CHAPTER 1.0

INTRODUCTION

1.1 PROPOSED ACTIONS AND PROJECT OBJECTIVES

The proposed actions (i.e., the "project") for which this Environmental Impact Report (EIR) has been prepared are adoption of a revised and updated *Grass Valley General Plan*. The nine elements of the General Plan being updated include Land Use, Circulation (transportation), Open Space and Conservation (now a combined element), Noise, Safety, Community Design, Historical, and Recreation. Elements considered, but not included in this update are Housing, Mineral Management, Nevada County Airpark Comprehensive Land Use Plan, and Energy. The currently adopted versions of these latter four elements remain in force and effect.

The objectives of the revised and updated Grass Valley General Plan (referred to throughout this report as "the Plan") are to meet requirements of State Planning Law and to guide the City's land use planning for 20 years following Plan adoption. A general plan is commonly referred to as a city's land use charter or constitution. All land use policies and decisions must conform to the general plan. The Grass Valley General Plan covers all lands within the City of Grass Valley and the surrounding Planning Area. The City of Grass Valley will adopt, implement, and administer the Plan.

This EIR evaluates potential environmental effects of the updated Grass Valley General Plan. Two Plan alternatives were considered during Plan development. The relative environmental merits of each alternative are also analyzed in this EIR.

1.2 PROCEDURES

This EIR has been prepared under the California Environmental Quality Act (CEQA) and Guidelines for CEQA Implementation (California Administrative Code [CAC], Title 14, Chapter 3 - hereafter referred to as the CEQA Guidelines). The Lead Agency (defined by CEQA as the agency with the ultimate authority to approve or deny the project) responsible for the EIR is the City of Grass Valley.

Section 15121(a) of the CEQA Guidelines defines an EIR as an informational document that will:

...inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

CEQA applies to all discretionary projects. CEQA Guidelines §15357 defines a discretionary project as one that requires the public agency to exercise judgement in approving an action. This is distinct from projects where approval is given simply by determining if the action conforms to applicable statutes, ordinances, or regulations. Section 15093 of the CEQA Guidelines requires the decision-makers to balance project benefits against any unavoidable environmental effects. If the benefits outweigh the unavoidable adverse effects, the decision-makers may adopt a Statement of Overriding Considerations, stating specific reasons to support their actions.

Program EIR

CEQA provides a mechanism known as a "Program EIR" for projects that involve a complex series of related actions. According to §15168 of the CEQA Guidelines, a program EIR may be prepared on a series of actions that can be characterized as one large project and are related either:

- Geographically,
- As logical parts in a chain of contemplated actions,
- In connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program or,
- As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The General Plan Update is such a project. It provides a plan for development of the City of Grass Valley, based on policies, which are intended to underlie most land use decisions, and a land use map, which is a graphic expression of the policies. The text and map(s) that comprise the Plan must be detailed enough so that the users of the Plan can reach the same general conclusions regarding the appropriate use of any parcel of land. Given the long-term nature of a general plan, the text and maps should be general enough to allow a degree of flexibility in decision-making as times change. (OPR1998). Considering the level of generalization and flexibility inherent in the General Plan, the program EIR provides the appropriate level of detail and analysis.

In a similar vein, the State General Plan Guidelines (OPR1998) declare that "A well-prepared general plan EIR covering broad geographic areas can increase the possibility

that negative declarations can be issued at a later time for specific project proposals within the planning areas."

Section 15146(b) of the CEQA Guidelines recognizes that a programmatic general plan EIR will not be as detailed as an EIR for a specific construction project. Thus, subsequent CEQA documentation may be necessary for certain actions under the adopted general plan. If subsequent or supplemental documentation is required for a proposed activity under the Plan, this EIR can be incorporated by reference to significantly reduce the required documentation. If needed, a subsequent EIR can focus very narrowly on those project-specific environmental effects that were not considered in the program EIR.

A program EIR will "allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts." Section 15168(c) prescribes that:

Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.

1. If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.

2. If the agency finds that pursuant to §15162 [of the CEQA Guidelines] no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required.

3. An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.

4. Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

5. A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

In addition to the above, §15183 of the CEQA Guidelines provides that projects that are consistent with a general plan for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine project-specific significant effects which are peculiar to the project or its site; environmental effects that were not analyzed as significant effects in the general plan EIR; potentially significant off-site impacts and cumulative impacts which were not discussed in the prior general plan EIR; or previously identified significant effects which, as a result of substantial new information are determined to have a more severe adverse impact than discussed in the general plan EIR. It is anticipated that the general plan EIR will reduce the need to prepare repetitive environmental studies for projects qualifying for streamlined review under §15183.

The Draft Environmental Impact Report (DEIR) will be subject to a 45-day review period, during which the public and all responsible, trustee, or other interested agencies may comment orally or in writing on the contents of the DEIR. Although not a requirement of CEQA (see §15087(g) of the CEQA Guidelines), lead agencies are encouraged by CEQA to hold public hearings on Draft EIRs to receive comments during the review period. These procedures allow the public and appropriate agencies to participate in the environmental review process and provide input to the Lead Agency.

Agencies that will use or review this EIR in conjunction with current or future approvals and/or administration of resources for which they have jurisdiction are identified in Table 1-1.

Table 1-1

Future Permits, Approvals, and Environmental Review/Consultation

Agency	Purpose of Review
Nevada County LAFCO	Sphere of Influence Amendment, Annexations
Nevada Irrigation District	Responsible for water supply
Northern Sierra Air Pollution Control District	Responsible Agency for air quality permitting
California Department of Fish and Game	Trustee Agency for fish and wildlife resources and related permitting
California Department of Transportation	Responsible Agency for state highways

California Regional Water Quality Control Board, Central Valley Region	Responsible Agency for water resources and related permitting

A "Responsible Agency" is any public agency other than the Lead Agency that has discretionary approval power over the project. For example, the City, acting as Lead Agency, could approve a project that involves construction of a wastewater treatment plant. However, only the appropriate Regional Water Quality Control Board has the authority as a Responsible Agency to grant Waste

Discharge Requirements for the treatment plant, without which it cannot legally operate. A "Trustee Agency" is an agency with legal jurisdiction over natural resources affected by the project that are held in trust by that agency for the people of the State of California (i.e., California Department of Fish and Game). The above-referenced agencies will have jurisdiction over projects developed under the updated General Plan.

CEQA Guidelines §15132 requires that each comment made during the public review period be responded to in writing. A Final EIR (FEIR) includes:

- The Draft EIR
- Comments and recommendations received on the Draft EIR
- A list of persons, organizations, and public agencies commenting on the Draft EIR
- Responses to significant environmental points raised in the review and consultation process
- Other information added by the City of Grass Valley

Upon Final EIR completion, the City of Grass Valley can certify that the Final EIR has been completed in compliance with CEQA and that information in it was reviewed and considered prior to deciding on Plan adoption. The City will then make its required findings under CEQA regarding the project's environmental effects. Finally, the City will adopt a Mitigation Monitoring or Reporting Program as required by §15097 of the CEQA Guidelines. The purpose of the Mitigation Monitoring Program is to ensure that mitigation measures are actually implemented. Section 15097 indicates that the Mitigation Monitoring Plan may consist of policies included in the General Plan.

Prescribed mitigation measures included in this EIR will be imposed by the City. Future developers, the City itself, and any parties involved in Plan implementation or actions under the Plan will be subject to these mitigation requirements.

1.3 METHODOLOGY/SCOPE OF EIR

As discussed above, this EIR evaluates the potential environmental effects of the Grass Valley General Plan. Included in the analysis are direct, cumulative, and growth-inducing effects. Many Plan goals, objectives, policies, and implementation strategies are recognized by this EIR as viable mitigation measures.

An Initial Study completed for the project provided a preliminary environmental assessment of the project, identified potential environmental concerns, and was used as a basis for the Notice of Preparation (NOP), which was circulated to interested agencies on August 7, 1998. The NOP provided responsible and trustee agencies an opportunity to comment on the project and the scope of the EIR, thereby contributing to the ultimate EIR scope in terms of environmental issues that are analyzed. The Initial Study, Notice of Preparation, and a distribution list of agencies that received the NOP appear as Appendix A to this Draft EIR. Written comments of those agencies that responded to the NOP appear as Appendix B.

In addition to the agency comments on the NOP, public input has contributed to development of the scope of the EIR. The City of Grass Valley City Council appointed a General Plan Update Steering Committee to review documents associated with the General Plan update and advise City staff and the City's consultants. The Committee met 28 times over a period of several months to identify issues of concern and assist in formulating Plan goals, objectives, policies, and alternatives, many of which have been directly incorporated into this EIR. All Steering Committee meetings were open to the public. Additionally, 6 community workshops were held. A comprehensive public opinion survey was administered at one workshop. Survey results were analyzed and used to formulate Plan alternatives. Further public input will be received in public hearings before the Grass Valley Planning Commission and City Council.

Based on the Initial Study, NOP comments, and public input, this EIR focuses on the following broad environmental topics:

Geology and Soils

- Seismic and other geologic hazards, such as slope instability and soil permeability limitations
- Potential soil displacement or loss through grading and construction activities
- Covering by pavements and structures
- Erosion potential of soils

Hydrology and Water Quality

- Effects of additional stormwater runoff from increases in impervious ground surfaces (i.e., buildings and pavements)
- Flood potential

- Surface and ground water availability and quality
- Soil erosion and subsequent siltation associated with development
- Quality of stormwater runoff from developments and effects on surface and groundwater

Biological Resources

- Sensitive or unique plant and wildlife species and their habitats
- Fishery resources
- Wetlands
- Wildlife dispersal and migration corridors
- Riparian corridors

Air Quality

- Mobile and stationary source air quality impacts
- Construction-related air quality impacts
- Air quality impacts of new land uses and implications regarding the air basin's non-attainment status for ozone and particulate matter

Public Services and Utilities

- Ability of public services (i.e., schools, fire protection, police protection, solid and hazardous waste disposal, parks and recreational facilities, public libraries) to provide services under implementation of the General Plan
- Ability of utilities (i.e., water supply, wastewater treatment, energy, communications) to provide services under implementation of the General Plan

Land Use, Population and Housing

- Internal consistency and relationship to other planning mechanisms
- Maintenance of existing social and economic character
- Effect on population growth, density, and distribution over the next 20 years
- Effects on housing availability and the mixture and quality of available housing

Transportation and Circulation

- Effects on transportation facilities and traffic circulation resulting from growth and development under the General Plan
- Alternative transportation modes

Noise

- Potential for increased traffic noise levels
- Potential for increased noise levels at existing uses
- Potential for exposure of new land uses to significant noise levels

Public Safety/Hazards

- Risk of geologic hazard (subsidence, liquefaction, slope stability)
- Risk of flood hazard
- Wildland fire hazard
- Emergency evacuation routes
- Hazards to airports
- Accidental release of hazardous materials

Cultural Resources

- Effects on archaeological resources
- Effects on historical resources

Parks and Recreation

- Impacts on existing parks and recreation facilities
- Impacts of new park development

Conservation and Open Space

- Impacts on existing open space
- Impacts on conservation practices

The General Plan update process has included preparation of a series of working documents and technical reports released at intervals during the process. Prepared early in the General Plan process, the *Background Report* described existing conditions that apply to the Planning Area and served as a basis for the "environmental setting" portion of this EIR. The Background Report contains chapters addressing the following topics:

- Natural Setting

- Population
- Economy
- Housing
- Public Facilities and Services
- Land Use
- Transportation/Circulation
- Open Space and Conservation
- Noise
- Safety/Hazards
- Community Design
- Cultural/Historical Resources
- Recreation
- Neighborhoods
- Planning Standards and Ratios

The *General Plan Direction/Goals, Objectives and Policies* technical report broadly expressed the Steering Committee's understanding of the environment in which the General Plan is being updated and provided general direction to future planning. The latter drew from the *Background Report*, the *1995 Nevada County General Plan Update*, the Sierra Business Council document *Planning for Prosperity*, and numerous Steering Committee meetings.

Other working papers include:

- Land Use Allocations and Alternatives, Draft 1- February 2, 1999
- Dynamics and Directions, Grass Valley Land Use, 1999-2019, February 2, 1999
- Issues Working Paper: Draft 1 - July 21, 1998, Draft 2 - August 4, 1998, Draft 3 - August 18, 1998
- Planning Area Recommendation, August 4, 1998
- Update on Base Map Project, August 4, 1998
- Coordination of General Plan Work with Ongoing Projects, August 18, 1998
- Summary of August 18, 1998 Workshop, September 15, 1998
- September 28, 1998 Workshop Discussion
- Public Opinion Survey (Instrument)
- Opinion Survey Results, September 28, 1998
- Community Design Workshop Summary, October 10, 1998
- Summary - Cross Tabulated Results of September 28, 1998 Public Opinion Survey, General Plan Workshop, October 20, 1998
- Summary of December 1, 1998 Design Workshop, December 15, 1998
- Proposed Structure and Key Highlights, Selected Elements, Grass Valley General Plan Update, April 28, 1999
- Grass Valley General Plan Update - Methodological Documentation, May 5, 1999

- City of Grass Valley General Plan Market Study, Draft, Hausrath Economics Group, September 9, 1998 [Note: Final version appears in Background Report]
- Alternative Plans: Draft 1- March 16, 1999, Draft 2 - March 20, 1999, Draft 3 - March 26, 1999

Upon review and discussion of the documents described above, a draft General Plan containing the nine updated elements and this Draft EIR were prepared. The updated General Plan incorporates much of the information in the above working documents.

The following format is used in this report to describe existing environmental conditions, potential project-related impacts, and mitigation measures for each of the topical areas stated above:

SETTING

Existing environmental and regulatory conditions specific to each topical area listed above will be described.

IMPACTS

Impact Evaluation Criteria: The standard by which impacts are measured or the threshold of significance is presented. The purpose is to establish the level at which an environmental impact will be considered significant.

Impact #: Each identified environmental impact is numbered for reference

Discussion/Conclusion: This is a discussion of the impact and a statement of the type (i.e., direct, indirect, cumulative, or growth-inducing impact) and level of significance.

MITIGATION MEASURES

Mitigation Measure #: Each mitigation measure will be listed by a reference number and linked to the impact that it addresses.

Effectiveness of Measure: This section states whether the recommended mitigation measure will reduce the impact to a less than significant level based on Impact Evaluation Criteria.

The above format is intended to conform to standards for adequacy of an EIR as described in §15151 of the CEQA Guidelines, which states:

An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently

takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and good faith effort at full disclosure.

1.4 EIR ORGANIZATION

Section One generally describes the project and the reason(s) for preparing the EIR. It also explains CEQA's purposes and requirements and briefly summarizes how the CEQA process proceeds.

Section Two describes the project in greater detail, including project goals and objectives, general Planning Area environmental setting, project alternatives, and related City actions needed to adopt the Plan.

Section Three describes and evaluates impacts, including direct, indirect, and cumulative impacts, and identifies mitigation measures to reduce impacts to insignificant levels. This section follows the format described in Section 1.3 above. Also considered in Section Three are impacts not found to be significant, growth-inducing impacts, significant irreversible environmental changes that would occur under the Plan, and irreversible commitments of non-renewable resources.

Section Four evaluates Plan alternatives based on Section Three findings. CEQA requires an EIR to evaluate a "range of reasonable alternatives" to the proposed project that ostensibly might achieve most of the project objectives while having less environmental impact than the project as proposed. The project alternatives analyzed for their relative environmental merits are essentially different growth scenarios presented and analyzed in the Northern Emphasis and Southern Emphasis Alternatives.

The "preferred alternative," which is essentially a hybrid of the Northerly Emphasis and Southerly Emphasis alternatives, was selected by the Steering Committee. This "preferred alternative" constitutes "the project" for purposes of this EIR. The "reasonable range" of alternatives to the project addressed in Section Four of this document includes the "No Project" Alternative (which consists of build-out of the 1982 General Plan), the Northerly Emphasis Alternative and the Southerly Emphasis Alternative. Pursuant to CEQA Guidelines §15126(d)(2), a "no project" alternative must also be presented in the EIR to compare the project's environmental consequences to those associated with maintaining *status quo* (as defined in the CEQA Guidelines).

CEQA does not require all alternatives to be analyzed in as great detail as the project *per se*. Thus, the proposed project will be comprehensively analyzed in Section Three,

while Section Four will briefly summarize the other three General Plan alternatives and the "no project" alternative, and compare the environmental consequences of all three in relation to the environmental consequences of the project. The City will ultimately adopt the project or an alternative to the project, taking environmental and other factors into consideration.

Section Five includes individuals and agencies contacted for information during EIR preparation and the preparers of the EIR.

Section Six includes references to published literature or technical reports cited in the text.

Appendices includes the following:

- Appendix A - Notice of Preparation
- Appendix B- Responses to Notice of Preparation
- Appendix C - Goals, Objectives, Policies, Implementation Actions and Strategies
- Appendix D - General Plan Update Opinion Survey

The Goals, Objectives, Policies, Implementation Actions and Strategies found in Appendix C are referenced throughout the document to address various environmental impacts.

1.5 INCORPORATION BY REFERENCE

CEQA Guidelines §15150 provides for incorporating other documents into the EIR by reference. When a document is incorporated by reference, the incorporated document is considered to be part of the EIR. Incorporation by reference rather than repeating the entire incorporated text allows the EIR to focus on the environmental consequences and still incorporate necessary technical and auxiliary information without becoming an extremely long document.

Incorporated by reference are the *City of Grass Valley General Plan Update Background Report* and the *City of Grass Valley General Plan Update*.

Documents incorporated by reference are made available for public review at the same time and place(s) that this Draft EIR is available for review. Incorporation by reference allows those public decision-makers and interested public to review technical material that is summarized in the EIR without needlessly cluttering the EIR itself with this material.

1.6 AVAILABILITY OF DOCUMENTS FOR PUBLIC REVIEW

The Draft EIR and any material incorporated by reference, are available for public review at the City of Grass Valley Planning Department, 125 East Main Street, Grass Valley, and at the Grass Valley Public Library, 207 Mill Street, Grass Valley. Any person may contact the Planning Department at (530) 274-4330 for information about other locations where the documents will be available for review.

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Draft Environmental Impact Report

PREFACE

This Environmental Impact Report (EIR) has been prepared under the auspices of the City of Grass Valley to analyze the potential effects of updating the City of Grass Valley General Plan. The "project" encompasses the entire 9,875.23 acre Planning Area of the City of Grass Valley, an increase of 544 acres over the existing 1982 General Plan. The project involves establishing land use designations, as well as goals, objective, policies and implementation actions and strategies to shape development in Grass Valley for a 20-year period, or through the year 2020. All direct impacts associated with the project are assumed for this 20-year planning period. The project "build-out" assumes that this General Plan extends beyond the year 2020, and is assessed as the cumulative impact of the project.

This EIR conforms to the requirements of the California Environmental Quality Act of 1970 (CEQA), as amended, the State CEQA Guidelines, as well as the administrative procedures established by City of Grass Valley for the preparation and processing of EIRs. In accordance with Sections 15050 and 15367 of the State Guidelines, the City of Grass Valley is designated as the lead agency for this EIR.

An EIR is an informational document to provide the general public and appropriate governmental decision-makers with a full understanding of the potential environmental effects of a proposed project. The EIR process is intended to enable public agencies to evaluate a project for determination of the significance of its effect(s) on the environment, to examine and institute methods of reducing and/or eliminating the severity of adverse impacts, and to consider alternatives to the project as proposed. CEQA requires that major consideration be given to preventing environmental damage. At the same time, it is recognized in CEQA that public agencies have obligations to balance other public objectives, including economic and social factors, in determining whether and how a project should be approved.

Quad Knopf, a professional planning firm with offices in Sacramento, Visalia, Bakersfield and Fresno, California and Reno, Nevada, prepared this EIR.

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Draft Environmental Impact Report

EXECUTIVE SUMMARY

PROJECT DESCRIPTION

The project discussed and analyzed in this EIR is adoption of an updated City of Grass Valley General Plan, including updates of nine "elements" of the General Plan. The nine elements being updated consist of the following: Land Use, Circulation, Conservation and Open Space (combined element), Noise, Safety, Recreation, Community Design and Historical.

The proposed project seeks to maintain a tight development pattern, minimizing urban sprawl. It assigns the majority of future development to the north and east of downtown so that most new development will be 1) within the Wolf Creek watershed, for efficient provision of infrastructure and extension of facilities and 2) convenient to downtown, Glenbrook, the Litton/Sierra College complex, and existing industrial and business parks. Gravity flow of wastewater from most future developments to the City wastewater treatment plant on Freeman Lane/Wolf Creek is substantially accomplished by the proposed land use pattern.

Significant transportation improvements, including non-vehicular facilities (e.g., bikeways, sidewalks, trails) as well as street and highway improvements, are planned in order to facilitate circulation, especially within the triangle formed by Brunswick Road, East Bennett, and the freeway. Vehicular access to downtown from the east, a new interchange at Dorsey, and connections between Idaho-Maryland Road and East Bennett are necessitated in part by existing development and by proposed development north and east of Downtown.

The North Star, Loma Rica Ranch and Kenny Ranch annexation areas (identified as Special Development Areas or SDA in the General Plan) will develop per annexation agreements. The agreements prescribe acreages to be devoted to specified land uses, plus the allowable number of housing units in each.

Commercial development will occur in the forms of 1) upgrading and intensification of present commercial areas and 2) expansion to vacant, commercially designated properties. Upgrading and intensification will occur in downtown, Glenbrook, and the Pine Creek complex, as well as commercial strips along East Main, South Auburn, and

Highway 174. Some expansion of the existing commercial areas will occur in or near Glenbrook and Pine Creek. New expansion sites include 22 acres at Kenny Ranch, the North Star Central Business District (CBD) (commercial allocation per annexation agreement), and Railroad Avenue/Idaho Maryland Road and at the 70 acre Bear River Mill site bounded by Highway 49 and La Barr Meadows Road.

The current General Plan was adopted in 1982. Thus, the current General Plan has been "in place" for 17 years, within the 15 to 25 year planning "horizon" recommended by California Government Code §65300. Several factors led to an update the General Plan at this time. The pace of growth and development has been slower than that projected in the 1982 General Plan, causing discrepancies between Plan policies and actual circumstances. Certain developments were not adequately anticipated by the current General Plan, notably the establishment of Sierra College. Certain General Plan elements had been updated or added since 1982, including the Housing Element, and were determined to be sufficiently current. Others, it was determined by City decision-makers, needed revision to reflect actual conditions, assure internal consistency among the General Plan Elements, and provide an opportunity for the City and its citizens to forge new directions as the City approached the Year 2000.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Section 15123(b)(1) of the *Guidelines for Implementation of the California Environmental Quality Act (State CEQA Guidelines)* provides that the summary shall identify each significant effect with proposed mitigation measures that would reduce or avoid that effect. This information is summarized in Table S-1, *Summary of Potential Impacts and Proposed Mitigation Measures/Mitigation Monitoring Program.*

POTENTIAL AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

The following issues are most likely to produce controversy in reviewing and considering the proposed General Plan Update:

- Conversion of open space land to urban uses
- Impacts to biological resources
- Growth-inducing impacts
- Drainage and increase in downstream flows due to new development in the Grass Valley area
- Impacts to air quality
- Increase in traffic volumes due to new development

- Impacts on public services and utilities
- Impacts on community character

ALTERNATIVES TO THE PROJECT

Section 15126.6 of the *State CEQA Guidelines* requires the EIR to describe a reasonable range of alternatives to the project or to the location of the project which would reduce or avoid significant impacts, and which could feasiblely accomplish the basic objectives of the project, and to evaluate the comparative merits of the alternatives. Alternatives which would reduce or avoid significant impacts represent an environmentally superior alternative to the proposed project. However, if the environmentally superior alternative is the "no project" alternative, the EIR must also identify an environmentally superior alternative among the other alternatives. The EIR identifies Alternative #2 (Northerly Emphasis Development Scenario) as the environmentally superior alternative.

The EIR evaluates the following alternatives:

Alternative #1: No Project Alternative

The "no project" alternative is considered a continuation of the existing 1982 Grass Valley General Plan. This alternative compares development in accordance with the 1982 General Plan with the 2020 development scenario of the proposed General Plan Update. However, development is limited by available infrastructure and services.

Alternative #2: General Plan - Northerly Emphasis Development Scenario

The Northerly Emphasis seeks to maintain a tight development pattern, minimizing urban sprawl.

The Northerly Emphasis assigns future development to the north and east of downtown as much as possible. By steering growth accordingly, most new development will be 1) within the Wolf Creek watershed (efficient provision and extension of infrastructure, especially wastewater, storm drainage, recreation, and circulation facilities) and 2) convenient to downtown, Glenbrook, the Litton/Sierra College complex, and existing industrial and business parks. Gravity flow of wastewater (from new developments) to the City wastewater treatment plant on Freeman Lane/Wolf Creek is accomplished under this Alternative.

Alternative #3: General Plan - Southerly Emphasis Development Scenario

The Southerly Emphasis assigns most new residential development to the southern portion of the Planning Area, generally south of McKnight Way. Residential development to the north includes prezoned residential allocations to Kenny Ranch and Loma Rica Ranch (100 and 180 dwelling units, respectively), and a maximum potential of 900 infill units. No outfill units are assumed (other than the three major annexation areas of North Star, Loma Rica Ranch and Kenny Ranch). City annexations and service extensions are to the south, whereas most of the potential for outfill development is north of downtown.

