

CITY OF GRASS VALLEY
EAST MAIN STREET/IDAHO-MARYLAND ROAD ROUNDABOUT
INITIAL STUDY
September 12, 2007

PROJECT TITLE: East Main Street/Idaho-Maryland Road Roundabout

LEAD AGENCY: City of Grass Valley
125 East Main Street
Grass Valley, CA 95945

CONTACT PERSON: Tim Kiser, City Engineer
(530) 274-4351

PROJECT LOCATION: The project site is located north of State Route 20/49 (SR 20/49) in Grass Valley, California (*Figure 1 Site and Vicinity Map*). The intersection is currently controlled by all-way stop-controls. The westbound freeway ramps form the southern leg of the intersection. The eastbound freeway ramps are located on Idaho-Maryland Road approximately one-quarter mile to the east. The site comprises a portion of Section 26 of Township 16N, Range 8E of the Grass Valley, California 7.5 minute USGS Quadrangle.

APPLICANT: City of Grass Valley
125 East Main Street
Grass Valley, CA 95945

GENERAL PLAN: The land use designations in the vicinity of the project site allow for commercial land uses.

ZONING: Assessor's Parcels within the project area have the zoning designation of NC-Neighborhood Center, which permits a mix of uses including service, retail, recreation, education, and public assembly. Residential is also permitted for home occupation purposes, as a mixed use component, as an accessory use, or as a second unit.

PROJECT DESCRIPTION:

The City proposes to construct a partial two-lane roundabout at the intersection of East Main Street and Idaho-Maryland Road. The existing intersection is shown in *Figure 2 Aerial Photo*, while the proposed roundabout configuration is shown in *Figure 3*. The roundabout would include a southbound-to-westbound bypass lane and dual circulating lanes on the northern quadrant of the roundabout. The remaining three quadrants of the roundabout would include a single circulating lane. The center portion of the roundabout would be landscaped and would contain a monument or special feature to indicate entry into the City of Grass Valley. The design also includes pedestrian/bicycle path and pedestrian crossings across both East Main Street and Idaho-Maryland Road.

A Traffic Analysis was conducted for this project by Whitlock & Weinberger Transportation, Inc. (W-Trans) in May 2007. The Traffic Study analyzes level of service standards (LOS) as well as existing and future peak hour traffic volumes.

The East Main Street/Idaho-Maryland Road (EMIM) intersection currently operates at an unacceptable LOS. Over the past decade, the City of Grass Valley has worked with Caltrans to consider numerous potential improvements to address the intersection's deficient operation. Signalization of the intersection has been deemed infeasible due to the potential for adverse impacts to traffic flow through the on- and off-ramps for westbound SR 20/49. Construction of a modern roundabout has been found to be the only acceptable improvement that meets the goals of providing acceptable operation of both the intersection and the freeway.

Existing Site Conditions

The project site is located northwest of and adjacent to SR 20/49, approximately ½ mile northeast of the downtown area. Land in the vicinity of the project site is designated for commercial uses. Current land uses include the Chevron gas station (APN 09-210-37) in the northeast quadrant of the intersection and the Kubota Tractor (APN 09-210-21) facility in the northwest quadrant. Kubota Tractor also uses the undeveloped Terrible Herbst site (APN 09-210-22) for equipment storage. The Hills Flat Lumber Company site (APN 09-230-23), which is located in the southeast quadrant of the intersection, supports structures used for material storage. No active commercial or retail operations occur at this site. The southwest quadrant is zoned commercial although the existing buildings are currently vacant (APN 09-230-22 and APN 09-230-21). All of the parcels are currently zoned NC, Neighborhood Center, which permits a mix of uses including service, retail, recreation, education, public assembly, and residential.

Most of the study area is paved, supporting existing roadways. Matson Creek runs north to south, crossing under East Main Street. A portion of Matson Creek is within the study area (north of East Main Street) and supports a narrow band of riparian vegetation. Matson Creek drains into Wolf Creek southwest of the study area, after Wolf Creek crosses underneath Highway 49. However, no portion of Wolf Creek occurs within the study area. A ditch carrying storm water and urban runoff occurs in the southeast corner of the study area. The ditch contains emergent vegetation, such as cattails. The project site provides minimal habitat value for wildlife due to the presence of paved, impervious surfaces, minimal amount of vegetative cover, and ongoing traffic disturbance.

The project site is relatively flat, with an elevation of approximately 2,300 feet.

Project Implementation

Physical Construction Activities

The project proposes the construction of a modern roundabout in order to improve operating conditions at the EMIM intersection. Construction activities would include excavation, grading, laying new asphalt concrete, and laying concrete for sidewalks. The majority of the proposed roundabout would be located within the current roadway right-of-way. Lot line adjustments would be required at the edges of Kubota Tractor, the Terrible Herbst property, and the Hills Flat Lumber Company in order to add to the City's right-of-way. Encroachment to the other adjacent parcels would not be necessary.

The westbound Idaho-Maryland Road approach would flare to two lanes entering the roundabout, creating an approximately 60-foot long lane for traffic destined for the SR 20/49 onramp. Because the EMIM intersection is a freeway ramp terminal, the intersection design provides for full maneuverability of a “California Legal” semi truck, which is a 65-foot long vehicle. The roundabout layout was also designed to ensure that appropriate vehicle speeds can be maintained for passenger vehicles at the entry, within the roundabout, and upon exiting.

The proposed project would prompt the upsizing of an existing storm drainage pipe that drains into the ditch along the SR 20/49 offramp in the southeast quadrant of the project site.

Additionally, a new headwall would be constructed at the northern edge of the culvert that allows Matson Creek to flow under East Main Street in the northwest quadrant of the project site. A portion of the existing culvert at this location would also be replaced.

Pedestrian / Bicycle Improvements

There is very little potential for sidewalks to ever be constructed on the south side of East Main Street leading into downtown Grass Valley given the extremely limited right-of-way and presence of historical buildings. A continuous sidewalk does, however, exist on the north side of the street.

The proposed roundabout layout would improve existing sidewalks on the northwest and northeast corners of the intersection, maintaining full connectivity to the north, east, and west. A new section of sidewalk would be provided along the south side of East Main Street at the western edge of the intersection, directing any pedestrian traffic in this area to the crosswalk leading to the north side of the intersection. Another new sidewalk would be constructed on the south side of Idaho-Maryland Road at the eastern edge of the intersection (along the frontage of the existing Hills Flat Lumber Company buildings), also directing pedestrians to a crosswalk leading to the north side of the intersection. No pedestrian crossing of the SR 20/49 ramps would be provided.

The EMIM roundabout would include a new 10-foot wide bicycle path on the northeast corner of the intersection, adjacent to the multi-lane westbound approach. Westbound cyclists could avoid the multi-lane portion of the roundabout by using the path, crossing the north leg of the intersection, and using a 5-foot wide striped shoulder area that would be provided along the southbound right turn bypass lane.

Level of Service

The EMIM intersection is currently operating at LOS F during both the AM and PM peak hours. The proposed project is expected to provide LOS B under existing and year 2012 conditions and LOS D or better in year 2026. The longest anticipated queues on the Route 20/49 offramp would be relatively short, at approximately 107 feet during the 2026 AM peak hour.

Assessor's Parcel Adjustments

Construction of the proposed roundabout would require acquisition of right-of-way from two adjacent parcels. It is anticipated that the right-of-way required from the Hills Flat Lumber Company (APN 09-230-23), Kubota Tractor (APN 09-210-21), and the vacant “Terrible Herbst” lot (APN 09-210-22) would be ±3,400 square feet (sq. ft.), ±5 sq. ft., and ±60 sq. ft., respectively.

Public agencies whose approval is required:

- City of Grass Valley

- U.S. Army Corps of Engineers: Nationwide Permits 33 and 14;
- Central Valley Regional Water Quality Control Board: 401 Water Quality Certification, NPDES Permit and Storm Water Pollution Prevention Plan, Waste Discharge Requirements Certification;
- California Department of Fish and Game: Section 1602 Streambed Alteration Agreement.

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.

