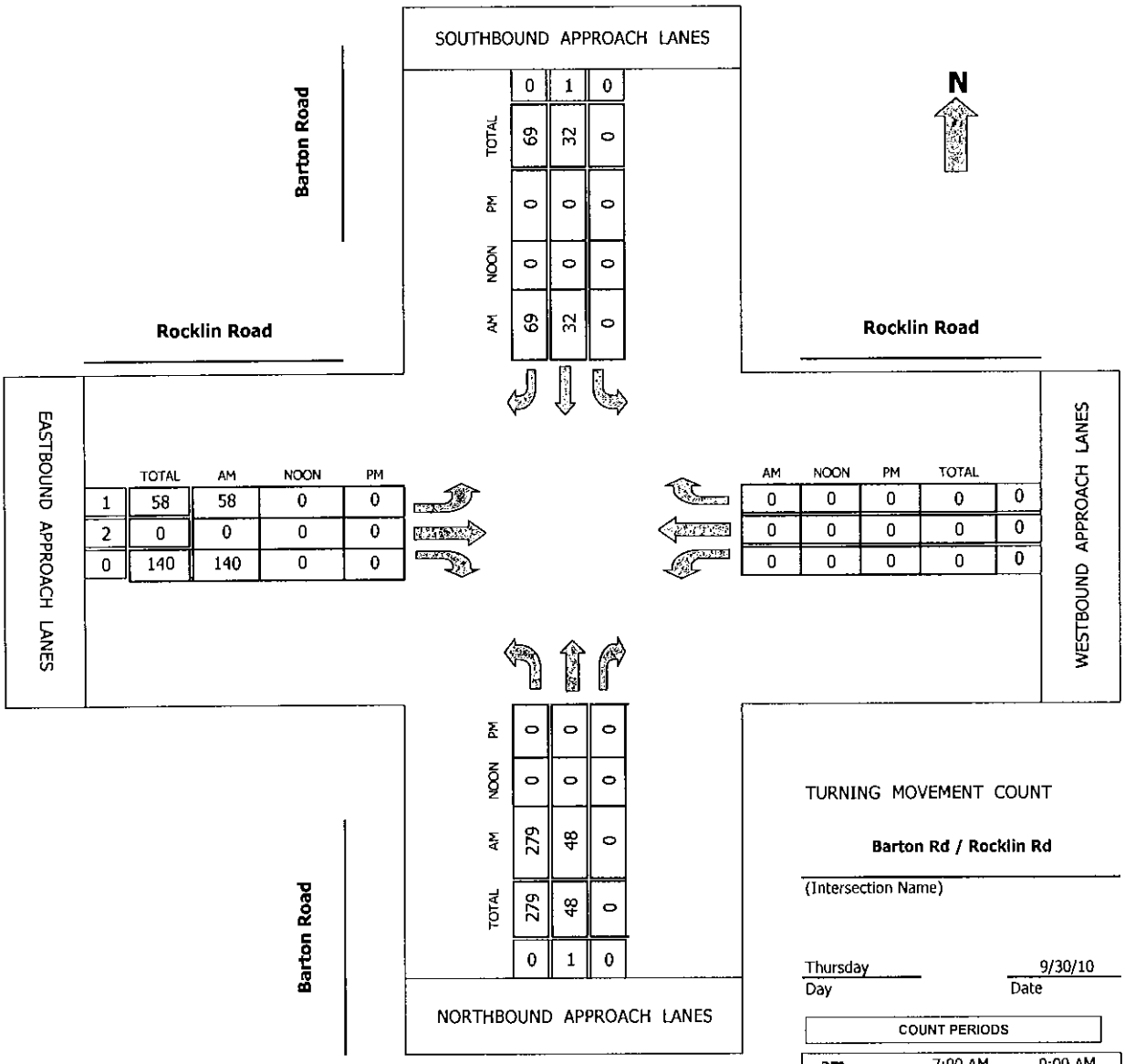
CONTROL:

Intersection Turning Movement

Prepared by:
KD Anderson Associates, Inc.

TMC Summary of Barton Road/Rocklin Road

Project #: 0750-03



TURNING MOVEMENT COUNT

Barton Rd / Rocklin Rd

(Intersection Name)

Thursday — Day

9/30/10 — Date

COUNT PERIODS		
am	7:00 AM -	9:00 AM
noon	11:00 AM -	1:00 PM
pm	4:00 PM -	6:00 PM

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	0 AM

Intersection Turning Movement

Prepared by:

N-S STREET: Barton Road DATE: 9/30/10 LOCATION: Loomis

E-W STREET: Rocklin Road DAY: THURSDAY PROJECT# 0750-03

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	31	9			9	5	9		21				84
7:15 AM	50	14			12	9	11		31				127
7:30 AM	84	21			7	17	12		30				171
7:45 AM	63	8			11	18	14		48				162
8:00 AM	58	13			6	19	17		25				138
8:15 AM	74	6			8	15	15		37				155
8:30 AM	68	5			12	9	13		24				131
8:45 AM													
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	428	76	0	0	65	92	91	0	216	0	0	0	968

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	279	48	0	0	32	69	58	0	140	0	0	0	626
PEAK HR. FACTOR:		0.779			0.871			0.798			0.000		0.915

CONTROL: 4-WAY STOP

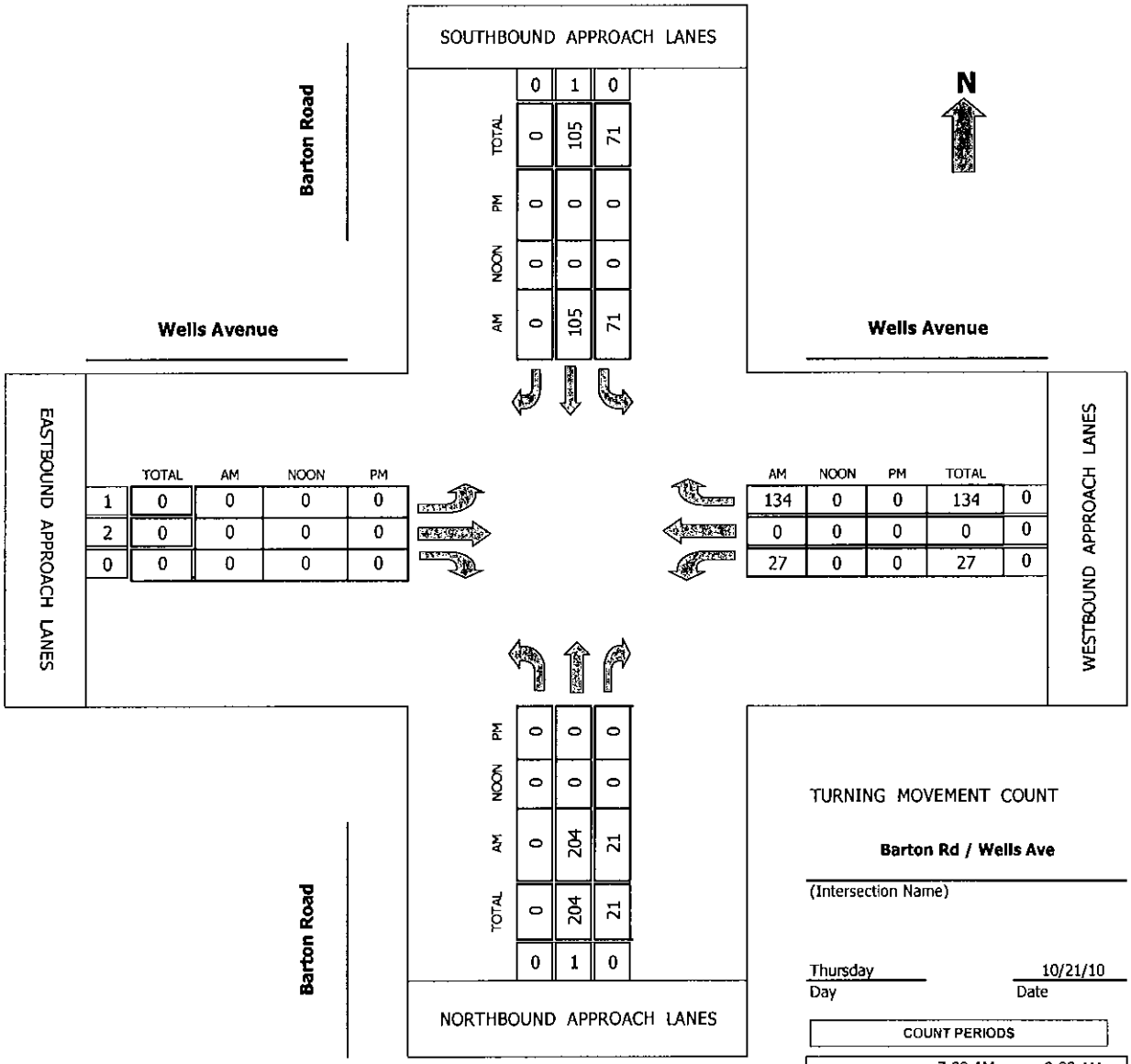
Intersection Turning Movement

Prepared by:

KD Anderson Associates, Inc.