TABLE S-1

SUMMARY TABLE

POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES

MITIGATION MONITORING PROGRAM

Impact Number	Impact	Mitigation Number	Mitigation Measure	Level of Significance After Mitigation
3.1-1	Development in areas of unstable geology.		None required.	Less than significant
3.1-2	Erosion and unstable soil conditions.		None required.	Less than significant
3.1-3	Subsidence associated with former mining activities.		None required.	Less than significant
3.1-4	Development on expansive soils.		None required.	Less than significant
3.1-5	Impacts to unique geologic or physical features.		None required.	Less than significant
3.2-1	Discharge into surface water.		None required.	Less than significant
3.2-2	Building in 100-year flood zone.	3.2-1	Update CIP and Drainage Master Plan to reflect 2020 needs.	Less than significant

3.2-3	Changes in quantity and quality of ground water.		None required.	Less than significant
3.2-4	Disposal of wastewater, groundwater and surface water contamination.		None required.	Less than significant
3.3-1	Reduce/destroy habitat of sensitive species.	3.3-1	No net loss of habitat.	Less than significant
3.3-2	Impacts to wetlands	3.3-1	No net loss of habitat.	Less than significant
		3.3-2	Review Grading Ordinance to protect wetlands.	Less than significant
3.3-3	Impact movement or dispersal of wildlife.		None required.	Less than significant
3.4-1	Increase in emissions of non-attainment air pollutants.	3.4-1	Incorporate mitigation specified in the Indirect Source Review Guidelines of the Northern Sierra Air Quality Management District.	Significant cumulative impact
3.4-2	Emissions of pollutants, exposure of sensitive land uses to odors.		None required.	Less than significant
3.5-1	Strain local water supplies.		None required.	Less than significant
3.5-2	Strain local water treatment facilities.		None required.	Less than significant
3.5-3	Strain local water distribution system, create demand for expanded services/facilities.	3.2-1	Update CIP and Drainage Master Plan to reflect 2020 needs.	Potentially significant

3.5-4	Strain locate sewer and septic systems, create demand for expanded services/facilities.	3.5-2	Amend SSMP to reflect 2020 Plan, reexamine fiscal base of SSMP, include development fee, coordinate timing/phasing of planned wastewater facility extensions/improvements with planned extension of other services/annexations as appropriate.	Less than significant
3.5-5	Strain stormwater drainage systems and create demand for expanded services and facilities.	3.2-1	Update CIP and Drainage Master Plan to reflect 2020 needs.	Less than significant
3.5-6	Strain fire protection services and create demand for expanded services and facilities	3.5-3	Update CIP in the future to meet public service and facility demands through 2020.	Less than significant
3.5-7	Strain police services and create demand for expanded services and facilities	3.5-3	Update CIP in the future to meet public service and facility demands through 2020.	Less than significant
3.5-8	Create demand for new recreational facilities.		None required.	Less than significant
3.5-9	Strain schools and create demand for expanded services	3.5-1	Collect development impact fees authorized by State law, levy additional fees in accordance with SB 50; Mello-Roos bonds, private bank loans, treasury anticipation notes, LeRoy Green new construction fund, bus transportation fee, and/or year-round school.	Less than significant

3.5-10	Strain solid water disposal system, create demand for expanded services and facilities.		None required.	Less than significant
3.5-11	Strain communication systems and create demand for expanded services and facilities.		None required.	Less than significant
3.6-1	Increase amount of residential development in comparison to existing setting.		None required.	Less than significant
3.6-2	Increase amount of commercial development in comparison to existing setting.		None required.	Less than significant
3.6-3	Increase amount of industrial development in comparison to existing setting.		None required.	Less than significant
3.6-4	Changes in phasing of future development.		None required.	Less than significant
3.6-5	Physical improvements to infrastructure and roadways conflicting with adjacent land uses.		None feasible.	Less than significant
3.6-6	Cumulative impact on land use.		None required.	Less than significant
3.7-1	Increase population and housing in community.		None required.	Less than significant
3.8-1	Impact scenic vistas or scenic highways.		None required.	Less than significant
3.8-2	Damage scenic resources.		None required.	Less than significant

3.8-3	Have a demonstrable negative visual effect on community.		None required.	Less than significant
3.8-4	Create new source of light and glare.	3.8-1	Require shielding or downward direction of lighting.	Significant cumulative
3.9-1	Traffic volumes exceeding LOS D on area streets.	3.9-1	Provide dual left turn lanes eastbound and westbound and separate the southbound left turn lane at the Main/Idaho Maryland/SR 49 southbound ramps.	Less than significant Significant and unavoidable for three collector roadways
		3.9-2	Add northbound right turn lane at South Auburn/Empire Street.	
		3.9-3	Add northbound right turn lane at Mill St./Neal St.	
3.9-1 Cont.	Cont.	3.9-4	Add traffic signal at Freeman/McKnight.	Cont.
		3.9-5	Add traffic signal at Brunswick Rd./Whispering Pines	
		3.9-6	Add traffic signal at Brunswick Rd./Dorsey (extension).	
3.9-2	Traffic operations at intersections exceeding LOS D		None required.	Less than significant
3.9-3	Increased demand for public transportation and make it difficult to meet roadway LOS/meet air quality goals in absence of improved public transportation.		None required.	Less than significant

3.9-4	Increased demand for bicycle facilities.		None required.	Less than significant
3.9-5	Increased demand for pedestrian facilities.		None required.	Less than significant
3.9-6	Increased demand for movement of goods.		None required.	Less than significant
3.9-7	Place strain on parking facilities		None required.	Less than significant
3.9-8	Place strain on emergency services due to overall road network.		None feasible.	Significant and unavoidable
3.9-9	Traffic volumes continue to increase after 2020		Updating CIP, Regional Transportation Plan and providing amendments to current documents, as well as implementing General Plans goals, objectives, policies and implementation actions and strategies will reduce this impact, but not to a less than significant level.	Significant and unavoidable cumulative impact
3.9-10	Increased traffic at build out of 2020 Plan		Same as above.	Significant and unavoidable cumulative impact
3-9-11	Build out of Plan will strain public transportation services		Same as above.	Less than significant cumulative impact
3.9-12	Build out of Plan will strain bicycle facilities		None required.	Less than significant cumulative impact
3.9-13	Build out of Plan will strain pedestrian facilities		None required.	Less than significant cumulative impact

3.9-14	Build out of Plan will strain goods movement facilities		None feasible	Significant and unavoidable cumulative impact
3.9-15	Build out of Plan will strain parking facilities		None required.	Less than significant cumulative impact
3.9-16	Build out of Plan will strain emergency service logistics.		None required.	Less than significant cumulative impact
3.10-1	Increase noise levels in association with increased traffic.		None required.	Less than significant
3.10-2	Increases in fixed source noise levels		None required.	Less than significant
3.10-3	Increased noise associated with air port.		None required.	Less than significant
3.10-4	Increased noise associated with build out of Plan.		None required.	Less than significant cumulative impact
3.11-1	Expose property/people to hazardous materials		None required.	Less than significant
3.11-2	Interfere with emergency response/evacuation plans.		None required.	Less than significant
3.11-3	Development in the vicinity of the Airport could result in safety hazards.		None required.	Less than significant
3.11-4	Increased wildland fire hazard.		None feasible.	Potentially significant

3.11-5	Increased flood hazard.	3.2-1	CIP shall be updated along with drainage System master Plan in the future in order to extend service/infrastructure needs through 2020.	Less than significant
3.11-6	Exposure to naturally occurring asbestos in soil.		None feasible.	Potentially significant
3.12-1	Impacts on cultural resources from new development	3.12-1 3.12-2	Add Policy 10-HP to the Final General Plan: Where historic and prehistoric cultural resources have been identified, the City shall require that development be designed to protect such resources from damage, destruction, or defacement whenever possible. Add Policy 11-HP to Final General Plan: If previously undiscovered cultural resources or human remains are encountered during construction or excavation, the procedures identified in Section 15064.5 to the CEQA Guidelines shall be followed.	Less than significant
3.13-1	New growth will place increased pressure on park and recreation facilities.		None required.	Less than significant

3.14-1	Growth and development will increase pressure to develop open space.		None feasible.	Significant and unavoidable cumulative impact.

CHAPTER 2.0

PROJECT DESCRIPTION

2.1 PROJECT LOCATION AND PLANNING AREA

The Grass Valley Planning Area is located in the central/western portion of Nevada County, approximately 30 miles east of Marysville and about 20 miles north of Auburn at approximately 2200 to 2800 feet above mean sea level (Figure 2-1). This region of the western Sierra Nevada foothills separates the low-lying Sacramento Valley from the Sierra Nevada Mountains and is characterized by rolling forested hills incised by steep canyons.

Despite a relatively small resident population (approximately 10,000), the City of Grass Valley is the regional economic and cultural center for several times that population throughout parts of Nevada, Placer, Sierra, and (to some extent) Yuba counties. Planning for Grass Valley is intended to accommodate the needs of people who use the City including those that are not necessarily City residents. To plan for and gain a measure of control over development outside the current city limits, Grass Valley is utilizing a General Plan Update Planning Area roughly conterminous with the Grass Valley Community Region, as delineated by the Nevada County General Plan. The Planning Area comprises about 9,894 acres, approximately four times the area of the incorporated city (Figure 2-2).

Grass Valley's role as a regional economic and cultural hub, combined with the ambience of downtown, influenced decisions made during the General Plan process. Substantial land area is devoted to commercial, industrial, and other business uses. The medical community is large and expanding. Sierra College adds to an expanded educational community and employment base. Despite some concerns about becoming a "bedroom community," Grass Valley and the immediate vicinity harbor more jobs than employed residents.

Grass Valley provides approximately 55% of Nevada County's multi-family housing units, although the City has but 12% of the County's total housing stock. Nearly 60% of City residents are renters. Thus, the City of Grass Valley is the regional (and County) focal point for rental and multi-family housing, a niche market likely to expand

considerably over the 20-year life of the General Plan Update.

The population of Grass Valley and its Planning Area, estimated at 16,000, is projected to grow to 23,395 by the Year 2020. The 1998 Department of Finance estimate for the existing city limits was 9,475. The maximum "buildout" population of the Plan Area is 26,165.

2.2 PROJECT DESCRIPTION

The project discussed and analyzed in this EIR is adoption of an updated City of Grass Valley General Plan, including updates of nine "elements" of the General Plan. The nine elements being updated consist of the following:

- Land Use
- Circulation
- Conservation and Open Space (combined element)
- Noise
- Safety
- Recreation
- Community Design
- Historical

Existing General Plan elements not included in the update are:

- Housing
- Mineral Management
- Nevada County Airpark Comprehensive Land Use Plan
- Energy

The currently adopted versions of these latter four elements remain in force and effect and are not explicitly addressed in this EIR.

A Steering Committee composed of two City Council members, two Planning Commissioners, one member of the Design Review Board and three members of the public at large was charged with preparing the General Plan. In addition to public input, members' experience and perspectives helped shape the Committee's views concerning the possible directions and content of the General Plan. The initial four months of the planning process were devoted to taking the "public pulse." Through public workshops and meetings, interested citizens of Grass Valley and western Nevada County revealed their hopes and aspirations for Grass Valley. The Steering Committee heard and reaffirmed the central themes upon which the City has built its previous general plans:

- preserve historical character and encourage restoration
- expand public services to serve growing population
- encourage variety in residential building types and environments, including high density areas in the urban center
- provide better regional connections and higher standard of local streets
- protect and improve the downtown area
- diversify the economy and locate industry to avoid undue traffic
- preserve scenic beauty and character

An early Steering Committee activity was the identification and discussion of issues, followed by development of goals, objectives, and policies, which reflect the above central themes. These goals, objectives, and policies are incorporated into each Element of the General Plan (i.e. Land Use, Circulation, Conservation/Open Space etc.) and compiled into a single document included as Appendix C of the EIR (*Goals, Objectives, Policies, Implementation Actions and Strategies*).

These goals, objectives, policies, implementation actions and strategies serve to mitigate many of the environmental impacts associated with implementation of the 2020 General Plan, and are accordingly identified relative to each impact category contained in the EIR as well as each impact. Each goals, objectives, policies, implementation actions and strategies identified as a mitigation measures in the EIR, is listed only by the appropriated reference number. For example Land Use goals and objectives are listed chronologically as 1- LUG, 2-LUG, etc. The complete text explaining Land Use Goals 1-LUG and 2-LUG can be found in Appendix C. Where the General Plan's goals, objectives, policies, implementation actions and strategies do not mitigate an impact to a less than significant level, additional mitigation measures are recommended if feasible.

Based on considerable public input and deliberation among members of the Steering Committee, a "preferred alternative" was selected that was felt to best represent a consensus. The preferred alternative, described below, is the "project."

The proposed project, as illustrated on Figure 2-3, seeks to maintain a tight development pattern, minimizing urban sprawl. It assigns the majority of future development to the north and east of downtown so that most new development will be 1) within the Wolf Creek watershed, for efficient provision of infrastructure and extension of facilities and 2) convenient to downtown, Glenbrook, the Litton/Sierra College complex, and existing industrial and business parks. Gravity flow of wastewater from most future developments to the City wastewater treatment plant on Freeman Lane/Wolf Creek is substantially accomplished by the proposed land use pattern.

Significant transportation improvements, including non-vehicular facilities (e.g.,

bikeways, sidewalks, trails) as well as street and highway improvements, are planned in order to facilitate circulation, especially within the triangle formed by Brunswick Road, East Bennett, and the freeway. Vehicular access to downtown from the east, a new interchange at Dorsey, and connections between Idaho-Maryland Road and East Bennett are necessitated in part by existing development and by proposed development north and east of Downtown.

The North Star, Loma Rica Ranch and Kenny Ranch annexation areas (identified as Special Development Areas or SDA in the General Plan) will develop per annexation agreements. The agreements prescribe acreages to be devoted to specified land uses, plus the allowable number of housing units in each. Table 2-1 below contains acreage and housing unit allocations for these SDAs.

TABLE 2-1

LAND USE AND HOUSING UNIT ALLOCATIONS

PER ANNEXATION AGREEMENTS

Acreage	**Loma Rica Ranch**	**North Star**	**Kenny Ranch**
Residential	121	312	150
Commercial		20	22
Planned Employment Center	115	123	88
Mfg./Processing/Distribution		117	
Parks & Recreation	50		
Schools		13	
Open Space Opportunity	165	175	96
Total Acreage	451	760	356
Housing Unit Allocation (# of units)	180	363	100

Commercial development will occur in the forms of 1) upgrading and intensification of present commercial areas and 2) expansion to vacant, commercially designated properties. Upgrading and intensification will occur in downtown, Glenbrook, and the Pine Creek complex, as well as commercial strips along East Main, South Auburn, and Highway 174. Some expansion of the existing commercial areas will occur in or near Glenbrook and Pine Creek. New expansion sites include 22 acres at Kenny Ranch, the North Star Central Business District (CBD) (commercial allocation per annexation agreement), and Railroad Avenue/Idaho Maryland Road and at the 70 acre Bear River Mill site bounded by Highway 49 and La Barr Meadows Road.

The current General Plan was adopted in 1982. Thus, the current General Plan has been "in place" for 17 years, within the 15 to 25 year planning "horizon" recommended by California Government Code §65300. Several factors led to an update the General Plan at this time. The pace of growth and development has been slower than that projected in the 1982 General Plan, causing discrepancies between Plan policies and actual circumstances. Certain developments were not adequately anticipated by the current General Plan, notably the establishment of Sierra College. Certain General Plan elements had been updated or added since 1982, including the Housing Element, and were determined to be sufficiently current. Others, it was determined by City decision-makers, needed revision to reflect actual conditions, assure internal consistency among the General Plan Elements, and provide an opportunity for the City and its citizens to forge new directions as the City approached the Year 2000.

2.3 RELATED ACTIONS AND INTENDED USES OF THE EIR

The draft Grass Valley General Plan will be refined through the public review and public hearing process. The final Grass Valley General Plan will be considered for a recommendation of approval by the Grass Valley Planning Commission and officially adopted and implemented by the Grass Valley City Council.

The EIR will serve at least two major purposes. First, it will inform the City's decision-makers (i.e., Planning Commission, City Council) and the public of the potential environmental consequences of adopting the General Plan. Secondly, all subsequent discretionary actions under the Plan, such as the adoption of specific plans and specific development projects, will require CEQA documentation. Because this EIR is structured as a Program EIR that addresses subsequent actions that are likely to occur under the Plan, this EIR serves as a basis for "tiering." Under the tiering concept provided in §15385 of the *CEQA Guidelines,* these subsequent CEQA documents may "tier" off the programmatic General Plan EIR by incorporating by reference the general environmental information provided in this document and focusing narrowly on those project or site-specific issues not fully addressed in this program EIR. It is also intended that the General Plan EIR be used in accordance with §15183 of the *CEQA Guidelines* allowing streamlined review of projects fully assessed in the General Plan EIR.

Agencies that will use this EIR include the Planning Commission and City Council in their deliberations on land use proposals under the Plan. Other agencies may utilize this document to ensure that their plans and activities in the Grass Valley Planning Area conform to the goals, objectives, policies, implementation actions and strategies and mitigation measures presented in this document. Such plans may need to be amended to achieve General Plan consistency.

An action directly related to Plan adoption will be review and amendment, if necessary, of the *Grass Valley Zoning Ordinance* and subdivision regulations.

2.4 GENERAL PLAN ALTERNATIVES

2.4.1 No Project Alternative

Given the nature of a general plan update, there is more than one way to characterize the "no project" alternative. For a simple development project, such as a residential subdivision, the "no project" alternative simply assumes that the development will not be constructed. The potential environmental effects of not constructing such a project can then easily be compared to the potential effects of construction and occupation of the project. However, with regard to a general plan update, the situation is somewhat less straightforward.

California planning law requires each local (i.e., county or incorporated city) government to maintain a general plan and periodically update it with public input. Therefore, it is not realistic to assume that "no project" in this case means a situation in which the City decides to operate from this moment forward with no general plan.

The California General Plan Guidelines Chapter 4, page 107 states as follows:

The EIR must also evaluate the "no project" alternative. This would describe what physical changes might reasonably be expected to occur in the foreseeable future if the general plan update were not adopted, based on the existing general plan and available infrastructure and services.

Similarly, Section 15126.6(e)(3)(A) of the CEQA Guidelines states:

"When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation, the "no project" alternative will be the continuation of the existing plan, policy or operation into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan."

Therefore, the "no project" alternative is considered a continuation of the existing 1982 Grass Valley General Plan. This alternative compares the build-out of the 1982 General Plan with the 2020 development scenario of the proposed General Plan Update (The existing Grass Valley General Plan is incorporated by reference and is available for review at the Grass Valley Community Development Department, 125 E. Main Street, Grass Valley).

2.4.2 Northerly Emphasis Alternative

The Northerly Emphasis seeks to maintain a tight development pattern, minimizing urban sprawl.

The Northerly Emphasis assigns future development to the north and east of downtown as much as possible. By steering growth accordingly, most new development will be 1) within the Wolf Creek watershed (efficient provision and extension of infrastructure, especially wastewater, storm drainage, recreation, and circulation facilities) and 2) convenient to downtown, Glenbrook, the Litton/Sierra College complex, and existing industrial and business parks. Gravity flow of the vast majority of wastewater from new developments to the City wastewater treatment plant on Freeman Lane/Wolf Creek is accomplished under this Alternative.

Significant transportation improvements, including non-vehicular facilities (bikeways, sidewalks, trails) as well as street and highways improvements, must facilitate circulation, especially within the triangle formed by Brunswick Road, East Bennett, and the Freeway. Vehicular access to downtown from the east, a new interchange at Dorsey or vicinity, and connections between Idaho-Maryland Road and East Bennett are all likely transportation improvements resulting in part from the Northerly Emphasis.

By shifting development north, and closer to established neighborhoods of southwestern Grass Valley, the extension of City services and infrastructure is facilitated. This includes gravity flow from North Star residential areas to the wastewater treatment plant.

The Loma Rica Ranch and Kenny Ranch annexation areas will develop per annexation agreements (refer to Table 2-1).

Commercial development will occur as 1) upgrading and intensification of present commercial areas and 2) expansion to vacant, commercially designated properties. Upgrading and intensification will occur in downtown, Glenbrook, and the Pine Creek complex, as well as commercial strips along East Main, South Auburn, and Highway 174. Some expansion will occur in or near Glenbrook and Pine Creek. New expansion sites include a portion of Kenny Ranch, the aforementioned North Star CBD, and Railroad Avenue/Idaho Maryland (serving in part the proposed East Bennett Valley complex).

The main focus of industrial expansion will be 1) the Loma Rica Industrial Park and 2) industrial infill along Idaho Maryland Road. North Star will have a compact industrially-designated area.

Business Park development will occur as Whispering Pines "builds out," Litton Business Park develops to its potential, and the business parks are established in each of three major annexation areas.

It is assumed that substantial areas within the three major annexation areas will be set aside for conservation and recreational purposes. The Northerly Emphasis anticipates significant conservation/open space projects to be developed in conjunction with residential growth, particularly within the aforementioned Brunswick/East Bennett/Freeway triangle, and within the city limits as "infill" conservation/recreation projects. More extensive open space set asides will occur within the three major annexation areas. Riparian corridors and recreational trails will be planned in anticipation of new development, and implemented in conjunction with new residential and non-residential projects.

2.4.3 Southerly Emphasis Alternative

The Southerly Emphasis assigns most new residential development to the southern portion of the Planning Area, generally south of McKnight Way. Residential development to the north includes pre-zoned residential allocations to Kenny Ranch and Loma Rica Ranch, and to various infill areas. No outfill units are assumed (other than for the major annexation areas of North Star, Loma Rica Ranch and Kenny Ranch). City annexations and service extensions are to the south, whereas most of the potential for outfill development is north of downtown.

The Southerly Emphasis includes a major new commercial area at the old Bear River Mill site, between Highway 49 and LaBarr Meadows Road. It also assumes considerable residential development in an arc from Conway Ranch/McCourtney Road east through North Star and Berryman Ranch. Also assumed is substantial residential development on the west side of Osborne Hill, east of LaBarr Meadows (an area presently designated for business park and planned employment center purposes).

A characteristic of the Southerly Emphasis could be development of a "new town" south of present Grass Valley, in which new residents could live, work, and shop without going to and through downtown and other congested areas on a daily basis.

By making a large commercial area available, the city would stand a better chance of accommodating large commercial establishments unable to locate on small or constrained parcels. Although economic studies do not demonstrate a current potential for many such establishments, much can change in 20 years. To better "fit" smaller

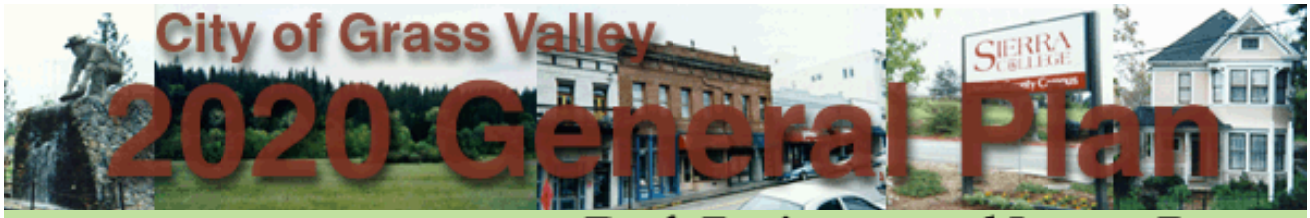
markets and local aesthetic preferences, traditional large store retailers have begun to locate scaled-down versions of their large establishments in smaller cities and towns nationwide. In addition, the commercial area (and its extension south of the Planning Area) would have the potential to accommodate warehousing and similar activities, which can be difficult to locate or disruptive elsewhere.

2.5 PROJECT OBJECTIVES

A primary project objective is to meet legal requirements for a general plan under California planning law. California Government Code §65300 requires each city and county to prepare and adopt a comprehensive, long-term general plan for the physical development of lands within its jurisdiction. A general plan must be reviewed and periodically revised and updated to reflect the changing needs and values of the community. Each jurisdiction may select a long-term horizon for its general plan revisions, usually 15 - 25 years. Grass Valley has selected a 20 year horizon. The new *Grass Valley General Plan* will meet legal requirements for a revised general plan for the period 1999-2020.

In addition, the City's objectives are to:

- develop a document that establishes goals and objectives for the City's growth and development
- develop a current data base and current base mapping
- identify issues that affect the way growth and development will occur over the next 20 years
- establish a vision for the next 20 years
- develop new policies that reflect the City's goals and objectives
- develop a general plan that is internally consistent and provides the basis for implementation of the plan's policies



CHAPTER 3.0

SETTING, IMPACTS AND MITIGATION MEASURES

3.1 GEOLOGY AND SOILS

3.1.1 Setting

Geology

The following information is taken from The *City of Grass Valley General Plan Update Background Report*, prepared by Quad Knopf.

Nevada County is part of the Sierra Nevada Range, a geologic block approximately 400 miles long and 80 miles wide which extends in a north-south band along the eastern portion of California. The terrain of Nevada County is distinctly characterized by two features of the Sierra Nevada. The western third of the county is comprised of rolling foothills which form a transition between the low-lying Sacramento Valley and the mountains to the east. The area extending from the Yuba County line to just northeast of the Grass Valley/Nevada City area is generally comprised of metavolcanic (Mesazoic Jura-Trias Metavolcanic) and granitic (Mesazoic Granitic) formations.

As seen in Figure 3.1-1, a geologic map of the Planning Area, the central Grass Valley area is located on quartz diorite, tonalite, trondhjemite, and quartz mozonite rocks. East and west of this area are Lake Combie complex rocks, and serpentinized ultramafic rocks at the northwest edge of the existing city limits. The Glenbrook area has gabbro and diabase, while Miocine-Pliocene volcanic rocks are found at the northwest area along Deadman Flat Road and at the east end of the Planning Area around the Nevada County Air Park.

Grass Valley is not within an Alquist-Priolo zone as defined in *DMG Special Report 42* (DMG 1997). However, ground movement can be felt in Grass Valley from earthquakes at intermediate distances (i.e., the Truckee earthquake of 1968) and from distant earthquakes (i.e., the Winters-Vacaville 1892 event) (Sydnor 1998).

There are a number of mapped faults (Figure 3.1-2) within a fifty mile radius of the Planning Area. A fault is defined as "a planar or gently curving fracture in the earth's crust across which there has been relative displacement." When movement occurs along a fault, the energy generated is released as waves, which causes groundshaking. Groundshaking intensity varies with the magnitude of the earthquake, the distance from the epicenter, and the type of rock or sediment through which seismic waves move.

The Planning Area is also located among the various alignments of the Foothills Fault Zone, described by the California Division of Mines and Geology as a Mesozoic (approximately 225 million years ago) fault system that has been reactivated in

Cenozoic time (65 million years ago to present). It is believed that this system originated from tectonic forces exerted by the uplift of the Sierra Nevada Mountain Range. That makes this fault system different from most other fault zones in California, in that it is not generated by the tectonic pressures of plates moving past one another (i.e., the San Andreas fault system). This fault zone is generally considered inactive, although two short segments along the fault system have ruptured. Evidence of an earthquake has been found near Spenceville and is believed to have occurred sometime during the late Quaternary Period (approximately the last 1.6 million years). More recently (1975), an earthquake measuring 5.7 on the Richter Scale occurred near Oroville along a fault segment known as the Cleveland Hill fault, approximately 24 miles northwest of Grass Valley. The Cleveland Hill Fault is being studied under the Alquist-Priolo Special Studies Zone Act, which was designed to identify active fault zones and prohibit the construction of structures along these zones (City of Grass Valley 1996).

By Alquist-Priolo definition, a fault is potentially active if it has shown evidence of surface displacement during Quaternary time (the last 1.6 million years). Therefore, due to the Spenceville and Oroville earthquakes, the Foothills Fault System is technically considered a potentially active system. However, recent studies along the Bear Mountain fault segment near Auburn indicate that the seismic hazard related to the system is very low. Due to these recent measurements, the lack of recent movement along the majority of the system, and the lack of tectonic plate movement in the fault system, it is unlikely (although not improbable) that a large magnitude earthquake would occur in this fault system. However, if an earthquake were to occur, it is most likely that the epicenter would be along the Cleveland Hill fault segment.

In summary, the Grass Valley area is rated as a low-intensity earthquake zone. A low-intensity zone is defined by the United States Geological Survey (USGS) as an area that is likely to experience an earthquake measuring 5.0-5.9 in magnitude on the Richter scale, and a maximum intensity of VI or VII on the Modified Mercalli scale. The Richter scale measures the amplitude of seismic waves recorded by a seismograph, while the Modified Mercalli scale (Table 3.1-1) measures the intensity of an earthquake by the way it is felt and responded to by humans, and by the amount of damage it does to buildings and structures (City of Grass Valley 1996).

TABLE 3.1-1

MODIFIED MERCALLI SCALE OF EARTHQUAKE INTENSITY

Scale	Effects
I	Earthquake shaking not felt.
II	Shaking felt by those at rest.
III	Felt by most people indoors; some can estimate duration of shaking.
IV	Felt by most people indoors. Having objects swing, windows and doors rattle, wooden walls and frames creak.

V	Felt by everyone indoors; many estimate duration of shaking. Standing autos rock. Crockery clashes, dishes rattle, and glasses clink. Doors close, open, or swing.
VI	Felt by everyone indoors and most people outdoors. Many now estimate not only the duration of the shaking, but also its direction and have no doubt as to its cause. Sleepers awaken. Liquids disturbed, some spilled. Small unstable objects displaced. Weak plaster and weak materials crack.
VII	Many are frightened and run outdoors. People walk unsteadily. Pictures thrown off walls, books off shelves. Dishes or glasses broken. Weak chimneys break at roofline. Plaster, loose bricks, unbraced parapets fall. Concrete irrigation ditches damaged.
VIII	Difficult to stand. Shaking noticed by auto drivers, waves on ponds. Small slides and cave-ins along sand or gravel banks. Stucco and some masonry walls fall. Chimneys, factory stacks, towers, elevated tanks twist or fall.
IX	General fright. People thrown to the ground. Steering of autos affected. Branches broken from trees. General damage to foundations and frame structures. Reservoirs seriously damaged. Underground pipes broken.
X	General panic. Conspicuous cracks in ground. Most masonry and frame structures destroyed along with their foundations. Some well-built wooden structures and bridges are destroyed. Serious damage to dams, dikes, and embankments. Railroads bent slightly.
XI	General panic. Large landslides. Water thrown out of banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flatland. General destruction of buildings. Underground pipelines completely out of service. Railroads bent greatly.
XII	General panic. Damage nearly total, the ultimate catastrophe. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.

Source: California Division of Mines and Geology, 1973.

Soils

Grass Valley and the surrounding region are located in an area of mountainous upland soils (USDA 1993). Nine soil associations occur in Nevada County, and those that occur within the Grass Valley Planning Area are described below. Soil associations located north and northwest of Grass Valley may contain serpentine soils. Figure 3.1-3 illustrates the soil associations, and the text below provides a general description of the soils in the area.

Central Grass Valley and land to the east, generally south of Wolf Creek, are located

within the **Josephine-Sites-Mariposa** association, which exhibits undulating to very steep, well-drained loams formed over metasedimentary and metabasic rock. Vegetation in this area is mostly conifer-hardwood forest. Most of the soils in this association have depths of 40-60 inches to weathered bedrock. Josephine-Sites-Mariposa association soils have permeabilities in the range of 0.6 to 2.0 inches per hour (generally moderate permeabilities).

Land to the northeast of central Grass Valley, generally north of Wolf Creek, is located in **Secca-Boomer** association soils, which have undulating to steep, well-drained and moderately well-drained gravelly silt loams and loams formed over metabasic rock. These soils have depths of 40-60 inches to weathered bedrock. Secca-Boomer association soils have permeabilities in the range of 0.2 to 0.6 inches per hour (moderately slow to slow permeabilities).

Northwest of the city center, **Aiken-Cohasset** association soils exhibit gently sloping to steep, well-drained loams and cobbly loams formed over andesitic conglomerate and metabasic rock. Soil depths in this association are about 42-60 inches or more. Aiken-Cohasset association soils have permeabilities in the range of 0.2 to 0.6 inches per hour (moderately slow permeabilities).

Finally, southeast of the central city, are **Boomer-Sites-Sobrante** association soils with undulating to steep, well-drained loams formed over metabasic rock. Most of these soils have depths of 40-60 inches or more to weathered bedrock. Boomer-Sites-Sobrante association soils have permeabilities in the range of 0.2 to 0.6 inches per hour, but Sobrante soils can have permeabilities up to about 2.0 inches per hour (moderately slow to moderate permeabilities).

Slope Instability

Unstable soils and geologic conditions have historically resulted from vegetation removal associated with wildfires, timber harvesting, mining, and grading as part of road building and site development. Depending on local topographic, geologic and hydrological conditions, significant precipitation can exacerbate unstable conditions, resulting in landslides and mudslides. Any area adjacent to a hydraulically mined area is subject to landslide activity due to the removal of supporting rock and soil. Under such conditions, earthquakes or heavy rains can initiate slide activity.

Landslides are events in which surface masses of slope-forming earth move outward and downward from their underlying and stable floors in response to the force of gravity. Unstable or potentially unstable slopes are susceptible to slides, falls, creep, or mud flows. Although slope movement can occur in any type of rock material, certain bedrock formations exhibit a high susceptibility to such movement. This type of formation is generally not found in the western portion of the County (County of Nevada 1995), but could occur on a local basis.