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | <input checked="" type="checkbox"/> None with Mitigation |

DETERMINATION:

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or

NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature _____ Date August 30, 2007
 Printed Name Tim Kiser Agency City of Grass Valley

EVALUATION OF ENVIRONMENTAL IMPACTS:

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

Setting

The project site is located in an urbanized area within the City of Grass Valley. The site currently supports a conventional intersection. The surrounding area lacks significant aesthetic value due to the presence of commercial/industrial buildings and equipment storage in every direction. Vegetation in the project area includes landscaping at the Chevron gas station and as associated with Matson Creek at the northwestern boundary of the project site and the drainage ditch along the eastern boundary. The State Route 49 corridor is adjacent to the southern boundary. According to the *City of Grass Valley Community Design Guidelines* (adopted February 26, 2002), design goals for the City include the preservation and enhancement of the existing community while encouraging innovative, unique and creative design solutions. Various view points from the intersection can be seen in *Figure 4 Site Photos*.

As discussed below, the proposed project would have a positive impact to the scenic and aesthetic resources within the project area. The center portion of the roundabout would be landscaped and would contain a monument or other feature to indicate entry into the City of Grass Valley. The design also includes pedestrian/bicycle path and pedestrian crossings across both East Main Street and Idaho-Maryland Road. No buildings within the project vicinity would be demolished or altered.

The project vicinity has been, is currently, and will continue to be lighted considerably due to the presence of the surrounding businesses.

Impacts

- a) While located near Wolf Creek, the proposed project site itself is not within the

view shed of any recognized scenic vista, and therefore would have no impact on scenic vistas.

- b-c) The proposed project is not within the view shed of any local or state designated scenic highway or other scenic resources. The proposed project would enhance the existing visual character and quality of the site and its surroundings by providing landscaping in the center portion of the roundabout. The design would not impede driver's lines of sight or cause a potential safety hazard. The project would have a less than significant impact on scenic resources and the visual character in the project vicinity.
- d) No additional source of light will be created from the proposed project; therefore, it will have no impact on day or nighttime views in this urbanized area.

Mitigation Measures

No mitigation measures are necessary.

II. AGRICULTURAL RESOURCES –

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

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The project site currently supports an existing conventional intersection and is surrounded by developed land. The site is located entirely within the NC, Neighborhood Center, zoning district, and no agricultural land occurs on or in the vicinity of the project site.

Impacts

- a) No land designated by the state of California as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance occurs on the project site; therefore the proposed project will have no impact on these lands.
- b) The project site is not under a Williamson Act contract; therefore the project will not be in conflict with local zoning or Williamson Act contracts.
- c) No agricultural production occurs on or adjacent to the project site. The proposed project will have no impact associated to the conversion of farmland to non-agricultural use.

Mitigation Measures

No mitigation measures are necessary.

III. AIR QUALITY –

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

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

Setting

The project site is located within the jurisdiction of the Northern Sierra Air Quality Management District (NSAQMD), which monitors air quality within Nevada, Plumas, and Sierra Counties in California. The NSAQMD website states that air quality in the project area is generally good. The website can be found at:

<http://www.myairdistrict.com/>

Air quality within the NSAQMD area complies with all federal air quality standards and most state standards.

The area is designated nonattainment for the state standards for PM₁₀ (particulate matter less than ten microns in diameter) and ozone. If the nonattainment status is not remedied, economic

penalties could be imposed on the air basin, including the potential to lose federal and state funding for roadway improvements and other development. It is recognized by the State of California that a portion of the District's air quality deficiencies are caused by the transport of pollutants from upwind sources, i.e., Sacramento and the San Francisco Bay Area; however, emissions from within the NSAQMD are substantial by themselves. Primary emission sources within the NSAQMD are woodburning stoves and fireplaces and motor vehicles. As the Grass Valley area experiences population growth, it will require an increasing effort to realize improvements in the ambient air quality. Due to the NSAQMD's nonattainment status, PM₁₀ and ozone are the primary pollutants of concern.

Ozone is a pollutant that is not directly emitted, but is formed when oxides of nitrogen (NO_x) and reactive organic gases (ROG) undergo a photochemical reaction in the presence of sunlight. This photochemical reaction occurs most readily during the summer.

Particulate matter (PM₁₀) is the term used for a mixture of solid particles and liquid droplets found in the air. These particles are small enough to enter human lungs and cause respiratory and other health problems. Common sources of particulate matter include motor vehicles, industrial emissions, wood-burning appliances, residential and agricultural open burning, and airborne dust from agricultural and construction activities. The NSAQMD is designated "unclassified" for PM_{2.5}, which refers to a smaller class of particulate matter. The "unclassified" designation indicates that there is not sufficient data to designate the area as attainment or non-attainment.

Toxic air pollutants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. Many air toxics originate from human-made sources, including mobile sources (e.g., cars, trucks, buses) and stationary sources (e.g., factories, refineries, power plants), as well as indoor sources (e.g., some building materials and cleaning solvents). Examples of toxic air pollutants include benzene, which is found in gasoline; perchlorethylene, which is emitted from some dry cleaning facilities; and methylene chloride, which is used as a solvent and paint stripper by a number of industries. Emissions of toxic air pollutants are generally of greatest concern in proximity to manufacturing facilities and heavy traffic in urban areas. The EPA has classified compounds produced by diesel exhaust as a hazardous air pollutant and the California Air Resources Board (CARB) has identified diesel emissions as a Toxic Air Contaminant. In order to reduce hazards associated with diesel exhaust, CARB has adopted and begun implementing twenty diesel risk reduction measures, including rules for low-sulfur diesel fuels, diesel truck operational idling limits, transit bus rules, garbage truck rules, school bus replacements and retrofits, stationary diesel engine rules, agricultural engine rules, portable engine rules and border truck inspection protocols.

Another toxic air pollutant of concern in the project region is naturally occurring asbestos. Asbestos is a known carcinogen. When construction activities occur in areas with naturally occurring asbestos in the soils or rock, the asbestos can become airborne and may be inhaled. If a project is in an area mapped as having ultramafic or serpentine rock or soil, or if these rock or soil types are discovered onsite, the statewide Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations (Section 93105 of Title 17 of the California Code of Regulations) applies.

To evaluate the severity of potential impacts and identify appropriate mitigation measures, the NSAQMD has established three tiers of thresholds of significance, as listed below. A project

with emissions meeting Level A thresholds will require the most basic mitigation measures; projects with projected emissions in the Level B range will require more extensive mitigation; and those projects which exceed Level C thresholds will require the most extensive mitigation measures.

NSAQMD Thresholds (pounds per day)

	NOX	ROG	PM10
Level A	<24 lbs/day	<24 lbs/day	<79 lbs/day
Level B	24-136 lbs/day	24-136 lbs/day	79-136 lbs/day
Level C	>136 lbs/day	>136 lbs/day	>136 lbs/day

Source: NSAQMD

The NSAQMD does not have established CO and SO₂ thresholds. Therefore, this Initial Study considers the proposed project’s impacts to air quality in relation to the significance thresholds established by the neighboring air quality jurisdiction, the Placer County Air Pollution Control District (APCD). These thresholds are as follows:

Placer County APCD Thresholds (pounds per day)

Air Contaminant	Operational Significance Thresholds	Cumulative Significance Thresholds
Sulfur oxides (SO ₂)	10	82
Carbon monoxide (CO)	550	550

Source: Placer County Air Pollution Control District

Global Climate Change

Although not addressed in the Initial Study Air Quality checklist questions, recent state law requires that this Initial Study consider the potential for the project to contribute to global climate change. Greenhouse gas emissions associated with this project were estimated using carbon dioxide emissions as a proxy for all greenhouse gas emissions. Although other greenhouse gases have a higher global warming potential than carbon dioxide, this analysis focuses on carbon dioxide emissions because it is the most commonly produced greenhouse gas in terms of both number of sources and volume generated, and because it is among the easiest greenhouse gases to measure. This approach is consistent with the current reporting protocol of the California Climate Action Registry.