TMC Summary of Barton Road/Wells Avenue

Project #: 0750-03



	TOTAL	AM	NOON	PM
1	0	0	0	0
2	0	0	0	0
0	0	0	0	0

	AM	NOON	PM	TOTAL	
	134	0	0	134	0
	0	0	0	0	0
	27	0	0	27	0

TOTAL	0	105	71
PM	0	0	0
NOON	0	0	0
AM	0	105	71

PM	0	0	0
NOON	0	0	0
AM	0	204	21
TOTAL	0	204	21

TURNING MOVEMENT COUNT

Barton Rd / Wells Ave

(Intersection Name)

Thursday — Day

10/21/10 — Date

COUNT PERIODS		
am	7:00 AM -	9:00 AM
noon	11:00 AM -	1:00 PM
pm	4:00 PM -	6:00 PM

AM PEAK HOUR	730 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	0 AM

Intersection Turning Movement

Prepared by:

N-S STREET: Barton Road DATE: 10/21/10 LOCATION: Loomis

E-W STREET: Wells Avenue DAY: THURSDAY PROJECT# 0750-03

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM		22	2	7	24					0		9	64
7:15 AM		42	5	11	29					1		17	105
7:30 AM		80	0	12	23					4		26	145
7:45 AM		57	9	26	22					6		27	147
8:00 AM		39	6	17	41					12		32	147
8:15 AM		28	6	16	19					5		49	123
8:30 AM		49	1	9	32					7		36	134
8:45 AM													
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	NL 0	NT 317	NR 29	SL 98	ST 190	SR 0	EL 0	ET 0	ER 0	WL 35	WT 0	WR 196	TOTAL 865

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	0	204	21	71	105	0	0	0	0	27	0	134	562
PEAK HR. FACTOR:		0.703			0.759			0.000			0.745		0.956

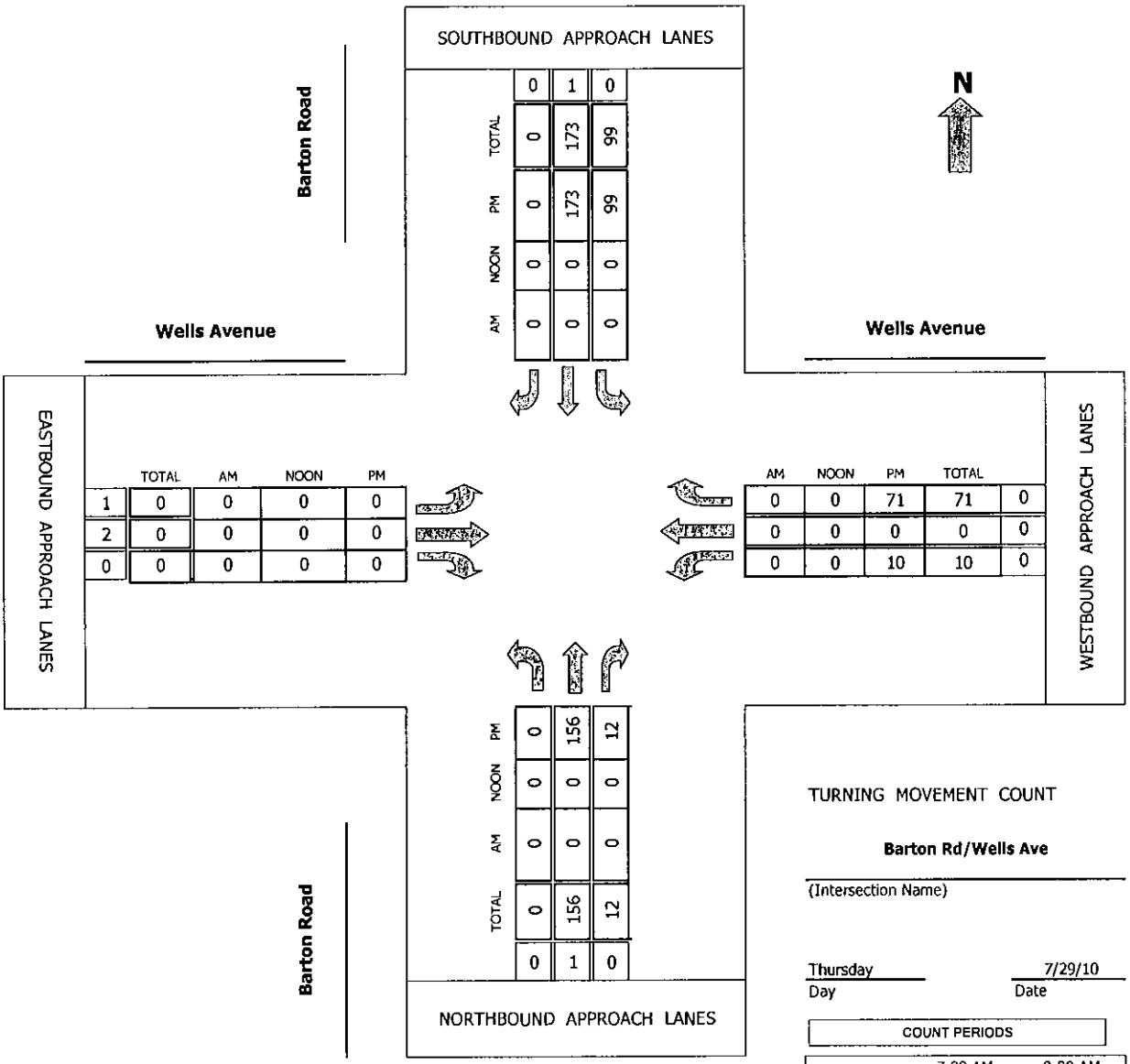
CONTROL: 4-WAY STOP

Intersection Turning Movement

Prepared by:
KD Anderson Associates, Inc.

TMC Summary of Barton Road/Wells Avenue

Project #: 0750-03



	0	1	0
TOTAL	0	173	99
PM	0	173	99
NOON	0	0	0
AM	0	0	0

	TOTAL	AM	NOON	PM
1	0	0	0	0
2	0	0	0	0
0	0	0	0	0

AM	NOON	PM	TOTAL	
0	0	71	71	0
0	0	0	0	0
0	0	10	10	0

	0	156	12
PM	0	156	12
NOON	0	0	0
AM	0	0	0
TOTAL	0	156	12
	0	1	0

TURNING MOVEMENT COUNT

Barton Rd/Wells Ave

(Intersection Name)

Thursday — Day

7/29/10 — Date

COUNT PERIODS		
am	7:00 AM	9:00 AM
noon	11:00 AM	1:00 PM
pm	4:00 PM	6:00 PM

AM PEAK HOUR	0 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	500 PM

Intersection Turning Movement

Prepared by:

N-S STREET: Barton Road DATE: 7/29/10 LOCATION: Rocklin

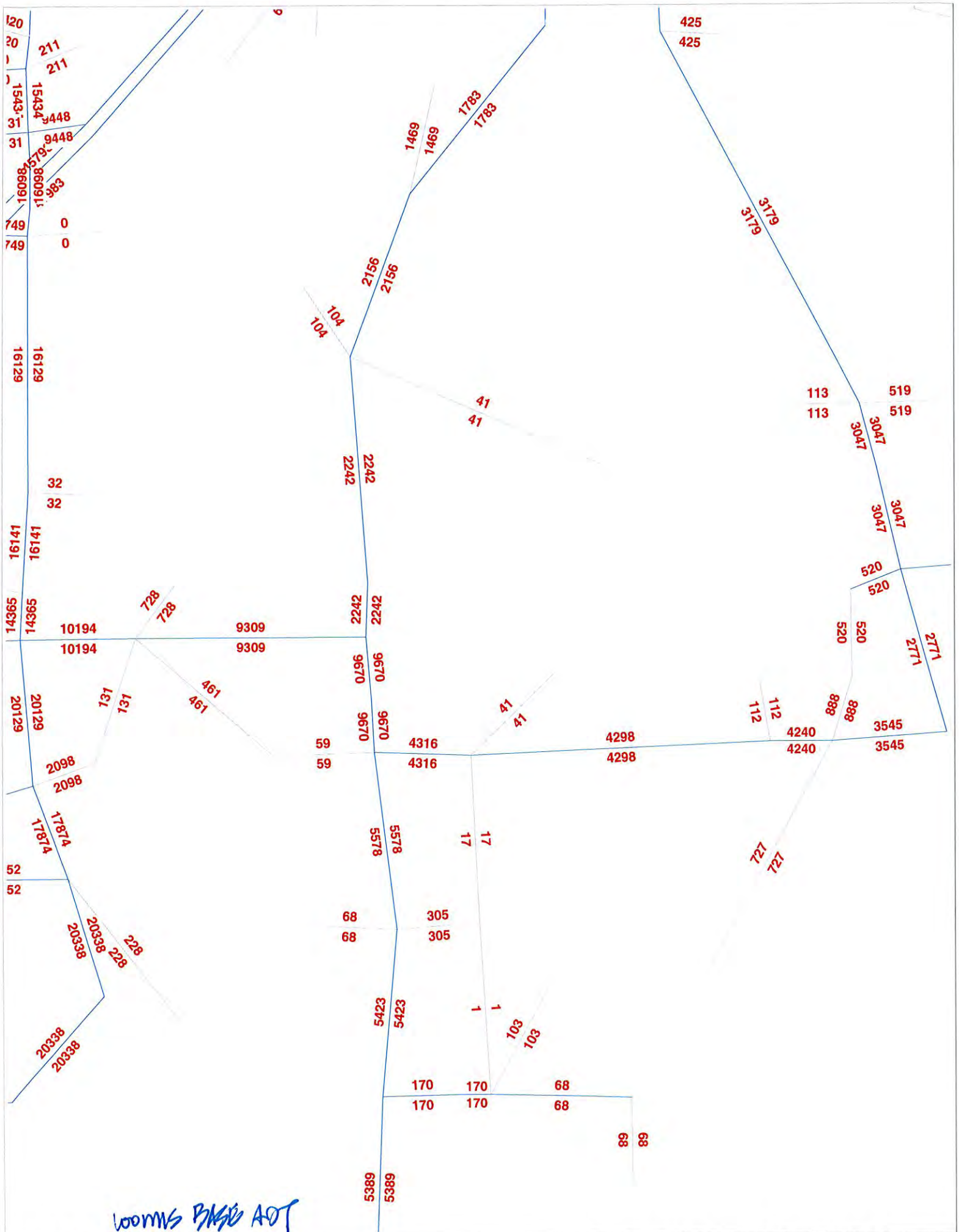
E-W STREET: Wells DAY: THURSDAY PROJECT# 0750-03