Figure 3.1-4 provides information identifying locations where soil type and steepness of slopes may cause landslide activity in the Planning Area.

3.1.2 Impacts

Impact Evaluation Criteria: Based on consideration of Appendix G of the State CEQA Guidelines, the project would be considered in this EIR to have a significant

adverse impact on geology, soils or seismicity if it would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- 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.
- Strong seismic ground shaking.
- Seismic-related ground failure, including liquefaction.
- Inundation by seiche, tsunami, or mudflow.
- Landslides.

The project would also be considered to have a significant impact if it would result in substantial soil erosion or the loss of topsoil, or the loss of a unique geologic feature. A significant adverse impact could also result if the project is located on:

- Strata 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.
- Expansive soil creating substantial risks to life or property.

Impact #3.1-1: Approval of projects in accordance with the updated General Plan in areas of unstable geology, including areas of natural soil or rock instability, fault rupture and areas made unstable by past activities of humans (e.g., mining) could result in ground failure, destruction of buildings, seismic shaking or hazards to occupants. This is a **potentially significant impact**.

Discussion/Conclusion: The General Plan update includes the Safety Element, which addresses geologic hazards, including seismicity, slope instability and landslide activity. New development could result in exposure of additional people to geologic hazards. All safety and hazard risks are addressed by the single Safety Goal (1-SG), to reduce the potential risk of death, injury, property damage, and economic and social dislocation resulting from hazards. Specifically, the General Plan provides for assurance of a high level of protection from geologic and seismic hazards for all residents, structures, and vital services (1-SO).

All new structures will be built in conformance with the Uniform Building Code, as directed by General Plan goals and objectives (1-SP and 11-SI). and utilize seismic shaking design criteria that will offer the highest protection from geologic activity. The City will review its building code enforcement practices and adjust to meet the goals and objectives of the General Plan, including those addressing instability and seismic considerations (6-LUI) and ensure the safety and structural integrity of housing and commercial/industrial facilities through code enforcement (2-SP). In addition, goals, policies, objectives and implementation actions and strategies have been incorporated in the General Plan for site-specific geologic studies in areas identified as potentially containing geologic hazards (11-SI). Therefore, this is a **less-than-significant impact**.

Impact #3.1-2: Areas of landslide or mudflow could exist in the city and the Planning Area due to the combination of topography, slope, geology, soils and vegetative cover. In areas of sloping terrain, relatively permanent alteration to the natural topography may occur. If improper grading or cut-and-fill occurs, or if development is attempted on extremely steep slopes, it is likely that erosion, siltation, subsidence, or other unstable soil conditions could occur. Erosion will be most severe where soil cover is removed and soil particles are disturbed. This is a **potentially significant impact**.

Discussion/Conclusion: Areas potentially affected by landslides are identified in Figure 3.1-4. Landslides and mudflows typically occur as a result of natural conditions combined with land disturbing activities, which set up preconditions for such incidents. Similarly, subsidence, erosion/siltation of waterways, and other unstable conditions may be caused by cut/fill and grading practices unsuitable to the site or area. The City's Grading Ordinance is the single most important instrument for assuring that land disturbance associated with new development minimize these impacts. Proper administration of this ordinance, including frequent field inspections during grading, is required to provide such assurances. The General Plan addresses City responsibilities for preventing landslides and mudflows with policies requiring adoption of uniform construction codes (1-SP), careful regulation of development on steep slopes (5-COSP), and prevention of excessive alteration of natural topography (6-SP). Further policy direction commits the City to cooperate with Nevada County in preparing a hillside/slope ordinance to regulate....density and intensity (42-LUP) and to encourage City standards throughout the Sphere of Influence (44-LUP). Complementing these policies is 7-CDI, directing the City to amend the zoning ordinance and other development codes to facilitate clustering. Therefore, the goals, policies, objectives and implementation actions and strategies contained in the General Plan Update serve as effective mitigation measures for addressing landslide exposure, and will result in a **less-than-significant impact.**

Impact #3.1-3: Subsidence of the land could result in association with new or expanded development in areas of former mining activities. This is a **potentially significant impact**.

Discussion/Conclusion: Subsidence in areas of former mining activities poses a potential subsidence hazard problem for new and expanded development in areas of former mining activities. Due to the potential extent of hazard areas and the relatively poor records and other information about site specific potential hazards, the General Plan directs the City to establish a comprehensive mine-related hazards program (6-SI). The program entails data, base mapping and special technical studies; technical coordination with state and local agencies; technical assistance to property owners; and site specific field investigations during project planning and review. The State Division of Mines and Geology has recently established a technical program to deal with old mine hazards, and will be a continuing source of advice and assistance to the City. The mine hazards program directed by 6-SI will reduce mine-related subsidence and related impacts to a **less than significant level.**

Impact #3.1-4: Expansive soils could affect new or expanded development occurring in accordance with the General Plan Update. This is a **potentially significant impact**.

Discussion/Conclusion: Implementation of the UBC, the City's Grading Ordinance and the goals, policies, objectives and implementation actions and strategies contained in the General Plan Update will serve as effective mitigation measures for dealing with potential expansive soil problems. Specifically, Safety Policy 1-SP addresses adopting

current uniform codes for all new construction. Therefore, this is a **less-than-significant impact.**

Impact #3.1-5: The project has the potential to impact unique geologic or physical features in the Planning Area. This is a **potentially significant impact**.

Discussion/Conclusion: One unique geologic or physical feature, mine shafts and related features, have been identified and described in the General Plan. Mitigation measures have been included in the Safety Element to require site-specific geologic studies in areas where mine shafts may occur (6-SI). This will avoid potential hazards, and is therefore a **less-than-significant impact.**

3.1.3 Mitigation Measures

The goals, objectives, and policies and implementation actions and strategies that address geology and soils stability include:

1-SG	1-SI	16-SI
1-SO	2-SI	42-LUP
2-SO	3-SI	1-COSG
1-SP	6-SI	4-COSG
2-SP	11-SI	5-COSP
4-SP	12-SI	7-COSI
7-SP	15-SI	8-COSI

Implementation of these goals, objectives, policies and implementation actions and strategies will reduce the effects on geology and soils to a **less than significant** level, and no additional mitigation measures are required.

3.2 HYDROLOGY AND WATER QUALITY

3.2.1 Setting

The information in the Setting Section is taken from the City of Grass Valley General Plan Update Background Report, prepared by Quad Knopf.

Local Drainage

The Planning Area lies primarily within the Wolf Creek drainage basin. Wolf Creek enters the Planning Area from the east in an east-west direction, and turns to the south as it passes through downtown Grass Valley, and continues south to its confluence with the Bear River. The South Fork of Wolf Creek and Little Wolf Creek drain the southeastern portion of the Planning Area and discharge into Wolf Creek in the central Grass Valley area.

Alta Hill is located on the divide between the Wolf Creek and Deer Creek watersheds. Drainage north of this divide flows to Deer Creek.

100-Year Flood Areas

As indicated by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), the City of Grass Valley and the General Plan Planning Area are relatively well drained. Flooding during the 100-year flood event is limited to relatively narrow areas along Wolf Creek and its tributaries, as shown on Figure 3.2-1. Major transportation corridors do not appear to be susceptible to flooding in a 100-year flood event. To the extent culverts and storm drains are not maintained, other localized flooding could occur. Homes located in the flood hazard areas would be subject to flooding in a 100-year event unless mitigation is employed.

Dam Failure

Upstream on Deer Creek, the Nevada Irrigation District (NID) Scotts Flat Dam forms Scotts Flat Reservoir. Mapping prepared by NID illustrates the area projected to be inundated should the dam suddenly fail. From this map, it is apparent that none of the Grass Valley Planning Area would be inundated should such an event occur (NID 1993).

Water Quality

Wolf Creek is influenced by the discharge of treated effluent from the Grass Valley wastewater treatment plant and use of the creek by NID for transport of irrigation water. The NID use, which occurs from mid-April through mid-October, results in an approximately five-fold increase in stream flows in the affected area. Thus, dissolved oxygen remains in good supply for the maintenance for desirable aquatic biota (City of Grass Valley 1996).

3.2.2 Impacts

Impact Evaluation Criteria: Appendix G of the CEQA Guidelines indicates that hydrology-related impacts can be considered significant if a project would:

- Violate Regional Water Quality Control Board water quality standards or waste discharge requirements.
- 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.
- 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.
- 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.
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems to control.

- Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

- Place within a 100-year floodplain structures which would impede or redirect flood flows.

- 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.

Impact #3.2-1: Future development in accordance with the General Plan Update could result in additional discharge into surface waters or other alteration of surface water quality in violation of Regional Water Quality Control Board standards or waste discharge requirements. This is a **potentially significant impact**.

Discussion/Conclusion: Developments on watershed lands should be carefully evaluated for potential effects on surface water quality. Under the updated General Plan, new developments could be allowed that discharge additional runoff into surface waters. Processed wastewater discharges from the wastewater treatment facility will be subject to waste discharge requirements issued by the Regional Water Quality Control Board, which will require mitigation of significant water quality impacts. The construction of projects in the City of Grass Valley will be subject to City Grading Ordinance requirements, which will provide mitigation measures to address erosion and the introduction of construction materials into surface waters. Runoff from development may also discharges pollutants from motor vehicles, such as petroleum hydrocarbons, glycol, and dissolved heavy metals.

Regulations under Section 402(p) of the federal Clean Water Act are now in effect. They involve control of pollution in stormwater discharges. In California, the Section 402(p) National Pollutant Discharge Elimination System (NPDES) stormwater permitting program is administered by the Regional Water Quality Control Boards on behalf of the U.S. Environmental Protection Agency (EPA). A 402(p) permit is required for most new developments that disturb over five acres.

Mitigation measures have been identified in the goals, objectives, and policies implementation actions and strategies of the General Plan to ensure that potential impacts to surface waters are mitigated. This includes broad General Plan goals and accompanying objectives which call for the City to assure compliance with water quality regulations (6-COSG), protect ground and surface water quality (1-COSO) and include water quality in land use decisions (2-COSO). A specific policy instructs the City continue to implement water quality improvement plans, including stormwater separation and wastewater treatment plant expansion (21-COSP). Implementation of these standards will ensure a **less-than-significant** impact to surface water quality or Regional Water Quality Control Board standards and waste discharge requirements.

Impact #3.2-2: Approval of projects in areas subject to inundation in the design-level (100-year) flood would result in **potentially significant impacts**.

Discussion/Conclusion: Several areas within the Planning Area have been identified by the Federal Emergency Management Agency (FEMA) to be subject to flooding during a 100-year storm event. Development within these areas would subject persons

and property to loss, injury and possibly death. Flood-prone areas may enlarge or contract as developments both up-stream and downstream occur. Upstream development may include a variety of alterations to existing conditions: more impervious surface, thus more runoff; altered drainage patterns, shifting the location of surface runoff; increases in runoff velocity; and alterations to water quality. Downstream developments may block flood waters, thus creating ponding and backup of previously freer flowing waters.

Existing stormwater drainage systems will need to be expanded and new systems will need to be constructed as a result of development under the General Plan. The following new development areas in particular will require new or expanded services:

- Special Development Areas - Loma Rica Ranch, North Star, and Kenny Ranch
- Loma Rica Industrial Park and Nevada County Airpark area
- East Bennett area proposed for residential designation
- Bear River Mill site proposed for commercial designation

Grass Valley presently administers a variety of regulations designed to prevent flooding and address stormwater management. These include a flood ordinance, various provisions of the zoning ordinance and subdivision ordinance, and construction codes for residential and non-residential developments.

The City's Capital Improvement Program (CIP) contains a local stormwater drainage program and a regional stormwater drainage program, comprising a Drainage System Master Plan. CIP-planned projects extending through the Year 2015 includes numerous storm drainage improvements

The General Plan addresses the multiple issues surrounding storm drainage, flood control, flood prevention, and flood avoidance in a variety of ways. The General Plan directs the City to carefully regulate development proposed for location in flood hazard areas (9-COSP) and to continue to regulate development to reduce the risks to life and property (7-SI). Acknowledging the changeable nature of flood prone areas, the General Plan calls for the revision of flood hazard maps at appropriate intervals to reflect the effects of land use changes (8-SI). Concerning new developments, specific implementation measures direct the City to avoid stream channel modifications (7-SI), require new developments to utilize on-site stormwater storage (8-SI), and establish site development standards to minimize impervious surface (9-SI), (13-CDP), (8-CDI). Encouraging a natural, as opposed to a structural approach to stormwater control, a General Plan policy directs the City to return to open space areas in which flooding poses a clear danger to life and property (11-COSP). Further, the Plan calls for amending the zoning ordinance and other development codes to facilitate clustering (7-CDI), thus providing additional development siting options on properties constrained by flooding and stormwater management considerations.

In summary, the goals, objectives, policies, and implementation actions and strategies included in the General Plan will help to reduce potential impacts from drainage and flooding. In addition, the City of Grass Valley's CIP provides planning for improvements to drainage and flooding problems through the year 2015. However, without full provision of CIP flood and drainage related improvements through the life of the Plan (2020), this will remain a **potentially significant** impact.

Impact #3.2-3: Future development associated with the General Plan Update could

result in changes in the quality and quantity of ground waters, either through direct additions or withdrawals of groundwater. This is a **potentially significant impact**.

Discussion/Conclusion: Groundwater quality and quantity may be affected by a number of factors. Primary factors are withdrawal rates contrasted with recharge rates, and quality degradation from surface sources. Unincorporated portions of the Planning Area contain both residential and non-residential developments which rely on ground water for their water supplies and/or septic system for sanitary waste disposal.

The General Plan, reflecting long-standing City policy, encourages systematic annexation and extension of City services into unincorporated portions of the Planning Area (10-LUP). Large scale annexations are anticipated in the three SDAs, with smaller annexations of other areas on the periphery of the present City limits.

As unincorporated areas are annexed into the City, public water and sewer services will replace reliance on well and on-site septic systems. This will have an overall effect of reducing reliance on ground water as a potable water source in the Planning Area and reduce the potential for groundwater contamination from improperly operating septic systems.

Conversely, development occurring under the provisions of the General Plan will, inevitably cause naturally (water) absorptive areas to accommodate impervious surfaces, thus potentially affecting ground water recharge in some areas. This impact will be countered by the General Plan's protection of wetlands (25-LUP) and (2-COSG), as well as implementation of the Open Space Opportunity overlay and numerous policies and implementation actions/strategies which address natural areas and open space preservation and enhancement.

Much remains to be learned about ground water locations, patterns, and trends in the Planning Area and throughout western Nevada County. Little is known, or predictable, about the consequences of surface actions, such as land development, on ground water in specific situations. However, the broad trends anticipated to occur under the General Plan, as described above, indicate that the Plan will have a **less than significant impact** on ground water quantity and quality.

Impact #3.2-4: On-site disposal of wastewater in areas of poor soil permeability could result in groundwater or surface water contamination. This is a **potentially significant impact.**

Discussion/Conclusion: Soils in the Planning Area have generally moderate to slow permeability. If projects with on-site wastewater disposal systems are approved, there is a potential for significant impacts to the environment through contamination of surface or groundwater with insufficiently treated wastewater. The Nevada County Department of Environmental Health regulates all on-site wastewater disposal systems, which must meet current health and safety standards. It is anticipated that the majority of new development will be on the municipal sewer system, and that septic systems will occur only on large residential parcels in areas not served by sewer.

The General Plan and subsequent zoning ordinance amendment will assure that the minimum parcel size on which an on-site septic system may be permitted is 2 acres, an increase from the current General Plan's 1.5 acre minimum. Through annexation and service extension, parcels too small to accommodate effective on-site disposal systems

and/or with currently failing systems will be provided service, thus alleviating the potential for ground and water contamination (9-LUI) and (10-LUI). The General Plan's commitment to protection of ground and water quality (15-COSO) directly addresses continued maintenance of small lot septic systems within the City limits. The General Plan will, therefore, reduce the effects of on-site disposal of wastewater to a **less than significant** level.

3.2.3 Mitigation Measures

The General Plan Update includes goals, objectives, policies and implementation actions and strategies which will substantially mitigate significant impacts to hydrology and water quality. These goals, objectives, policies and implementation actions and strategies are as follows:

1-SG	2-LUO	
2-SO	2-LUG	
3-SO	3-LUO	16-COSO
5-SO	4-LUO	3-COSP
3-SP	7-LUO	4-COSP
5-SP	2-LUP	9-COSP
7-SP	12-LUP	11-COSP
1-SI	25-LUP	17-COSP
2-SI	1-COSG	18-COSP
3-SI	1-COSO	21-COSP
7-SI	2-COSO	1-COSI
8-SI	2-COSG	2-COSI
9-SI	7-COSO	3-COSI
10-SI	8-COSO	6-COSI
15-SI	5-COSG	8-COSI
16-SI	6-COSG	12-COSI
1-LUG	15-COSG	8-CDI

Implementation of these goals, objectives, policies and implementation actions and strategies along with the additional mitigation measure discussed below will ensure that any impacts to hydrology and water quality resulting from the 2020 General Plan Amendment will result in a **less than significant impact**

Mitigation Measure #3.2-1: The Capital Improvement Program currently addresses services and improvements through 2015, as developed under the 1982 General Plan. The CIP shall be updated along with the Drainage System Master Plan in the future in order to extend service/infrastructure needs through 2020, reflecting the needs of the 2020 General Plan (Applies to Impacts #3.2-2 and #3.5-5).

Effectiveness of Measure: Implementation of Mitigation Measure #3.2-1 will assure that a CIP is in place that will reflect City needs through the life of the General Plan.

3.3 BIOLOGICAL RESOURCES

3.3.1 Setting

The following information is taken from The City of Grass Valley General Plan Update Background Report, prepared by Quad Knopf.

Vegetation

The Planning Area is located in a transition zone between the lower foothill elevations and the higher Sierra Nevada mountains. This transition zone is considered the Yellow Pine Belt (Storer and Usinger 1963) (Figure 3.3-1). Because it is a transition zone, a variety of intermingled species occur in the area that typically occur at zones of either higher or lower elevations.

As well as being surrounded by ponderosa pines (*Pinus ponderosa*) and blue oaks (*Quercus douglasii*), the Grass Valley Planning Area also accommodates many other locally important natural communities. Localized areas of serpentine or gabbro support native plant species that have adapted to unique soil conditions other species cannot tolerate. Vernal pools, seasonally flooded depressions underlain with clay or hardpan soils, accumulate water and support unique native vegetation and wildlife species. Other areas of biological significance in the Grass Valley area include riparian corridors, creeks and tributaries that support native trees, shrubs, herbaceous vegetation and wildlife, including special status species listed by the United States Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), and/or California Native Plant Society (CNPS).

As a transition area, the Yellow Pine Belt in the Grass Valley area is comprised of a number of specific habitat types. The following describes these habitat types using the system of Holland (1986).

Northern Mixed Chaparral

Located on rocky, south-facing slopes with sparse soil, this dense habitat type usually consists of little or no understory vegetation and is adapted to frequent fires. Dominant species include Nuttall's scrub oak (*Quercus dumosa*), chamise (*Adenostoma fasciculatum*), and various species of manzanita (*Arctostaphylos*) and California lilac (*Ceanothus* spp.). Additional characteristic species include: California

buckeye (*Aesculus californica*), western redbud (*Cercis occidentalis*), mountain-mahogany (*Cerococarpus betuloides*), flannelbush (*Fremontia californica*), twinberry (*Lonicera involucrata*), canyon live oak (*Quercus chrysolepis*), interior live oak (*Q. wislizenii*), sugar bush (*Rhus ovata*), and poison oak (*Toxicodendron diversilobum*).

Non-native Grassland

Non-native grassland typically occurs on fine-textured, clay soils that alternate between excessively moist to drought-like conditions. Growth, flowering, seed setting and germination occur during the moist seasons. Characteristic grass species commonly include: wild oat (*Avena* spp.), brome (*Bromus* spp.), rye (*Lolium* spp.), and vulpia (*Vulpia* spp.), while associated annual wildflower species include filaree (*Erodium* spp.), California poppy (*Eschscholtzia californica*), Gilia (*Gilia* spp.), lupines (*Lupinus* spp.), and fiddleneck (*Amsinckia* spp.).

Black Oak Woodland

This community consists of moderately open to dense stands of California black oak (*Quercus kelloggii*) associated with Ponderosa pine (*Pinus ponderosa*). Although black oaks are fairly fire resistant, young stands (60 years) often cannot withstand a hot blaze. These trees are very intolerant to shade and will often decline in numbers where taller trees have created a denser canopy.

Blue Oak Woodland

Even though this community is dominated by blue oak (*Quercus douglassii*), it may also include other oak species along with foothill pine (*Pinus sabiniana*). While the associated foothill pines do not tolerate frequent fires, blue oaks have adapted to them by becoming vigorous stump-sprouters. Although most commonly observed as an intermingled woodland, pure stands of blue oaks occur in a thin zone between foothill pine woodlands (lower elevations) and black oak woodland (higher elevations). Other common associated plants include manzanita (*Arctostaphylos* spp.), lilac (*Ceanothus* spp.), yerba santa, (*Eriodictyon californicum*), spiny redberry (*Rhamnus crocea*), California coffeeberry (*R. californica*), and Hansen's larkspur (*Delphinium hansenii*).

Canyon Live Oak Forest

This dense, evergreen vegetation community is dominated by canyon live oak (*Quercus chrysolepis*) and typically forms forests with little understory in canyons on north-facing slopes, while on south-facing slopes it forms low-growing, chaparral-like stands. Soils are typically rocky and have little soil development. Trees often have multiple trunks, a condition probably resulting from crown-sprouting after fire. Associated species include incense cedar (*Calocedrus decurrens*), Douglas fir (*Pseudotsuga menziesii*), and California bay (*Umbellaria californica*).

Foothill Pine-Oak Woodland

This community contains a mixture of foothill pines (*Pinus sabiniana*) and blue oak (*Quercus douglasii*), and is much more common than pure stands of either species. It is found on well-drained soils along rocky ridges or in canyons. Understories usually consist of annual herbaceous plants, and other associated species include various oak species such as canyon live oak (*Q. chrysolepis*), Nuttall's scrub oak (*Q. dumosa*),

California black oak (*Q. kelloggii*), valley oak (*Q. lobata*), and interior live oak (*Q. wislizenii*).

Westside Ponderosa Pine Forest

The primary plant community in the Grass Valley area is open forest dominated by ponderosa pine (*Pinus ponderosa*), with sparse scattered chaparral shrubs and young trees. It usually occurs on coarse soils and will intermingle with a number of other vegetation communities. This community, which contains a mixture of foothill pines (*Pinus sabiniana*) and blue oak (*Quercus douglassii*), is much more common than pure stands of either species and is found on well-drained soils along rocky ridges or in canyons. Understory usually consists of annual herbaceous plants and other associated species, including various oak species such as canyon live oak (*Q. chrysolepis*), Nuttall's scrub oak (*Q. dumosa*), California black oak (*Q. kelloggii*), valley oak (*Q. lobata*), and interior live oak (*Q. wislizenii*). Other species that may occur in this community include white fir (*Abies concolor*), greenleaf manzanita (*Arctostaphylos patula*), coffeeberry (*Rhamnus californica*), incense cedar (*Calocedrus decurrens*), mountain misery (*Chamaebatia foliolosa*), sugar pine (*Pinus lambertiana*), canyon live oak (*Quercus chrysolepis*), and California black oak (*Q. kelloggii*).

Riparian Habitats

Riparian and aquatic communities are represented by several creeks in the Grass Valley area, namely, the lower portion of Wolf Creek, Squirrel Creek and South Fork Wolf Creek. Dominant vegetation found along these waterways includes dogwood (*Cornus* ssp.), box elder (*Acer negundo*), alder (*Alnus* ssp.), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) and big leaf maple (*Acer macrophyllum*). In the Planning Area, these communities contain declining native populations of riparian valley oaks (*Quercus lobata*), northwestern pond turtles (*Clemmys marmorata marmorata*), foothill yellow-legged frogs (*Rana boylii*), and western spade foot toads (*Scaphiopus hammondii*). Portions of these streams are becoming increasingly urbanized, therefore jeopardizing the health of these native populations.

Wildlife

Due to the variety of vegetation communities, many different wildlife species exist or have a high potential to exist in the Planning Area. Resident deer, as well as migratory deer from the Downieville and Nevada City deer herds, are known to inhabit the area. The Downieville/Nevada City Deer Herd Management Plan (CDFG/USFWS 1985) and California Department of Fish and Game (Grass Valley Regional Wildlife Manager Jeff Finn) were consulted for current herd statistics and critical habitat designations. Of particular concern is the portion of the herd's range known as Critical Winter Range. These are areas determined by state and federal agencies to be critical to the life cycle of migratory deer. Also of interest is a potential fisheries resource along Wolf Creek. Revegetation along the stream and restocking could bring back native fish.

Following is a brief description of wildlife species that may potentially occur within the Planning Area.

Migratory and Upland Bird Species

Because California is located within the Pacific Flyway (the migration route through the western portion of the United States), various species of waterfowl routinely migrate through the area. The Grass Valley area is a prime location for migrating bird species due to existing riparian, grassland and tree covered areas. Common migratory waterfowl that may utilize the Grass Valley area include: Canada geese (*Branta canadensis*), mallard (*Anas platyrhynchos*), cinnamon teal (*Anas cyanoptera*), American wigeon (*Anas americana*), common goldeneye (*Bucephala clangula*), bufflehead (*Bucephala albeola*), and common merganser (*Mergus merganser*). Observed raptor species include red-tailed hawk (*Buteo jamaicensis*), sharp-shinned hawk (*Accipiter striatus*) and American kestrel (*Falco sparverius*). There are also many passerine and nonpasserine birds that migrate from colder climates to the warmer weather of the southern United States and elsewhere. Upland bird species such as California quail (*Callipepla californica*) are also commonly observed in the Grass Valley vicinity.

Other Common Species

The Grass Valley area is also host to many other wildlife species. Documented rodent species include deer mouse (*Peromyscus maniculatis*), western harvest mouse (*Reithrodontomys megalotis*), California meadow vole (*Microtis californicus*), Botta's pocket gopher (*Thomomys bottae*) and beaver (*Castor canadensis*). These populations provide a constant food source for predatory species such as the coyote (*Canis latrans*), bobcat (*Lynx rufus*), and gray fox (*Urocyon cinereoargenteus*), as well as for several raptors. In addition, the Grass Valley area also supports limited potential winter habitat for the bald eagle (*Haliaeetus leucocephalus*) in the form of riparian corridors.

Sensitive Species

The Federal Endangered Species Act (1973) and the California Endangered Species Act (1984) provide legal protection for plant and animal species in danger of becoming extinct. The Federal Endangered Species Act requires the United States Fish and Wildlife Service (USFWS) to provide a findings report on any federally accredited actions that could jeopardize the existence of any federally listed species. The California Department of Fish and Game (CDFG) analyzes projects for possible impacts to species as well as their habitats. The California Native Plant Society (CNPS) helps to determine which plant species and habitats should be listed as special status under the California Endangered Species Act. Consultation with the CDFG Natural Diversity Data Base (NDDB, 1997) revealed six sensitive species potentially located within the Grass Valley and Chicago Park USGS 7.5 minute quadrangles. These species are listed in Table 3.3-1. The following is a description of each:

Stebbin's Morning Glory (*Calystegia stebbins II*)

Stebbin's morning glory occurs on red clay soils of gabbro or perhaps serpentine origins in chaparral. A query of the California Department of Fish and Game Natural Diversity Database (NDDB 1997) revealed that this species may occur near the Planning Area in open grassland near the junction of South Ponderosa Way and Squirrel Creek Road. This plant is listed as endangered by both the USFWS and the CDFG.

Pine Hill Flannelbush (*Fremontodendron californicum* ssp. *decumbens)*

Pine Hill flannelbush is a gabbro or serpentine endemic, growing on rocky ridges with these substrates in chaparral or cismontane woodlands at elevations of about 1,400 to 2,000 feet. In Nevada County it is known to be near the old Nevada County Landfill on McCourtney Road. It is partially protected at this site via the establishment of fenced designated endangered plant protection areas. This plant is listed as endangered by the USFWS and as Rare in California.

Red-anthered Rush (*Juncus marginatus* var. *marginatus*)

Red-anthered rush is found in marshes and swampy places in the foothills of the Sierra Nevada at elevations below about 3,300 feet. It is a CNPS List 2 Species (Plants categorized as Rare, Threatened, or Endangered in California but more common elsewhere).

Follett's Monardella (*Monardella folletti*)

Follett's monardella grows on open, rocky, serpentine slopes in lower montane coniferous forests at elevations ranging from about 1,800 to 6,500 feet. It is known from Plumas and Nevada Counties, and is on the CNPS List as a 1B species (Plants categorized as Rare, Threatened, or Endangered in California and elsewhere).

Scadden Flat Checkerbloom (*Sidalcea stipularis*)

Sidalcea stipularis is known only from the Scadden Flat area along Highway 20, just west of Grass Valley. It grows in marshy areas at an elevation of about 2,400 feet. It is listed as a Federal Species of Concern and an Endangered species in California.

California Horned Lizard (*Phrynosoma coronatum frontale*)

The horned lizard occurs in valley-foothill hardwood, conifer and riparian habitats as well as in pine-cypress, juniper and annual grass habitats. It ranges from southern Tehama County to the southern California Desert Regions, preferring open country, especially sandy areas, washes and flood plains. It is listed as a Federal Species of Concern.