Assembly Bill 32

AB 32 requires CARB to adopt a statewide greenhouse gas emissions cap for each year starting in 2012, with the goal of having emissions in 2020 equal to or less than emissions levels in the year 1990. To ensure that emissions remain at or below the annual cap, CARB is required to develop and implement specific regulations that will apply to operation of stationary sources within California. In June 2007, CARB adopted a list of early action measures to reduce greenhouse gas emissions; these measures are to be developed into regulatory proposals, adopted by the Board, and made enforceable by January 1, 2010. In addition, the diesel risk reduction measures that have already been adopted are expected to contribute to reductions in greenhouse gas emissions. AB 32 also reiterates the need to reduce greenhouse gas emissions from vehicles, as established under AB 1493. The proposed project would not generate any new

vehicle trips or increase vehicle miles traveled in the project region, thus the provisions of AB 1493 are not relevant to this project.

Executive Order S-3-05

Executive Order (EO) S-3-05, signed by Governor Schwarzenegger in 2005, recognizes that impacts of climate change could directly affect California by reducing the Sierra Nevada snowpack, further exacerbating California’s air quality problems, and potentially causing a rise in sea levels. To address these concerns, EO S-3-5 established specific goals to reduce greenhouse gas emissions to the 2000 level by 2010, the 1990 level by 2020, and to 80% below the 1990 level by 2050. These emission targets are the same as those identified in AB 32.

Sensitive Land Uses

For the purposes of air quality analysis, sensitive land uses are defined as locations where people reside or where the presence of pollutant emissions could adversely affect the use of the land. The project site is located in an area characterized by existing commercial land uses, which are not typically characterized as sensitive receptors. Additionally, no medical clinics or child care facilities exist in the project area. The nearest residential area is located approximately ½ mile west of the project site.

Impacts

Impacts to Air Quality are expected as a result of project grading, paving, and construction. Dust would be generated from excavation and grading of the site. The URBEMIS 2007 v9.2 modeling considers all of these factors in generating the emissions estimates for a proposed project. The results of the URBEMIS 2007 v9.2 modeling are provided in the table below, while Appendix A to this Initial Study presents detailed results from the URBEMIS modeling. As discussed below, with implementation of mitigation measures, construction of the proposed project is expected to result in less than significant impacts to air quality.

URBEMIS Modeling Construction Emissions

Construction Phase		Amount of Emissions (lbs/day), per Pollutant					
		ROG	NO _x	CO	SO ₂	PM ₁₀	CO ₂
Grading	Unmitigated Emissions	3.46	29.23	15.92	0.0	10.47	2,480.25
	Mitigated Emissions	3.46	29.23	15.92	0.0	2.43	2,480.25
Paving	Unmitigated Emissions	2.39	13.60	10.68	0.01	1.17	1,170.03
	Mitigation Emissions	2.39	13.27	7.15	0.0	1.15	1,170.03

Operation of the new roundabout is expected to improve traffic circulation in the project vicinity. It is expected that the reduction in vehicle congestion would result in slight beneficial impacts to air quality due to reduced vehicle idling time. Primarily, this would reduce emissions of CO at the intersection.

- a) The City of Grass Valley is in an area designated nonattainment for the state standards for PM₁₀ and ozone. Construction of the proposed project would generate emissions of PM₁₀, ROG, and NO_x. Emissions of PM₁₀ and ROG would remain below the NSAQMD Level A thresholds throughout all construction, while NO_x emissions would exceed the Level A thresholds by 5.23 pounds per day during the grading phase. As shown in Appendix A, the majority of the NO_x

emissions would be from operation of off road diesel equipment. Although the NO_x emissions would exceed the Level A thresholds, this would occur only during the grading phase of the project, which is expected to comprise 8 weeks, and ROG emissions would remain substantially below the Level A thresholds. Based on the short-term timeframe in which grading and paving activities would occur and the low level of ROG and PM₁₀ emissions, it is expected that construction of the project would have a less than significant impact on the ability of the NSAQMD to reduce PM₁₀ and ozone concentrations in the project region, in compliance with the State Implementation Plan for the region.

- b-c) As discussed above, air quality impacts during construction of the proposed project would include particulate emissions in the form of dust and diesel particulates generated during grading and paving, as well as pollutant emissions generated by the operation of construction equipment. Emissions of most pollutants are expected to remain below the NSAQMD Level A thresholds, indicating that the project would have a less than significant impact on pollutant concentrations in the project area. As discussed above, emissions of NO_x would exceed the Level A thresholds by 5.23 pounds, and this impact would occur only during the grading phase of the project. Although implementation of mitigation measures is required for this project, the identified mitigation measures would not reduce the emissions of NO_x from operation of diesel grading equipment. Thus, emissions during the grading phase would fall within the NSAQMD Level B thresholds, indicating a potentially significant impact. However, as discussed above, these emissions would be temporary and short-term in nature. Therefore, this impact is considered less than significant.

The project site comprises approximately 1.8 acres, and thus is subject to NSAQMD Rule 226, which requires that a Dust Control Plan be prepared for any project site greater than one acre. The requirement to prepare this Dust Control Plan is identified as *Mitigation Measure AIR1*. The specific requirements for the content of the Dust Control Plan includes all of the mitigation measures that were assumed under the URBEMIS modeling, as well as additional standard measures required by NSAQMD. Because *Mitigation Measure AIR1* includes more requirements than were assumed in the URBEMIS modeling, it is expected that implementation of *Mitigation Measure AIR1* would reduce air pollutant emissions to levels lower than those shown in the table above. With implementation of this measure, the project would have a less than significant impact on air quality because it would not violate any air quality standard. The project proposes to construct a roundabout in the location of an existing conventional intersection. Air pollutant emissions would occur only during construction of the project, and no long-term emissions would be generated. Based on the modeling shown above, it is expected that the project would not result in a cumulatively considerable net increase of any criteria pollutant.

The project would generate emissions of CO₂, which contribute to climate change. No quantitative standards have been identified to establish a threshold by which to determine if the project generated emissions of CO₂ would represent a significant contribution to global climate change. However, the emissions of CO₂

from this project would be temporary and short-term in nature, and operation of the proposed project is expected to improve traffic flow through this intersection, which would decrease emissions from vehicles idling. Based on the short-term nature of the CO₂ emissions and the potential for the project to reduce overall emissions in the long-term, it is expected that this project would not contribute significantly to global climate change.

- d) Construction of the proposed roundabout would result in diesel exhaust which could expose residents located approximately ½ mile west of the project site to this toxic air pollutant. However, emissions of particulate matter, including diesel particulates, are expected to remain below the NSAQMD Level A thresholds, and would be reduced further with implementation of *Mitigation Measure AIR1*. Therefore the project would have a less than significant impact related to exposure of people to toxic air pollutants. As discussed in the Geology and Soils section below, the Geotechnical Engineering Report prepared for the proposed project (which is on file with the City of Grass Valley) revealed ultramafic, serpentine rock in the western portion of the site. This rock occurs at a depth of approximately six feet. Grading and excavation operations necessary for this project are expected to remain at a maximum depth of two feet. Thus no disturbance of naturally occurring asbestos is expected to occur with construction of this project.
- e) Although operation of construction equipment and offgassing from asphalt paving can generate odors, the temporary occurrence of these types of odors is considered typical for an urban or suburban environment. The emission of these odors would be temporary and short-term in nature. Upon completion of construction, the project would not generate any odors. Therefore the potential for the project to expose people to objectionable odors is considered to be a less than significant impact of this project.

Mitigation Measures

Mitigation Measure AIR1: In accordance with District Rule 226, the City of Grass Valley shall submit a Dust Control Plan to the Northern Sierra Air Quality Management District for review and approval prior to the start of any site preparation, including removal of existing pavement and grading. The Dust Control Plan shall include the following conditions, or other conditions determined by the Air Quality Management District to be equally or more effective:

1. The City and the City's contractor shall be responsible for ensuring that all dust control measures are implemented in a timely manner during all phases of project development and construction.
2. All material excavated, stockpiled, or graded shall be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and causing a public nuisance. Watering should occur at least twice daily, with complete site coverage.
3. All unpaved areas with vehicle traffic shall be watered or have dust palliative applied twice a day for regular stabilization of dust emissions.
4. All onsite vehicle traffic shall be limited to a speed of 15 mph on any unpaved areas.