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM		39	0	21	28					1		5	94
4:15 PM		32	1	9	26					2		12	82
4:30 PM		31	2	24	39					2		14	112
4:45 PM		39	3	23	44					2		11	122
5:00 PM		40	3	34	42					5		12	136
5:15 PM		41	0	25	49					4		19	138
5:30 PM		33	3	19	34					0		25	114
5:45 PM		42	6	21	48					1		15	133
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	0	297	18	176	310	0	0	0	0	17	0	113	931

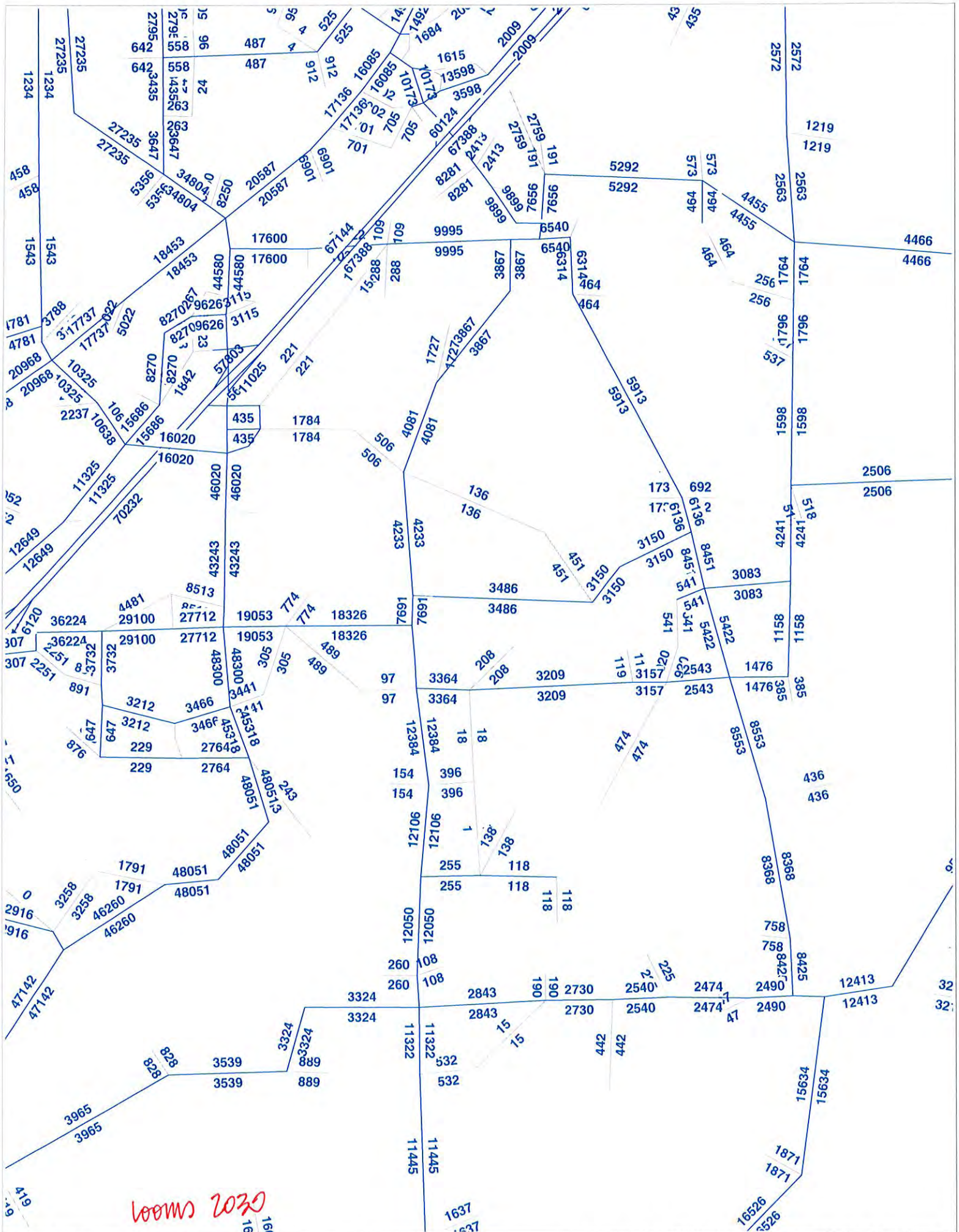
PM Peak Hr Begins at: 500 PM

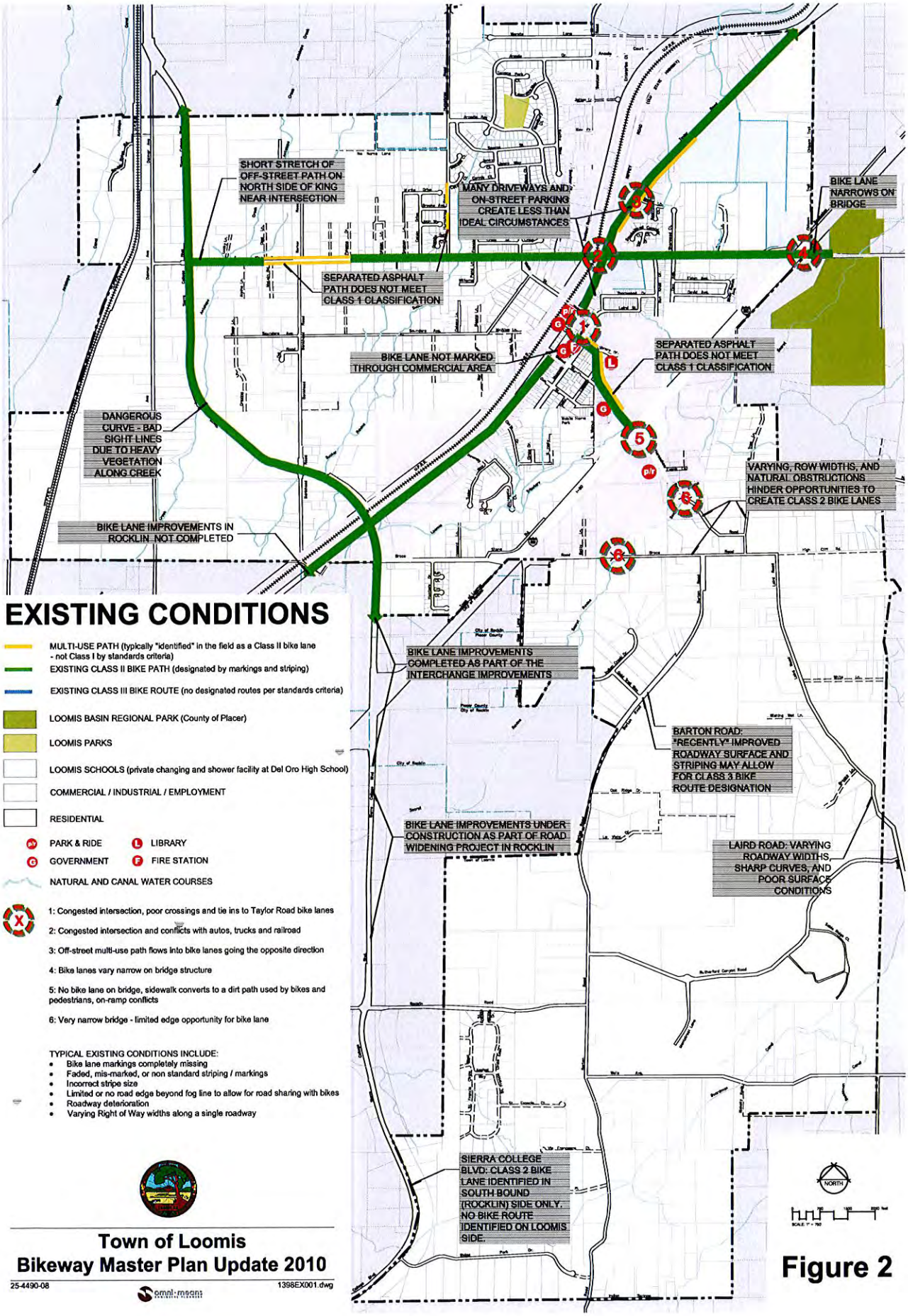
PEAK VOLUMES =	0	156	12	99	173	0	0	0	0	10	0	71	521
PEAK HR. FACTOR:		0.875			0.895			0.000			0.810		0.944

CONTROL:



Looms Bike AOT


looms 2020



EXISTING CONDITIONS

- MULTI-USE PATH (typically "identified" in the field as a Class II bike lane - not Class I by standards criteria)
- EXISTING CLASS II BIKE PATH (designated by markings and striping)
- EXISTING CLASS III BIKE ROUTE (no designated routes per standards criteria)
- LOOMIS BASIN REGIONAL PARK (County of Placer)
- LOOMIS PARKS
- LOOMIS SCHOOLS (private changing and shower facility at Del Oro High School)
- COMMERCIAL / INDUSTRIAL / EMPLOYMENT
- RESIDENTIAL
- P/R PARK & RIDE
- L LIBRARY
- G GOVERNMENT
- F FIRE STATION
- NATURAL AND CANAL WATER COURSES

X

1: Congested intersection, poor crossings and tie ins to Taylor Road bike lanes

2: Congested intersection and conflicts with autos, trucks and railroad

3: Off-street multi-use path flows into bike lanes going the opposite direction

4: Bike lanes vary narrow on bridge structure

5: No bike lane on bridge, sidewalk converts to a dirt path used by bikes and pedestrians, on-ramp conflicts