Blacktail Deer

According to California Department of Fish and Game (CDFG) Regional Wildlife Manager, Jeff Finn, deer are not a significant issue to the City of Grass Valley. However, the Downieville/Nevada City Deer Herd does migrate from higher elevations in the Sierra Nevada to just north of the City of Grass Valley. The Planning Area does not contain any designated Critical Winter Range for the Downieville/Nevada City Deer Herd (CDFG 1985).

Table 3.3-1 lists sensitive species that may occur in the Planning Area.

Wetlands

Wetland communities support aquatic and other hydrophytic vegetation. Wetland sites are typically flooded marshy areas that vary in size and proportion to the

particular topography and hydrology of the area. These sites are either seasonally or permanently wet and are dominated by perennial, emergent monocots such as cattail (*Typha* spp.), sedge (*Carex* spp.), rush (*Juncus* spp.), spikerush (*Eleocharis* spp.) and tule (*Scirpus* spp.). According to the USGS Wetlands Inventory Map for the Grass Valley and Chicago Park USGS 7.5 minute quadrangles, there are several identified wetlands within the Planning Area (Figure 3.3-2). Activities within "jurisdictional" wetlands requires a U.S. Army Corps of Engineers Section 404 Clean Water Act permit, California Regional Water Quality Control Board Clean Water Certification or Waiver, and California Department of Fish and Game Streambed Alteration Agreement.

TABLE 3.3-1

SENSITIVE SPECIES POTENTIALLY OCCURRING IN THE

GRASS VALLEY PLANNING AREA

Scientific Name	Common Name	Status		
		Fed	State	CNPS
Animals				
Phrynosoma coronatum frontale	California horned lizard	FSC	CE	N/A
Plants				
Calystegia stebbinsii	Stebbin's morning-glory	FE	CE	1B
Fremontodendron decumbens	Pine Hill flannelbush	FE	CR	1B
Juncus marginatus var. *marginatus*	Red anthered rush			
Monardella follettii	Follett's monardella	---	---	1B
Sidalcea stipularis	Scadden Flat checkerbloom	FSC	CE	1B

FE Federal Endangered Species

FSC Federal Species of Concern

CE California State Endangered Species

CR Species listed as Rare in California

CNPS1B Plants categorized by the California Native Plant Society as Rare, Threatened or Endangered in California and Elsewhere

CNPS 2 Plants categorized by the California Native Plant Society as Rare, Threatened or Endangered in California but more common Elsewhere

N/A Not Applicable

--- None

Sources: California Department of Fish and Game, 1997. California Natural Diversity Data Base, California Department of Fish and Game, Sacramento, CA. Skinner, M.W., and B.M. Pavlik (eds.). 1994. Inventory of rare and endangered vascular plants of California. Special Publication No. 1 (fifth edition), California Native Plant Society, Sacramento, CA.

Important Biological Resource Areas

The 1982 General Plan Update for the City of Grass Valley listed four sensitive habitats. Following are brief descriptions of these areas, as found in the 1981-82 General Plan. Important Natural Community Areas of Nevada County, California (1998) provided additional information regarding these areas and three additional sites. Important biological resource areas in the Grass Valley Planning Area are discussed below and illustrated on Figure 3.3-3.

Scadden Flat Marsh

Four acres west of Grass Valley along Highway 20 and north of the Nevada County Fairgrounds contain a freshwater marsh that supports a wet and dry meadow surrounded by a ponderosa pine forest. Scadden Flat hosts the only documented population of Scadden Flat Checkerbloom (*Sidalcea stipularis*). This area is threatened by grazing, encroachment of non-native plant species, poor water quality and destruction due to vehicles.

Hell's Half Acre

Hell's Half Acre is a local example of northern volcanic mudflow vernal pool habitat about 1.5 miles northwest of Grass Valley. This habitat consists of open, rocky flats surrounded by Foothill and Ponderosa Pines. The 70-acre area contains over 100 species of indigenous or rare plants (Lonsdorf 1998), including the best example of a low elevation wildflower field in the north-central Sierra Nevada. It supports many native plant species such as Sanborn's onion (*Allium sanbornii* var. *sanbornii*), Lemon's stipa (*Achnatherum lemmonii* var. *pubescens*), Kettledome buckwheat (*Eriogonum prattenianum* var. *avium*), Orcutt's quillwort (*Isoetes orcuttii*) and wildlife species such as Cooper's hawk (*Accipiter cooperii*) and several species of bats (*Myotis* spp).

Slate Creek Area

Adjacent to the southern boundary of the Hell's Half Acre (north of Grass Valley and south of Deer Creek) lies the Slate Creek area. This region supports serpentine soils and contains natural vegetation communities such as mixed serpentine chaparral, serpentine foothill pine chaparral woodland, northern interior (MacNab) cypress forest, and leather oak chaparral. According to Lonsdorf (1998), this is a possible location of Pine Hill flannelbush (*Fremontodendron decumbens*) and additional rare plants and butterflies. Because the northern edge of this site is adjacent to Hell's Half Acre, conservation opportunities are significant.

Serpentine and Gabbro Soil Plant Communities

North of Grass Valley near Highway 20, along Dorsey Drive/Hughes Road, is another

local example of a serpentine soil inclusion community consisting of approximately 160 acres. Plant communities located in this region include mixed serpentine chaparral (Holland), serpentine foothill pine chaparral woodland, northern interior (MacNab) cypress forest, and leather oak chaparral. Also documented in this area is Sanborn's onion and an endemic butterfly species (Lonsdorf 1998).

Several endemic plants are supported by locations such as American Ranch Hill/McCourtney Road Landfill/Wolf Mountain/Ponderosa Way. According to Lonsdorf (1998), this area is a conglomeration of gabbroic soil that contains a mixture of endemic species along with other foothill communities. These areas run southeasterly from east of Rough and Ready, north of Highway 20 and south to beyond Wolf Mountain. Vegetation communities include gabbroic northern mixed chaparral and northern interior (MacNab) cypress forest. Individual native species include Stebbin's morning-glory (*Calysegia stebbinsii*), Pine Hill flannelbush, Bacigalupi's perideridea (*Perideridia bacigalupii*), California horned lizard (*Phrynosoma coronatum frontale*) and foothill yellow-legged frogs. There is also a potential for additional rare plants and animals to be identified on site. Even though this is a large area with many existing roads, ranches, and the old County landfill, there are areas that still have high integrity. There is a potential for BLM land to be traded, allowing urban encroachment (Lonsdorf 1998).

Union Hill Meadow

Union Hill Meadow contains important elements of several ecosystems, which it shares with Empire Mine State Historic Park. The property contains perhaps the finest stand of madrone forest in California. The meadow is likely to be the best example of what the Grass Valley area looked like prior to early development. Few low elevation montane meadows remain intact, and this represents an ecosystem now rare in California. It is extremely diverse in native grasses and forbs, many of which are uncommon on a regional basis. According to a State report, it is the best example of natural grassland in the western Sierra Nevada (Barry, et al., California Department of Parks and Recreation, *Ecological Assessment of the Meadow North of Union Hill*, August 1, 1997).

Wolf Creek

Wolf Creek runs through the City of Grass Valley, and has undergone considerable channelization and augmentation. Prior to entering the city to the northeast and upon leaving to the south, it returns to its natural course. The Riverine habitat of Wolf Creek supports in-stream species, such as invertebrates, amphibians, and fish, including a resident fishery of rainbow trout, brown trout, and several warm-water fishes. The invertebrate population is typical for a trout stream and includes stonefly larvae, mayfly larvae, addisfly larvae, and aquatic snails.

Canadian Geese Wintering Habitat

This area is located southwest of the City of Grass Valley on the 130 acre Conway Ranch. It is a large open meadow that provides wintering habitat for migratory Canada geese. Currently, this area is not designated as Critical Habitat (Mary Moore, USFWS, pers. comm.). However, as the only wintering ground for such migratory waterfowl species in western Nevada County, it is an important part of the ecosystem.

3.3.2 Impacts

Impact Evaluation Criteria: Section 21001 of the Public Resources Code, the California Environmental Quality Act (CEQA), states California's policies with respect to fish and wildlife, summarized as follows:

Prevent the elimination of fish and wildlife species due to human activities.

Ensure that fish and wildlife populations do not drop below self sustaining levels.

Preserve representatives of all plant and animal communities for future generations.

Section 15382 of CEQA defines a significant effect as:

"Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Section 15065 of CEQA provides for mandatory findings of significance when:

The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish and wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.

Appendix G of the *CEQA Guidelines* contains the following criteria for determining the significance of biological resources impacts:

- 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.
- 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.
- 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.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

A "rare or endangered species", as defined in Section 15380 of the *CEQA Guidelines*, is "endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors; or "rare" when, although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or the species is likely to become endangered within the foreseeable future throughout all or a portion of its range, and may be considered "threatened" as that term is used in the Federal Endangered Species Act.

The Federal Endangered Species Act (FESA) of 1973 (50 CFR 17) provides legal protection, and requires definition of critical habitat and development of recovery plans for plant and animal species in danger of extinction. California has similar mandates in the California Endangered Species Act (CESA) of 1984 and the California Native Plant Protection Act of 1977. These laws regulate the process by which plant or animal species are listed as endangered or threatened. Some species listed by the State are not necessarily protected by the federal protection agencies, therefore consultation with both the USFWS and the CDFG should occur when reviewing projects and their potential impacts to plants, wildlife, and their associated habitats.

In addition to federal and state endangered and threatened listings, species may also be listed as a "species of concern" due to their limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species are not afforded the same legal protection as listed species, but may be added to official lists in the future. There are two general categories for these special interest species: 1) candidates for official federal or state listing as threatened or endangered; and 2) species that are not candidates, but have been unofficially identified as species of special interest by private conservation organizations or local governments.

Federal candidate species are assigned to one of two categories, depending on current knowledge about the species and its biological importance for listing. Federal Category 1 (FC1) includes candidate species for which the USFWS has sufficient biological information to support a proposal to list a species as endangered or threatened; and Federal Species of Concern (FSC) includes taxa for which existing information may warrant listing, but substantial biological information to support proposed listing is lacking.

The CDFG, in conjunction with the California Native Plant Society (CNPS), have compiled a data base, called the California Natural Diversity Data Base (NDDB), which references California's rare and endangered plants and animals. Some plants listed by the CNPS may not be officially listed by the State, but many of these would still be protected by CEQA; and any impacts affecting these species and their immediate habitat would be considered significant.

Section 9 of the Endangered Species Act prohibits the "taking" of listed species. If it is believed that a project will inadvertently harm, harass or collect a species, or that a

species would suffer due to habitat modification, the USFWS must be consulted, and subsequent agency recommendations and permits must be obtained and adhered to. With respect to plants, Section 9 states that it is unlawful to import or export; remove and reduce to possession; deliver, receive, carry, transport, or ship; sell; or violate any regulation pertaining to such species or any threatened species of plants listed pursuant to the Act.

If disruption of wetlands is to occur, a "no net loss" policy through the Clean Water Act must be adhered to, and contact with the U.S. Army Corps of Engineers (COE) permitting program for either a Nationwide Permit or a Section 404 permit may be required, the determination of which is based on actual acreage that would be affected. Disruption or loss of wetlands is a significant effect.

A "Streambed Alteration Agreement", pursuant to CDFG Code Section 1600 et seq., must be made with the CDFG when a project will influence or divert the natural flow of a stream, substantially change its bed or bank, cross a stream bed, or utilize existing streambed materials. The CDFG is also involved in the Section 404 process by providing recommendations for mitigation measures. During the Section 1600 process, it may be decided that a Section 401 permit for water quality is required. Engaging in activities which may generate a need for a Streambed Alteration Agreement or Section 401 permit is a potentially significant effect.

Impact #3.3-1: Approval of projects under the updated General Plan could reduce or destroy the habitat of species identified as sensitive, including species identified as endangered, candidate, and/or special status by the California Department of Fish and Game and U.S. Fish and Wildlife Service. This is a **potentially significant impact**.

Discussion/Conclusion: Construction of projects under the General Plan and future roadway improvements could directly eliminate the habitat of species listed as endangered, candidate, and/or special status species by the California Department of Fish and Game and U.S. Fish and Wildlife Service. Consultation with the CDFG Natural Diversity Data Base (NDDB, 1997) revealed six sensitive species potentially located within the Grass Valley and Chicago Park USGS 7.5 minute quadrangles. This includes Stebbin's Morning Glory, Pine Hill Flannelbush, Red-anthered Rush, Follett's Monardella, Scadden Flat Checkerbloom and the California Horned Lizard. These species would be affected by a loss of habitat due to site grading, road building, infrastructure installation, and construction of residential, commercial and industrial development. Additionally, such development could result in the fragmentation of areas that currently consist of relatively undeveloped, uninterrupted wildlife habitat.

Projects could otherwise indirectly impact such habitat through human intrusions, erosion, or invasive species. The General Plan addresses the potential for loss of habitat from future development by concentrating growth, thereby reducing the overall habitat loss and fragmentation that could occur if growth occurred in a more dispersed pattern. Specifically, Land Use goals and objectives promote infill as an alternative to peripheral expansion where feasible (2-LUG) and to ensure that future development proposals include full environmental review to assure minimization of environmental impacts (2-LUP). In addition, there are numerous goals, objectives, policies and implementation actions and strategies contained in the Conservation/Open Space Element developed to reduce potential impacts to habitat and endangered, candidate, sensitive and/or special status species. This includes preparing an inventory of sensitive environmental areas and features (1-COSO), the

protection of rare and endangered animals and plants (3-COSO), encouragement of wildlife through habitat protection (5-COSO), and assurance of appropriate resource conservation and environmental protection measures as prerequisites to development (6-COSO).

Although the General Plan defines goals, objectives, policies and implementation actions and strategies that will reduce potentially significant impacts to habitat and sensitive species, the Plan does not fully mitigate these potential impacts at the project level. The potential still exists for a substantial adverse effect through habitat modification on a species identified as endangered, candidate, or special status. Therefore, this will remain as a **potentially significant impact** but can be mitigated to a level that is **less than significant.**

Impact #3.3-2: Approval of projects under the updated General Plan could impact wetland habitat (e.g. marsh, riparian and vernal pool). This impact is **potentially significant**.

Discussion/Conclusion: Wetlands in Nevada County are generally small, isolated features dependent on riparian water. Construction of projects under the General Plan could directly eliminate wetland habitats or the introduction of non-native species. Indirect impacts can occur to wetlands due to development upgradient of such areas. Silt and other contaminants can be deposited in wetlands via drainage from construction sites and developed areas. The U.S. Army Corps of Engineers regulates the fill of wetlands under Section 404 of the federal Clean Water Act. The Department of Fish and Game recognizes wetlands for their critical value. Both agencies have policies of "no net loss" of wetlands. Therefore, the fill of significant wetland habitats associated with the 2020 General Plan land uses and future roadway and infrastructure improvements would be considered a significant impact.

However, there are regulatory processes designed to identify and mitigate the loss of wetlands. The City of Grass Valley's Grading Ordinance will help mitigate these impacts, but should be reviewed to identify potential modifications to increase protection of downstream wetlands. The General Plan contains goals and objectives in the Conservation/Open Space Element to inventory sensitive environmental areas and features (1-COSO), protect, enhance and restore hydrologic features, including stream corridors, wetlands and riparian zones (2-COSG), and the protection of surface water quality (15-COSO). Although this impact is potentially significant, it can be mitigated to a level that is **less than significant.**

Impact #3.3-3: Approval of projects under the updated General Plan could adversely affect movement and dispersal of wildlife and wildlife migration corridors. This could have a **potentially significant impact**.

Discussion/Conclusion: Construction of projects under the General Plan could potentially create barriers to wildlife movement and dispersal and migration corridors. As an example, deer populations throughout the County have been characterized by both the California Department of Fish and Gand and the Tahoe National Forest as unstable and declining. Development in the western portion of the County and disruption of migration corridors are significant contributors to the decline. Factors such as fire suppression, road kills, subdivision and development of land, and harassment by dogs also relate to the decline (1995 Nevada County General Plan).

There are regulatory processes designed to identify and mitigate potential impacts to the dispersal of wildlife and wildlife migration corridors that will be implemented at the project level. The City of Grass Valley's General Plan contains numerous land use goals and objectives to provide higher densities and infill development, which will help minimize impacts to wildlife corridors, as well as requiring adequate information when reviewing development proposals, including full environmental review to assure minimization of environmental impacts (2-LUP). Conservation and Open Space goals and objectives provide for the inventory of sensitive environmental areas and features (1-COSO), reduction of urban development impacts on native vegetation, wildlife and topography (4-COSO), encouragement of wildlife through habitat protection (5-COSO). The Conservation/Open Space Element also contains policies, objectives and implementation actions to prevent excessive alteration of the natural topography (6-COSP), develop and achieve agreement with the County of Nevada on a strategy for conservation and open space protection within the Grass Valley Planning Area (18-COSP), and to enlist the interest and efforts of appropriate state and federal agencies and private foundations regarding conservation and open space protection (19-COSP). Therefore, the goals, policies, objectives and implementation actions and strategies contained in the General Plan that will assist in mitigating this impact to a **less than significant level**.

3.3.3 Mitigation Measures

The General Plan Update includes goals, objectives, policies and implementation actions and strategies which will substantially mitigate significant impacts to Biological Resources. These goals, objectives, policies and implementation actions and strategies are as follows:

1-COSG	13-COSG	4-COSI
1-COSO	14-COSO	9-COSI
2-COSO	10-COSP	10-COSI
3-COSO	2-COSP	14-COSI
4-COSO	3-COSP	15-COSI
5-COSO	4-COSP	10-CO
2-COSG	10-COSP	
6-COSO	19-COSP	
3-COSG	1-COSI	
9-COSO	2-COSI	
10-COSO	3-COSI	
5-COSG	4-COSI	

Implementation of these goals, objectives, policies and implementation actions and strategies along with the additional mitigation measures discussed below will ensure that any impacts to biological resources resulting from the 2020 General Plan Amendment will result in a **less than significant impact**

Mitigation Measure #3.3-1: No net loss of habitat functions or values shall be caused by development where significant environmental features or significant habitat exist. No net loss shall be achieved through avoidance of the resource, or through creation or restoration of habitat of superior or comparably quality, in accordance with guidelines of the U.S. Fish and Wildlife Service and the California Department of Fish and Game (Applies to Impacts #3.3-1 and #3.3-2).

Effectiveness of Measure: Implementation of this additional mitigation measure will ensure that any impacts to biological resources resulting from the 2020 General Plan Amendment will result in a **less than significant impact**

Mitigation Measure #3.3-2: Review the City of Grass Valley's Grading Ordinance in order to incorporate measures designed to assure that downstream wetland and riparian areas are adequately protected from sedimentation, deposition and other adverse impacts resulting from upstream ground disturbance (Applies to Impact #3.3-2).

Effectiveness of Measure: Regulations designed to assure that the effects of development do not impact downstream wetland and riparian areas will avoid loss of protected wetlands. Therefore, this is a **less than significant impact**.

3.4 AIR QUALITY

The following information is taken from The *City of Grass Valley General Plan Update Background Report*, prepared by Quad Knopf and the *Northern Sierra Air Quality Management District Annual Air Monitoring Report 1997*, prepared by the Northern Sierra Air Quality Management District.

3.4.1 Setting

Physical Setting

The Grass Valley Planning Area lies within the Mountain Counties Air Basin, which includes Plumas County on the north and Mariposa County on the south. The Central Valley forms the western boundary and the Sierra Nevada Mountain Range forms the eastern boundary (refer to Figure 3.4-1). Air quality in the Planning Area is influenced not only by emissions from the Planning Area itself, but by emissions from upwind locations and regional climatic factors.

Generally, the Planning Area has cool, wet winters and warm to hot summers. Winter storm systems from the Gulf of Alaska bring clean, cooler air and moisture. Due to its elevation of over 2,000 feet, the area is high above the winter fog that forms in the Central Valley, providing warmer sunny days between winter storm systems. Annual precipitation for Grass Valley is approximately 40 inches. January temperatures

average between 40 and 45 degrees F.

In the summer, the Planning Area is often affected by a dome of high pressure, and summer temperatures can exceed 100F. However, the "delta breeze," which frequently brings cooler ocean air in through the Carquinez Straits, can moderate these high temperatures. Predominant surface wind flow patterns for spring, summer, fall and winter are shown on Figures 3.4-2, 3.4-3, 3.4-4, and 3.4-5, respectively. Figure 3.4-3 illustrates the flow of air through the Carquinez Straits into the interior of the state during summer conditions.

Air stagnation due to formation of surface and/or elevated inversions is common in the late summer and fall. Surface inversions are formed when cool air is trapped close to the surface by a layer of warm air above it. Elevated inversions occur when a layer of cool air is suspended between warm air layers above and below. Stagnation allows the concentration of air contaminants, subjecting persons in the region to elevated levels of pollution and consequential increased health risks.

PM10 (particulate matter of 10 microns or less in diameter) and ozone are the primary pollutants of concern in the Planning Area. Residential open burning is the main contributor to PM10. The greatest ozone contributor is transported ozone from the Sacramento region and the Bay Area. However, motor vehicles are also a main local contributor to ozone. Carbon monoxide levels in the Planning Area have not been monitored since 1996. However, in the past years, levels of CO have not been significant.

Regulatory Setting

Both the federal and state governments establish air quality regulations. State standards, set through the California Air Resources Board (CARB), are generally more stringent than federal standards (Table 3.4-1). At the local government level, the Northern Sierra Air Quality Management District (NSAQMD) is responsible for planning and the maintenance/attainment of these standards. The California Clean Air Act (CCAA), passed in 1988 as AB 2595, requires local air pollution control districts to achieve and maintain both the federal and state ambient standards at the earliest practical date. For jurisdictions that have been classified as non-attainment for one or more pollutants, air quality attainment plans are to be prepared that either demonstrate attainment of the State ambient standards or provide a strategy for a five percent annual reduction in emissions of non-attainment pollutants in a given district.

Although Nevada County is designated as attainment and/or unclassified by federal standards for PM10 and carbon monoxide (CO), it is classified according to California standards as a non-attainment area for ozone ($O_{3)}$ and PM10 and was designated as a federal nonattainment area for ozone in July, 1999. The attainment status of Nevada County for criteria pollutants under both state and federal standards as reported by the NSAQMD is shown in Table 3.4-2. A summary of air quality data (O_3 and PM10) from the NSAQMD monitoring stations in Grass Valley from 1989 to 1997 is presented in Tables 3.4-3 and 3.4-4. The two Grass Valley monitoring stations are located at Litton Drive and Henderson Street.

TABLE 3.4-1

AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards		National Standards[2]		
		Concen-tration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg./m^3)	Ultraviolet Photometry	0.12 gpm (235 µg./m^3)[8]	Same as Primary Standard	Ethylene Chemilumin-escence
	8 Hour	-		0.08 gpm (157 µg./m^3)		
Respirable Particulate Matter (PM_{10})	Annual Geometric Mean	30 µg./m^3	Size Selective Inlet Sampler ARB Method P (8/22/85)	-	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	24 Hour	50 µg./m^3		150 µg./m^3		
	Annual Arithmetic Mean	-		50 µg./m^3		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		65 µg./m^3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean			15 µg./m^3		
Carbon Monoxide (CO)	8 Hour	9.0 gpm (10 mg/m^3)	Non-dispersive Infrared Photometry (NDIR)	9 gpm (10 mg/m^3)	None	Non-dispersive Infrared Photometry (NDIR)
	1 Hour	20 gpm (23 mg/m^3)		35 gpm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 gpm (7 mg/m^3)		-		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Average	-	Gas Phase Chemilumin-escence	0.053 gpm (100 µg./m^3)	Same as Primary Standard	Gas Phase Chemilumin-escence

	1 Hour	0.25 gpm (470 µg./m^3)		-		
Lead	30 Day Average	1.5 µg./m^3	AIHL Method 54 (12/74) Atomic Absorption	-	-	High Volume Sampler and Atomic Absorption
	Calendar Quarter	-		1.5 µg./m^3	Same as Primary Standard	
Sulfur Dioxide	Annual Arithmetic Mean	-	Fluorescence	0.030 gpm (80 µg./m^3)	-	Pararosoaniline
	24 Hour	0.04 gpm (105 µg./m^3)		0.14 gpm (365 µg./m^3)	-	
	3 Hour	-		-	0.5 gpm (1300 µg./m^3)	
	1 Hour	0.25 gpm (665 µg./m^3)		-	-	
Visibility Reducing Particles	8 Hour (10 am to 6 pm, PST)	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70 percent. Method: ARB Method V (8/18/89).		No Federal Standards		
Sulfates	24 Hour	25 µg./m^3	Turbidimetric Barium Sulfate-AIHL Method 61 (2/76)			
Hydrogen Sulfide	1 Hour	0.03 gpm (42 µg./m^3)	Cadmium Hydroxide STRactan			

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter - PM_{10}, and visibility reducing particles are values that are not to be exceeded. All others are not to

be equaled or exceeded.

2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For $PM_{2,5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3. Concentration expressed first in units n which it was promulgated. Equivalent units given in parenthesis are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); gpm in this table refers to gpm by volume, or micro moles of pollutant per mole of gas.

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

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

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

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

8. New federal 8-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18, 1997. The federal 1-hour ozone standard continues to apply in areas that violated the standard. Contact U.S. EPA for further clarification and current federal policies.

Source: State of California, Air Resources Board, April 9, 1998.

TABLE 3.4-2

ATTAINMENT STATUS OF NEVADA COUNTY

Pollutant	Federal	State
Ozone	Unclassified/Attainment*	Non-Attainment
Carbon Monoxide	Unclassified/Attainment	Unclassified
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified	Attainment
Inhalable Particulates (PM_{10})	Unclassified	Non-attainment

* Nevada County will be designated as a federal nonattainment area in July 1999.

Source: Northern Sierra Air Quality Management District, 1997.

TABLE 3.4-3

AIR QUALITY DATA FOR GRASS VALLEY MONITORING SITES, 1990 - 1997

Pollutant	Standard	Site	Days Above Standard in:							
			1990	1991	1992	1993	1994	1995	1996	1997
Ozone	State 1-Hour	Litton Dr.	--	--	--	6	8	23	27	17
Ozone	Federal 1-Hour	Litton Dr.	--	--	--	0	0	2	0	0
PM_{10}	State 24-Hour	Henderson St. Litton Dr.	2 --	0 --	1 0	0 0	1 5	1 10	0 1	0 1
PM_{10}	Federal 24-Hour	Henderson St. Litton Dr.	0 --	0 --	0 0	0 0	0 0	0 0	0 0	0 0

-- pollutant not monitored at this station

Note: Both the Henderson St. and Litton Dr. monitoring stations are located in Grass Valley.

Source: NSAQMD, Annual Air Monitoring Report, 1997.

TABLE 3.4-4

HIGHEST RECORDED 24-HOUR PM10 AND 1-HOUR OZONE CONCENTRATIONS

Pollutant	Site	Highest Concentrations:								
		1989	1990	1991	1992	1993	1994	1995	1996	1997
Ozone (1-Hour)	Litton Dr.	--	--	--	--	11.2	11.1	13.7	11.1	10.8
PM_{10} (24-Hour)	Henderson St. Litton Dr.	61 --	52 --	43 --	52 39	42 42	54 67	63 70	35 51	35 51

-- pollutant not monitored at this station

Note: Both the Henderson St. and Litton Dr. monitoring stations are located in Grass Valley.

Source: NSAQMD, Annual Air Monitoring Report, 1997.

3.4.2 Impacts

Impact Evaluation Criteria: Non-attainment of a federal or state emission standard for any pollutant is a significant impact. Because the state standards set forth under the Clean Air Act of 1988, and shown in Table 3.4-1, are generally more restrictive than federal standards, the state standards will be used for comparison of impacts. In 1997, the U.S. Environmental Protection Agency (EPA) adopted new national air quality standards for ground-level O_3 and PM_{10}. The 1-hour ozone standard of 0.12 parts per million (ppm) has been phased out and replaced by an 8-hour standard of 0.08 ppm. National standards for fine particulate matter (2.5 microns in diameter or less) have also been established for 24-hour and annual averaging periods. Although these standards are now in effect, the EPA is still in the process of developing implementations plans. In 2003, the EPA will require the Air Quality Management District to submit an air quality attainment plan to meet the new national standards. It is unlikely that an individual project will, in itself, exceed a standard. However, if a project results in a noticeable (greater than *de minimus*) contribution to a condition where standards are exceeded, a significant cumulative impact may result.

Appendix G of the CEQA Guidelines indicates that a project will have a significant impact on the environment if it would:

- conflict with or obstruct implementation of the applicable air quality plan
- violate any air quality standard or contribute substantially to an existing or projected air quality violation
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)
- create objectionable odors affecting a substantial number of people

Impact #3.4-1: An increase in regional emissions of non-attainment pollutants from mobile and stationary sources will result from implementation of the 2020 General Plan. This is a **potentially significant impact**.

Discussion/Conclusion: Mobile emissions (those generated by vehicles) that would result from implementation of the proposed General Plan were determined using the URBEMIS7G model developed by the State Air Resources Board (ARB). New vehicle emissions that would be generated by various land uses (i.e. residential, commercial, industrial, etc.) were calculated using this model. The results of this model (refer to Table 3.4-5) demonstrates the change in mobile emissions in 2020 and at buildout of the proposed General Plan.