5. All removal of existing pavement, land clearing, grading, earth moving, or excavation activities shall be suspended when winds exceed 20 miles per hour (based on a daily weather forecast) to prevent excessive windblown dust.
6. Any unpaved portion of the project site that shall remain inactive for a period of more than 10 days shall be covered, seeded, watered, or otherwise stabilized.
7. All material transported offsite shall be either sufficiently watered or securely covered to prevent it from being entrained in the air and there must be a minimum of six inches of freeboard in the bed of the transport vehicle.
8. Paved streets adjacent to the project shall be swept or washed at the end of each day, or more frequently if necessary, to remove excessive accumulations or visibly raised areas of soil which may have resulted from activities at the project site.

IV. BIOLOGICAL RESOURCES –

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

Setting

North Fork Associates prepared a Biological Resource Assessment and Wetland Delineation for the project site in June and July 2007. These reports are attached to this Initial Study as

Appendix B. The Wetland Delineation is subject to verification by the U.S. Army Corps of Engineers.

The study area for the Biological Resource Assessment extends slightly beyond the anticipated limits of grading and construction activities, as shown in *Figure 5*. The study area supports a highly disturbed and modified landscape. As the majority of the area is paved, it is devoid of vegetation except for a few ornamental perennials and fruit trees bordering the Chevron parking lot. The main hydrologic feature crossing the study area is Matson Creek, a perennial drainage that runs north to south and crosses under East Main Street at the western edge of the project site. The portion of Matson Creek north of East Main Street supports a narrow band of riparian vegetation, which consists of red willows and Himalayan blackberry. Matson Creek drains into Wolf Creek southwest of the study area, after Wolf Creek crosses underneath SR 20/49. Wolf Creek drains into the Bear River at the Nevada/Placer County line. The Bear River drains into the Feather River, which ultimately connects with the Sacramento River at the Yolo/Sutter County line. No portion of Wolf Creek occurs within the study area. A ditch carrying storm water and urban runoff occurs in the southeast corner of the study area. The ditch contains emergent vegetation, such as cattails.

The nearest natural habitats are Matson and Wolf creeks. The nearest designated open space area is located along Idaho-Maryland Road, approximately 5,500 feet east of the project site.

Three habitat types were observed within the EMIM Roundabout study area, as listed in the table below.

Habitat Types

Biological Community	Estimated Acreage
Paved	1.77
Riparian	0.02
Emergent Vegetation	0.02
Total	1.81

The project site provides minimal habitat value for wildlife due to the presence of paved surfaces, minimal amount of vegetative cover, and ongoing traffic disturbance. The roadside ditch located on the eastern side of the project site was mostly dry during the mid-June field survey and provided little habitat for wildlife. The ditch drains to the west through a culvert under the SR 20/49 ramps. Southwest of the project site, the drainage flows into Wolf Creek. Areas of Wolf Creek located downstream of the City of Grass Valley may provide higher quality habitat for native aquatic and semi-aquatic species. Degradation of water quality in the drainage ditch or Matson Creek could contribute to degradation of water quality in downstream reaches of Wolf Creek.

As described in the Biological Resources Assessment, no special status plants or animals are anticipated to occur within the study area due to the lack of suitable habitat and the ongoing disturbance from traffic operations and maintenance. However, three semi-aquatic animal species known from the broader project region have limited potential to occur in aquatic habitats located downstream of the project site, including downstream reaches of Wolf Creek. As discussed in the Impacts section below, without implementation of mitigation measures, the

project could result in sedimentation or degradation of water quality in Wolf Creek, which would impact these semi-aquatic animal species.

The three special-status species that have the potential to occur downstream of the project site include the following:

- **California red-legged frog** (*Rana aurora draytonii*), a federally threatened species and California species of special concern, historically ranged from Marin County southward to northern Baja California. It is expected that portions of Wolf Creek located downstream of the project site outside of the City of Grass Valley could provide potential habitat for the species.
- **Foothill yellow-legged frog** (*Rana boylei*) is found in partially shaded, shallow rocky streams in a variety of habitats throughout the foothills of the Sierra Nevada. This species is rarely found far from permanent water. However, there is some limited potential for this species to occur in aquatic habitats located downstream of the project site outside of the City of Grass Valley, possibly in scattered reaches along Wolf Creek.
- **Northwestern pond turtle** (*Clemmys marmorata marmorata*) occurs in association with streams, rivers, and ponds containing suitable cover and basking sites. This subspecies can be associated with both permanent and ephemeral water sources, including perennial and intermittent streams with permanent pools. No suitable aquatic or upland habitat for the Northwestern pond turtle occurs within or in the immediate vicinity of the project site, but suitable habitat may occur further downstream.

Impacts

- a) Construction of the proposed project could cause erosion of site soils. Eroded materials could enter Wolf Creek through Matson Creek and the drainage ditch, contributing to sedimentation of Wolf Creek. This could potentially decrease habitat for the semi-aquatic species described above. *Mitigation Measure BIO1* requires implementation of erosion control measures to avoid this potential impact. With implementation of this mitigation measure, the proposed project will have a less than significant impact on special status species and their habitats.
- b-c) The project site contains waters of the United States, including a 0.02 acre portion of Matson Creek and a 0.02 acre drainage ditch, classified in the Wetland Delineation as "other waters." The proposed project includes extension of an existing culvert into a portion of the drainage ditch, construction of a headwall along Matson Creek just north of East Main Street, and replacement of a portion of the existing culvert that conveys Matson Creek under East Main Street. These components of the project would result in direct impacts to waters of the United States. Implementation of *Mitigation Measures BIO2* and *BIO3* would ensure that impacts are minimized to the extent feasible and provide compensation for the impacts that cannot be avoided. With implementation of these measures, this impact would be reduced to a less than significant level.
- d) The project site is not known to support significant corridors for migratory fish or wildlife or support native wildlife nursery sites. While there are several migratory

fish species that may occur within the project region, there is no suitable habitat for migratory fish species onsite. The project would have no impact to wildlife migration or use of nursery sites.

- e-f) There are no community conservation plans, Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional or state conservation plan applicable to the project site. Therefore, the project would have no impacts or conflicts with these types of plans.

Mitigation Measures

Mitigation Measure BIO1: The City of Grass Valley and the City's contractor shall implement erosion control measures during all site preparation and construction activities consistent with the requirements of the Nevada County Resource Conservation District *Erosion Control Guidelines* and Caltrans Best Management Practices (BMPs). The erosion control measures and BMPs shall be reflected on grading and construction plans. Specifically, the City and the City's contractor shall implement the following measures:

1. The City and the City's contractor shall use vegetative and structural measures and management practices to reduce erosion and sedimentation.
2. Erosion hazards and runoff volumes and velocity shall be reduced by limiting the length and steepness of slopes. Slopes subject to erosion shall not be steeper than 2:1 horizontal to vertical.
3. Any long steep slopes shall be broken up by benching, terracing or diversion structures.
4. Vegetation shall be used to control erosion to (a) shield the soil surface from rain, (b) increase infiltration, (c) reduce velocity of runoff and (d) hold soil in place and act as a filter.
5. Grading and construction shall occur during the normal dry season.
6. Prior to commencement of site work, sediment control BMPs such as fiber rolls or gravel bag berms shall be installed on topographically lower areas of the proposed area of disturbance to reduce migration of sediment from the site. Fiber rolls and gravel bag berms shall be placed to reduce sediment discharge from disturbed areas and reduce the velocity of water flow. The BMPs shall remain in place until construction activity is complete.
7. Adjacent water courses shall be protected from runoff, siltation, or blockage during construction. Under no circumstances shall concentrated surface water be directed into drainage courses or existing waterways. Intercepted water shall be discharged into appropriate collection and disposal structures.
8. If construction activities result in disturbance of soil outside the area to be paved or otherwise covered as part of site improvements, the exposed areas shall be hydroseeded or hand seeded/strawed with an appropriate seed mixture compatible with the soil and climate conditions of the site as recommended by the Nevada County Resource Conservation District.

9. Concrete washout systems shall be employed as necessary to reduce runoff from concrete operations.

Mitigation Measure BIO2: The City shall submit the wetland delineation to the U.S. Army Corps of Engineers (Corps) for verification of the Corps' jurisdiction within the project site and obtain the appropriate wetland impact permits. Based on the Wetland Delineation submitted for verification, approval for impacts to Matson Creek and the onsite drainage ditch would be granted under Nationwide Permits 14 and 33. Issuance of these permits by the Corps requires compliance with all standard conditions for each permit, including providing compensation for impacts to waters of the United States. Compensation would be provided with the purchase of mitigation credits through the National Fish and Wildlife Fund.