6: Very narrow bridge - limited edge opportunity for bike lane

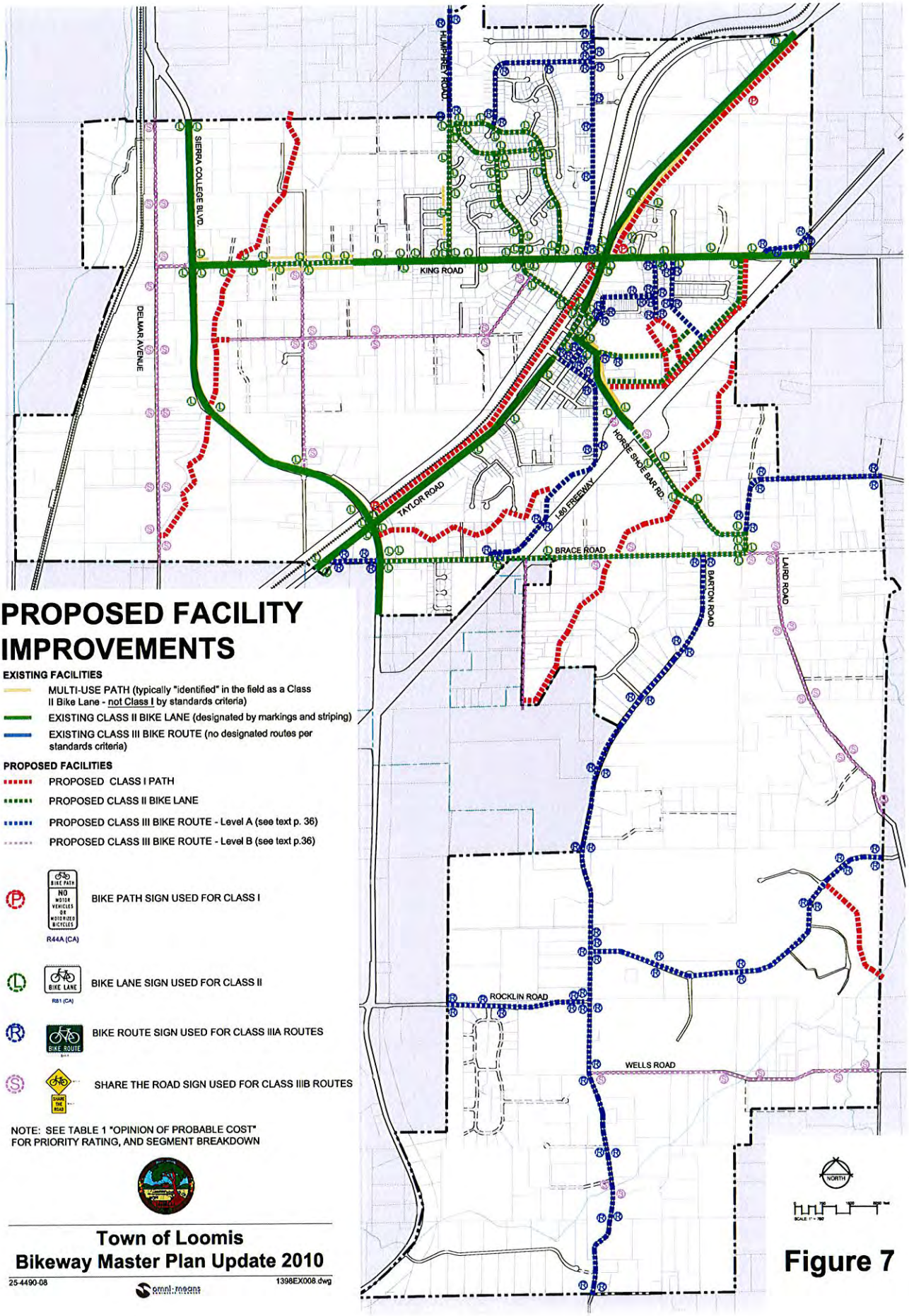
TYPICAL EXISTING CONDITIONS INCLUDE:

- Bike lane markings completely missing
- Faded, mis-marked, or non standard striping / markings
- Incorrect stripe size
- Limited or no road edge beyond fog line to allow for road sharing with bikes
- Roadway deterioration
- Varying Right of Way widths along a single roadway

Town of Loomis
Bikeway Master Plan Update 2010

25-4490-08 omni-means 1398EX001.dwg

Figure 2



PROPOSED FACILITY IMPROVEMENTS

EXISTING FACILITIES

- MULTI-USE PATH (typically "identified" in the field as a Class II Bike Lane - not Class I by standards criteria)
- EXISTING CLASS II BIKE LANE (designated by markings and striping)
- EXISTING CLASS III BIKE ROUTE (no designated routes per standards criteria)

PROPOSED FACILITIES

- PROPOSED CLASS I PATH
- PROPOSED CLASS II BIKE LANE
- PROPOSED CLASS III BIKE ROUTE - Level A (see text p. 36)
- PROPOSED CLASS III BIKE ROUTE - Level B (see text p.36)

(P) BIKE PATH / NO MOTOR VEHICLES OR MOTORIZED BICYCLES — R44A (CA) — BIKE PATH SIGN USED FOR CLASS I

(L) BIKE LANE — R81 (CA) — BIKE LANE SIGN USED FOR CLASS II

(R) BIKE ROUTE — BIKE ROUTE SIGN USED FOR CLASS IIIA ROUTES

(S) SHARE THE ROAD — SHARE THE ROAD SIGN USED FOR CLASS IIIB ROUTES

NOTE: SEE TABLE 1 "OPINION OF PROBABLE COST" FOR PRIORITY RATING, AND SEGMENT BREAKDOWN

NORTH

SCALE 1" = 760'

Town of Loomis
Bikeway Master Plan Update 2010

25-4490-08 omni:means 1398EX008.dwg

Figure 7

Town of Loomis Bicycle Transportation Plan 2010

OPINION OF PROBABLE COST

P-No. = PRIORITY LEVEL No 1 thru 5 (1 is most priority & 5 is least priority)

COST PER ITEM OF IMPROVEMENT

(Enter a "1" for one side of road; Enter a "2" for two sides of road. All costs are per linear foot unless otherwise noted)