TABLE 3.4-5

ESTIMATED PLANNING AREA EMISSIONS

EXISTING, 2020 PLAN AND BUILDOUT

Pollutant/Parameter	Existing	2020 Plan	Buildout	Percent Change 2020 Plan	Percent Change Buildout
ROG	4,687	2,060	2,379	56% decrease	49% decrease
CO	30,340	19,536	22,720	36% decrease	25% decrease
Nox	8,330	6,609	7,689	21% decrease	8% decrease
PM_{10}	2,801	3,666	4,267	31% increase	52% increase

The results of the URBEMIS7G modeling indicate that plan-related traffic would generate the following pollutant levels: Reactive Organic Gases (ROG): 2,060 lb/day, Carbon Monoxide (CO): 19,536 lb/day, Nitrogen Oxides (Nox): 6,609 lb/day and Suspended Particulate Matter (PM10): 3,666 lb/day. The decrease in emissions for ROG, CO, and Nox are related to assumptions in the model regarding improving emission rates for vehicles due to state emission control programs. PM10 will increase over the plan period. As development continues, the use of woodstoves, fireplaces, and prescribed burning could also increase. Additionally, construction of structures and road improvements would also generate dust. However, construction typically occurs during the warm season (late spring through early fall) when little residential burning occurs. Therefore, it is not expected to contribute to further exceedences of the State PM10 standard during the winter months when the contribution of woodsmoke from future residences is significant. In a non-attainment air basin, any emissions above the thresholds established by the NSAQMD for new developments would be considered to represent significant air quality effects, either directly or cumulatively. Many developments that would be consistent with the General Plan would result in emissions of O_3 or O_3 precursors (usually associated with vehicular emissions) and PM10, which can be emitted by construction activities, wood-burning appliances, yard burning, driving on paved and unpaved roads, and incineration.

The General Plan addresses City responsibilities for accommodating growth through 2020 while reducing the amount of air pollutants through promoting a jobs/housing balance within the Grass Valley Region (6-LUG) to reduce commuting, encouraging mixed use developments (23-LUP), improving public transportation to better link residential areas with high traffic commercial/industrial nodes (3-CP), providing park and ride facilities to encourage carpooling (7-CP), and taking air quality into consideration in all land use decisions (16-COSO).

Provisions of the General Plan and Mitigation Measure #3.4-1 described below will reduce emissions; however, cumulative impacts related to PM10 cannot be reduced to a less than significant level and will remain a **significant cumulative impact**.

Impact #3.4-2: In addition to potential emissions of criteria pollutants and other potentially harmful pollutants, development in accordance with the 2020 General Plan could potentially result in exposure of sensitive land uses to nuisance emissions of odors, particularly surrounding the Grass Valley Wastewater Treatment Plant. However, this is a **less than significant impact**.

Discussion/Conclusion: The Grass Valley Wastewater Treatment Plant is situated

north of an existing residential area and east of undeveloped land which is designated for residential development by the General Plan. It is unlikely that the area designated for residential development will be affected by the plant, since odors are generally carried in a north-south direction. However, as a result of this wind pattern, the existing residences located to the south may be affected, but to a **less than significant** level. Since various odor management measures have been undertaken as a result of the 1992 Wastewater Treatment Plant Improvements Plan, the City has not received any complaints from the public regarding odor. No additional mitigation is required.

3.4.3 Mitigation Measures

Air quality impacts identified above will be mitigated by the following General Plan goals, objectives, policies, and implementation strategies, however, **not to a level that is less than significant**. In addition, the General Plan should incorporate mitigation measures specified in the *Indirect Source Review Guidelines of the Northern Sierra Air Quality Management District, 1996-1997* as described in Mitigation Measure #3.4-1 below.

1-LUG	15-LUO	2-CG
2-LUO	8-LUP	4-CO
2-LUP	23-LUP	5-CO
2-LUG	1-CG	6-CO
4-LUO	1-CO	7-CO
5-LUP	2-CO	6-CP
6-LUP	3-CO	7-CP
7-LUP	1-CP	8-CP
9-LUP	2-CP	6-COSO
3-LUG	3-CP	16-COSO
6-LUO	4-CP	22-COSP
6-LUG	5-CP	23-COSP

Mitigation Measures #3.4.1: Add Implementation action 17-COSI to the Final General Plan as follows: Incorporate applicable mitigation measures specified in the *Indirect Source Review Guidelines of the Northern Sierra Air Quality Management District, 1996-1997* in all future discretionary land use approvals (Applies to Impact #3.4-1).

Effectiveness of Measure: Although the impact will remain **cumulatively significant**, adoption of this mitigation measure will assist in reducing the impact to the greatest extent feasible.

3.5 PUBLIC SERVICES AND UTILITIES

3.5.1 Setting

The following information is taken from The *City of Grass Valley General Plan Update Background Report*, prepared by Quad Knopf, the *City of Grass Valley Capital Improvement Program 1995 - 2015*, and the *City of Grass Valley 1997 Sphere of Influence Update*.

The City of Grass Valley provides the following:

- Fire Protection
- Police/Animal Control
- Wastewater Collection and Treatment
- Storm Drainage Collection and Disposal
- Water Supply, Treatment, and Distribution
- Parks and Recreation

Water Supply, Treatment, and Distribution

The City's water system serves approximately sixty percent (60%) of the incorporated City of Grass Valley. The service area is 1,357 acres, approximately 2.1 square miles, with a service area population of approximately 5,855. The remainder of the City and portions of the Planning Area with public water service are served by the Nevada Irrigation District (NID).

Raw water purchased by the City from NID is treated at the City's water treatment plant, which incorporates flocculation, sedimentation, chlorination and pH control. Four full-time City employees staff the treatment plant. The plant processes approximately 904,400 million gallons per day (mgd), with treated water distributed to approximately 2,120 connections. The plant has a maximum capacity to treat 4,522,000 mgd, or approximately five times the current volume.

The distribution system has grown incrementally since the late 19th century, and portions of the system suffer from age and obsolescence. Significant line replacement is required to maintain or enhance existing levels of quality water service to residents, and accommodate increased water service needs of new development.

Figure 3.5-1 shows the location of City water storage and treatment facilities, and the extent of the City potable water service area. The NID service area encompasses the entire area between the City service area boundary and the Planning Area boundary.

Wastewater Collection, Treatment, and Disposal

The City provides wastewater collection, treatment and disposal service to an area of 2,884 acres, approximately 4.5 square miles. This area includes a 450-acre area outside city boundaries in the Glenbrook Basin, for which a sewer district was established by agreement with Nevada County in 1960. The 450-acre service area includes half of the Glenbrook Basin.

The City's wastewater treatment plant was built in 1950. The plant is located on a 29-acre site at 556 Freeman Lane. The plant has since been improved to a secondary treatment plant providing preliminary treatment, primary clarification, trickling filter/solids contact process for secondary treatment, filtration for effluent polishing, disinfection with chlorine, and dechlorination with sulfur dioxide. The treatment plant has a rated capacity of 1.72 million gallons per day (mgd) average dry-weather flow conditions.

The wastewater treatment plant services approximately 3,500 connections, an estimated population of 12,145. The collection system consists of 54.4 miles of sewer pipe ranging in size from 4-inch to 30-inch diameters. The system includes 1,157 manholes, 156 cleanouts, 32 lampholes, and 7 flush tanks. The City has rehabilitated and/or replaced about 11,700 feet of sewer pipeline. The City regularly maintains the collection system by periodic cleaning with a variety of equipment. Nine full-time employees operate the treatment plant.

The City has approved increasing capacity of the plant from 1.72 mgd to 2.78 mgd, completion of which is expected in late 2000. This expansion will increase capacity to accommodate a service population of 21,000 persons. Computer modeling and hydrologic analysis indicate various sewer line repairs, enhancements, and extension in certain areas will be required to accommodate anticipated growth in the Planning Area.

Currently, Grass Valley limits new sanitary sewer service connections to 100 "Equivalent Dwelling Units" (EDUs) per year, on a first come, first served basis until the treatment plant capacity is expanded to 2.78 mgd.

Figure 3.5-2 shows the existing wastewater treatment service area, including Sanitation District No. 1 which provides service to 450 acres in the Glenbrook Basin.

Storm Drainage

The majority of the City lies within the Wolf Creek drainage basin, a watershed covering approximately twenty (20) square miles. Wolf Creek bisects the City traveling from the northeast to the southwest. Wolf Creek is a tributary of the Bear and Sacramento Rivers.

Grass Valley maintains a storm drainage system within the portion of the City lying within the Wolf Creek watershed. A Storm Drainage Master Plan (SDMP) completed in 1999 is the basis for drainage evaluation, planning, and facility programming. The system consists of storm drains, modified channels, and natural channels. The City provides storm drainage facilities that prevent ponding of local stormwater and carry flood waters to downstream areas. According to the 1997 Sphere of Influence Plan

Update (Master Service Element) future improvements will include maintenance of the existing system, up-sizing storm drains, construction of new storm drains and channel improvements (concrete lining) to accommodate new development within the City boundaries and Sphere of Influence.

The northwesterly portion of the Planning Area lies within the Deer Creek drainage basin. The City is contemplating joint development of a coordinated regional master drainage plan with Nevada County within the next five years, to include both the Wolf Creek and Deer Creek basins.

Figure 3.5-3 shows the area served by Grass Valley's storm drainage system.

Fire Protection

Fire protection agencies in the City of Grass Valley General Plan Planning Area include the City of Grass Valley Fire Department (GVFD), which provides service within the city; the Nevada County Consolidated Fire District, which serves the area generally north, west and south of the existing city limits; and the Ophir Hill Fire District, which serves lands east of the city limits (refer to Figure 3.5-4).

In 1998, an Automatic Aid agreement was reached among these agencies, which provides for a response by a minimum of two pieces of equipment anywhere in the City within four minutes, 24 hours a day (Burke 1998). Otherwise, mutual aid from agencies statewide is provided pursuant to the California Fire Service and Rescue Emergency Mutual Aid System via its Mutual Aid Plan (OES 1988).

The GVFD has approximately thirty volunteer firefighters and employs ten full-time positions consisting of a Fire Chief, Fire Marshal, Administrative Clerk and six Engineers and Firefighters. The GVFD maintains the following stations:

- Brighton Street Fire House, Station No. 1 - 472 Brighton Street
- Eagle Fire House, Station No. 2 - 139 E. Main Street
- Reliance Fire House, Station No. 3 - 108 Race Street
- Satellite Fire House, Station No. 4 - 1445 E. Main Street

The GVFD equipment inventory includes five engines, one aerial ladder truck, and one rescue vehicle. Station No. 1 houses the aerial ladder truck (75' ladder) and three engines (1,000 gallon pumpers, minimum). Funding is available to replace the 75' ladder truck with a new 100' aerial ladder truck by 2000. As a rule, engines are replaced on a 20-year basis (Burke 1998). Stations 2, 3, and 4 have one engine each. Fire Station No. 4 is a temporary facility located on private property. The City's current average response time is 4.0 minutes with an ISO rating of 4 (City of Grass Valley 1997).

The City's five-year plan is to consolidate the four fire facilities to two locations: Fire Station No. 1 at its existing location to serve the western portion of the city and Fire Station No. 2, a new station to be located near the Sierra College campus, to serve the eastern portion of the city. Station No. 2 is projected to be in operation on February 1, 2000, and will be capable of holding six pieces of fire equipment, which initially will be comprised of a truck, engine and a support unit (Burke 1998). This station will provide access to the Glenbrook Basin, Morgan Ranch and Alta Sunset areas. A third station may be proposed in the southern portion of the Planning Area near North Star

Drive to be co-located with the Watt Park Station No. 91. A fourth station could be located within the Nevada County Airpark Industrial Area if or when this area is annexed (City of Grass Valley 1997).

The California Department of Forestry and Fire Protection (CDF) provides fire protection for wildland areas, and is legally responsible only for wildland fires, not structural fires, during the fire season. Thus, structures in areas outside the service areas of urban fire protection agencies have no year-round fire protection. Additional information regarding hazards associated with wildland fires is provided in Section 3.9 of this Draft EIR.

Police/Animal Control

The Grass Valley Police Department (GVPD) provides police and animal control services within the incorporated boundaries of the city. The GVPD headquarters is located at 129 S. Auburn Street. The Department maintains an animal control facility at the Public Works yard on Freeman Lane.

A new police station was constructed in 1996 to serve the existing needs of the city as well as to serve the anticipated service needs to provide growth within the sphere of influence for a projected community population in excess of 30,000 residents. The facility includes 12,600 square feet of floor space with 9,700 square feet currently occupied and 2,900 square feet available for expansion.

The GVPD provides 24-hour service with personnel consisting of twenty sworn officers (approximately 2.08 sworn officer per 1,000 residents), a Chief, a Captain, a Lieutenant, four Sergeants, thirteen Patrol Officers and eight non-sworn support personnel. The Police Department also has six reserve police officers and twenty-five senior citizen patrol volunteers.

Parks and Recreation Facilities

The City owns and maintains six park/recreation facilities. These include two community parks (Memorial Park and Condon Park) and four neighborhood parks, ranging in size from 0.3 to 1.7 acres.

Memorial Park is fully developed as a recreation facility, although plans call for a complete remodel of the existing Scout Lodge. The Park includes a Video History Museum.

Condon Park is only partially developed. The LOVE Building (Community Center) occupies a portion of Condon Park near Minnie Street. Two lighted ballfields, a "disk golf" course and planned skateboard park represent active recreational facilities. The majority of the park remains in wooded open space.

Brighton (Minnie Street Park), Elizabeth Daniels Park in downtown Grass Valley, and Dow Alexander Park are designated neighborhood parks, serving nearby areas.

An inventory of City owned or leased and operated park and recreation facilities includes:

- Memorial Park, 8.4 acres

- Condon Park, 80 acres
- Pelton Wheel Museum/Glen Jones Park, 1.7 acres
- Brighton Park (Minnie Street), 1.6 acres
- Dow Alexander Park, 0.5 acres
- Elizabeth Daniels Park, 0.3 acres

Two notable park/recreation facilities owned and operated by entities other than the City of Grass Valley are the Nevada County Country Club and Sierra College Park. The Nevada County Country Club is a nine-hole public golf course located on East Main Street. Sierra College Park, developed in 1998-1999, is a baseball and soccer facility located on the Sierra College campus.

Acreages of the two existing, non-city owned facilities are:

- Nevada County Country Club, 58 acres
- Sierra College Park, 8 acres (approximate)

The following park/recreation facilities are proposed for development:

- Mulcahy Field, 12.5 acres
- Morgan Ranch Park, 4.1 acres (approximate)

The Morgan Ranch Park has been offered for dedication to the City, and the dedication has been accepted. However, the proposed parkland currently remains undeveloped open space.

A proposed community park is planned for Mulcahy Field, a 12+ acre area at the City water reservoir/water treatment plant. Mulcahy Field and the water treatment grounds are within the city limits but surrounded by Nevada County unincorporated area.

The Wolf Creek Parkway, a streamside linear park of approximately 25 acres, is proposed to run along Wolf Creek within the city limits. Intended as an "urban trail," the Wolf Creek Parkway was first mentioned in the 1972 Grass Valley General Plan. Two open space easement dedications have been offered to the City to date, but neither has been accepted. Exact boundaries and dimensions of the Wolf Creek Parkway have not been determined.

Using the standard employed by Nevada County in the 1995 County General Plan Update, urban areas should have a minimum of 9.5 acres of public parkland per 1,000 residents (This exceeds the Quimby Act maximum). As Table 3.5-1 shows, the City of Grass Valley has slightly more parkland per capita than the County standard, with 9.76 acres per 1,000 population. As with all standards, however, per capita park acreage must be evaluated based upon local needs and preferences. It should be noted that Condon Park, alone, accounts for over 86% of City park acreage, compared to 14% for the City's other five parks.

TABLE 3.5-1

ACREAGE & PER 1,000 PERSONS ACREAGE

PARKS & RECREATION FACILITIES

	Acreage	Acreage/1,000 Pop
Existing Park/Recreation Facilities	158.5	16.73
City-Owned	92.5	9.76
Other Entities-Owned	66.0	6.97
Proposed/Planned Facilities	41.6	4.39
City	41.6	4.39
Other Entities	-0-	-0-

Source: Quad Knopf, 1998.

[1] Figures are based on the California Department of Finance January 1, 1998 population estimate of 9,475 for the City of Grass Valley.

Substantial acreage is devoted to park and recreation facilities outside the Grass Valley city limits but within the Planning Area. Notable facilities are the Empire Mine State Park and the Nevada County Fairgrounds.

Empire Mine State Park is a part of the California Park system. The park, over 800 acres, includes the old mine, historic and interpretive buildings and exhibits, and over one square mile of forested open space, natural areas, and several miles of foot trails.

The Nevada County Fairgrounds is a 100 acre facility owned and maintained by the State Fairgrounds Authority. The Fairgrounds is classified as a regional park. The annual Nevada County Fair and other cultural and recreational activities take place at the Fairgrounds, which are used year-round. The Fairgrounds house several community facilities, including the Senior Citizens Building.

The Grass Valley Subdivision Ordinance provides for land dedication for parks and recreation, and for in lieu fees through which residential developments facilitate park land acquisition. The standard for park and recreation dedications or in lieu fees, established under provisions of the "Quimby Act" (Section 66477 of the State Government Code), is a maximum of 5 acres per 1,000 population.

Schools

The following school districts provide educational services for the City of Grass Valley:

- Grass Valley Elementary School District
- Nevada Joint Union High School District

- Sierra Community College District

The Grass Valley Elementary School District consists of the following schools with a total 1998 enrollment of 2,080 students:

- Bell Hill Elementary, 342 South School Street
- Gilmore Intermediate, 10837 Rough and Ready Highway
- Hennessy Elementary, 225 South Auburn Street
- Scotten Elementary, 10821 Squirrel Creek Road

The Nevada Joint Union High School District includes Nevada Union High School located at 11761 Ridge Road which serves the entire Planning Area.

The Sierra Community College District maintains a campus in Grass Valley in addition to its main campus in Rocklin. Sierra College is located on Sierra College Drive adjacent to Nevada Union High School.

Over the past three years, enrollments for these districts have leveled out. The Grass Valley Elementary School District has actually experienced a slight decline. The schools continue to collect development impact fees authorized by State Law since new construction creates additional classroom demand. The K-8 schools have benefitted in recent years from additional funding that has been approved by the State legislature to reduce elementary school class sizes. However, this funding is subject to annual budgeting by the State legislature.

Solid Waste

The collection and disposal of solid waste in the City of Grass Valley is provided by a private firm, Waste Management, Inc., which is under a franchise agreement with the City of Grass Valley. Solid waste collected by the disposal company is transported to the McCourtney Road Transfer Station. It is then hauled outside the County to the prevailing landfill under contract with Nevada County. Since there is an ability to change solid waste destinations, there is no capacity problem, however, there is a general need for reduction in solid waste generation.

3.5.2 Impacts

Impact Evaluation Criteria: Appendix G of the CEQA Guidelines indicates that a project will have a significant impact on the environment if it would:

- result in a 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 following public services:

- fire protection

- police protection

- schools

- parks

- other public facilities

- exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board
- 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
- 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
- have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed
- 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 providers existing commitments
- be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs
- comply with federal, state, and local statutes and regulations related to solid waste

Impact #3.5-1: Growth and development under the General Plan may strain local water supplies. This is a **potentially significant impact.**

Discussion/Conclusion: New development under the General Plan will result in increased demand for development of new and expanded water supply systems. It is a policy of the city to extend city water services to new development and areas annexed to the city where extension of water facilities is feasible and cost effective. However, new development within the city's water service area is limited to build-out within the service area and limited annexation development adjoining the water service area due to topography and plant proximity.

Raw water supply appears to be sufficient to meet present and future urban water demands. According to the NID Urban Water Management Plan 1995 Update, approximately six percent of NID's total available water supply is allocated to urban water demands, and it is anticipated that this supply will increase to nine percent over the next twenty years. Of the 330,000 acre feet of water the district has available, approximately 170,000 acre feet per year provides for total demand (urban and non-urban). The General Plan contains goals, objectives, policies, and implementation actions and strategies specifically developed to ensure that adequate public services are provided to meet future development demand. Land Use goals and objectives require avoidance of future adverse environmental, public facilities and services impacts (2-LUO), the reduction of environmental impacts associated with peripheral growth (4-LUO), adequately funded local government and services (23-LUO), and the ability to respond to new service demands and the needs of a changing population (24-LUO). Specific policies and implementation action strategies include, assuring that new development pays its fair share of the cost of municipal services (37-LUP),

referring all development proposals to potentially affected governmental entities for review and comment (40-LUP), and the establishment of neighborhood-level planning/improvement program to be the basis for neighborhood-level decision making (7-LUI). With the implementation of the General Plan goals, objectives, policies and implementation actions and strategies, both the Year 2020 and buildout development projections of the General Plan will have a **less than significant impact.**

Impact #3.5-2: Growth and development under the General Plan may strain local water treatment facilities. This is a **potentially significant impact.**

Discussion/Conclusion: Water treatment capacity at the City treatment plant has a maximum capacity of 4.522 million gallons per day (mgd), approximately five times the current treatment/distribution level of 0.904 mgd. The current population served by the City water system is approximately 5,855. At current water usage rates, 155 gallons per person day, the City treatment facility could accommodate a population of 29,275, or approximately 3,000 more that the buildout population projection of 26,300 and five times the current population served. In addition to Grass Valley's treatment facility, NID's Loma Rica and Elizabeth George treatment plants have the ability of delivering over 16 mgd of treated water and serving approximately 8,006 connections in the Grass Valley area (NID 1995).

In addition, the General Plan contains goals, objectives, policies, and implementation actions and strategies specifically development to ensure that adequate public services are provided to meet future development needs. Land Use goals and objectives require avoidance of future adverse environmental, public facilities and services impacts (2-LUO), the reduction of environmental impacts associated with peripheral growth (4-LUO), adequately funded local government and services (23-LUO), and the ability to respond to new service demands and the needs of a changing population (24-LUO). Specific policies and implementation action strategies include, assuring that new development pays its fair share of the cost of municipal services (37-LUP), referring all development proposals to potentially affected governmental entities for review and comment (40-LUP), and the establishment of neighborhood-level planning/improvement program to be the basis for neighborhood-level decision making (7-LUI). Therefore, the proposed General Plan will have **less than significant impact** on water treatment capacity.

Impact #3.5-3: Growth and development under the General Plan may strain local water distribution systems and create a demand for expanded services and facilities. This is a **potentially significant impact.**

Discussion/Conclusion: Water service/distribution within the City of Grass Valley is shared between the City of Grass Valley and NID. It is the City's policy to extend City water service to new development and areas annexed to the City, where extension of water facilities is feasible and cost effective. However, current agreements provide for a combination of City and NID service to future developments within the Planning Area. The Loma Rica/Glenbrook areas are located in NID's service area, and treated water is expected to be provided to all newly developed areas, including Loma Rica Ranch, by NID. Kenny Ranch would be served by treated water from NID, with the possible exception of lots over three acres in size. The annexation agreement between Northstar owners and the City provides for owners to pay for necessary extensions from the City system into the North Star property. NID is planning to provide treated water service to a portion of the property

currently within the NID service area but outside the NID District boundary.

It is currently uncertain how water service will be arranged in other portions of the Planning Area, if and when the City annexes territories presently within NID's jurisdiction.

Development patterns in the proposed General Plan, encourage infill and close-in development, discourage sprawl, and enlarge the peripheral areas designated Urban Estate Density (at least one acre lot size). However, proposed development patterns, including but not limited to Loma Rica Ranch, Kenny Ranch, and North Star, will require infrastructure extensions and expansions.

The General Plan does address, in specific goals, objectives, policies, and implementation strategies, various ways of reducing the impact of these extensions including assuring that new development pays its fair share of the cost of municipal services (37-LUP), considering the use of special assessments to pay for unique service demands (38-LUP), and by coordinating peripheral development with appropriate entities currently providing services (9-LUG). The City's Capital Improvement Program also identifies several water distribution improvements for the City. However, these improvements are only designed to accommodate growth through 2015.

Adoption of General Plan goals, objectives, policies, and implementation strategies in addition to Mitigation Measure #3.2-1 will reduce this impact, however, not to a level that is less than significant. The critical water distribution issue is: which portions of the Planning Area will be served by the City and which will be served by NID. Once resolved, impacts related to the future water distribution patterns will be eliminated. Until that time, however, this impact remains **potentially significant.**

Impact #3.5-4: Growth and development under the General Plan may strain local wastewater systems and create demand for expanded services and facilities. This is a **potentially significant impact.**

Discussion/Conclusion: New development under the General Plan will result in increased demand for development of new and expanded wastewater treatment systems. The Grass Valley Wastewater Treatment Plant has a current capacity 1.72 mgd, but its capacity will be expanded to 2.78 mgd in 2000. This expansion will enable the Plant to accommodate a projected service population of 21,000. However, the 2020 General Plan population is projected to be 23,395 and the buildout population approximately 26,300. Thus the current expansion will not provide the capacity to serve the Planning Area population in 2020 or at buildout.

The General Plan's overall land use pattern and pattern of residential densities will require extensions of the existing collection system. At a minimum, extensions will be necessary to provide services to the following areas:

- Special Development Areas - Loma Rica Ranch, North Star, and Kenny Ranch
- Loma Rica Industrial Park and the Nevada County Airpark area
- East Bennett area proposed for residential designation
- Bear River Mill site proposed for commercial designation

In addition to extensions noted above, the following may also be required:

- Various extensions to provide service to existing developed areas presently utilizing on-site septic systems
- Improvements to provide service to existing developed areas proposed for intensified land use patterns and infill

The Sewer System Master Plan (SSMP) provides for systematic expansion of the City's sewer service area and systematic extension of the collection system. The SSMP is based upon the current 1982 General Plan, and must be amended to reflect the proposed 2020 General Plan.

The SSMP provides for geographic coverage and wastewater collection facilities which appear to support the 2020 General Plan, although this assumption must be verified in the process of amending the SSMP. It also appears likely that some of the wastewater collection facilities contained in the SSMP may not be required, or may be found infeasible, based upon the land use pattern and densities in the proposed 2020 General Plan. This possibility must be verified in the process of amending the SSMP.

The following are possible areas that are subject to reexamination:

- West of the City between Rough and Ready Highway and Highway 20, where acreage designated residential is proposed for UED designation, as opposed to ULD in the 1982 General Plan
- South of the City, including the Mother Lode area, east of LaBarr Meadows Road, a portion of which is proposed for UED designation and may not require wastewater service
- Various locations lying outside the gravity flow range of the Grass Valley Wastewater Treatment Plant, service to which would require pumping and force mains

The General Plan addresses City responsibilities for accommodating growth through 2020 while preventing a strain on local sewer and septic services through specific goals, policies, and implementation actions and strategies including promoting infill as an alternative to peripheral expansion (2-LUG). This implementation action would reduce the demand for lengthy sewer extensions. Other methods of reducing the demand for large sewer extensions include encouraging clustering of residential units on the most developable portions of the site for large parcels (24-LUP), and containing new development in higher densities (10-CDO). Adoption of these General Plan goals, objectives, policies, and implementation actions and strategies in addition to Mitigation Measure #3.5-2 will reduce this impact to a **less than significant** level.

Impact #3.5-5: Growth and development under the General Plan may strain stormwater drainage systems and create demand for expanded services and facilities. This is a **potentially significant impact.**

Discussion/Conclusion: New development under the General Plan will result in increased demand for development of new and expanded stormwater drainage systems. These systems may result in impacts related to land use conflicts, water

quality, biological and cultural resources. This impact is of greatest relevance to the three special development areas (Loma Rica Ranch, North Star, and Kenny Ranch) where there is currently a lack of an adequate stormwater drainage system. However, goals, policies, objectives, and implementation actions and strategies have been incorporated into the General Plan and mitigation measures identified in Section 3.2 Hydrology and Water Quality would reduce the effect to a **less than significant** level.

Refer to Section 3.2 Hydrology and Water Quality for a more detailed discussion of this impact.

Impact #3.5-6: Growth and development under the General Plan may strain existing fire protection services and facilities and create demand for expanded services and facilities. This is a **potentially significant impact.**

Discussion/Conclusion: This impact could be directly and cumulatively significant. In the absence of adequate planning for this impact, there would soon be a shortfall of service capacity related to fire protection. The Grass Valley Fire Department will have to increase its number of full-time firefighters from the current 10 firefighters to 28 firefighters to maintain its current level of service ratio of 1.2 full-time firefighters per 1,000 persons under the 2020 General Plan population figure (23,395). Furthermore, additional fire protection services will be required for new development areas such as the Loma Rica Ranch, North Star, and Kenny Ranch Special Development Areas.

The Capital Improvement Program identifies several facility improvements for the City's fire stations. However, these improvements are only designed to accommodate growth through 2015. The General Plan addresses City responsibilities for accommodating growth through 2020 while preventing a strain on fire protection services including incorporating fire hazard reduction considerations into land use plans/patterns (6-SP), maintaining a compact development pattern that facilitates quick emergency response times (1-SI), implementing fire-safe community design and landscaping standards (9-SP), and appropriate standards for emergency water supply (11-SP), maintaining automatic aid agreements with fire protection/suppression agencies in Western Nevada County (12-SP), and providing public awareness of fire safety measures (8-SP). Adoption of these General Plan goals, objectives, policies, and implementation actions and strategies in addition to Mitigation Measure #3.5-3 will reduce this impact to a **less than significant** level.