Mitigation Measure BIO3: The City shall obtain a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Game. The City shall also obtain a 401 Water Quality Certification, National Pollutant Discharge Elimination System (NPDES) Permit, and Waste Discharge Requirements Certification from the Central Valley Regional Water Quality Control Board. The City shall also prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) to the Central Valley Regional Water Quality Control Board for approval.

V. CULTURAL RESOURCES –

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Setting

Although many archaeological and historical resources are known to exist in the City of Grass Valley, no known recorded archeological resources are located within the project site. A records search through the North Central Information Center (NCIC) indicated that the proposed project area contains no recorded prehistoric archaeological sites and no historic properties. The NCIC also concluded that there is low to moderate potential for identifying prehistoric archeological sites and moderate to high potential for historic-period cultural resources. Although the NCIC recommended additional research (i.e., a field survey), the project site consists of an existing paved intersection, and no cultural resources are observable at the project site surface. Consistent with the NCIC information, it is considered that there is a potential for buried cultural resources to be present.

Impacts

- a-d) There are no known historical resources, archaeological resources, paleontological materials, or human remains at the surface of the project site however there is a potential to uncover these types of resources during construction activities. Implementation of *Mitigation Measure CUL1* and *CUL2*, below, will reduce potential adverse impacts to historic, archaeological, or paleontological resources or human remains to less than significant levels.

Mitigation Measures

Mitigation Measure CUL1: If, during construction activities, historic resources, artifacts, exotic rock or unusual amounts of shell or bone or other potential historic, archaeological, or paleontological resources are encountered during earth-disturbance associated with the proposed project, all soil-disturbing work shall be halted until a qualified archaeologist completes a significance evaluation of the finds pursuant to Section 106 of the National Historic Preservation Act. The archaeologist shall also prepare a management plan for the resources uncovered to ensure that potential impacts to the resources are avoided or compensated for. No further soil-disturbing work shall be conducted within 100 feet of the area of resource discovery until an appropriate management plan is developed by a qualified archaeologist and implemented.

Mitigation Measure CUL2: The City and the City's contractor shall comply with the guidelines of California Health and Safety Code Section 7050.5 and Public Resources Code Sections 5097.94, 5097.98 and 5097.99 for inadvertent discovery of human remains or burials during project construction. If any bone is uncovered that may be human, then construction activities shall immediately halt, and shall not recommence until the following measures have been implemented:

1. All excavation or disturbance of the site of discovery and any nearby area reasonably suspected to have remains must be halted immediately and the County Coroner shall be notified of the find.
2. The Coroner has two working days to examine the remains after being notified by the person responsible for the excavation. If the remains are determined to be Native American, the Coroner must notify the Native American Heritage Commission (NAHC) within 24 hours.
3. The NAHC shall immediately notify the person it believes to be the most likely descendant of the deceased Native American. The most likely descendant may, with the permission of the landowner or landowner's representative, inspect the site of discovery. The most likely descendant has 48 hours from being granted site access to make recommendations to the landowner, or landowner's representative, for the treatment or disposition of the remains and any associated artifacts with proper dignity. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials.
4. If a most likely descendant cannot be identified, or the most likely descendant fails to make recommendations within the specified time period, the landowner must re-enter the remains and any associated artifacts in an area of the property secure from

further disturbance. If the owner rejects the descendant's recommendations, the owner or the descendant may request mediation by the NAHC. If mediation fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall re-enter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance and protect the location as required by Public Resources Code Section 5097.98(e).

VI. GEOLOGY AND SOILS –

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

Holdrege & Kull prepared a Geotechnical Engineering Report for the proposed project (October, 2006). This report is on file with the City of Grass Valley. The information provided in the Geotechnical Engineering Report is summarized below.

The project site is located on the eastern edge of the Sierra Nevada geomorphic province, which is an elongate, north-west trending structural block. Topography onsite is nearly flat, with a maximum southeastern gradient of less than 5 percent. The elevation onsite is approximately 2,300 feet. The majority of the project area is generally mapped as mid-Jurassic Lake Combie Complex. The geotechnical investigation revealed ultramafic, serpentine rock in the western portion of the site. This rock occurs at a depth of approximately six feet. Grading and excavation operations necessary for this project are expected to remain at a maximum depth of two feet. Thus no disturbance of ultramafic rock is expected to occur with construction of this

project. The southernmost portion of the site is mapped as recent alluvial and colluvial sediment.

Three exploratory test pits were completed for the field investigation. Native soils on the site range from brown gravelly loam to brown gravelly clay loam. Weathered ultrabasic rock is typically found 21 inches below ground surface. According to the analysis, seepage may be encountered during excavations which reveal the soil/weathered rock transition, principally during or soon-after the rainy season.

There are no Alquist-Priolo mapped zones within the project area. The closest active fault is the Cleveland Hill fault near Oroville. The City is within the low intensity zone for earthquake severity, however, according to the 2020 General Plan, ground movement can be felt in Grass Valley from earthquakes at intermediate distances (i.e., the Truckee quake of 1968) and from distant earthquakes (i.e., the Winters-Vacaville 1892 event).

Impacts

- a) As the proposed roundabout is within the low intensity zone for earthquake severity and the topography is relatively flat, grading and construction of the proposed roundabout is anticipated to result in less than significant impacts related to landslides, lateral spreading, subsidence, liquefaction, or collapse. The Geotechnical Engineering Report did not identify any expansive soils within the project site.
- b) Earthmoving activities associated with the proposed project would expose soils on the project site to potential erosion from wind and water runoff. As existing paving covers a majority of the project site, the site does not provide significant topsoil resources and the project would result in no impact associated with the loss of topsoil. It is expected that through implementation of *Mitigation Measures AIR1* and *BIO1*, impacts resulting from erosion will remain less than significant.
- c) From a geotechnical standpoint, the site is considered suitable for support of the proposed improvements provided the provisions contained in the Geotechnical Engineering Report are followed, such as remediating or disposing of contaminated soil. Compliance with these recommendations is required by *Mitigation Measure GEO1*. With implementation of this measure, impacts associated with soils and geologic unit stability are expected to be less than significant.
- d) According to the Geotechnical Engineering Report, variable soil conditions exist along with existing fill and shallow groundwater conditions. Provisions set forth in the Geotechnical Engineering Report recommend specific treatment to ensure that exposed soil grade compaction and soil replacement with engineered fill would support construction within the project area. Compliance with these recommendations is required by *Mitigation Measure GEO1*. With implementation of this measure, impacts will be less than significant.
- e) The proposed project consists of replacement of an existing conventional intersection with a roundabout. The project would not use any wastewater treatment facilities and would have no impact associated with septic tanks or alternative wastewater disposal systems.

Mitigation Measures

Mitigation Measure GEO1: The City and the City’s contractor shall implement provisions and recommendations regarding potentially contaminated soil, existing fill, grading and paving as described in the Geotechnical Engineering Report. These provisions include recommendations for site preparation, fill placement, erosion control, construction dewatering, surface water drainage, underground utility trenches, soil corrosion, plan review, and construction monitoring. All applicable provisions of the Geotechnical Engineering Report shall be reflected on grading and construction plans.

VII. HAZARDS AND HAZARDOUS MATERIALS –

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

Setting

Holdrege & Kull prepared a Phase I Environmental Site Assessment for the proposed project (June, 2007). This report is on file with the City of Grass Valley. The discussion below summarizes the information presented in the Phase I Environmental Site Assessment.

The City of Grass Valley Fire Department (GVFD), which is located on 125 E Main St., approximately ¼ mile from the project site, provides fire protection and emergency response

throughout the City of Grass Valley. The GVFD operates two Type 1 Engines, one Type 1/3 engine, an air/light support unit, an OES fire engine, and a 75-foot aerial. The GVFD also maintains a 1926 Seagrave antique fire engine. The GVFD responds to more than 2,300 incidents each year. Emergency medical responses account for approximately 75 percent of the calls.

An Environmental Data Resources search, which is a search of databases that list known hazardous material releases, was performed to identify any releases that may have potential to affect the project site. This search revealed that leaking underground storage tanks (LUSTs) have been present on the "Terrible Herbst" site and the Chevron site, which are located directly northeast and northwest of the project site respectively.