P-No.	Street	from	to	Length (ft)	Existing Class	Proposed Class	PAVEMENT MARKINGS (EA) $56	4' SHOULDER $44	2' SHOULDER $22	6" STRIPE $0.81	REMOVE STRIPE $2.30	SIGNS (EA) $345	OTHER	plus Cost	Notes associated with "OTHER"	Sub-total by Priority
1	Sierra College Blvd	Loomis Town limit	King Road	2,614	Class 2		4	0	0	2	2	3	$0	$17,493		
1	Sierra College Blvd	King Road	Bankhead Road	4,753	Class 2		6	0	0	2	2	4	$0	$31,234		
1	Sierra College Blvd	Bankhead Road	Taylor Road	1,614	Class 2		4	0	0	2	2	3	$0	$11,283		
1	King Road	Delmar Ave	Sierra College Blvd	643		Class 3 (B)	0	0	0	0	0	2	$0	$690		
1	King Road	Sierra College Blvd	Opel In	1,357	Class 2		6	0	0	2	2	4	$0	$10,145		
1	King Road	Opel In	Paloma Dr	1,552	Class 2 (non-stnd)	Class 2	10	2	0	2	2	5	$7,500	$156,002	Possible tree removals	
1	King Road	Paloma Dr	Taylor Road	4,567	Class 2		22	0	0	2	2	12	$0	$33,741		
1	King Road	Taylor Road	Route 80	3,647	Class 2		17	0	0	2	2	10	$0	$27,056		
1	Taylor Road	Loomis Town limit	Sierra College Blvd	1,293	Class 2		3	0	0	2	2	3	$0	$9,234		
1	Taylor Road	Sierra College Blvd	Walnut St	4,519	Class 2	Class 1	8	0	0	2	2	7	$0	$30,929		
1	Taylor Road	Walnut St	Webb St	916		Class 2	7	0	0	2	2	8	$0	$8,843	Eliminate parking from H. Bar to Webb	
1	Taylor Road	Webb St	King Road	1,070	Class 2		4	0	0	2	2	4	$0	$8,250		
1	Taylor Road	King Road	Loomis Tributary	2,378	Class 2 (non-stnd)	Class1	4	0	0	2	2	3	$0	$16,028		
1	Taylor Road	Loomis Tributary	Loomis Town limit	2,839	Class 2		1	0	0	2	2	2	$0	$18,377		
1	Taylor Road	Sierra College Blvd	King Road	6,505		Class 1	10	0	0	0	0	2	$184,132	$185,385	AC&AB for class 1 path cost only	
1	Taylor Road	King Road	Loomis Town limit	5,217		Class 1	10	0	0	0	0	2	$62,189	$63,442	AC&AB for class 1 path cost only	
																$628,132
2	Horseshoe Bar Road	Taylor Road	Route 80	2,100	Class 2		0	0	0	2	2	5	$0	$14,766		
2	Horseshoe Bar Road	Route 80	Laird Road	3,033		Class 2	6	2	0	2	2	7	$15,200	$303,692	Widen Box Culvert 5 ft	
2	Horseshoe Bar Road	Horseshoe Bar Road	Loomis Town limits	1,410		Class 3 (A)	0	0	2	2	2	6	$0	$72,866		
																$391,324
3	Barton Road	Brace Road	Indian Springs Road	14,122		Class 3 (A)	0	0	2	2	0	25	$25,000	$677,729	Possible tree removals & fence relocate	
4	Brace Road	Taylor Road	Sierra College Blvd	850		Class 3 (A)	0	0	0	0	0	4	$0	$1,380	Bike Route Sign	
4	Brace Road	Sierra College Blvd	Laird Road	6,570		Class 2	11	2	0	2	0	8	$0	$592,118	Widen, Bike Lane	
4	Brace Road	Taylor Road	Sierra College Blvd	850		Class 3 (A)	0	0	0	0	0	4	$0	$1,380	Bike Route Sign	
4	Brace Road	Sierra College Blvd	Laird Road	6,570		Class 2	11	2	0	2	0	8	$0	$592,118	Widen, Bike Lane	
																$1,864,725
5	Angelo Dr	Swetzer Road	Arcadia Ave	2,851	Undefined	Class 3 (A)	0	0	0	0	0	6	$0	$2,070	Bike Route Sign	
5	Arcadia Ave	Humphrey Road	King Road	3,907	Undefined	Class 2	15	0	0	2	0	10	$0	$10,586		
5	Bankhead Road	Sierra College Blvd	King Road	3,754		Class 3 (B)	0	0	0	0	0	4	$0	$1,380		
5	Boyington Road	King Road	Chisom Trail	1,107		Class 3 (A)	0	0	0	0	0	4	$0	$1,380	Bike Route Sign	
5	Brace Road	Laird Road	Laird Road	531		Class 3 (B)	0	0	0	0	0	2	$0	$690		
5	Day Ave	King Road	David Ave	745		Class 3 (A)	0	0	0	0	0	4	$0	$1,380	Bike Route Sign	
5	Delmar Ave	Loomis Town limit	Loomis Town limit	7,928		Class 3 (B)	0	0	0	0	0	13	$0	$4,485	Share the Road Sign	
5	Dias Ln	Loomis Town limit	Loomis Town limit	2,163		Class 3 (B)	0	0	0	0	0	4	$0	$1,380	Share the Road Sign	
5	Humphrey Road	Loomis Town limit	Arcadia Ave	2,013		Class 3 (A)	0	0	0	0	0	4	$0	$1,380		
5	Humphrey Road	Arcadia Ave	King Road	2,460		Class 2	10	0	0	2	0	9	$0	$7,629		
5	Magnolia St	Walnut St	Horseshoe Bar Road	458		Class 3 (A)	0	0	0	0	0	4	$0	$1,380		
5	Margaret Dr	Sparas St	King Road	2,050		Class 2	16	0	0	2	0	11	$0	$7,997		
5	Laird Road	Brace Road	Horseshoe Bar Road	347		Class 2	0	2	0	2	2	1	$0	$33,036	Widen; Bike Lane Sign	
5	Laird Road	Brace Road	Loomis Town limits	5,232		Class 3 (B)	0	0	0	0	0	8	$0	$2,760		
5	Laird St	Horseshoe Bar Road	Webb St	380		Class 2	3	0	0	2	0	4	$0	$2,161	Elimination of parking;. Widening will create R.O.W. IMPACT	
5	Library Dr	Horseshoe Bar Road	End of Library Dr	395		Class 2	1	0	0	1	0	2	$0	$1,064	Stripe and sign only developed side	
5	Rocklin Road	Loomis Town limit	Barton Road	2,594		Class 2	0	0	2	2	0	6	$24,000	$120,382	Imported borrow for deep ditch	
5	Rutherford Canyon Rd	Barton Road	Laird Road	6,118		Class 3 (A)	0	0	0	0	0	12	$0	$4,140	Bike Route Sign	
5	Saunders Ave	Bankhead Road	Webb St	4,672		Class 3 (B)	0	0	0	0	0	6	$0	$2,070		
5	Sparas St	Arcadia Ave	Arcadia Ave	1,845		Class 2	4	0	0	2	0	5	$0	$4,921		
5	Stone Road	Brace Road	End of Stone Road	1,363		Class 3 (A)	0	0	0	0	0	4	$0	$1,380		
5	Sun Knoll Dr	King Road	End of Sun Knoll Dr	1,109		Class 3 (A)	0	0	0	0	0	6	$0	$2,070		
5	Swetzer Road	King Road	Loomis Town limit	4,003		Class 3 (A)	0	0	0	0	0	9	$0	$3,105	Bike Route Sign	
5	Thornwood Dr	Laird St	Sun Knoll Dr	1,386		Class 3 (A)	0	0	0	0	0	7	$0	$2,415		
5	Walnut St	Taylor Road	End of Walnut St	2,317		Class 3 (A)	0	0	0	0	0	6	$0	$2,070		
5	Webb St	King Road	Laird St	1,755		Class 2	10	1	0	2	1	7	$2,000	$89,061	Widen 1-side, stripe 2-sides; tree removals	
5	Wells Ave	Barton Road	Morgan Pl	5,300		Class 3 (A)	0	0	0	0	0	5	$0	$1,725	Share the Road Sign	
5	Connector Road	Walnut St	Stone Road	----------		Class 3 (A)									Will Be part of future Developer Project	
5	Library Dr Extension	End of Library Dr	King Road	----------		Class 2									Will be part of future Developer Project	
5	Secret Ravine Creek Adjacent Path	Brace Road	Loomis Town limit (north of Brace)	4,456		Class 1									Will be part of future Developer Project	
5	Sun Knoll Dr Extension	End of Sun Knoll Dr	Library Dr Extension	----------		Class 1									Will be part of future Developer Project	
5	Webb St Extension	Laird St	Library Dr Extension	----------		Class 2									Will be part of future Developer Project	
																$314,097

TOTAL	$3,198,277

R1398C002.xls

Table 1

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Scenario Report

Scenario:	weekday am
Command:	Default Command
Volume:	ex am
Geometry:	EXISTING
Impact Fee:	Default Impact Fee
Trip Generation:	am peak
Trip Distribution:	current
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Trip Generation Report

Forecast for am peak hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
3	Convent	1.00	sisters	4.00	8.00	4	8	12	100.0
	Zone 3 Subtotal					4	8	12	100.0
TOTAL						4	8	12	100.0

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Trip Distribution Report

Percent Of Trips current

	To Gates					
	1	2	3	4	5	6
Zone						
3	60.0	5.0	10.0	5.0	10.0	10.0

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Turning Movement Report
am peak hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 BARTON ROAD / ROCKLIN ROAD													
Base	279	48	0	0	32	69	58	0	140	0	0	0	626
Added	6	0	0	0	0	0	0	0	3	0	0	0	9
Total	285	48	0	0	32	69	58	0	143	0	0	0	635
#2 BARTON ROAD / ACCESS													
Base	0	327	0	0	172	0	0	0	0	0	0	0	499
Added	1	0	0	0	0	3	7	0	1	0	0	0	12
Total	1	327	0	0	172	3	7	0	1	0	0	0	511
#3 WELLS AVE / BARTON ROAD													
Base	0	204	21	71	105	0	0	0	0	27	0	134	562
Added	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	204	21	71	106	0	0	0	0	27	0	134	563
#9													
Base	390	463	58	50	432	47	69	114	242	67	173	66	2171
Added	0	0	0	0	0	0	0	2	0	1	5	1	9
Total	390	463	58	50	432	47	69	116	242	68	178	67	2180

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Link Volume Report
am peak hour

Volume	NB Link			SB Link			EB Link			WB Link			Total
Type	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	Volume
#1 BARTON ROAD / ROCKLIN ROAD													
Base	327	172	499	101	106	207	198	348	546	0	0	0	1252
Added	6	3	9	0	0	0	3	6	9	0	0	0	18
Total	333	175	508	101	106	207	201	354	555	0	0	0	1270
#2 BARTON ROAD / ACCESS													
Base	327	172	499	172	327	499	0	0	0	0	0	0	998
Added	1	1	2	3	7	10	8	4	12	0	0	0	24
Total	328	173	501	175	334	509	8	4	12	0	0	0	1022
#3 WELLS AVE / BARTON ROAD													
Base	225	132	357	176	338	514	0	0	0	161	92	253	1124
Added	0	1	1	1	0	1	0	0	0	0	0	0	2
Total	225	133	358	177	338	515	0	0	0	161	92	253	1126
#9													
Base	911	741	1652	529	598	1127	425	610	1035	306	222	528	4342
Added	0	1	1	0	1	1	2	5	7	7	2	9	18
Total	911	742	1653	529	599	1128	427	615	1042	313	224	537	4360

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 BARTON ROAD / ROCKLIN ROAD	B	10.9	0.484	B	11.1	0.496	+ 0.011 V/C
# 2 BARTON ROAD / ACCESS	A	0.0	0.000	B	11.9	0.000	+11.916 D/V
# 3 WELLS AVE / BARTON ROAD	B	11.5	0.000	B	11.5	0.000	+ 0.003 D/V

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 BARTON ROAD / ROCKLIN ROAD	???	No
# 2 BARTON ROAD / ACCESS	??? / ???	No / No
# 3 WELLS AVE / BARTON ROAD	??? / ???	No / No

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 BARTON ROAD / ROCKLIN ROAD

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0 1	0 0		0 0 0	1 0		0 0 1!	0 0		0 0 0	0 0	
Initial Vol:	285	48	0	0	32	69	58	0	143	0	0	0

Major Street Volume: 434
Minor Approach Volume: 201
Minor Approach Volume Threshold: 572

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Peak Hour Delay Signal Warrant Report

Intersection #2 BARTON ROAD / ACCESS

Future Volume Alternative: Peak Hour Warrant NOT Met

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				
Lanes:	0	1	0	0	0	0	0	0	1	0	0	0	1!	0	0	0	0	1!	0	0
Initial Vol:	1	327			0	0	172			3	7		0		1	0		0		0
ApproachDel:	xxxxxx					xxxxxx					11.9					xxxxxx				

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=8]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=511]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #2 BARTON ROAD / ACCESS