Impact #3.5-7: Growth and development under the General Plan may strain existing police protection services and facilities and create demand for expanded services and facilities. This is a **potentially significant impact.**

Discussion/Conclusion: This impact could be directly and cumulatively significant. In the absence of adequate planning for this impact, there would soon be a shortfall of service capacity related to police protection. The Grass Valley Police Department will have to increase its number of officers from the current 20 sworn officers to 47 officers to maintain its current service ratio of 2.08 officers per 1,000 persons under the 2020 General Plan population figure (23,395). New police protection services will be required in new development areas such as the Loma Rica Ranch, North Star, and Kenny Ranch Special Development Areas. Furthermore, expanded services will be necessary for existing developed areas proposed for intensified land use patterns and infill. However, as discussed earlier in this section, the new police station constructed in 1996 will be able to serve an anticipated projected community population in excess

of 30,000 residents.

The Capital Improvement Program identifies several facility improvements for City's police stations. However, these improvements are only designed to accommodate growth through 2015. If the Capital Improvements Program is updated according to the specifications discussed in Mitigation Measure 3.5-3, this impact will be reduced to a **less than significant** level.

Impact #3.5-8: Growth and development under the General Plan may create demand for new and expanded recreational facilities. This is a **potentially significant impact.**

Discussion/Conclusion: Refer to Section 3.13 - Parks and Recreation for a discussion of this impact.

Impact #3.5-9: Growth and development under the General Plan may strain existing school services and facilities and create demand for expanded services and facilities. This is a **potentially significant impact.**

Discussion/Conclusion: This impact could be directly and cumulatively significant. In the absence of adequate planning for this impact, there would soon be a shortfall of service capacity related to schools. Student enrollment will increase in existing schools as a result of development under the General Plan. New schools will need to be constructed to avoid overcrowding in existing schools and to accommodate the new student population in newly developed areas. However, adoption of Mitigation Measure 3.5-1 would reduce the effect to a **less than significant** level.

Impact #3.5-10: Growth and development under the General Plan may strain solid waste disposal systems and create demand for expanded services and facilities. This is a **less than significant impact.**

Discussion/Conclusion: New development under the General Plan will result in increased demand for development of new and expanded solid waste disposal systems. However, since there is an ability for the City's disposal company to change solid waste destinations, there is no capacity problem, beyond the general need for reduction in solid waste generation in accordance with State mandates. Landfills where solid waste is transported are located outside the Planning Area boundaries.

Impact #3.5-11: Growth and development under the General Plan may strain existing communication systems and create demand for expanded services and facilities. This is a **potentially significant impact.**

Discussion/Conclusion: Although communications systems are readily available to serve any new development, the physical impacts of trenching or other development could impact the natural environment or present potential aesthetic impacts. Methodologies for evaluating these impacts on a project-specific basis have been included in the General Plan goals, policies, objectives, and implementation actions and strategies would reduce the effect to a **less than significant** level.

3.5.3 Mitigation Measures

The following General Plan Goals, Policies, Objectives and Implementation Actions and Strategies along with Mitigation Measures discussed below will ensure that any

impacts to public service and utilities resulting from the 2020 General Plan Amendment will result in a less-than-significant impact:

1-LUG	18-LUP	1-SG
2-LUO	24-LUP	4-SO
2-LUG	37-LUP	6-SP
3-LUG	38-LUP	7-SP
3-LUO	39-LUP	8-SP
8-LUG	9-LUI	10-COSI
22-LUO	3-CDG	9-SP
23-LUO	10-CDG	10-SP
24-LUO	14-CDP	11-SP
9-LUG	22-CDP	12-SP
25-LUO	8-CDI	1-SI
2-LUP	6-COSG	4-SI
5-LUP	15-COSO	5-SI
9-LUP	16-COSO	8-SI
17-LUP	21-COSP	
11-LUI	23-COSP	

Mitigation Measure #3.5-1: The school districts will continue to collect development impact fees authorized by State law to meet the demand for expanded services and facilities. In addition to these fees, the districts may select among the following mitigation options: levying of additional fees in accordance with SB 50 if the criteria are met; general obligation bonds, limited obligation bonds, certificates of participation, Mello-Roos bonds, private bank loans, treasury anticipation notes, LeRoy Greene new construction funds, bus transportation fees, and/or year-round school. This will reduce potential impacts to schools to a less than significant level (Applies to Impact #3.5-9).

Effectiveness of Measure: The various financing options described above will assure maximum flexibility to deal with school facility financing and effectiveness of action.

Mitigation Measure #3.5-2: The following implementation actions and strategies shall be incorporated into the General Plan:

- Amend SSMP to reflect provisions of the 2020 General Plan
- Reexamine fiscal basis upon which the SSMP is constructed, including development fees and other sources
- Coordinate the timing and phasing of planned wastewater facility extensions/improvements with planned extension of other services, expansion of City sewer service areas, annexations, sphere of influence amendments, and other extraterritorial activities, as appropriate
- Assure adequate provision for extending sewer service to areas experiencing inadequate on-site disposal systems, should the need arise
- Monitor development trends and on-site disposal system inadequacies to ensure that the City's current plans reflect actual conditions and needs

(Applies to Impact #3.5-4).

Effectiveness of Measure: Implementation of the above strategies will assure adequacy of wastewater treatment and disposal systems.

Mitigation Measure #3.5-3: The Capital Improvement Program currently addresses services and improvements through 2015, as developed under the 1982 General Plan. The CIP shall be updated in the future in order to meet public service and facility demands through 2020, reflecting the needs of the 2020 General Plan. (Applies to Impact #3.5-6 and Impact 3.5-7).

Effectiveness of Measure: Implementation of Mitigation Measure #3.5-3 will assure that a CIP is in place that will reflect City needs through the life of the General Plan.

3.6 LAND USE AND PLANNING

The following information is taken from The *City of Grass Valley General Plan Update Background Report*, prepared by Quad Knopf.

3.6.1 Setting

Grass Valley's current land use patterns are rooted in 150 years of settlement, building, and rebuilding. The original Townsite (settled in 1850, surveyed and recorded in 1872), a 361-acre square area centered on what is now downtown, encompassed the area of early development. Two areas were added to the town in the 19th century:

- South Grass Valley, 117 acres added in 1876
- West Grass Valley, 96 acres added in 1893

The first City charter, incorporating the Townsite area, was adopted in January, 1893. In May of the same year, South and West Grass Valley were jointly made part of the new City by virtue of an annexation election.

This 574 acre area contained residential, commercial, and cultural land uses needed to sustain the town well into the 20th century. In fact, the next annexation following the 1893 addition of South and West Grass Valley was not until 1940, 47 years later (the Memorial Park annexation). City records document a total of 83 "additions" or

annexations to the City of Grass Valley, including and starting with the Grass Valley Townsite.

Annexations have occurred in all directions from the very symmetrical original Townsite, creating an unusually irregular city limit line. The majority of annexation activity over the years has been to the north and northeast, extending upstream in the direction of the "valleyhead" of the Wolf Creek watershed (which is east of the Nevada County Airpark).

Of the 81 twentieth century annexations, the largest have been the nearly 258 acres in 1973 (the Litton property); a nearly 191-acre annexation in 1967 (Hills Flat, northeast of the Townsite); nearly 172 acres in 1966 (Taylorville, southeast of the City); and 163 acres in 1986 (Whispering Pines). Altogether, five of the 81 20th century annexations have exceeded 100 acres.

Conversely, the smallest annexation in City history was a mere 0.098 acre acquisition on Glasson Way in 1981. Thirty four annexations have each comprised two acres or less.

The numerous mines in the area were the primary employment centers until the 1930s, complemented by commercial and service functions, most of which were concentrated in downtown Grass Valley. Annexations beginning in the World War II and post-war era facilitated residential development outside the 19th century town boundaries. Small scale neighborhood commercial developments sprouted, especially along major transportation routes, as residential areas became somewhat more attenuated from downtown and the automobile became the common mode for shopping ventures, largely supplanting foot travel.

Commercial dispersion was fostered by three additional, related factors: residential development in unincorporated portions of western Nevada County; Grass Valley's ascendancy as a regional trade and employment hub for an expanding "hinterland"; and the expansion and diversification of the economic base of Grass Valley and vicinity.

The latter factor gave rise to land uses and users of a new type in the area: manufacturing; distribution; research and development; finance and real estate; retirement-oriented services, including medical; and a plethora of small, office-based enterprises. Some have been accommodated in planned complexes specifically designed to meet their needs (Whispering Pines Business Park, Loma Rica Industrial Park in the unincorporated area, etc.), while others have located in buildings or developments designed for single corporations. In any case, the result has been a distribution of employment "nodes" outward from central Grass Valley to locations both within and outside the City boundaries.

Conversely, the need for urban services and public infrastructure has been a centripetal force, or magnet, pulling development inward. As the sole supplier of a full range of services required by business and industry, particularly sewer service, Grass Valley has adhered to a policy of requiring annexation prior to service provision (an exception being the Glenbrook basin). This policy appears to have assured incremental land use change/development as annexation occurred, simultaneously assuring a more compact overall development pattern in the Planning Area than might otherwise have emerged.

Existing Land Use

The City's Planning Area contains approximately 9,894 acres. The City of Grass Valley currently occupies approximately 25 percent of the total Planning Area. Table 3.6-1 shows the existing land use in the Planning Area. Figure 3.6-1 shows existing land use.

TABLE 3.6-1

EXISTING PLANNING AREA

LAND USE CATEGORY	ACRES	PERCENTAGE
Single Family	3,076	31%
Duplex	21	0%
Multi Family	157	2%
Mobile/Mfg. Housing	68	1%
Commercial	307	3%
Office	101	1%
Industrial	302	3%
AG/Open Space	122	1%
Public/Quasi Public	446	5%
Institutional	372	4%
Parks & Recreation	735	7%
Streets/ROW	912	9%
Vacant	3,274	33%
TOTAL	**9,894**	

Phasing of Development

Projections of various land uses in the year 2020 were derived by 1) calculating total acreage for each land use based upon the Land Use Plan Map, 2) subtracting existing development in each land use category. The difference is the total increase for each land use from present to buildout. To project the amount of development expected to occur from present to year 2020, percentages of the difference were calculated, using the percentages shown in Table 3.6-2 (Assumed Percentage of Buildout by year 2020). The core, fringe, and periphery areas are depicted in the General Plan (Figure 3-3, 20 Year Development Level).

TABLE 3.6-2

ASSUMED PERCENTAGE OF BUILDOUT BY YEAR 2020 BY AREA

AREA	RESIDENTIAL LAND USES	NON-RESIDENTIAL LAND USES
Core Area	95%	50%
Fringe Area	75%	25%
Periphery Area	55%	10%

3.6.2 Impacts

Impact Evaluation Criteria: Appendix G of the CEQA Guidelines indicates that a project will have a significant impact on the environment if it would:

- physically divide an established community
- 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
- conflict with any applicable habitat conservation plan or natural community conservation plan

The General Plan Land Use Map assigns a land use designation to all properties within the Planning Area. If the entire Planning Area were to be developed as depicted on the Land Use Plan Map, the Planning Area would be considered "built out." This is shown on Table 3.6-3 which compares development projections in the year 2020 with the potential plan build out. The basic projections developed during the General Plan process for the 20-year planning period (to the Year 2020) - population, housing units, employment, and demands for land - clearly indicate that less than full "build-out" will occur by the Year 2020. Therefore, the EIR addressed the 20-year planning period as the project, and assumes the Plan build-out as the Cumulative Impact.

TABLE 3.6-3

COMPARISON OF 2020 GENERAL PLAN AND PLAN BUILDOUT (IN ACRES)

	YEAR 2020 PROJECTED	BUILDOUT
RESIDENTIAL		

Urban Estate Density	1,889	2,348
Urban Low Density	1,306	1,379
Urban Medium Density	308	314
Urban High Density	269	273
COMMERCIAL		
Commercial	394	466
Office-Professional	122	162
INDUSTRIAL		
Manufacturing-Industrial	183	528
MIXED USE		
Business Park	351	437
Special Development Area		
OTHER		
Public	333	333
Institutional Non-governmental	103	123
Schools	228	228
Utilities	34	43
Parks and Recreation	752	752
Open Space	175	192
Right-of-Way	913	913
Vacant	2,534	0
TOTAL	**9,894**	**9,894**

Comparison of Existing Development with 2020 General Plan

Impact #3.6-1: In comparison to existing residential land use in Grass Valley, the 2020 General Plan anticipates an increase in the amount of residential development in the Planning Area by 450 acres and by 2,820 units. This is a change in existing land use and is therefore a **potentially significant impact.**

Discussion/Conclusion: The existing Planning Area land use (Figure 3.6-1) includes 3,322 acres presently utilized for residential development. The 2020 General Plan designates 4,314 acres for residential development, not including residentially committed allocations within the Specific Development areas (SDAs). The Special Development Areas are projected to include: Loma Rica Ranch, 121 acres of

residential development; Kenny Ranch, 150 acres of residential development; and North Star, 312 acres of residential. The current number of residential units is estimated to be 7,383, compared to the 2020 General Plan which projects 10,203 residential units in 2020, an increase of 2,820 residential units.

Specific Land Use goals, objectives, policies and implementation actions and strategies are contained in the General Plan to address the potential impacts of changing existing land use. General Plan goals and objectives include promoting balanced growth in the community and development in a planned and orderly way (1-LUG), reduction in the amount of land necessary to accommodate future growth (3-LUO), and the designation of residential building sites sufficient in number and variety to meet projected demand (12-LUO). Specific Land Use policies include a provision to maintain a General Plan that reflects the needs of the total community, including residents, business and industry (1-LUP). Individual projects developed under the 2020 General Plan will be evaluated on a project specific level to address potential compatibility of land uses (2-LUP). Therefore, although the proposed General Plan does change existing land use patterns, implementing the General Plan Update will result in a **less than significant impact**.

Impact #3.6-2: In comparison to existing development patterns, the 2020 General Plan anticipates an increase in the amount of commercial and office/professional development in the Planning Area by 150 acres over the 20 year planning period. This is a **potentially significant impact.**

Discussion/Conclusion: The existing land use in the Planning Area includes 408 acres commercial and office development. This includes Commercial (307 acres) and Office (101 acres). The land use classifications included in the 2020 General Plan includes 628 acres designated commercial and 162 designated office professional acres of commercial. Also to be considered is additional future commercial development in the Special Development Areas: Kenny Ranch, 22 acres of commercial; and North Star, 20 acres of commercial. Land Use goals, objectives, policies and implementation actions and strategies contained in the General Plan have been developed to minimize potential environmental impacts associated with changes in land use. Specific Land Use policies include a provision to maintain a General Plan that reflects the needs of the total community, including residents, business and industry (1-LUP). Individual projects developed under the 2020 General Plan will be evaluated on a project specific level to address potential compatibility of land uses (2-LUP). Therefore, although the proposed 2020 General Plan is changing existing land use patterns, implementing the General Plan will result in a **less than significant impact**.

Impact #3.6-3: In comparison to existing land use patterns, the 2020 General Plan anticipates an increase in the amount of industrial and business park development in the Planning Area from 302 acres to 534 acres during the 20-year planning period for total increase of 232 acres. This is a **significant impact.**

Discussion/Conclusion: The existing Planning Area includes 302 acres developed industrially. The land use classifications projected by 2020 in the General Plan slightly expand potential industrial development to 534 acres which includes business parks, plus the Special Development Areas (Loma Rica Ranch, 115 acres of industrial development; Kenny Ranch, 88 acres of industrial development; and North Star, 240 acres of industrial development). Land Use policies include a provision to maintain a General Plan that reflects the needs of the total community, including residents,

business and industry (1-LUP). Individual projects developed under the 2020 General Plan will be evaluated on a project specific level to address potential compatibility of land uses (2-LUP). Therefore, although the proposed 2020 General Plan is changing existing land use patterns, implementing the General Plan will result in a **less than significant impact**.

Impact #3.6-4: Changes in the phasing of future development (core, fringe, periphery) and the consideration of future infrastructure expansions (Urban Limit Line) will direct future development toward the core earlier than similar levels of development occur on the fringe or periphery of the Planning Area. This is a **potentially significant impact**.

Discussion/Conclusion: The 2020 General Plan proposes to conceptually phase future development in three categories: the core area, the fringe and the periphery (Table 3.6-2). Policies in the General Plan direct growth to the core area before large scale development occurs in the fringe or periphery. The principal tool for directing future growth will be the limitations placed by the timing for extending urban infrastructure such as water and sewer lines. The General Plan projects that by the year 2020 the Core Area will reach a 95 percent of residential buildout capacity and a 50 percent of non-residential buildout capacity, that the Fringe Area will reach a 75 percent residential , 25 percent non-residential, the periphery a 55 percent and a 10 percent respectively. This will have a **less than significant impact.**

Land Use Impacts Infrastructure Improvements

Impact #3.6-5: Once constructed and in operation, new and expanded infrastructure improvements, including roadways, can affect adjacent and nearby developments adversely. This is a **potentially significant impact.**

Discussion/Conclusion: Public infrastructure extensions and expansions are necessary to support planned future development. Planning for and environmental review of such projects must consider fully both the impacts resulting from construction and those likely to continue during operational. As a policy document, the General Plan is unable to assess in detail either the construction or operational impacts of specific infrastructure improvements. Likewise, a "program-level" Environmental Impact Report (such as the Grass Valley Draft EIR) assesses impacts at a broader level than is appropriate for specific infrastructure projects. In the absence of such project level planning and review, operations of infrastructure improvements identified or implicitly required by the General Plan remain **potentially significant impacts**.

Cumulative Land Use Impacts

Impact #3.6-6: The 2020 General Plan will have a cumulative impact on land use and development in Grass Valley. This is a **potentially significant cumulative impact**.

Discussion/Conclusion: The General Plan Land Use Map assigns a land use designation to all properties within the Planning Area. If the entire Planning Area were to be developed as depicted on the Land Use Plan Map, the Planning Area would be considered "built out." The basic projections developed during the General Plan process for the 20-year planning period (to the year 2020) - population, housing

units, employment, and demands for land clearly indicate that less than full "build-out" will occur by the Year 2020. Therefore, the EIR addresses the 20-year planning period as the project, and assumes the Plan buildout as the cumulative impact. These impacts are mitigated by the Plan's goals, policies, objectives, and implementation actions and strategies identified below. Therefore, this is a **less than significant impact** and no mitigation is required.

3.6.3 Mitigation Measures

The following General Plan Goals, Policies, Objectives and Implementation Actions and Strategies will ensure that any change to existing land uses resulting from the 2020 General Plan Amendment will result in a less than significant impact:

1-LUG	10-LUO	20-LUO
1-LUO	11-LUO	21-LUO
2-LUO	5-LUG	8-LUG
2-LUG	12-LUO	22-LUO
3-LUO	13-LUO	23-LUO
4-LUO	14-LUO	24-LUO
5-LUO	6-LUG	9-LUG
3-LUG	15-LUO	25-LUO
6-LUO	16-LUO	26-LUO
7-LUO	17-LUO	1 thru 44-LUP
8-LUO	7-LUG	1 thru 11-LUI
4-LUG	18-LUO	
9-LUO	19-LUO	

Implementation of these goals, objectives, policies and implementation actions and strategies will reduce the effects on land use to a **less than significant level**, and no additional mitigation measures are required.

3.7 POPULATION AND HOUSING

The following information is taken from The *City of Grass Valley General Plan Update Background Report*, prepared by Quad Knopf.

3.7.1 Setting

Government Code §65580 and §65589.5 establish the standards for adoption and content of general plan housing elements. Updating the Grass Valley Housing Element, which was adopted in 1993, is not a part of the present project. After the current General Plan Update is adopted, the existing Housing Element will remain in effect. However, because the present General Plan

Update includes amendment of the Land Use Element and other elements, the project has the potential to effect housing, directly or indirectly. For example, the Land Use Element designates lands available for residential development and sets development densities. The Conservation/Open Space Element address compatibility between residential uses and other land uses, and the Circulation Element describes the transportation system as it relates to residential districts.

Population is discussed in the General Plan Background Report, Chapter Three. This provides information on the current and projected population of the City and the basis for future population projections.

According to the California Department of Finance (DOF), the population of the City of Grass Valley was 9,457 at the beginning of 1998. Although the number of housing units in the city increased more than eight percent since 1990, the population of the incorporated area increased slightly less than five percent, continuing aging of the population and the continuing influx of retirement households. The DOF projections are generally consistent with the annexation of about 100 existing housing units plus 278 single family and multifamily building permits issued and finaled since 1990.

The population in the Planning Area in 1993 was estimated at 15,222 by Menkin/Lucero & Associates. Since then, population growth in the incorporated area has been flat. Thus the 1998 population of the Grass Valley Planning Area was estimated at 16,000 and is probably not more than 17,000. Assuming that the Planning Area currently holds 16,500 residents, the incorporated area accounts for 57 percent of the total residents in the Planning Area.

Housing is addressed in Chapter Five of the Background Report. In this Chapter are discussions of the City's existing housing conditions profile, projected housing needs, residential land available to accommodate growth, and development constraints.

3.7.2 Impacts

Impact Evaluation Criteria: Regarding population and housing, Appendix G to the *CEQA Guidelines* states that a project will normally have a significant effect on population and housing if it will:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Impact #3.7-1: The 2020 General Plan may induce growth in the Grass Valley Area. In comparison to existing conditions, the 2020 General Plan will increase the population by 7,395 people, and will increase housing by 2,820 units. This impact is addressed in Section 3.16, Growth Inducing Impacts.

TABLE 3.7-1

COMPONENTS OF CHANGE

HOUSING AND POPULATION

1999-2020 BUILDOUT

STATUS OR INCREMENT OF CHANGE 1999-2020	HOUSING UNITS	POPULATION IN HOUSING UNITS	POPULATION IN GROUP QUARTERS	TOTAL POPULATION
Existing (1999)	7383	15,500	500	16,000

Net change 1999 to 2020	2,820	6,195	2,300	7,395
2020 STATUS	10,203	21,695	1,700	23,395
Net Change 2020 to Buildout	807	2,104	800	2,904
BUILDOUT STATUS	11,010	23,799	2,500	26,299

3.8 AESTHETICS

The following information is taken from The *City of Grass Valley General Plan Update Background Report*, prepared by Quad Knopf.

3.8.1 Setting

Community Design is about community building. It concerns the built character and order of the city. It is the interrelationship of various components (buildings, the transportation system, open space, vistas, human interaction between each other and the natural environment, heritage, and economics) that, when put together, make up a total community.

Community Design concerns range from how to build neighborhoods to planning pedestrianways safe for children to walk to school or for the elderly to cross the street. Design addresses such key issues as how to maintain the downtown area as a place where locals as well as visitors want to go. Good community design respects the natural environment as well as economic gain, and strives to create places for people to feel comfortable with each other and with the built environment.

The relationships between Grass Valley's natural setting and community development are fragile. The Community Design Element addresses such issues of community-wide concern as the preservation of the City's historical heritage while accommodating growth and revitalization. It is a concerted effort of the Community Design Element to realize the positive attributes of the City, to enhance those attributes, and to assure that they influence the new growth and infill areas in a positive way.

The Community Design Environment in 2020

Grass Valley's small town, rural character and its sense of community create an invisible bond between its historic past and its vibrant future that is realized in the 2020 General Plan. The current residents of Grass Valley are the caretakers of the future and are creating a bridge connecting the dreams of their parents' generation to the hopes they have for their children and their children's children.

Many changes can be anticipated in the next twenty years - an increase in population, changing demographics and economics. It is the responsibility of current residents to launch Grass Valley into the 21st century by protecting the environment, strengthening the community structure and nourishing the spirit of its citizens.

This will be accomplished, as stated in the goals of the 2020 General Plan, through infill development, neighborhood integrity, sensitive community design, the creation of community and neighborhood gathering places, and the fostering of economic development.

The natural setting of Grass Valley provide a perfect backdrop as well as the foundation for the City's vision of the future. The Community Design Element recognizes that the fragile environment is the basis of the superior quality of life in the area and must be protected through wise land use planning.

To achieve this, one of the key elements in Grass Valley's 2020 General Plan focuses on infill development and the construction of higher-density housing. By increasing density, open space will be maximized and the cost of new infrastructure minimized.

To accommodate an increasing population, a variety of new housing types and designs will be encouraged. Forty-five percent of new housing will be affordable, multifamily units. These multifamily developments will be scattered throughout the city, not concentrated in areas or neighborhoods. Infill development will respond to the higher percentage of seniors in the population. Senior housing and care facilities will multiply.

Residential areas of historic character north, east, and west of the Downtown will have design standards to maintain the integrity of the existing neighborhoods. Ongoing renovation and the implementation of code enforcement will keep these residential areas vital and attractive.

New infill development within established areas will be consistent with historical patterns in terms of scale, design and materials and follow a terrain-driven street grid pattern.

North Star, Loma Rica Ranch and Kenny Ranch will be annexed. Higher density housing will create vibrant villages which foster a community ambiance and enhance quality of life. Infill development and new planning principles will create a higher percentage of open space which will be complemented by high quality streetscape and building design.

As part of the infill process, mixed-use development will become more common. This will allow neighborhoods easier access to civic facilities, parks, schools, shopping and services. Neighborhoods will not be isolated residential islands, but will be connected to commercial areas by a network of streets, lanes, trails, sidewalks and paths.

Alternative transportation will increase in popularity. Travelways will conform to the terrain. Traffic will be slower, calmer and less dangerous to pedestrians. Residents and visitors can walk, ride a bike or drive a car in safety and comfort. Sidewalks, trails and paths are frequent, well shaded and provide areas for rest and relaxation.

A primary destination for residents will be the Downtown. The heart of Grass Valley, the Downtown continues to be the community's principal gathering place where people can mingle and socialize. Entertainment and new retail facilities as well as cultural attractions will be found here.

The entire area will be designated as a historic district giving the area a unique urban feeling and sense of history. Interesting turn of the century buildings will provide the aesthetic foundation and combine commercial, civic and residential uses. All City and public facilities will be located here.

The entrances to the Downtown via South Auburn and Colfax Streets will be attractive to visitors as well as residents through façade improvement programs and design review and redevelopment. Streetscapes will visually enhance the area and improve pedestrian access. The comfort of citizens will be the highest priority, and public gathering places will be accented by wide sidewalks, benches, shaded areas, pedestrian controlled crosswalks, eye level signs and human scaled street lighting.

All public and private development projects will have areas for public gatherings and interaction. There will be a full range of usable open spaces and recreational choices ranging from neighborhood and regional parks to trails and creeks. The City parks will be expanded to include more natural areas, open space and passive parks as well as active parks and playing fields.

Natural features will be maintained and enhanced for aesthetics and to protect property values. Views, open spaces, hillsides, valleys, ridgelines, forested views, and notable buildings will have their views protected. Land that is not buildable will be preserved in its natural state.

The natural environment will be protected by setting aside environmentally sensitive areas, preserving open spaces, developing parks and nature trails, and reclaiming blighted areas. Public and private support will assist in the creation of the protected riparian corridors. The Trails-Sidewalks Network will connect outlying areas with Downtown Grass Valley, providing both recreation and transportation while assuring protection of wildlife habitats.

Grass Valley's beautiful natural environment and quality of life will be supported by its vibrant economy. The City will continue

to be a regional economic and cultural hub for Western Nevada County, and its influence will reach far beyond its physical boundaries. The growth of technology and high-tech business will make Grass Valley a preferred choice for companies wanting a higher quality of life for their employees. Small offices and in-home businesses have increased and provide important services both locally and throughout the area. Sierra College, the medical/health care sector, tourism and a growing senior population have sparked commercial growth in the area.

With the aging of the population, the demand for medical and support services will be stimulated and many new medical related offices will be developed in the vicinity of the hospital.

In addition to increased commercial activity in established commercial areas, older commercial areas of the city will undergo redevelopment. Excellent opportunities for infill development will conserve precious land.

By linking Grass Valley's tradition-rich past with its vibrant future, the 2020 General Plan will provide residents with an incomparable quality of life that maintains its small town rural character and sense of community while also fulfilling its destiny as a the cultural and economic hub of western Nevada County.

3.8.2 Impacts

Impact Evaluation Criteria: Appendix G of the CEQA Guidelines indicates that a project will have a significant impact on aesthetics if it would:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Impact #3.8-1: The 2020 General Plan will have the potential to affect a scenic vista or scenic highway through future development. This is a **potentially significant impact**.

Discussion/Conclusion: New development in accordance with the General Plan, if not carefully designed, can result in adverse impacts on existing vistas and the creation of aesthetically offensive sites open to public view. However, the General Plan includes policies in the Community Design Element designed to preserve the desirable physical and design features in Grass Valley and carry them over into new development so that old and new development appear compatible. This includes broad goals, such as preserving and enhancing the existing community (1-CDG), and recognition and protection of major views in the planning area, with particular attention to notable buildings, open space, hillsides, valleys, ridgelines, and forested views (3-CDO). The Community Design policies and implementation actions and strategies include provisions to establish a program ro identify and protect viewsheds/view corridors, open space, including hillsides, valleys, ridgelines, forest views and notable buildings (2-CDP), and to systematically inventory and map forest views (3-CDI).The Open Space/Conservation Element also provide for preservation of natural open space whenever feasible to preserve the aesthetic benefits of vegetation and wildlife. Therefore, the goals, policies, objectives and implementation action strategies ensure that the project will have a **less than significant impact** on scenic vista or scenic highway through future development.