In 1993 and 1999 unleaded gasoline was released to subsurface soil at the Terrible Herbst site, which supported a gas station with fuel dispensers and several underground storage tanks (USTs). As part of the Corrective Action Plan, onsite USTs were properly removed and approximately 670 tons of petroleum hydrocarbon-impacted soil were over-excavated and removed from the site in 2005. The fourth quarter 2006 groundwater monitoring report for this site revealed that benzene is the primary chemical of concern and that the contaminated plume is of limited extent and is largely confined within the bounds of the property. Ongoing groundwater monitoring occurs at this site.

Six USTs were removed from the Chevron site in 1997. Approximately 2,500 cubic yards of petroleum hydrocarbon-impacted soil were over excavated and also removed at that time. A groundwater monitoring well network has been in place at this site since 1994. The fourth quarter 2006 groundwater monitoring results along with a soil vapor survey conducted in January 2007 showed low levels of contamination. As a result, case closure has been requested from the California Regional Water Quality Control Board.

Varying amounts and types of fill from unknown sources underlie the project site. A soil boring in the northeast portion of the project site revealed an odor that could indicate hydrocarbon-impacted soil or decaying organic substance. Additionally, the site is approximately 700 feet downslope of a mine ore processing facility. Matson Creek may have accumulated sediment from upstream mining claims over the years. Two additional active LUST sites, two active Spills, Leaks, Investigation and Cleanup (SLIC) sites, and two Voluntary Cleanup Program (VCP) sites have been identified within a ½ mile radius of the project site and are considered to be recognized environmental conditions. However, these sites are not expected to affect construction of the proposed project.

Impacts

- a) The proposed project would replace an existing conventional intersection with a roundabout. In finished condition, the project would not involve the routine transport, use or disposal of hazardous materials, and is therefore expected to have no impact to the public and the environment associated with hazardous materials. Potential impacts associated with use of hazardous materials during construction are discussed below.
- b) As discussed above, upon completion of construction, the proposed project would not involve the use or storage of any hazardous materials. Construction of the project would require the use of some hazardous materials, such as fuel for construction equipment, paints, and solvents. The use and storage of these

materials would pose some risk to the environment through reasonably foreseeable upset and/or accident conditions, especially if discharged to the onsite drainage ditch or Matson Creek. With implementation of *Mitigation Measure HAZ1*, which requires implementation of Best Management Practices in the storage and use of hazardous materials, impacts would be less than significant.

- c) No school is located within one-quarter mile of the project site; therefore, no impact related to project proximity to schools would result.
- d) Based on the Phase I Environmental Site Assessment, two LUST sites currently exist to the north of the project site which could potentially create a significant hazard to the public or the environment. With the implementation of *Mitigation Measure HAZ2* potential discovery of hazardous materials within the construction area, potential impacts would remain less than significant.
- e-f) The nearest airport is the Nevada County Air Park, which is located approximately three miles east of the project site. The proposed roundabout would not affect the level of risk presented by the proximity of the Nevada County Air Park. There are no other private or public airstrips within the project vicinity, and the project would have no impact on the safety of people residing or working in the project area due to proximity to an airport.
- g) The proposed project is anticipated to decrease traffic congestion and increase ease of movement through the downtown corridor, including East Main Street, and therefore will not impair implementation of or physically interfere with an adopted emergency response or evacuation plan. Construction of the proposed project could result in temporary disturbances to traffic operations in the project vicinity, which could interfere with the GVFD's ability to respond to emergencies. The City Engineering Department will prepare a Traffic Management/Control Plan to guide management of traffic conditions during construction. The City Engineering Department will also consult with GVFD prior to commencement of construction to ensure that GVFD is aware of the construction schedule and can identify alternate routes for responding to emergencies during construction. With implementation of the Traffic Management/Control Plan and this consultation with GVFD, the potential for construction of the project to interfere with GVFD emergency response is considered less than significant.
- h) There are no wildlands or open space adjacent to the project site, therefore the proposed project will not expose people or structures to risk involving wildland fires.

Mitigation Measures

Mitigation Measure HAZ1: The following Best Management Practices shall be implemented to control potential pollutant sources associated with the handling and storage of construction materials and equipment.

1. Raw construction materials (e.g., dry materials such as plaster and cement, solvents, pesticides and herbicides, paints, petroleum products, and treated lumber) shall be stored in designated areas surrounded by earthen berms located away from storm

drain inlets and natural drainage ways. Any materials that are spread throughout the site shall be covered with impervious tarps.

2. Construction employees shall be trained in proper materials handling practices.
3. Concrete trucks shall be washed out in designated areas in accordance with the Contractor's approved Storm Water Pollution Prevention Plan. Washing fresh concrete from the trucks shall be avoided unless the runoff is drained to a berm or level area, away from site waterways and storm drain inlets.
4. Hazardous materials use, transportation, and storage shall be in compliance with all applicable local, state and federal regulations. The City shall secure all necessary permits for the temporary storage of fuel or other flammable materials if such materials are stored in amounts requiring permits.
5. Hazardous materials shall be stored in accordance with their labeling. The quantities of these materials stored onsite shall reflect the quantities needed for site construction. The City and the City's contractor shall not mix hazardous waste with other waste produced on the site. Hazardous wastes shall be disposed of at an approved hazardous waste facility.
6. Disposal of waste oil and other equipment maintenance waste shall be done in compliance with federal, state and local laws, regulations and ordinances.
7. If blasting or the use of controlled explosives is deemed necessary for the proposed project, the grading contractor shall secure a blasting permit and all work shall comply with Nevada County and City of Grass Valley regulatory conditions.

Mitigation Measure HAZ2: The City and the City's contractor shall adhere to the following provisions regarding the potential uncovering of hazardous materials:

1. At least 24 hours prior to excavation of fill or native soil beneath the typical subgrade (greater than approximately one to two feet), the City's contractor shall notify the City's Professional Geotechnical Engineering Consultant of excavation start time and anticipated duration.
2. The City's Professional Geotechnical Engineering Consultant shall arrange for a qualified environmental professional to inspect excavated soil prior to reusing the soil as fill or off-haul from the site.
3. The City's contractor shall implement the City's Professional Geotechnical Engineering Consultant recommendations for re-use of the soil as fill or, if contamination is suspected, shall allow the City's Professional Geotechnical Engineering Consultant to obtain soil samples for analysis, and shall comply with recommendations for special handling procedures for the soil.

VIII. HYDROLOGY AND WATER QUALITY –

Would the project:

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

Setting

The proposed roundabout study area is in the Upper Bear Watershed. The main hydrologic feature crossing the study area is Matson Creek. In natural conditions, Matson Creek would be expected to function as a perennial drainage. However, runoff from developed areas increases the flows in the creek and it appears that Matson Creek contains flowing water year-round. Matson Creek drains into Wolf Creek southwest of the study area. Wolf Creek drains into the Bear River at the Nevada/Placer County line. The Bear River drains into the Feather River, which ultimately connects with the Sacramento River at the Yolo/Sutter County line. The proposed roundabout study area also supports a roadside ditch that collects storm water and urban runoff.

Impacts

- a, c-f) The project would replace an existing conventional intersection with a roundabout. This project would not significantly increase the amount of paving at the project site and therefore would not significantly increase surface runoff.

A new headwall would be constructed at the northern edge of the culvert that allows Matson Creek to flow under East Main Street in the northwest quadrant of the project site. A portion of the existing culvert at this location would also be replaced. These activities would require “dewatering” of a portion of Matson Creek, which would involve the use of temporary structures, such as cofferdams and sandbags, to redirect flows around the construction area. The proposed project would also require the upsizing of an existing storm drainage pipe that conveys flows under Idaho-Maryland Road to the drainage ditch in the southeast quadrant of the project site. These activities would not permanently alter the course of Matson Creek or the existing drainage patterns in the project area.

Construction of the proposed project could result in erosion, as discussed in the Air Quality, Biological Resources, and Geology and Soils sections above. Eroded materials could enter Wolf Creek through Matson Creek and the drainage ditch, contributing to sedimentation of Wolf Creek. Implementation of *Mitigation Measure BIO1*, which requires use of erosion control measures and BMPs to avoid contributing to sedimentation of Wolf Creek, would ensure that this potential impact remains at a less than significant level.