Future Volume Alternative: Peak Hour Warrant NOT Met

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		
Lanes:	0 1	0	0 0	0	0 0	1 0	0	0 1!	0 0	0	0 1!	0 0
Initial Vol:	1	327	0	0	172	3	7	0	1	0	0	0

Major Street Volume: 503
Minor Approach Volume: 8
Minor Approach Volume Threshold: 403

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Peak Hour Delay Signal Warrant Report

Intersection #3 WELLS AVE / BARTON ROAD

Future Volume Alternative: Peak Hour Warrant NOT Met

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			
Lanes:	0	0	0	1 0	0	1	0	0 0	0	0	0	0 0	0	0	1!	0 0
Initial Vol:	0	204		21	71	106		0	0		0	0	27		0	134
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				11.5			

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=161]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=563]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #3 WELLS AVE / BARTON ROAD

Future Volume Alternative: Peak Hour Warrant NOT Met

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			
Lanes:	0	0	0	1 0	0	1	0	0 0	0	0	0	0 0	0	0	1!	0 0
Initial Vol:	0	204		21	71	106		0	0		0	0	27		0	134

Major Street Volume: 402
Minor Approach Volume: 161
Minor Approach Volume Threshold: 462

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 BARTON ROAD / ROCKLIN ROAD

Cycle (sec):	100	Critical Vol./Cap.(X):	0.484
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	10.9
Optimal Cycle:	0	Level Of Service:	B

Street Name:	BARTON ROAD						ROCKLIN ROAD					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	0	0 0	0 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module: >> Count Date: 30 Sep 2010 <<												
Base Vol:	279	48	0	0	32	69	58	0	140	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:	279	48	0	0	32	69	58	0	140	0	0	0
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	303	52	0	0	35	75	63	0	152	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	303	52	0	0	35	75	63	0	152	0	0	0
PCE 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
MLF 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
FinalVolume:	303	52	0	0	35	75	63	0	152	0	0	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	0.00	0.32	0.68	0.29	0.00	0.71	0.00	0.00	0.00
Final Sat.:	626	685	0	0	237	512	212	0	512	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.48	0.08	xxxx	xxxx	0.15	0.15	0.30	xxxx	0.30	xxxx	xxxx	xxxx
Crit Moves:	****					****	****					
Delay/Veh:	13.4	8.3	0.0	0.0	8.3	8.3	9.5	0.0	9.5	0.0	0.0	0.0
Delay 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
AdjDel/Veh:	13.4	8.3	0.0	0.0	8.3	8.3	9.5	0.0	9.5	0.0	0.0	0.0
LOS by Move:	B	A	*	*	A	A	A	*	A	*	*	*
ApproachDel:	12.6			8.3			9.5			xxxxxx		
Delay Adj:	1.00			1.00			1.00			xxxxx		
ApprAdjDel:	12.6			8.3			9.5			xxxxxx		
LOS by Appr:	B			A			A			*		
AllWayAvgQ:	0.9	0.1	0.0	0.2	0.2	0.2	0.4	0.4	0.4	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #1 BARTON ROAD / ROCKLIN ROAD

Cycle (sec):	100	Critical Vol./Cap.(X):	0.496
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	11.1
Optimal Cycle:	0	Level Of Service:	B

Street Name:	BARTON ROAD						ROCKLIN ROAD					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	0	0 0	0 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module: >> Count Date: 30 Sep 2010 <<												
Base Vol:	279	48	0	0	32	69	58	0	140	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:	279	48	0	0	32	69	58	0	140	0	0	0
Added Vol:	6	0	0	0	0	0	0	0	3	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	285	48	0	0	32	69	58	0	143	0	0	0
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	310	52	0	0	35	75	63	0	155	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	310	52	0	0	35	75	63	0	155	0	0	0
PCE 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
MLF 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
FinalVolume:	310	52	0	0	35	75	63	0	155	0	0	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	0.00	0.32	0.68	0.29	0.00	0.71	0.00	0.00	0.00
Final Sat.:	625	684	0	0	236	509	208	0	514	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.50	0.08	xxxx	xxxx	0.15	0.15	0.30	xxxx	0.30	xxxx	xxxx	xxxx
Crit Moves:	****					****	****					
Delay/Veh:	13.6	8.3	0.0	0.0	8.4	8.4	9.6	0.0	9.6	0.0	0.0	0.0
Delay 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
AdjDel/Veh:	13.6	8.3	0.0	0.0	8.4	8.4	9.6	0.0	9.6	0.0	0.0	0.0
LOS by Move:	B	A	*	*	A	A	A	*	A	*	*	*
ApproachDel:	12.8			8.4			9.6			xxxxxx		
Delay Adj:	1.00			1.00			1.00			xxxxx		
ApprAdjDel:	12.8			8.4			9.6			xxxxxx		
LOS by Appr:	B			A			A			*		
AllWayAvgQ:	0.9	0.1	0.0	0.2	0.2	0.2	0.4	0.4	0.4	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 BARTON ROAD / ACCESS

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Street Name: BARTON RD

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 1 0	0	0	0 0 0	1	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	0 327 0			0 172 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:	0 327 0			0 172 0			0 0 0			0 0 0		
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:	0.92 0.92 0.92			0.92 0.92 0.92			0.92 0.92 0.92			0.92 0.92 0.92		
PHF Volume:	0 355 0			0 187 0			0 0 0			0 0 0		
Reduct Vol:	0 0 0			0 0 0			0 0 0			0 0 0		
FinalVolume:	0 355 0			0 187 0			0 0 0			0 0 0		
Critical Gap Module:												
Critical Gp:	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			6.4 6.5 6.2		
FollowUpTim:	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			3.5 4.0 3.3		
Capacity Module:												
Cnflict Vol:	xxxx xxxx xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx			542 542 355		
Potent Cap.:	xxxx xxxx xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx			501 447 689		
Move Cap.:	xxxx xxxx xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx			501 447 689		
Volume/Cap:	xxxx xxxx xxxx			xxxx xxxx xxxx			xxxx xxxx xxxx			0.00 0.00 0.00		
Level Of Service Module:												
2Way95thQ:	xxxx xxxx xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx		
Control Del:	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx		
LOS by Move:	* * *			* * *			* * *			* * *		
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 0 xxxxx		
SharedQueue:	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx		
Shrd ConDel:	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx xxxx xxxxx		
Shared LOS:	* * *			* * *			* * *			* * *		
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

Note: Queue reported is the number of cars per lane.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 BARTON ROAD / ACCESS

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: B[11.9]

Street Name:	BARTON RD											
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 1 0	0	0	0 0 0	1	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	0	327	0	0	172	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	327	0	0	172	0	0	0	0	0	0	0
Added Vol:	1	0	0	0	0	3	7	0	1	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	327	0	0	172	3	7	0	1	0	0	0
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	1	355	0	0	187	3	8	0	1	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	355	0	0	187	3	8	0	1	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	190	xxxx	xxxxx	xxxx	xxxx	xxxxx	546	546	189	547	548	355
Potent Cap.:	1384	xxxx	xxxxx	xxxx	xxxx	xxxxx	502	448	858	448	444	689
Move Cap.:	1384	xxxx	xxxxx	xxxx	xxxx	xxxxx	502	447	858	447	444	689
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	0.00	0.00	0.00	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.6	xxxx	xxxxx	xxxxx	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	529	xxxxx	xxxx	0	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.9	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			11.9			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the number of cars per lane.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 WELLS AVE / BARTON ROAD

Average Delay (sec/veh): 4.3 Worst Case Level Of Service: B[11.5]

Street Name:	BARTON ROAD						WELLS AVENUE					
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: >> Count Date: 1 Oct 2010 <<												
Base Vol:	0	204	21	71	105	0	0	0	0	27	0	134
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	204	21	71	105	0	0	0	0	27	0	134
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	222	23	77	114	0	0	0	0	29	0	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	222	23	77	114	0	0	0	0	29	0	146
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	245	xxxx	xxxxx	xxxx	xxxx	xxxxx	502	502	233
Potent Cap.:	xxxx	xxxx	xxxxx	1322	xxxx	xxxxx	xxxx	xxxx	xxxxx	529	472	806
Move Cap.:	xxxx	xxxx	xxxxx	1322	xxxx	xxxxx	xxxx	xxxx	xxxxx	505	443	806
Volume/Cap:	xxxx	xxxx	xxxx	0.06	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	0.00	0.18
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.2	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	733	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.9	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.5	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			11.5		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 WELLS AVE / BARTON ROAD

Average Delay (sec/veh): 4.3 Worst Case Level Of Service: B[11.5]

Street Name:	BARTON ROAD						WELLS AVENUE					
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: >> Count Date: 1 Oct 2010 <<												
Base Vol:	0	204	21	71	105	0	0	0	0	27	0	134
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	204	21	71	105	0	0	0	0	27	0	134
Added Vol:	0	0	0	0	1	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	204	21	71	106	0	0	0	0	27	0	134
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	222	23	77	115	0	0	0	0	29	0	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	222	23	77	115	0	0	0	0	29	0	146
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	245	xxxx	xxxxx	xxxx	xxxx	xxxxx	503	503	233
Potent Cap.:	xxxx	xxxx	xxxxx	1322	xxxx	xxxxx	xxxx	xxxx	xxxxx	528	471	806
Move Cap.:	xxxx	xxxx	xxxxx	1322	xxxx	xxxxx	xxxx	xxxx	xxxxx	504	442	806
Volume/Cap:	xxxx	xxxx	xxxx	0.06	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	0.00	0.18
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.2	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	732	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.9	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.5	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			11.5		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Scenario Report

Scenario:	weekday pm
Command:	Default Command
Volume:	ex pm
Geometry:	EXISTING
Impact Fee:	Default Impact Fee
Trip Generation:	pm peak
Trip Distribution:	current
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Trip Generation Report