Impact #3.8-2: Future development associated with implementing the 2020 General Plan could substantially damage scenic resources , including , but not limited to, trees, rock outcroppings, and historic buildings within view of a state scenic highway. This is **potentially significant impact**.

Discussion/Conclusion: New development in accordance with the General Plan, if not carefully designed, can result in adverse impacts on existing scenic resources, including trees, rock outcroppings, and historic buildings within a state scenic highway

However, the General Plan includes goals, objectives, policies and implementation actions and strategies in the Community Design Element designed to preserve the desirable physical and design features in Grass Valley (see discussion above). The Open Space/Conservation Element also provides for preservation of natural open space whenever feasible to preserve the aesthetic benefits of vegetation and wildlife. Therefore, the goals, policies, objectives and implementation action strategies ensure that the project will have a **less than significant impact** on future development.

Impact #3.8-3: The 2020 General Plan could have a demonstrable negative aesthetic effect on the community through future development. This is **potentially significant impact**.

Discussion: New development in accordance with the General Plan, if not carefully designed, can result in negative aesthetic effects on the community However, the General Plan includes policies in the Community Design Element designed to preserve, protect and promote the aesthetic features of Grass Valley and carry them over into new development. This includes goal to preserve and enhance the existing community (1-CDG), objectives to preserve notable landmarks, streetscapes and other areas of architectural or aesthetic value providing continuity with the past (2-CDO), and policies to implement programs such as facade improvements and design review to maintain and enhance Downtown's historic character (1-CDP). Therefore, the goals, policies, objectives and implementation action strategies ensure that the project will have a **less than significant impact** on the community's aesthetics.

Impact #3.8-4: New development in accordance with the 2020 General Plan could create new sources of light or glare and cumulatively increase night lighting in the area. This is a **significant cumulative impact**.

Discussion/Conclusion: New development in accordance with the General Plan may result in new sources of light and glare (e.g. certain types of commercial and industrial development and public facilities), and new residential development may be exposed to existing sources of light and glare. Strong sources of light and glare can create a significant nuisance effect on sensitive receptors, particularly residences and stationary populations such as rest homes. "Light pollution," caused by the spilling over of night lighting from its intended use and the cumulative illumination of the night sky is increasingly becoming a concern in communities. The General Plan does not provide goals, policies, objectives and implementation actions and strategies that would allow analysis and mitigation of light and glare impacts associated with specific developments. Although this impact can be mitigated, illumination of the night sky remains a **significant cumulative impact.**

3.8.3 Mitigation Measures

The following General Plan Goals, Policies, Objectives and Implementation Actions and Strategies, with the inclusion of Mitigation Measure #3.8-1 will mitigate impacts to aesthetics resulting from the 2020 General Plan to the greatest extent feasible.

1-CDG	15-CDO	15-CDP
1-CDO	16-CDO	16-CDP
2-CDO	17-CDO	17-CDP
3-CDO	18-CDO	18-CDP
4-CDO	1-CDP	19-CDP
5-CDO	2-CDP	20-CDP
6-CDO	3-CDP	21-CDP
2-CDG	4-CDP	22-CDP
7-CDO	5-CDP	1-CDI

8-CDO	6-CDP	2-CDI
3-CDG	7-CDP	3-CDI
9-CDO	8-CDP	4-CDI
10-CDO	9-CDP	5-CDI
11-CDO	10-CDP	6-CDI
12-CDO	11-CDP	7-CDI
13-CDO	12-CDP	8-CDI
14-CDO	13-CDP	9-CDI
4-CDG	14-CDP	

Mitigation Measure #3.8-1: Include an implementation action in the Community Design Element to require shielding or downward direction of lighting in the Planning Area and require that illumination be so arranged to reflect away from adjoining properties (Applies to Impact #3.8-4).

Effectiveness of Measure: Shielding and directing light to serve a specific need will reduce the potential for light and glare impacts.

3.9 TRANSPORTATION

3.9.1 Setting

A more detailed transportation setting can be found in the General Plan Background Report.

The General Plan Circulation Element defines transportation facilities, and includes the goals, policies and implementation measures for the City's circulation system. The Circulation Element's provisions are mandated by State law to be correlated with, and thus support, the goals, objectives, and policies of the Land Use Element.

It is the underlying goal of the entire Circulation Element that the City's circulation system promote

1. the safe, efficient and reliable movement of the people and goods;

2. transition from the automobile to other modes of transportation; and

3. provide an adequate level of transportation service for all persons traveling in and through Grass Valley.

As in most areas, to travel within or through the Grass Valley vicinity, one is very dependent on the automobile. Until recently, this dependence was not viewed as a critical issue. That is no longer the case. Traffic congestion is no longer confined to major urban centers. Some of the worst recurring traffic conditions in the area occur along Highway 49. Some of the City's collectors and arterials, particularly Main Street in Grass Valley and Brunswick Road in the unincorporated area of Nevada County are now experiencing regular peak hour congestion.

Travel demand is expected to increase as the city population increases to the levels forecast for the year 2020. This population increase, coupled with increases in employment in the Planning Area, challenge for the City to find solutions that will maintain its roadway Level of Service standard. Over the 20-year life of the General Plan, federal and State air quality regulations will likely

require trip reduction measures that promote alternative transportation modes.

For these reasons, the City is committed to actively pursuing policies and implementation measures that will promote car-pooling, transit and non-vehicular modes of travel (bicycles and walking) as alternatives to single-occupant automobile use. By doing so, the City will be making a long-term commitment to transition from the automobile to other forms of transportation.

Existing Circulation Network

The existing street network in the City of Grass Valley is a product of both roadways that have provided access to the older portions of the City for decades, and roadways that were designed to serve the areas of new development. As a result, in the older portions of the City, some roadways function as arterial or collector roadways, but they have not previously been classified as such. The current system of arterial and collector roadways in Grass Valley is shown on Figure 3.9-1.

The existing non-vehicular circulation network consists of sidewalks (primarily in downtown and older neighborhoods) plus limited segments of bicycle lanes and pedestrian trails.

Freeways / Expressways: Freeways and Expressways are regionally important facilities which link the community of Grass Valley with its Nevada County neighbors and with regional destinations. These facilities are high speed, restricted access facilities providing little direct linkage to adjoining property but providing access via interchanges or, in the interim, major signalized intersections. Freeways and Expressways are designed to the standards of the California Department of Transportation (Caltrans) and improvements to these facilities are planned and implemented through a cooperative effort of Caltrans, the Nevada County Transportation Commission, Nevada County, the City of Grass Valley and Nevada City. State Highways 20 and 49 are the Freeways and Expressways serving Grass Valley.

Arterial Streets: The primary function of arterial roadways is to move large volumes of traffic through the community to other sections of the city and beyond. In the new areas, the right-of-way for arterial is 84 or 100 feet, and while most arterial are two lanes, four lane arterial can be developed in response to traffic demands. Some roadways function as arterial due to the current high traffic volumes and their key linkages between one section of the City and another. For these roadways, current right-of-way widths vary, but most contain only two traffic lanes.

Collector Streets: Collector streets generally link local residential streets and commercial and office parking areas to the arterial. In new areas, these streets are generally designed with a 54 or 60 foot right-of-way and contain two traffic lanes with bike lanes. In older portions of the community, a number of roadways function as collector roadways due to moderate traffic volumes and their linkage to the arterial roadway system. Right-of-way widths vary, with most containing two traffic lanes.

Local Streets: Local streets provide direct access to abutting land and access to the collector street system. The right-of-way for local streets is normally 54 feet, which provides for two traffic lanes and a narrow parking lane that doubles as a Class II bikeway on both sides. Actual pavement widths for local streets vary throughout the City.

Truck Routes: Another important component of the City's functional classifications are truck routes. Currently, the City has no designated truck routes within the Grass Valley city limits, although trucks are prohibited on East Maryland Drive.

Non-vehicular Circulation Facilities: Sidewalks are found in the Downtown Grass Valley, and extend to nearby, established residential areas. In addition, newer residential developments have included sidewalks, as required by the City's Subdivision Ordinance. Elsewhere in the City and unincorporated portions of the Planning Area, sidewalks are lacking. Principal areas lacking sidewalks or where sidewalks are not uniformly present are 1) along collector and arterial streets and 2) in the vicinity of potential pedestrian "attractions", such as schools and commercial areas. Many residential areas in the unincorporated Planning Area also lack sidewalks.

Bicycle lanes are present only along two limited segments of Ridge Road and East Main Street. No exclusive bikeways or bicycle paths exist in the Planning Area.

The only formal trails in the Grass Valley area are an extensive recreational trail network in Empire Mine State Park and the Lipton Trail on Lipton Business Park property.

Methodology and Assumptions

To assess the impacts of the General Plan, future travel demand was estimated and the impact of resulting traffic operations on the City's future transportation system were evaluated. The analysis focused on year 2020 travel demand and projected needs. Travel forecasts were also made for future conditions, assuming full "build out" of the General Plan, in order that transportation corridors and circulation improvements needed beyond the year 2020 could be identified.

A regional travel demand forecasting model was employed to identify daily and p.m. peak hour traffic volumes on State highways and arterial / collector streets. In turn, daily traffic forecasts were compared to general Level of Service thresholds to identify those locations where problems may be created in the future or the need for additional circulation system improvements may become evident. Intersection Levels of Service were also calculated to confirm the suitability of the General Plan Circulation system.

Methodology: The Travel Demand Forecasting Model employed for the City of Grass Valley General Plan Update was originally created for and is currently maintained by the Nevada County Transportation Commission (NCTC). The Nevada County area travel demand model employs state of the art MINUTP traffic demand modeling procedures and has been employed for many regional and sub-regional studies commissioned by NCTC.

The MINUTP model utilized many separate sub-models to generate traffic forecasts. Each of the primary sub-models used in projecting these traffic forecasts is briefly described in the text which follows.

Levels of Service: For General Plan-level analysis, the Level of Service on individual roadway segments is determined based on general daily traffic volume thresholds which account for such factors as the level of access control, terrain, traffic control, etc. The thresholds employed in the Nevada County General Plan and by the Nevada County Transportation Commission (NCTC) previous regional studies will be used. These daily traffic volume standards are presented in Table 3.9-2.

TABLE 3.9-1

FUNCTIONAL CLASSIFICATION

CITY OF GRASS VALLEY'S ARTERIAL AND COLLECTOR ROADWAY SYSTEM

ARTERIALS	COLLECTORS
South Auburn Street	Allison Ranch Road
Brighton Street Extension	Alta Street
Brunswick Road	East Bennett Road
Crest view Extension	Brighton Street
Empire Street	Butler Street
Idaho Maryland Road (part)	Dorsey Drive
Labor Meadows Road	Empire Street
Main Street	Freeman Lane

Mill Street	Hughes Road
Neal Street	Idaho Maryland Road (part)
Nevada City Highway	McCourtney Road
Sierra College Drive (part)	McKnight Way
	Mill Street
	Richardson Street
	Ridge Road
	Sierra College Drive (part)
	Sutton Way
	Taylorville Road
	Whispering Pines Lane

TABLE 3.9-2

DAILY PLANNING SERVICE VOLUME CRITERIA

FUNCTIONAL CLASS	LANES	LOS A	LOS B	LOS C	LOS D	LOS E
Interstate and	4	59,400	69,300	79,200	89,100	99,000
Freeway	6	89,100	103,950	118,800	133,650	148,500
Arterial	2	9,300	10,850	12,400	13,950	15,500
	4	18,600	21,700	24,800	27,900	31,000
	6	27,900	32,550	37,200	41,850	46,500
Collector	2	6,600	7,700	8,800	9,900	11,000

Currently there are four roadway segments in the Planning Area which fail to deliver LOS "D" conditions. These are shown in Table 3.9-3, these are:

TABLE 3.9-3

EXISTING ROADWAY LEVEL OF SERVICE DEFICIENCIES

ROAD	LOCATION	NUMBER OF LANES	ADT	LOS
Sutton Way	**W of Brunswick Road**	**2**	**13,661**	**E**
Brunswick Road	**S of Idaho Maryland Road**	**2**	**14,504**	**E**
Brunswick Road	**NW of Loma Rica Drive**	**2**	**14,056**	**E**

Nevada City Highway	**Grass Valley City Limits**	**2**	**14,355**	**E**

Levels of Service are also determined for intersections using procedures outlined in the 1994 Highway Capacity Manual. Table 3.9-4 indicates the characteristics of Levels of Service at intersections controlled by stop signs and by traffic signals.

Levels of Service are estimated for future travel conditions to ensure that a roadway will provide acceptable operations for its "design life", which is commonly 20 years. For the General Plan, the year 2020 is used for estimating traffic demand and determining Levels of Service on the roadway system. The City has established Level of Service "D" as the goal for both the General Plan and for the development of Citywide and regional traffic impact fees.

TABLE 3.9-4

LEVEL OF SERVICE DEFINITIONS

LEVEL OF SERVICE	SIGNALIZED INTERSECTION	UNSIGNALIZED INTERSECTION
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay 5.0 sec	Little or no delay. Delay 5 sec/veh
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 5.0 sec and 15.0 sec	Short traffic delays. Delay > 5 sec/veh and 10 sec/veh
"C"	Light congestion, occasional backups on critical approaches. Delay > 15.0 sec and 25.0 sec	Average traffic delays. Delay > 10 sec/veh and 20 sec/veh
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 25.0 sec and 40.0 sec	Long traffic delays. Delay > 20 sec/veh and 30 sec/veh
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 40.0 sec and 60.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 30 sec/veh and 45 sec/veh
"F"	Total breakdown, stop-and-go operation. Delay > 60.0 sec	Intersection blocked by external causes. Delay > 45 sec/veh

Sources: 1994 Highway Capacity Manual

Highway Network Model: The roadway network is composed of a combination of links which represent the roadways and nodes which represent intersections. Each link is coded with information relating to the type of facility, number of lanes, current count information, etc. Information relating to capacity and travel speed are also provided. Travel speeds and capacity on roadways are dependent on a number of factors such as signal spacing, number of signals, driveway location, etc.

Nevada County and the City of Grass Valley are divided into traffic analysis zones (TAZ's). Each zone is connected to the street and highway network and contains information utilized by the trip generation model. As part of the modeling process, the NCTC model's original TAZ's were disaggregated and adjusted to more closely approximate the access characteristics of the land uses area within the City's Planning Area.

Trip Generation Model: The trip generation component of the modeling process comprises of trip productions and trip attractions. Productions are associated with the socioeconomic characteristics of a single or multiple family home. Attractions are associated with complementary non-residential land use and in the NCTC model are compiled in terms of developed acres. The total number of trip ends associated with these productions and attractions are estimated for each transportation analysis zone.

Trip Distribution Model: The trip distribution model employed estimates the number of trips that travel from zone to zone. The MINUTP travel demand model employs a gravity model formulation for distributing vehicle trips. This gravity model predicts that the trip interchange between zones is directly proportional to the relative attraction of each zone, and inversely proportional to the partial separation between zones.

The distribution model utilizes five distinct trip types which include:

home-based work

home-based shopping

home-based other [other than work or shopping]

non-home-based work

non-home-based other [other than work]

Assumed Roadway Network: For modeling purposes, the General Plan Circulation Plan is assumed to be in place. The Circulation Plan includes development of roads creating internal circulation for the City's Special Development Areas (SDA), widening of selected roads to four lanes and implementation of the current Grass Valley Capital Improvement Program. Widening of Highway 49 to four lanes south of Grass Valley has also been assumed to occur by the year 2020.

Land Use/Trip Generation Assumptions: The level of development assumed for the year 2020 is as presented in the Land Use Element of the General Plan. The total trip generation associated with new development in accordance with the General Plan has been estimated.

Planned Transportation Facilities

Improvements in City Capital Improvement Program: The General Plan Circulation Plan assumes that improvements within the current version of the City of Grass Valley Capital Improvement Program for Facilities and Major Equipment (for 1995 - 2015, 1998 Update) will be implemented as scheduled. The Capital Improvement Program (CIP) presently includes circulation and related improvements totaling $51,269,000 in valuation, excluding land. Specific projects are listed under five topics: Regional Roads and Bridges (Appendix C of CIP); Regional Traffic Signals (Appendix D of CIP); Local Streets and Bridges (Appendix E of CIP); Local Traffic Signals (Appendix F of CIP); and Parking (Appendix G of CIP).

In addition, the CIP contains the Wolf Creek Bike Trail project as a Park Facility. This project is a segment of the Trails-Sidewalks network in the General Plan, in which context it is considered a joint transportation/recreation facility.

General Plan Road and Intersection Improvements: Specific road and intersection improvements are listed below. Certain of these improvements are currently listed in Capital Improvement Program, others are not listed at this time.

- Construction of new interchanges on Highway 20/49 at Dorsey Drive and on Highway 49 in the area of Crestview Drive-Smith Road in southern Grass Valley.
- Construction of a new arterial road through the North Star area linking the Brighton/McCourtney intersection near Highway 20 with the new Crestview-Smith interchange on Highway 49. This new road would be connected to Freeman Lane.
- Extension of Dorsey Drive easterly to Brunswick Road.
- Reconstruction of the McKnight Way Interchange on Highway 49 to create modern roundabout intersections, contingent upon construction of the aforementioned Crestview-Smith Road interchange.
- Reconstruction of the Highway 174/Highway 20/49 interchange as a modern roundabout.

- Construction of a new road network in the northeastern portion of the Planning Area, linking existing and planned streets and roads.
- Closure of Idaho Maryland Road at a point west of the Brunswick Road intersection.

New Non-vehicular Transportation Facilities: New non-vehicular transportation infrastructure facilities are depicted in the General Plan as the Trails-Sidewalks Network Concept Plan (Figure 8-2 in the General Plan). The Trails-Sidewalks network is to be a multi-purpose system, serving both utilitarian transportation needs and recreational needs. It is intended for the use of pedestrians, bicyclists, and equestrians, though not all segments are intended for use by all. The plan provides for a comprehensive system, not just isolated segments, exclusively for non-motorized transportation modes.

Public Transit: The General Plan provides for improved public transportation, citing specifically the needs of a growing senior population and demand for tourist-oriented public transportation. The Plan's policies identify park and ride facilities near the freeway and in downtown as infrastructure needed to facilitate future transit operations. The Plan does not identify specific locations for transit-related facilities, however.

Parking: The General Plan provides for additional parking facilities, primarily in the Downtown area. The Capital Improvement Program currently includes six parking projects, five of which are in the Downtown area. The General Plan does not identify specific parking facilities or exact locations.

Ongoing Transportation Planning, Programming, and Management

The General Plan Circulation element establishes a foundation of principles and projects covering the 20-year planning period. However, transportation planning is a continuous process designed to assure up-to-date information and current policy direction at all times. The General Plan directs the City to engage in ongoing transportation planning and programming. Within the ongoing planning processes, the City will have considerable latitude to refine projects, institute appropriate impact mitigation measures, and even recommend alterations to the General Plan (accompanied by formal amendment to the General Plan). The ongoing planning and programming activities which the General Plan directs the City to undertake are described in the following subsections.

Transportation System Management (TSM): This is a process to increase the efficiency of the transportation system through low-cost and relatively short-term actions. TSM typically includes traffic controls, improved public transportation, regulatory and pricing measures, and improvements to the management of the existing transportation system (12-CI, Circulation Implementation Action/Strategy).

Long-Range Transit Master Plan: In cooperation with NCTC, Nevada County, and transit agencies, a transit master plan will provide a "blueprint" for public transportation in support of the General Plan's goals, objectives, and policies.

Capital Improvements Program (CIP): This is a transportation project list, with estimated costs, funding sources), and schedule. The General Plan directs the City to continue to keep the CIP up-to-date (7-CI) condition to base the CIP on a 20-year time horizon (8-CI).

"Extraordinary" Improvements and Exceptions to Level of Service Standard: The General Plan provides for circumstances in which the City Council may determine that improvements necessary to maintaining the City's level of service standard (LOS "D") are not feasible and may relax the LOS "D" standard. Nine criteria which the Council shall use to make such a determination are enumerated (7-CI).

Bikeways Master Plan: The General Plan directs the City to prepare a Bikeways Master Plan consistent with the Trails-Sidewalks Plan in the General Plan (13-CI).

Nevada County Master Bicycle Plan (1996) and Trails Master Plan: The General Plan directs the City to adopt the Nevada County Bicycle and Trails Master Plans, to ensure compatibility of City plans with those in unincorporated portions of the Planning Area, and beyond (13-CI), (1-CP).

Regional and Sub-Regional Transportation Planning: The General Plan directs the City to continue to participate in established transportation planning processes of the Nevada County Transportation Commission and CALTRANS (4-CI), (16-CI).

3.9.2 Impacts

Impact Evaluation Criteria: Appendix G of the CEQA Guidelines indicates that transportation/traffic related impacts can be considered significant if a project would:

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 the roads, or congestion at intersections)

Exceed either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways

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

Result in inadequate emergency access

Result in inadequate parking capacity

Conflicts with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)

Capacity / Level of Service Standards: The daily traffic volume standards identified in the Grass Valley General Plan are illustrated in Tables 3.9-5 A,B,C,D, and E. The Grass Valley General Plan identifies LOS "D" as the minimum Level of Service standard for the community, with the caveat that the City may opt for a lower level of service if achieving LOS "D" or better would have too severe a negative local/environmental/neighborhood impact as determined by the City Council using nine criteria listed in the General Plan and alluded to above.

Impact #3.9-1: Future development in accordance with the General Plan could result in traffic volumes on area streets and roads exceeding LOS "D" This is considered a **potentially significant impact**.

Discussion/Conclusion: Implementation of the General Plan will result in increased traffic volumes on area streets and highways. Tables 3.9-5 A,B,C,D, and E compares current traffic volumes at selected locations on area streets with future projected (year 2020) daily traffic volume forecasts, and presents resulting Levels of Service under the General Plan.

It is assumed that certain "programmatic" efforts will continue, serving both as implementation measures and impact mitigation measures.

An overall program for implementing the roadway improvements, as described in the subsection entitled "Ongoing Transportation Planning, Programming, and Management," must be maintained as part of impact mitigation. This includes General Plan Implementation Action and Strategy 8-CI, providing periodic updating of the Capital Improvement Program with a 20-year horizon extending at least to the end of the planning period.

The City of Grass Valley has already adopted a Development Impact Fee program which is intended to fund identified circulation improvements. This program should be updated to reflect current roadway improvement needs at all times. This mitigation is consistent with 2-CI (regularly update development impact fees).

As has been the case in the past, Grass Valley will require infrastructure financing programs as a part of Specific Plan approval, in

order to ensure that new development participates in the mitigation of its impacts. This requirement is consistent with General Plan implementation actions and strategies 3-CI and 10-CI (consistency with functional classification system, Specific Plans, development agreements).

Grass Valley will continue to pursue other sources to fund circulation system improvements. The City will encourage actions at the State level that support local road improvement programs and shall take advantage of funding available from all agencies. These actions are consistent with 4-CI (inter-jurisdictional coordination).

The City will participate in appropriate regional and local planning efforts. As indicated in 16-CI (regional planning), the City will coordinate planning with NCTC, Caftans, and other agencies as appropriate.

Review of existing and projected year 2020 roadway traffic volume data (Tables 3.9-5 A,B,C,D, and E) indicates that most of the existing and assumed future roadways presently have the capacity to provide LOS "D" or better conditions. Implementation of the roadway improvements described in the Circulation Element would result in traffic conditions which meet prescribed City standards on nearly all roadways within the Grass Valley Planning Area. For these roadways, no further mitigation measures are necessary and the General Plan will have a **less than significant impact**.

However, implementation of the roadway improvements in the Circulation Element will leave segments of certain arterial and collector roads at a level of service worse than LOS "D" by year 2020. Table 3.9-6 shows road segments projected to exceed LOS "D" by the year 2020. Of the eight road segments shown, only Main Street from the Bennett Street intersection east to Idaho-Maryland Road is classified an arterial street. The other seven segments are classified collectors.

As shown in the Daily Service Volume Criteria (Table 3.9-2), arterial streets may be two, four, or six lane facilities. Collector streets are two lane facilities, by definition.

The General Plan Circulation Element (General Plan Figure 4-3) identifies future four lane roadways. Twelve road segments are identified as arterial streets which would fail to achieve LOS "D" in the year 2020 unless they were widened to four lanes. If widened to four lanes, each of the twelve will achieve LOS "D" or better, based upon year 2020 traffic projections. Widening as planned will mitigate traffic impacts on these road segments to **less than significant levels.**

A thirteenth arterial segment was identified as projected to exceed the LOS "D" standard by year 2020, but was not identified in the General Plan as a four lane roadway. That segment is the portion of Main Street from Bennett Street to Idaho-Maryland Road. The General Plan does not designate four lanes for this segment, based upon the adverse impacts such an improvement would have on the immediate neighborhood, including the eastern entryway into Downtown.

The arterial segment of East Main from Bennett Street to Idaho-Maryland Road is projected to carry an average daily traffic volume of 16,500 by the year 2020. The threshold traffic volume for a two-lane arterial to achieve LOS "D" is 13,950. Thus, East Main would require a reduction of 2,550 vehicles to reach the LOS "D" threshold. This is a **potentially significant impact**. The General Plan contains several measures which, in addition to the programmatic measures discussed above, would have the combined effects of reducing average daily traffic volume below the projected 16,500 level.

With reference to the segment of East Main in question, measures to increase the capacity of intersections (7-CI) are likely the most effective impact mitigation measures available. As 7-CI indicates, the City will work to maximize the capacity of key intersections. This is particularly essential on East Main. While the overall traffic volume may not be reduced by intersection improvement, the overall capacity of traffic flow on the segment will be improved if key intersections remain at LOS "D" or better during the p.m. peak time.

Measures designed to reduce automobile dependency through a variety of transportation modes (1-CG, 1-CO, 2-CO, and 3-CO) may also be beneficial.

Circulation policies addressing public transportation include 2-CP (plan for multi-purpose transportation), 3-CP (improve public transportation to link residential and commercial/industrial areas), 4-CP (develop plans for low-fare transit serving Downtown and

points of interest), 5-CP (coordinated inter-modal transfer facilities), and 6-CP (location and siting of transit stops).

Bicycle and pedestrian circulation policies include 1-CP (coordinate bikeway planning with Nevada County), 2-CP (plan for multi-purpose transportation), 8-CP (incorporate bicycle lanes and sidewalks in [new] street designs), and 13-CP (assure continuity of sidewalks by instituting city-wide planning and construction program). In addition, the Trails-Sidewalks Network Plan provides a physical plan for implementing numerous non-vehicular transportation goals, objectives, and policies found in the General Plan.

In addition, it is assumed the City will use the TSM program to employ additional traffic reduction methods, as appropriate to the circumstances.

While impact mitigation measures available to the City will likely be unable to achieve a reduction of 2,550 vehicles per day on East Main between Idaho Maryland and Bennett (more than 15%) required to meet the stated impact evaluation criteria (LOS "D"), intersection mitigation measures in the General Plan will improve the overall LOS standard of the road network in the vicinity (including intersections) making this a **less than significant impact.**

The remaining seven road segments in Table 3.9-6 are classified as collector streets projected to exceed LOS "D" by year 2020. As four laneing is not an option for mitigating congestion on collector streets, other measures are required on the seven road segments, if LOS "D" is to be achieved. The seven collectors have projected average traffic volumes ranging from a low of 10,100 (McCourtney Road west of Old Auburn Road) to a high of 13,200 (Hughes Road northwest of East Main). Four of the seven are projected to be at LOS "E" by year 2020, the other three at LOS "F". The threshold for collectors to achieve LOS "D" is 9,900 vehicles per day.

The impact mitigation measures listed previously are applicable to the seven collector streets. In addition, 20-CP states: "Redesign intersections on collector streets to improve and smooth traffic."

If, in the course of maintaining and updating the functional classification system (12-CO), 3-CI), the City determines that one or more of the seven collectors should be reclassified and potentially re-constructed as an arterial street, thresholds volumes for achieving LOS "D" would be increased, and the failure to meet established standards would be eliminated. At this time, however, it is not possible to determine whether such a functional shift will be warranted, or which road segments might qualify at some time in the future.

The four collectors projected at LOS "E" by year 2020 (Table 4-6) range from 10,100 to 10,900 vehicles per day. Thus, even for the highest of the group (Ridge Road north of Hughes), a nine percent reduction would meet the LOS "D" threshold. Even lower percentage reductions would accomplish the LOS "D" threshold for the other three segments. For this group, application of the measures described above will mitigate traffic impacts to a **less than significant level**.

The three collectors projected for LOS "F" range from 11,600 to 13,200 projected average daily traffic. Each would require a reduction of at least 14% to approach the LOS "D" threshold. It is unlikely that a reduction of more than 10% is possible. Consequently, for the three collectors projected at LOS "F" by year 2020, Freeman Lane north of McKnight, Hughes Road northwest of East Main, and Ridge Road east of Rough and Ready Highway, there will be a **significant and unavoidable impact**.