Mitigation Measure BIO3 requires the City to obtain a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Game (DFG), a 401 Water Quality Certification, a National Pollutant Discharge Elimination System (NPDES) Permit, and Waste Discharge Requirements Certification from the Central Valley Regional Water Quality Control Board. The City and the City’s contractor are also required to prepare and submit a Storm Water Pollution Prevention Plan (SWPPP).

With the implementation of *Mitigation Measures BIO1* and *BIO3*, the proposed project is expected to have a less than significant impact to water quality, drainage patterns, and stormwater runoff.

- b) The proposed project would replace an existing conventional intersection with a roundabout. The project would have no impact on groundwater resources.
- g- h) According to the City of Grass Valley General Plan, the Federal Emergency Management Agency Flood Insurance Rate Maps consider the City to be relatively well drained, and indicate that the 100-year flood areas are generally confined to narrow bands along local drainages. The proposed project site is within the Rate Map’s 100-year flood designation, due to its close proximity to Wolf Creek. The proposed project consists of the replacement of an existing conventional intersection with a roundabout. No habitable structures are proposed for construction; the only proposed structure is the headwall on Matson Creek. This project would not alter the course of a stream or river, place housing or structures within a 100-year flood plain, or expose people to significant risks due to flooding or other hydrology related hazards.

- i-j) The proposed project would not 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. There are no levees or dams within the surrounding area, thus failure of a levee or dam would not result in water reaching or submerging the project site. The project site is geographically removed from any water bodies or instable soil slopes, thus the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow.

Mitigation Measures

Implementation of Mitigation Measures BIO1 and BIO3 would be sufficient to mitigate potential impacts to water quality, drainage patterns, and stormwater runoff. No additional mitigation measures are necessary.

IX. LAND USE AND PLANNING –

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The proposed project site is located within the NC, Neighborhood Center, zoning district, which permits a mix of uses including service, retail, recreation, education, public assembly, and residential. Residential uses are permitted within the NC zoning district for home occupation purposes, as a mixed use component, as an accessory use, or as a second unit or carriage house. Land surrounding the project site is designated in the General Plan for commercial land uses.

Impacts

- a) The proposed project would replace an existing conventional intersection with a roundabout. The project would improve mobility for the City of Grass Valley would not divide any established communities.
- b) The proposed project does not conflict with any applicable land use plans, policies, or regulations. The Grass Valley 2020 General Plan includes goals to improve the circulation patterns within the City, and to continue to revitalize central Grass Valley. The proposed roundabout is consistent with these goals. By improving automobile, pedestrian, and bicycle circulation conditions, the project would contribute to the enhancement and revitalization of central Grass Valley.
- c) The proposed roundabout would replace an existing intersection. The site is not

subject to any habitat conservation plan or natural community conservation plan, therefore the project will have no impact on the implementation of any such plan.

Mitigation Measures

No mitigation measures are necessary.

X. MINERAL RESOURCES –

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The project site is a highly developed, urbanized area and does not provide known access to any mineral resources.

Impacts

- a-b) The project would replace an existing conventional intersection with a roundabout. The project site is already paved. Construction of the proposed roundabout would have no impact on the availability of any mineral resources..

Mitigation Measures

No mitigation measures are necessary.

XI. NOISE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XI. NOISE

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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Would 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Setting

According to the existing and projected year 2020 traffic noise contours in the Grass Valley General Plan, the project site is entirely within the 65 decibel (dB) traffic noise contour.

Impacts

- a) The proposed project would replace an existing conventional intersection with a roundabout. Operation of the roundabout is not expected to increase noise levels at this location beyond the existing condition. No sensitive receptors are located within 100 feet of the proposed project site, thus any increase in noise levels associated with construction would not affect any sensitive receptors.
- b) Substantial ground-borne vibration typically occurs as a result of blasting or pile-driving activities. No such activities are expected to be necessary for this project. Grading and paving activities associated with the proposed project would generate less than significant amounts of ground-borne vibration.
- c) The proposed project would replace an existing conventional intersection with a roundabout. Construction of the proposed roundabout is not expected to change traffic volumes through the project site, thus the project is not expected to increase ambient noise levels at this location beyond the existing condition.
- d) Construction activities associated with the proposed project are expected to result in a temporary and periodic increase in ambient noise levels in the project vicinity, however construction noise would not impact any sensitive receptors. The temporary and period increases in ambient noise levels are expected to remain less than significant.
- e-f) The proposed project is not located within an airport land use plan or within two miles of any public airport or private airstrip.

Mitigation Measures

No mitigation measures are necessary.

XII. POPULATION AND HOUSING –

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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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 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

XII. POPULATION AND HOUSING –

Would the project:

(of roads or other infrastructure)?

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

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The City of Grass Valley’s population is estimated to be 10,922 according to the 2000 U.S. Census. The project site and adjacent properties do not support any residential land uses.

Impacts

- a-c) The proposed roundabout would not result in any increase in population or development levels in the project area, nor would it displace existing homes or people. While the project would improve existing roadway infrastructure, this improvement would not be sufficient to induce substantial population growth and therefore would have no impact on population and housing.

Mitigation Measures

No mitigation measures are necessary.

XIII. UTILITIES AND PUBLIC SERVICES –

Would the project:

- a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- Fire protection?
- Police protection?
- Schools
- Parks
- Other public facilities?

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The City of Grass Valley receives services from the following:

Fire Protection: The project site is served by the Grass Valley Fire Department - Station #2, which is located at 213 Sierra College Drive, approximately 1.25 miles from the project site. .

Police Protection: The project area is within the jurisdiction of the Grass Valley Police Department, which is located at 129 South Auburn St. The police department is a full-service, community policing organization with 40 sworn and civilian staff, six reserve officers and a 13 member volunteer program.

Schools: Hennessy School is located at 225 South Auburn St, approximately one mile from the project site.

Parks: Memorial Park is located along Colfax Avenue, about one mile from the project site. Empire Mine State Historic Park is located approximately two miles southeast of the project site and the Nevada County Country Club is located approximately ½ mile north of the site.

Other Public Facilities: Maintenance responsibilities for public services, such as public roads, storm water drainage facilities, snow removal, solid waste collection, and hazardous materials disposal are the responsibility of the City of Grass Valley Public Works Department.

Impacts

- a) The proposed roundabout would replace an existing intersection. This project would not result in any increase in population or development levels in the project area. The demand for fire and police protection, use of schools and parks, and use of other public facilities in the project area are not expected to change as a result of construction of the proposed roundabout.

Mitigation Measures

No mitigation measures are necessary.

XIV. RECREATION –

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might, have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The nearest park, Memorial Park, is located along Colfax Avenue, about one mile from the project site. Empire Mine State Historic Park is located approximately two miles southeast of the project site while the Nevada County Country Club is located approximately ½ mile north of the site.

Impacts

- a-b) The proposed roundabout would replace an existing intersection and would not result in any increase in population in the City. The project would not increase the use of existing parks nor would it require the construction or expansion of existing

recreational facilities. There would be no impact on regional recreation as a result of this project.

Mitigation Measures

No mitigation measures are necessary.

XV. TRANSPORTATION/TRAFFIC –

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

The project would replace an existing conventional intersection located north of SR 20/49 in the City of Grass Valley with a roundabout. The intersection is currently controlled by all-way stop controls and operates at Level of Service (LOS) F. The westbound freeway ramps form the southern leg of the intersection. The eastbound freeway ramps are located on Idaho-Maryland Road approximately ¼ mile to the east.

Over the past decade, the City of Grass Valley has worked with Caltrans to consider numerous potential improvements to address the intersection’s deficient operation. Signalization of the intersection has been deemed infeasible due to the potentially-adverse impacts to the short weave between freeway interchanges on westbound SR 20/49. Construction of a roundabout has been found to be the only acceptable improvement that meets the goals of providing acceptable operation of both the intersection and the freeway.

A Traffic Impacts Analysis was conducted for this project by Whitlock & Weinberger Transportation, Inc. (W-Trans) in May 2007. This report is provided as Appendix C to this Initial Study. The Traffic Impacts Analysis analyzes LOS standards as well as existing and future peak hour traffic volumes.