Forecast for pm peak hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
3	Convent	1.00	sisters	6.00	0.00	6	0	6	100.0
	Zone 3 Subtotal					6	0	6	100.0
TOTAL						6	0	6	100.0

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Trip Distribution Report

Percent Of Trips current

	To Gates					
Zone	1	2	3	4	5	6
3	60.0	5.0	10.0	5.0	10.0	10.0

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Turning Movement Report
pm peak hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 BARTON ROAD / ROCKLIN ROAD													
Base	180	47	0	0	39	30	45	0	243	0	0	0	584
Added	0	0	0	0	0	0	0	0	5	0	0	0	5
Total	180	47	0	0	39	30	45	0	248	0	0	0	589
#2 BARTON ROAD / ACCESS													
Base	0	227	0	0	282	0	0	0	0	0	0	0	509
Added	1	0	0	0	0	5	0	0	0	0	0	0	6
Total	1	227	0	0	282	5	0	0	0	0	0	0	515
#3 WELLS AVE / BARTON ROAD													
Base	0	156	12	99	173	0	0	0	0	10	0	71	521
Added	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	157	12	99	173	0	0	0	0	10	0	71	522
#9													
Base	298	604	52	67	505	78	171	235	404	30	139	30	2613
Added	0	0	1	1	0	0	0	4	0	0	0	0	6
Total	298	604	53	68	505	78	171	239	404	30	139	30	2619

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Link Volume Report
pm peak hour

Volume	NB Link			SB Link			EB Link			WB Link			Total
Type	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	Volume
#1 BARTON ROAD / ROCKLIN ROAD													
Base	227	282	509	69	92	161	288	210	498	0	0	0	1168
Added	0	5	5	0	0	0	5	0	5	0	0	0	10
Total	227	287	514	69	92	161	293	210	503	0	0	0	1178
#2 BARTON ROAD / ACCESS													
Base	227	282	509	282	227	509	0	0	0	0	0	0	1018
Added	1	0	1	5	0	5	0	6	6	0	0	0	12
Total	228	282	510	287	227	514	0	6	6	0	0	0	1030
#3 WELLS AVE / BARTON ROAD													
Base	168	183	351	272	227	499	0	0	0	81	111	192	1042
Added	1	0	1	0	1	1	0	0	0	0	0	0	2
Total	169	183	352	272	228	500	0	0	0	81	111	192	1044
#9													
Base	954	939	1893	650	805	1455	810	515	1325	199	354	553	5226
Added	1	0	1	1	0	1	4	0	4	0	6	6	12
Total	955	939	1894	651	805	1456	814	515	1329	199	360	559	5238

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 BARTON ROAD / ROCKLIN ROAD	A	9.9	0.386	A	10.0	0.392	+ 0.007 V/C
# 2 BARTON ROAD / ACCESS	A	0.0	0.000	A	7.9	0.000	+ 7.886 D/V
# 3 WELLS AVE / BARTON ROAD	B	10.2	0.000	B	10.2	0.000	+ 0.008 D/V

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 BARTON ROAD / ROCKLIN ROAD	???	No
# 2 BARTON ROAD / ACCESS	??? / ???	No / No
# 3 WELLS AVE / BARTON ROAD	??? / ???	No / No

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 BARTON ROAD / ROCKLIN ROAD

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lanes:	1 0	1 0	0	0 0	0 1	0	0 0	1! 0	0	0 0	0 0	0
Initial Vol:	180	47	0	0	39	30	45	0	248	0	0	0

Major Street Volume: 296
Minor Approach Volume: 293
Minor Approach Volume Threshold: 704

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Peak Hour Delay Signal Warrant Report

****

Intersection #2 BARTON ROAD / ACCESS

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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		
Lanes:	0 1	0 0	0	0 0	0 1	0	0 0	0 0	0	0 0	1! 0	0
Initial Vol:	1	227	0	0	282	5	0	0	0	0	0	0
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #2 BARTON ROAD / ACCESS

Future Volume Alternative: Peak Hour Warrant NOT Met

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		
Lanes:	0 1	0	0 0	0	0 0	1 0	0	0 0	0 0	0	0 0	1! 0 0
Initial Vol:	1	227	0	0	282	5	0	0	0	0	0	0

Major Street Volume: 515
Minor Approach Volume: 0
Minor Approach Volume Threshold: 396

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Peak Hour Delay Signal Warrant Report

Intersection #3 WELLS AVE / BARTON ROAD

Future Volume Alternative: Peak Hour Warrant NOT Met

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		
Lanes:	0 0 0	1	0	0 1 0	0	0	0 0 0	0	0	0 0 1!	0	0
Initial Vol:	0	157	12	99	173	0	0	0	0	10	0	71
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.2		

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=81]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=522]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #3 WELLS AVE / BARTON ROAD

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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		
Lanes:	0 0 0	1	0	0	1 0	0 0	0	0 0	0 0	0	0 0	1! 0 0
Initial Vol:	0	157	12	99	173	0	0	0	0	10	0	71

Major Street Volume: 441
Minor Approach Volume: 81
Minor Approach Volume Threshold: 438

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 BARTON ROAD / ROCKLIN ROAD

Cycle (sec):	100	Critical Vol./Cap.(X):	0.386
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	9.9
Optimal Cycle:	0	Level Of Service:	A

Street Name:	BARTON ROAD						ROCKLIN ROAD					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	0	0 0	0 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module: >> Count Date: 22 Jul 2010 <<												
Base Vol:	180	47	0	0	39	30	45	0	243	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:	180	47	0	0	39	30	45	0	243	0	0	0
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	196	51	0	0	42	33	49	0	264	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	196	51	0	0	42	33	49	0	264	0	0	0
PCE 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
MLF 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
FinalVolume:	196	51	0	0	42	33	49	0	264	0	0	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	0.00	0.57	0.43	0.15	0.01	0.84	0.00	0.00	0.00
Final Sat.:	602	656	0	0	400	308	127	0	685	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.33	0.08	xxxx	xxxx	0.11	0.11	0.39	0.00	0.39	xxxx	xxxx	xxxx
Crit Moves:	****				****		****					
Delay/Veh:	11.1	8.4	0.0	0.0	8.3	8.3	9.8	9.8	9.8	0.0	0.0	0.0
Delay 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
AdjDel/Veh:	11.1	8.4	0.0	0.0	8.3	8.3	9.8	9.8	9.8	0.0	0.0	0.0
LOS by Move:	B	A	*	*	A	A	A	A	A	*	*	*
ApproachDel:	10.6			8.3			9.8			xxxxxx		
Delay Adj:	1.00			1.00			1.00			xxxxx		
ApprAdjDel:	10.6			8.3			9.8			xxxxxx		
LOS by Appr:	B			A			A			*		
AllWayAvgQ:	0.4	0.1	0.0	0.1	0.1	0.1	0.6	0.6	0.6	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #1 BARTON ROAD / ROCKLIN ROAD

Cycle (sec):	100	Critical Vol./Cap.(X):	0.392
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	10.0
Optimal Cycle:	0	Level Of Service:	A

Street Name:	BARTON ROAD						ROCKLIN ROAD					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 0	0	0 0	0 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module: >> Count Date: 22 Jul 2010 <<												
Base Vol:	180	47	0	0	39	30	45	0	243	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:	180	47	0	0	39	30	45	0	243	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	5	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	180	47	0	0	39	30	45	0	248	0	0	0
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	196	51	0	0	42	33	49	0	270	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	196	51	0	0	42	33	49	0	270	0	0	0
PCE 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
MLF 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
FinalVolume:	196	51	0	0	42	33	49	0	270	0	0	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	0.00	0.57	0.43	0.15	0.00	0.85	0.00	0.00	0.00
Final Sat.:	600	654	0	0	398	306	125	0	687	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.33	0.08	xxxx	xxxx	0.11	0.11	0.39	xxxx	0.39	xxxx	xxxx	xxxx
Crit Moves:	****				****				****			
Delay/Veh:	11.2	8.4	0.0	0.0	8.3	8.3	9.8	0.0	9.8	0.0	0.0	0.0
Delay 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
AdjDel/Veh:	11.2	8.4	0.0	0.0	8.3	8.3	9.8	0.0	9.8	0.0	0.0	0.0
LOS by Move:	B	A	*	*	A	A	A	*	A	*	*	*
ApproachDel:		10.6			8.3			9.8		xxxxxx		
Delay Adj:		1.00			1.00			1.00		xxxxx		
ApprAdjDel:		10.6			8.3			9.8		xxxxxx		
LOS by Appr:		B			A			A		*		
AllWayAvgQ:	0.4	0.1	0.0	0.1	0.1	0.1	0.6	0.6	0.6	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 BARTON ROAD / ACCESS

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Street Name:	BARTON RD											
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 1 0	0 0		0 0 0 1	0		0 0 0	0 0		0 0 1!	0 0	
Volume Module: >> Count Date: 22 Jul 2010 <<												
Base Vol:	0	227	0	0	282	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	227	0	0	282	0	0	0	0	0	0	0
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	247	0	0	307	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	247	0	0	307	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	553	553	247
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	494	441	792
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	494	441	792
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.00	0.00
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
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	0	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

Note: Queue reported is the number of cars per lane.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 BARTON ROAD / ACCESS

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[7.9]

Street Name: BARTON RD

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 1 0	0 0		0 0 0 1 0			0 0 0 0 0			0 0 1! 0 0		
Volume Module: >> Count Date: 22 Jul 2010 <<												
Base Vol:	0	227	0	0	282	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	227	0	0	282	0	0	0	0	0	0	0
Added Vol:	1	0	0	0	0	5	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	227	0	0	282	5	0	0	0	0	0	0
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	1	247	0	0	307	5	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	247	0	0	307	5	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	312	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	558	561	247
Potent Cap.:	1248	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	491	437	792
Move Cap.:	1248	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	490	436	792
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	xxxxx	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	0	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