Existing Level of Service

The Traffic Impacts Analysis evaluates existing LOS during the weekday AM and PM peak hours to capture worst-case operation periods at the intersection. Traffic conditions were evaluated under existing conditions (2006) and projected for a 2012 horizon year chosen by Caltrans and the City as an appropriate design year and for a 2026 horizon year chosen to assess potential long-term conditions. For the traffic analysis, operating conditions at the EMIM intersection were evaluated with the existing all-way stop-controls, with a traffic signal, and with the proposed roundabout.

The City of Grass Valley has established LOS D as the minimum operating standard for intersections. Caltrans uses the threshold between LOS C and D as the minimum operating standard for ramp terminals. The existing all-way stop-controls are operating unacceptably at LOS F during both the AM and PM peak hours, with queues extending nearly 2,000 feet on westbound Idaho-Maryland Road.

Proposed Roundabout Design

The project proposes the construction of a roundabout in order to improve operating conditions at the intersection of East Main Street with Idaho-Maryland Road and the westbound SR 20/49 on- and off-ramps.

The westbound Idaho-Maryland Road approach would flare to two lanes entering the roundabout, creating an approximately 60-foot long lane for traffic destined for the SR 20/49 onramp. Because the EMIM intersection is a freeway ramp terminal, the proposed roundabout has been designed to meet Caltrans requirement to provide for full maneuverability of a "California Legal" semi truck, which is a 65-foot long vehicle. The roundabout was also designed to ensure that appropriate vehicle speeds can be maintained for passenger vehicles at the entry, within the roundabout, and upon exiting.

Impacts

- a) The proposed project would replace an existing intersection with a roundabout. The project would not generate any new traffic trips, and would have no impact on existing traffic load and capacity of the street system. Rather, the proposed roundabout would improve mobility and reduce congestion.

The project would have a significant impact on mobility during the construction period; however, with the implementation of the phased construction plan and Traffic Management Plan developed for this project, impacts would be reduced to a less than significant level.

- b) The proposed project is expected to provide LOS B under existing and year 2012 conditions and LOS D or better in year 2026. The longest anticipated queues on the SR 20/49 offramp would be relatively short, at approximately 107 feet during the 2026 AM peak hour. Maintaining short queue lengths on the offramp is desirable given the low-speed hook ramp configuration and adjacent downgrade on westbound SR 20/49. The eastbound East Main Street approach to the roundabout is projected to experience the most lengthy delays and queues, particularly during the 2026 PM peak hour when queues could extend approximately 1,760 feet. The projected LOS D operation in 2026 is mostly attributable to conditions on this eastbound approach. However, under the

existing conditions, the intersection already operates at LOS F and operations would continue to degrade as development in the project region occurs. The proposed project would improve LOS and therefore has no adverse impact related to LOS standards.

- c) The proposed roundabout project would have no impact on air traffic patterns.
- d) The roundabout is expected to have an excellent long-term safety performance as a result of incorporating state-of-the-practice safety considerations including speed moderation, speed consistency, and reduction in potential for vehicle path overlap. There are multiple characteristics of roundabouts that lead to their notable safety performance, the most influential of which are related to speed moderation and reduction in conflict points. Properly-designed urban roundabouts are configured to regulate all vehicle speeds to the 15-25 mph range. Compared to conventional intersections, roundabouts have fewer conflict points, or locations where a collision can occur. When collisions do occur in roundabouts, they are low-speed incidents that often result only in property damage (i.e., no bodily injury).

Research conducted by both the Insurance Institute for Highway Safety and the National Cooperative Highway Research Program indicate that installation of modern roundabouts typically results in decreases in total intersection accidents, and significant decreases in injury and fatal crashes.

In October 2002, LSC Transportation Consultants, Inc. prepared a report documenting roundabout accident data in 11 mountain communities. The analysis compared accident data prior to and subsequent to the construction of a roundabout. According to this study, of the 11 roundabouts for which data was available, the total accident rate was observed to decline at nine locations. Construction of roundabouts resulted in a total accident rate decline of 27 percent and a decline in the total injury-related accident rate of 86 percent.

Based on the safety design and the data from the accident research conducted by LSC Transportation Consultants, the proposed project is expected to have no adverse impact associated with safety and design hazards.

- e) Emergency access is required to be maintained on all City capital projects at all times. The City Engineering Department will prepare and implement a Traffic Management/Control Plan and will consult with GVFD prior to commencement of construction to ensure that GVFD is aware of the construction schedule and can identify alternate routes for responding to emergencies during construction. In addition, City's contractor must provide access to the project site at all times during construction if needed for emergency response. With implementation of the Traffic Management/Control Plan and consultation with GVFD, the project is expected to have a less than significant impact on emergency access.
- f) The proposed replacement of a conventional intersection with a roundabout would have no impact on parking demand or capacity. Lot line adjustments would be required at the edges of Hills Flat Lumber, Kubota Tractor, and the Terrible Herbst site in order to add to the City's right-of-way. This encroachment would have no impact on parking capacity for the Kubota Tractor site.

- g) The proposed roundabout layout would improve existing sidewalks on the northwest and northeast corners of the intersection, maintaining full connectivity to the north, east, and west. A new section of sidewalk would be provided along the south side of East Main Street west of the intersection, directing any pedestrian traffic in this area to the crosswalk leading to the north side of the intersection. Another new sidewalk would be constructed on the south side of Idaho-Maryland Road within the roundabout area (along the frontage of the existing Hills Flat Lumber Company buildings), also directing pedestrians to a crosswalk leading to the north side of the intersection.

The roundabout would provide no pedestrian crossing of the SR 20/49 ramps. There is no existing or anticipated pedestrian crossing demand on this leg, and accommodating any such demand would raise safety concerns associated with vehicles exiting the freeway. Additionally, there is only limited potential for continuous pedestrian facilities to ever exist west of the intersection on the south side of East Main Street.

The roundabout design also includes a new 10-foot wide bicycle path on the northeast corner of the intersection, adjacent to the multi-lane westbound approach. Westbound cyclists could avoid the multi-lane portion of the roundabout by using the path, crossing the north leg of the intersection, and using a 5-foot wide striped shoulder area that would be provided along the southbound right turn bypass lane.

The improvements described above are consistent with design related goals contained in the City's Community Design Guidelines and 2020 General Plan. Specifically, the Design Guidelines include a goal to "foster development that supports a variety of transportation modes and facilitates pedestrian mobility, convenience, and safety." As the improvements are in accordance with adopted policies, the proposed project is expected to have no adverse impact to alternative transportation.

Mitigation Measures

No mitigation measures are necessary.

XVI. SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVI. SERVICE SYSTEMS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The proposed project would replace an existing conventional intersection with a roundabout. No public services, such as treated water, wastewater treatment, or solid waste disposal, are required at the intersection location.

Impacts

- a-g) The proposed project would have no impact on public service systems within the City of Grass Valley.

Mitigation Measures

No mitigation measures are necessary.

XVII. MANDATORY FINDINGS OF SIGNIFICANCE –

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings,	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

XVII. MANDATORY FINDINGS OF SIGNIFICANCE –

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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either directly or indirectly?

- a-c) This Initial Study evaluates potential environmental effects of the proposed project, which would replace an existing conventional intersection with a roundabout. This Initial Study finds that all impacts could be reduced to less than significant levels with implementation of the mitigation measures included in this Initial Study. Compliance with the mitigation measures and the Mitigation Monitoring and Reporting Program will ensure that all significant impacts are mitigated.

LIST OF PREPARERS

North Fork Associates prepared this Initial Study on behalf of the City of Grass Valley. The analysis presented in this Initial Study was based on technical studies prepared by Whitlock & Weinberger Transportation, Inc. and Holdrege & Kull. The following Consultant staff helped to prepare this document:

Katherine Waugh, North Fork Associates, Senior Planner

Matt Fremont, North Fork Associates, Associate Planner

Dalene J. Whitlock, P.E., PTOE, *Whitlock & Weinberger Transportation, Inc.*

Nadine Langley, P.G., *Holdrege & Kull.*

Kyle Leach, P.G., *Holdrege & Kull.*

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