Note: Queue reported is the number of cars per lane.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 WELLS AVE / BARTON ROAD

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: B[10.2]

Street Name:	BARTON ROAD									WELLS AVENUE								
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: >> Count Date: 29 Jul 2010 <<																		
Base Vol:	0	156		12	99	173		0		0		0		0	10		0	71
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	156		12	99	173		0		0		0		0	10		0	71
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:	0.92	0.92		0.92	0.92	0.92		0.92		0.92		0.92		0.92	0.92		0.92	0.92
PHF Volume:	0	170		13	108	188		0		0		0		0	11		0	77
Reduct Vol:	0	0		0	0	0		0		0		0		0	0		0	0
FinalVolume:	0	170		13	108	188		0		0		0		0	11		0	77
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	183	xxxx		xxxxx		xxxx		xxxx		xxxxx	579		579	176
Potent Cap.:	xxxx	xxxx		xxxxx	1392	xxxx		xxxxx		xxxx		xxxx		xxxxx	477		426	867
Move Cap.:	xxxx	xxxx		xxxxx	1392	xxxx		xxxxx		xxxx		xxxx		xxxxx	447		391	867
Volume/Cap:	xxxx	xxxx		xxxx	0.08	xxxx		xxxx		xxxx		xxxx		xxxx	0.02		0.00	0.09
Level Of Service Module:																		
2Way95thQ:	xxxx	xxxx		xxxxx	0.3	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		777	xxxxx
SharedQueue:	xxxxx	xxxx		xxxxx	0.3	xxxx		xxxxx		xxxxx		xxxx		xxxxx	xxxxx		0.4	xxxxx
Shrd ConDel:	xxxxx	xxxx		xxxxx	7.8	xxxx		xxxxx		xxxxx		xxxx		xxxxx	xxxxx		10.2	xxxxx
Shared LOS:	*	*		*	A	*		*		*		*		*	*		B	*
ApproachDel:	xxxxxx				xxxxxx					xxxxxx					10.2			
ApproachLOS:	*				*					*					B			

Note: Queue reported is the number of cars per lane.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 WELLS AVE / BARTON ROAD

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: B[10.2]

Street Name:	BARTON ROAD						WELLS AVENUE					
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: >> Count Date: 29 Jul 2010 <<												
Base Vol:	0	156	12	99	173	0	0	0	0	10	0	71
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	156	12	99	173	0	0	0	0	10	0	71
Added Vol:	0	1	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	157	12	99	173	0	0	0	0	10	0	71
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:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	171	13	108	188	0	0	0	0	11	0	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	171	13	108	188	0	0	0	0	11	0	77
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	184	xxxx	xxxxx	xxxx	xxxx	xxxxx	580	580	177
Potent Cap.:	xxxx	xxxx	xxxxx	1391	xxxx	xxxxx	xxxx	xxxx	xxxxx	476	425	866
Move Cap.:	xxxx	xxxx	xxxxx	1391	xxxx	xxxxx	xxxx	xxxx	xxxxx	446	390	866
Volume/Cap:	xxxx	xxxx	xxxx	0.08	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	0.00	0.09
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.3	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	776	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.2	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.2		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Scenario Report

Scenario:	daily
Command:	Default Command
Volume:	none
Geometry:	EXISTING
Impact Fee:	Default Impact Fee
Trip Generation:	daily
Trip Distribution:	current
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Trip Generation Report

Forecast for daily

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
3	Convent	1.00	sisters	48.00	49.00	48	49	97	100.0
	Zone 3 Subtotal					48	49	97	100.0
TOTAL						48	49	97	100.0

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Trip Distribution Report

Percent Of Trips current

Zone	To Gates 1	2	3	4	5	6
3	60.0	5.0	10.0	5.0	10.0	10.0

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Turning Movement Report
daily

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 BARTON ROAD / ROCKLIN ROAD													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	39	2	0	0	2	0	0	0	38	0	0	0	81
Total	39	2	0	0	2	0	0	0	38	0	0	0	81
#2 BARTON ROAD / ACCESS													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	7	0	0	0	0	41	42	0	7	0	0	0	97
Total	7	0	0	0	0	41	42	0	7	0	0	0	97
#3 WELLS AVE / BARTON ROAD													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	5	0	2	5	0	0	0	0	0	0	2	14
Total	0	5	0	2	5	0	0	0	0	0	0	2	14
#9													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	5	5	0	0	0	29	0	5	29	5	78
Total	0	0	5	5	0	0	0	29	0	5	29	5	78

SISTERS OF MARY, MOTHER OF THE EUCHARIST
EXISTING PLUS PROJECT CONDITIONS

Link Volume Report
daily

Volume Type	NB Link In	NB Link Out	NB Link Total	SB Link In	SB Link Out	SB Link Total	EB Link In	EB Link Out	EB Link Total	WB Link In	WB Link Out	WB Link Total	Total Volume
#1 BARTON ROAD / ROCKLIN ROAD													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	41	40	81	2	2	4	38	39	77	0	0	0	162
Total	41	40	81	2	2	4	38	39	77	0	0	0	162
#2 BARTON ROAD / ACCESS													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	7	7	14	41	42	83	49	48	97	0	0	0	194
Total	7	7	14	41	42	83	49	48	97	0	0	0	194
#3 WELLS AVE / BARTON ROAD													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	5	5	10	7	7	14	0	0	0	2	2	4	28
Total	5	5	10	7	7	14	0	0	0	2	2	4	28
#9													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	5	5	10	5	5	10	29	29	58	39	39	78	156
Total	5	5	10	5	5	10	29	29	58	39	39	78	156

SISTERS OF MARY, MOTHER OF THE EUCHARIST
CUMULATIVE PLUS PROJECT CONDITIONS

Scenario Report

Scenario:	cumulative am
Command:	Default Command
Volume:	cumulative am
Geometry:	EXISTING
Impact Fee:	Default Impact Fee
Trip Generation:	am peak
Trip Distribution:	current
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

SISTERS OF MARY, MOTHER OF THE EUCHARIST
CUMULATIVE PLUS PROJECT CONDITIONS

Trip Generation Report

Forecast for am peak hour

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
3	Convent	1.00	sisters	4.00	8.00	4	8	12	100.0
	Zone 3 Subtotal					4	8	12	100.0
TOTAL						4	8	12	100.0

SISTERS OF MARY, MOTHER OF THE EUCHARIST
CUMULATIVE PLUS PROJECT CONDITIONS

Trip Distribution Report

Percent Of Trips current

	To Gates					
	1	2	3	4	5	6
Zone						
3	60.0	5.0	10.0	5.0	10.0	10.0

SISTERS OF MARY, MOTHER OF THE EUCHARIST
CUMULATIVE PLUS PROJECT CONDITIONS

Turning Movement Report
am peak hour

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 BARTON ROAD / ROCKLIN ROAD													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	6	0	0	0	0	0	0	0	3	0	0	0	9
Total	6	0	0	0	0	0	0	0	3	0	0	0	9
#2 BARTON ROAD / ACCESS													
Base	0	742	0	0	390	0	0	0	0	0	0	0	1133
Added	1	0	0	0	0	3	7	0	1	0	0	0	12
Total	1	742	0	0	390	3	7	0	1	0	0	0	1145
#3 WELLS AVE / BARTON ROAD													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	0	0	0	0	0	0	1
#9													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	2	0	1	5	1	9
Total	0	0	0	0	0	0	0	2	0	1	5	1	9

SISTERS OF MARY, MOTHER OF THE EUCHARIST
CUMULATIVE PLUS PROJECT CONDITIONS

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 BARTON ROAD / ACCESS

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: C[22.4]

Street Name:	BARTON RD											
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 1 0	0 0		0 0 0	1 0		0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	0 327	0		0 172	0		0	0	0	0	0	0
Growth Adj:	2.27 2.27	2.27		2.27 2.27	2.27		2.27	2.27	2.27	2.27	2.27	2.27
Initial Bse:	0 742	0		0 390	0		0	0	0	0	0	0
Added Vol:	1 0	0		0 0	3		7	0	1	0	0	0
PasserByVol:	0 0	0		0 0	0		0	0	0	0	0	0
Initial Fut:	1 742	0		0 390	3		7	0	1	0	0	0
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:	0.92 0.92	0.92		0.92 0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	1 807	0		0 424	3		8	0	1	0	0	0
Reduct Vol:	0 0	0		0 0	0		0	0	0	0	0	0
FinalVolume:	1 807	0		0 424	3		8	0	1	0	0	0
Critical Gap Module:												
Critical Gp:	4.1 xxxx	xxxxx		xxxxx xxxx	xxxxx		6.4	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2 xxxx	xxxxx		xxxxx xxxx	xxxxx		3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	428 xxxx	xxxxx		xxxx xxxx	xxxxx		1235	1235	426	1236	1237	807
Potent Cap.:	1132 xxxx	xxxxx		xxxx xxxx	xxxxx		197	178	633	153	176	382
Move Cap.:	1132 xxxx	xxxxx		xxxx xxxx	xxxxx		196	178	633	153	176	382
Volume/Cap:	0.00 xxxx	xxxx		xxxx xxxx	xxxx		0.04	0.00	0.00	0.00	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.0 xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.2 xxxx	xxxxx		xxxxx 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	215	xxxxx	xxxx	0	xxxxx
SharedQueue:	0.0 xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	8.2 xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx	22.4	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A *	*		* *	*		*	C	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx				22.4		xxxxxx		
ApproachLOS:	*			*				C		*		

Note: Queue reported is the number of cars per lane.