TABLE 3.9-5A

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

FREEWAYS

		NO. OF LANES		EXISTING		2020	
ROAD	**LOCATION**	**EXISTING**	**YEAR 2020**	**ADT**	**LOS**	**ADT**	**LOS**
1. State Route 49/20	S of N. Auburn St	4	4	29,000	A	59,500	B
2. State Route 49/20	S of Bennett St	4	4	36,000	A	52,500	A

3. State Route 49/20	S of Idaho-Maryland	4	4	37,000	A	64,900	B
73. State Route 49/20	S of Dorsey	4	4	30,500	A	56,600	A
4. State Route 49/20	S of Brunswick Rd	4	4	30,500	A	41,100	A
74. State Route 49/20	N of Brunswick Rd	4	4	30,000	A	40,000	A
75. State Route 49	S of Crestview/Smith Ext	4	4	21,700	A	35,800	A
5. State Route 49	N of Crestview/Smith Ext	4	4	21,700	A	32,700	A
6. State Route 49	S of SR 20	4	4	32,500	A	41,650	A
7. State Route 20	W of Mill St	4	4	14,200	A	25,200	A
8. State Route 20	W of SR 49	4	4	15,000	A	27,500	A
76. State Route 20	W of Brighton	4	4	14,200	A	25,200	A

ADT = Average Daily Traffic

LOS = Level of Service

( ) = Planned Road

TABLE 3.9-5B

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

ARTERIALS

		NO. OF LANES		EXISTING		2020	
ROAD	**LOCATION**	**EXISTING**	**YEAR 2020**	**ADT**	**LOS**	**ADT**	**LOS**
9. State Route 174	E of SR 20	2	2	6,200	A	12,000	C
10. State Route 174	E of Central St	2	2	4,500	A	7,350	A
11. State Route 174	E of Ophir St	2	2	5,100	A	5,150	A
12. State Route 174	S of Race St	2	2	5,400	A	7,250	A
13. State Route 174	E of Empire Mine	2	2	5,600	A	9,000	A
79. South Auburn St	S of Main	2	2	NA	NA	5,700	A
14. South Auburn St	S of Mohawk St	2	2	7,802	A	7,800	A
15. South Auburn St	N of School Alley	2	2	6,852	A	6,950	A
16. South Auburn St	N of Whiting St	2	2	7,139	A	10,400	B
17. South Auburn St	NW of E. McKnight Way	2	4	8,228	A	14,300	A
90. Bennett Road	E of SR 49/20	2	2	NA	NA	5,700	A
94. Brighton Extension	S of McCourtney	(2)	2	NA	NA	4,600	A
95. Brighton Extension	W of Allison Ranch Rd	(2)	2	NA	NA	5,600	A
18. Brunswick Road	On Overcrossing 49/20	4	4	26,172	D	17,100	A
72. Brunswick Road	N of Dorsey Drive	2	4	12,235	C	14,600	A
19. Brunswick Road	S of Ranchview Ct	2	4	12,235	C	14,600	A
20. Brunswick Road	N of Whispering Pines	2	4	14,504	E	12,600	A
21. Brunswick Road	NW of Loma Rica Dr	2	4	14,056	E	18,600	A
22. Brunswick Road	NW of E. Bennett	2	2	10,686	B	11,200	C

69.	Centennial Drive	S of Idaho Maryland	2	2	NA	NA	9,600	B
62.	Crestview/Smith Ext	E of Allison Ranch Rd	(2)	2	NA	NA	6,050	A
102.	Crestview/Smith Ext	E of Taylorville	(2)	2	NA	NA	3,100	A
40.	Dorsey Drive	SE of Segsworth Way	2	4	5,541	A	15,400	A
67.	Dorsey Drive	W of Sutton Way	(2)	2	NA	NA	13,500	D
85.	Dorsey Drive	E of Sutton	(2)	2	NA	NA	12,800	D
86.	Dorsey/Whispering Pines Loop	N of Idaho Maryland	(2)	2	NA	NA	12,800	D
87.	Dorsey/Whispering Pines Loop	S of Idaho Maryland	(2)	2	NA	NA	8,250	A

ADT = Average Daily Traffic NA = Not Available

LOS = Level of Service (2) = Planned Road

TABLE 3.9-5C

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

ARTERIAL

			NO. OF LANES		EXISTING		2020	
	ROAD	LOCATION	EXISTING	YEAR 2020	ADT	LOS	ADT	LOS
23.	Empire Street	E of Le Duc St	2	2	4,923	A	4,900	A
64.	Idaho Maryland Rd	E of Railroad	2	4	12,111	C	24,700	C
24.	La Barr Meadows	SE of E. McKnight Way	2	2	10,028	B	10,100	B
80.	La Barr Meadows	N of Crestview/Smith Ext	2	2	NA	NA	7,950	A
82.	La Barr Meadows	S of Crestview/Smith Ext	2	2	NA	NA	11,200	C
74.	Main Street	S of Squirrel Creek	2	2	5,763	A	10,200	B
63.	Main Street	W of Auburn	2	2	NA	NA	9,450	B
71.	Main Street	E of Bennett St	2	2	12,172	C	16,500	F
70.	Main Street	N of Idaho Maryland	2	4	NA	NA	21,900	C
73.	McCourtney Road	W of 20 Ramps	2	2	NA	NA	9,900	B
50.	W. McKnight Way	SW of Taylorville Rd	2	4	8,882	A	16,800	A
25.	Mill Street	S of Neal St	2	2	5,786	A	12,100	C
26.	Mill Street	NE of Rhode Island St	2	2	5,750	A	8,600	A
92.	Mill Street	N of McCourtney	2	2	NA	NA	12,100	C
27.	Neal Street	E of Church St	2	2	5,239	A	3,750	A
77.	Nevada City Hwy	S of Sierra College	2	4	NA	NA	15,400	A
28.	Nevada City Hwy	Grass Vly City Limits	2	4	14,355	E	15,000	A
83.	Nevada City Hwy	E of Brunswick	2	2	NA	NA	11,800	C
78.	Ophir	S of Bennett	2	2	NA	NA	9,050	A
57.	Sierra College Dr	E of Main Street	2	4	4,546	A	16,700	A
58.	Sutton Way	E of Brunswick	2	2	9,040	A	10,800	A
59.	Sutton Way	W of Brunswick	2	2	13,661	F	6,300	A
68.	Sutton Way	N of Dorsey Dr	2	2	NA	NA	6,150	A

84.	Sutton Way	S of Dorsey Dr	2	2	NA	NA	5,200	A
60.	Whispering Pines Ln	W of Brunswick Rd	2	2	1,494	A	8,250	A

ADT = Average Daily Traffic

LOS = Level of Service

NA = Not Available

TABLE 3.9-5D

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

COLLECTORS

			NO. OF LANES		EXISTING		2020	
	ROAD	**LOCATION**	**EXISTING**	**YEAR 2020**	**ADT**	**LOS**	**ADT**	**LOS**
29.	Allison Ranch Rd	S of McCourtney	2	2	720	A	600	A
30.	Allison Ranch Rd	N of North Star Mine Rd	2	2	665	A	600	A
98.	Allison Ranch Rd	S of Crestview/Smith Ext	2	2	NA	NA	50	A
31.	Alta Street	N of West Main St	2	2	4,203	A	3,000	A
32.	Alta Street	S of Alta Vista Dr (S)	2	2	3,587	A	1,300	A
33.	Alta Street	N of Alta Vista Dr (S)	2	2	3,476	A	850	A
34.	Alta Street	SE of Ridge Road	2	2	3,380	A	1,100	A
96.	Old Auburn Rd	S of McCourtney	2	2	NA	NA	1,450	A
81.	Old Auburn Rd	S of North Star Connection	2	2	NA	NA	1,750	A
66.	E. Bennett Road	E of Centennial	2	2	NA	NA	5,250	A
35.	E. Bennett Road	E Grass Vly City Limit	2	2	2,142	A	8,150	C
93.	Brighton Street	N of McCourtney	2	2	NA	NA	6,750	B
36.	Brighton Street	N of McCourtney	2	2	3,830	A	6,750	B
37.	Brighton Street	S of Chapel	2	2	2,581	A	3,950	A
38.	Butler Street	W of Minnie	2	2	813	A	3,150	A
39.	Butler Street	E of Packard Dr	2	2	929	A	3,100	A
65.	Centennial Drive	N of E. Bennett	(2)	2	NA	NA	7,350	B
91.	North Collector	W of Allison Ranch	(2)	2	NA	NA	600	A
99.	South Collector	E of Old Auburn	(2)	2	NA	NA	1,150	A
100.	South Collector	E of North Star Loop Rd	(2)	2	NA	NA	1,400	A
97.	South Collector	W of Allison Ranch	(2)	2	NA	NA	1,950	A
41.	Empire Street	E of Kate Hayes St	2	2	4,278	A	3,900	A
42.	E. Empire Street	E Grass Vly City	2	2	4,178	A	3,900	A
43.	Freeman Lane	N of McKnight Way	2	2	8,142	C	12,200	F
44.	Freeman Lane	SW of McKnight	2	2	NA	NA	4,800	A
61.	Freeman Lane	E of Mill	2	2	NA	NA	9,250	D

LOS = Level of Service NA = Not Available

ADT = Average Daily Traffic (2) = Planned Road

TABLE 3.9-5E

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

COLLECTORS

			NO. OF LANES		EXISTING		2020	
	ROAD	LOCATION	EXISTING	YEAR 2020	ADT	LOS	ADT	LOS
45.	Hughes Road	NW of E. Main St	2	2	7,852	C	13,200	F
46.	Hughes Road	S of Ridge Rd	2	2	3,872	A	10,400	E
47.	Idaho Maryland Rd	W of Brunswick	2	2	3,570	A	3,850	A
48.	Idaho Maryland Rd	E of Brunswick Rd	2	2	1,918	A	3,050	A
49.	McCourtney Road	W of Brighton St	2	2	8,650	C	9,300	D
101.	McCourtney Road	W of Old Auburn Rd	2	2	5,676	A	10,100	E
51.	Mill Street	N of Bank Street	2	2	5,399	A	5,150	A
52.	Richardson Street	E of Alta Street	2	2	1,171	A	2,900	A
53.	Ridge Road	W of Ridge Estates Rd	2	2	5,059	A	8,000	C
54.	Ridge Road	N of Hughes Rd	2	2	7,815	C	10,900	E
55.	Ridge Road	S of Hughes Rd	2	2	7,625	B	10,400	E
88.	Ridge Road	W of Alta	2	2	5,339	A	7,600	B
89.	Ridge Road	E of Rough & Ready Hwy	2	2	4,253	A	11,600	F
56.	Sierra College Dr	SE of Ridge Rd	2	2	3,180	A	7,200	B
103.	Taylorville	S of McKnight	2	2	NA	NA	0	A
104.	Taylorville	S of Crestview/Smith Ext	2	2	NA	NA	3,100	A

LOS = Level of Service

ADT = Average Daily Traffic

NA = Not Applicable

( ) = Planned Road

TABLE 3.9-6

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

AT LOCATIONS EXCEEDING LOS "D"

			NO. OF LANES		EXISTING		2020	
	ROAD	LOCATION	EXISTING	2020	ADT	LOS	ADT	LOS
71.	Main Street (A)	E of Bennett St	2	2	12,172	C	16,500	F
43.	Freeman Lane (C)	N of McKnight Way	2	2	8,142	C	12,200	F
45.	Hughes Road (C)	NW of E. Main St	2	2	7,852	C	13,200	F
46.	Hughes Road (C)	S of Ridge Rd	2	2	3,872	A	10,400	E

101.	McCourtney Rd (C)	W of Old Auburn Rd	2	2	5,676	A	10,100	E
54.	Ridge Road (C)	N of Hughes Rd	2	2	7,815	C	10,900	E
55.	Ridge Road (C)	S of Hughes Rd	2	2	7,625	B	10,400	E
89.	Ridge Road (C)	E of Rough & Ready Hwy	2	2	4,253	A	11,600	F

LOS = Level of Service (C) = Collector

(A) = Arterial

ADT = Average Daily Traffic

TABLE 3.9-7

YEAR 2020 - INTERSECTION LEVELS OF SERVICE

		EXISTING		2020		
			DEL/		DEL/	
INTERSECTION		**LOS**	**VEH**	**LOS**	**VEH**	**V/C**
#381	Colfax Hwy/SR 49 Frontage		NA	B	14.1	0.633
#383	Main/Idaho Maryland/SR 49 SB Ramps	C	17.9	F	129.5	1.285
#384	Idaho Maryland/SR 49 EB Ramps	A/C	2.4	C	17.4	0.747
#385	Brunswick/SR 49 NB Ramps		NA	B	11.5	.659
#386	Brunswick/SR 49 SB Ramps		NA	C	15.2	0.394
#397	Idaho Maryland/Centennial	A/C	3.7	C	6.2	
#398	Whispering Pines/Centennial		NA	C	20.3	0.512
#409	Bennett/Centennial		NA	F	9.6	
#413	Freeman/McCourtney/Mill/Allison	B	7.8	C	21.5	0.633
#414	Mill/SR 20 WB Ramps	C	12.9	C	16.8	0.629
#415	McCourtney/SR 20 EB Ramps	A/E	3.5	C	17.0	0.509
#454	Sierra College/Litton/Robert Ross Way	F	53.2	D	23.1	1.451
#565	SR 49/Crestview		NA	C	23.5	0.930
#640	Main/Bennett/Washington		NA	C	21.5	0.760

V/C = Volume to Capacity Ratio A/F = Average Intersection Delay/Worst Case Delay

LOS = Level of Service [1] = AM Peak Hour

Delay presented in seconds per vehicle

TABLE 3.9-7 (Cont.)

YEAR 2020 - INTERSECTION LEVELS OF SERVICE

		EXISTING		2020		

INTERSECTION		LOS	DEL/ VEH	LOS	DEL/ VEH	V/C
#641	Colfax Hwy/Ophir		NA	C	19.5	0.594
#669	Main/Alta		NA	C	24.1	0.793
#675	McKnight/SR 49 SB Ramps	C	22.6	C	21.0	0.773
#676	McKnight/SR 49 NB Ramps	C	19.6	C	19.6	0.729
#677	Empire/SR 20 SB Ramps		NA	D	36.8	1.030
#678	Empire/SR 20 NB Ramps		NA	B	13.8	0.513
#750	Nevada City Hwy/Sierra College		NA	C	24.3	0.691
#751	Nevada City Hwy/Hughes		NA	C	19.3	0.760
#754	Ridge/Hughes[1]	B	7.1	B	9.5	0.750
#755	Sierra College/Morgan Ranch/Ridge[1]	B/F	5.5	C	19.2	0.511
#766	McCourtney/Brighton	A/C	1.6	D	27.1	0.752
#770	Auburn/Empire	B	9.1	F	79.6	1.061
#797	Brunswick/Nevada City Hwy		NA	C	15.1	0.350
#799	Auburn/Main	B	12.9	C	15.5	0.554

V/C = Volume to Capacity Ratio A/F = Average Intersection Delay/Worst Case Delay

LOS = Level of Service [1] = AM Peak Hour

Delay presented in seconds per vehicle

TABLE 3.9-7 (Cont.)

YEAR 2020 - INTERSECTION LEVELS OF SERVICE

		EXISTING		2020		
INTERSECTION		LOS	DEL/ VEH	LOS	DEL/ VEH	V/C
#804	Mill/Neal	B	8.7	F	66.1	1.027
#805	Bennett/Ophir		NA	C	19.9	0.675
#813	Auburn/Neal		NA	C	23.3	0.621
#817	Brunswick/Sutton		NA	D	26.3	0.822
#818	Dorsey/Sutton		NA	C	19.4	0.655
#819	Idaho Maryland/Sutton	A	1.5	A	2.9	0.000
#831	Freeman/McKnight	C	10.4	F	108	0.788
#1006	Auburn/SR 49 Frontage		NA	B	10.9	0.352
#1841	Brunswick/Whispering Pines		NA	F	ovrfl	
#2007	Brunswick/Dorsey		NA	F	ovrfl	

V/C = Volume to Capacity Ratio

LOS = Level of Service

Delay presented in seconds per vehicle

A/F = Average Intersection Delay/Worst Case Delay

[1] = AM Peak Hour

Impact 3.9-2: Future development in accordance with the General Plan could cause traffic operations at intersections to exceed LOS "D." This is a **significant impact**.

Discussion/Conclusions: The impacts of implementing the General Plan have been assessed based on the operation of major intersections during the p.m. peak hour. Table 3.9-7 identifies current Levels of Service at key intersections and contrasts these conditions with the Levels of Service forecast for year 2020 conditions. These calculations assume implementation of the street and intersection improvements already addressed by the City's current Capital Improvement Program.

As shown, under year 2020 conditions most of the intersections in Grass Valley will provide LOS "D" or better conditions during the p.m. peak hour.

The Circulation Element identifies modern roundabouts as the preferred solution to capacity constraints in some circumstances (11-CP). Roundabouts are proposed by the Circulation Element at two intersections: the ramp-frontage road intersections at the SR 49/McKnight Way intersection and for the closely spaced system of intersections at the South Auburn Street /Colfax Highway/SR 20/49 Ramps. Each of these locations is projected to deliver LOS "C" under year 2020 conditions, assuming implementation of the design geometrics identified in previous NCTC planning studies. Therefore, these two intersections will be mitigated to a **less than significant impact**.

TABLE 3.9-8

INTERSECTIONS BELOW STANDARD

AFTER CIP IMPROVEMENTS

		2020 DEL/		
INTERSECTION	**LOS**	**VEH**	**V/C**	**ADDITIONAL MITIGATION**
Main/Idaho Maryland/SR 49 SB Ramps	F	129.5	1.285	provide dual lefts EB & WB and separate SB left (31.4 / "D")
Bennett/Centennial	F	9.6	0.000	overall "B" - no mitigation
Auburn/Empire	F	79.6	1.061	add NB right (36.6 / "D")
Mill/Neal	F	66.1	1.027	add NB right (29.8 / "D")
Freeman/McKnight	F	108	0.788	signal (21.1 / "C")
Brunswick/Whispering Pines	F	ovrfl	0.000	signal (19.7 / "C")
Brunswick/Dorsey	F	ovrfl	0.000	signal (18.9 / "C")

Impact #3.9-3: Development in accordance with the General Plan will both generate increased demand for public transportation, and make it difficult for the City to maintain prescribed roadway Level of Service standards at every location and to meet air quality goals in the absence of improved public transportation. This is a **potentially significant impact**.

Discussion/Conclusion: The promotion and expansion of transit services, both on an intra- and inter- city level will prove to be important. General Plan Goals 1-CG and 2-CG, ,Objectives 1-CO through 7-CO, Policies 3-CP, 4-CP, 5-CP, 6-CP and

Implementation Actions and Strategies 11-CI call for Grass Valley to prepare a Long-Range Transit Master Plan and to facilitate alternatives to single occupancy automobile commuting, including para-transit, public transit and various forms of non-automobile travel, in order to reduce roadway congestion and enhance air quality. Effective inter-city public transportation requires convenient transfer locations if ridership levels are to be maintained. The General Plan directs the City to develop a plan for parking that identifies park and ride lots (18-CI) and location of transit stops and park/ride facilities near freeway interchanges and higher density housing. The General Plan recognizes the high level of inter-agency coordination and cooperation necessary to produce a viable transit system (1-CP), (5-CP), (3-CO)and (14-CI). Through implementation of the goals, objectives, policies, and implementation actions/strategies contained in the General Plan, this impact will be mitigated to a level that is **less than significant.**

Impact #3.9-4: Development in accordance with the General Plan will produce an increased demand for bicycle facilities for purposes of personal transportation and recreation. This is a **potentially significant impact.**

Discussion/Conclusion: The proposed bicycle circulation plan provides for the development of bicycle paths and lanes through much of the developing area of the City. Bicycle facilities are also expected to be made part of future Specific Plans. General Plan Goal 1-CG, Objectives 1-CO through 3-CO, Policies 1-CP, 2-CP, 8-CP and Implementation and Action Strategy 13-CI call for the development of a comprehensive bicycle circulation system consistent with the Trails-Sidewalks plan. They also call for the incorporation of bicycle planning into future land use planning as an alternative to the private automobile. With implementation of the goals, objectives, and policies contained in the General Plan, **less than significant impacts** will occur.

Impact #3.9-5: Development in accordance with the General Plan will produce an increased demand for pedestrian facilities for purposes of personal transportation and recreation. This is a **potentially significant impact.**

Discussion/Conclusion: The General Plan both facilitates and encourages increased reliance on walking. The compact development form of the Land Use Plan, planned infill development, planned proximity of residential areas to jobs and schools, and inclusion of a comprehensive Trails-Sidewalks network plan all acknowledge the potential of "pedestrianism" as a viable means of localized transportation. General Plan policies and implementation actions/strategies directing pedestrian facilities include 1-CP (coordinated trail system with Nevada County), 8-CP (incorporate sidewalks in street design. The proposed Trails-Sidewalks network is intended to serve both the transportation and recreational needs of the City through the year 2020. Effective implementation of the Trails-Sidewalks system and pedestrian-related policies will result in **less than significant impacts** on pedestrian mobility.

Impact #3.9-6: As the City of Grass Valley develops in accordance with the General Plan, there will be increasing demand for the movement of goods. This is a **potentially significant impact.**

Discussion/Conclusion: The General Plan recognizes the potential for conflict between competing demands for truck circulation and residential quality of life. General Plan implementation actions and strategies 6-CI (monitor truck traffic and implement a route system as warranted) and 17 CI (identify environmental traffic volume thresholds for residential streets, consider these in development review, and utilize traffic calming techniques). Effective implementation of these measures would result in **less than significant impacts.**

Impact #3.9-7: Development in accordance with the General Plan will place a strain on parking facilities. This is a **potentially significant impact**.

Discussion/Conclusion: The General Plan provides for additional parking facilities, primarily in the Downtown area (19-CP, add vehicular parking in the Downtown area and 18-CI, develop a plan for parking that identifies park and ride lots). The Capital Improvement Program currently includes six parking projects, five of which are in the Downtown area. The General Plan does not identify specific parking facilities or exact locations, but those facilities currently in the CIP support the broader policies and intent of the General Plan. Assuming the CIP will be updated (see Mitigation Measure #3.2-1) to assure conformance to the General Plan and existing conditions at the time of the update, parking impacts are **less than significant.**

Impact #3.9-8: Development in accordance with the General Plan will place a strain on emergency services logistics in areas

where streets are substandard and poorly connected to the overall road network. This is a **potentially significant impact**.

Discussion/Conclusion: Grass Valley has numerous streets which fail to meet modern design standards intended to facilitate emergency vehicles (fire fighting equipment, ambulances, police vehicles). Deficiencies include: narrow streets, often exacerbated by on-street parking; dead ends with insufficient turnaround space; and excessively long dead ends. General Plan goal 5-CG states "Maintain adequate emergency access). Objective 12-CO provides for "improvement and maintenance of adequate emergency access throughout the city." Policy 22-CP states: "remove impediments to emergency access from public streets and rights-of-way. Policy 23-CP directs the City to establish and periodically review emergency access standards in development codes, and 24-CP calls for coordination of circulation and development plans with public safety agencies. In addition, 5-CI directs the City to continue to refine and improve the design standards for its roadway system.

There is little question but that newer developments tend to have roadways better suited to emergency access than many older, developed areas. To a large extent, the problem in the Grass Valley area is one of rehabilitating and retrofitting the older street network to modern standards, rather than amending current code standards for subsequent development. This poses a variety of problems of implementation and funding not associated with new developments, in which private developers construct uniformly to City standards.

In addition, there is substantial public sentiment for maintaining existing streets as they are, deficiencies included. Despite their substandard nature, inadequate streets may discourage traffic in residential neighborhoods and lend a "small town" feel which the majority of residents favor. Retrofitting such streets to modern standards would, in the opinion of some, directly contradict the "neighborhood protection and enhancement" goals, objectives, and policies of the General Plan.

This will remain a **significant and unavoidable impact.**

CUMULATIVE IMPACTS

To assess the cumulative impacts of the Draft General Plan, future travel demand was estimated and the resulting traffic operations on the City's future transportation system were evaluated. The analysis focused on comparing the year 2020 travel demands with buildout of the General Plan.

Methodology and Assumptions: Traffic Impacts under General Plan Buildout were evaluated as the General Plan was being developed. The Regional Travel Demand Forecasting model was employed to identify daily traffic volumes on state highways and arterial/collector streets and these daily traffic forecasts were compared to general Level of Service thresholds to identify those locations where problems may be created in the future or the need for additional circulation system improvements may become evident.

Trip Generation Assumptions: Buildout of the General Plan would result in additional development beyond that anticipated by the year 2020. Because the vast majority of these additional trips beyond year 2020 will be generated by non-residential uses with minimal corresponding increase in new residential development, these additional trips would likely have destinations outside of the General Plan Planning Area.

Assumed Roadway Network: The evaluation of General Plan buildout assumes implementation of the roads identified for the year 2020. No additional new roads have been assumed.

Impact #3.9-9: Traffic volumes on area streets will continue to grow from 2020 to buildout, putting a strain on the roadway network. This is a **significant cumulative impact.**

Discussion/Conclusion: Tables 3.9-10A,B,C, D and E compares future (year 2020) and cumulative buildout for daily traffic volume forecasts and Levels of Service on freeways, arterials, and collectors. Table 3.9-11 identifies roadway segments from Table 3.9-10A,B,C,D and E which are forecast to exceed LOS "D" by buildout. In actuality, buildout never occurs, and is a theoretical "worst case" scenario. As directed by the General Plan, ongoing updates to the Capital Improvement Program, Regional Transportation Plan, and other programs will occur, providing amendments and alterations to current documents. Also,

the General Plan's goals, objectives, policies, and implementation actions/strategies will help to reduce the magnitude of these impacts. However, this will remain a **significant and unavoidable cumulative impact.**

TABLE 3.9-10A

CUMULATIVE ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

FREEWAYS

			NO. OF	2020		BUILDOUT	
	ROAD	LOCATION	LANES	ADT	LOS	ADT	LOS
1.	State Route 49/20	S of N. Auburn St	4	59,500	B	88,200	D
2.	State Route 49/20	S of Bennett St	4	52,500	A	76,200	C
3.	State Route 49/20	S of Idaho-Maryland	4	64,900	B	89,100	D
73.	State Route 49/20	S of Dorsey	4	56,600	A	75,200	C
4.	State Route 49/20	S of Brunswick Rd	4	41,100	A	47,000	A
74.	State Route 49/20	N of Brunswick Rd	4	40,000	A	43,900	A
75.	State Route 49	S of Crestview/Smith Ext	4	35,800	A	68,800	B
5.	State Route 49	N of Crestview/Smith Ext	4	32,700	A	72,500	C
6.	State Route 49	S of SR 20	4	41,650	A	71,700	C
7.	State Route 20	W of Mill St	4	25,200	A	34,800	A
8.	State Route 20	W of SR 49	4	27,500	A	31,400	A
76.	State Route 20	W of Brighton	4	25,200	A	34,800	A

ADT = Average Daily Traffic

LOS = Level of Service

TABLE 3.9-10B

CUMULATIVE ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

ARTERIALS

			NO. OF	2020		BUILDOUT	
	ROAD	LOCATION	LANES	ADT	LOS	ADT	LOS
10.	State Route 174	E of Central St	2	7,350	A	9,800	B
11.	State Route 174	E of Ophir St	2	5,150	A	6,850	A
12.	State Route 174	S of Race St	2	7,250	A	9,050	A
13.	State Route 174	E of Empire Mine	2	9,000	A	14,300	E
79.	South Auburn St	S of Main	2	5,700	A	11,000	C
14.	South Auburn St	S of Mohawk St	2	7,800	A	10,300	B
15.	South Auburn St	N of School Alley	2	6,950	A	11,100	C
16.	South Auburn St	N of Whiting St	2	10,400	B	14,200	E
17.	South Auburn St	NW of E. McKnight Way	4	14,300	A	21,900	C
90.	Bennett Road	E of SR 49/20	2	5,700	A	7,800	A

94.	Brighton Extension	S of McCourtney	2	4,600	A	10,800	B
95.	Brighton Extension	W of Allison Ranch Rd	2	5,600	A	19,300	F
18.	Brunswick Road	On Overcrossing 49/20	4	17,100	A	19,000	B
72.	Brunswick Road	N of Dorsey Drive	4	14,600	A	21,500	B
19.	Brunswick Road	S of Ranchview Ct	4	14,600	A	21,500	B
20.	Brunswick Road	N of Whispering Pines	4	12,600	A	19,300	B
21.	Brunswick Road	NW of Loma Rica Dr	4	18,600	A	32,200	F
22.	Brunswick Road	NW of E. Bennett	2	11,200	C	25,500	D
69.	Centennial Drive	S of Idaho Maryland	2	9,600	B	15,100	E
62.	Crestview/Smith Ext	E of Allison Ranch Rd	2	6,050	A	21,000	F
102.	Crestview/Smith Ext	E of Taylorville	2	3,100	A	12,400	C
40.	Dorsey Drive	SE of Segsworth Way	4	15,400	A	19,600	B
67.	Dorsey Drive	W of Sutton Way	2	13,500	D	23,800	F
85.	Dorsey Drive	E of Sutton	2	12,800	D	24,400	F
86.	Dorsey/Whispering Pines Loop	N of Idaho Maryland	2	12,800	D	19,600	F
87.	Dorsey/Whispering Pines Loop	S of Idaho Maryland	2	8,250	A	13,900	D

ADT = Average Daily Traffic

LOS = Level of Service

TABLE 3.9-10B

CUMULATIVE ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

ARTERIALS

			NO. OF	2020		BUILDOUT	
	ROAD	**LOCATION**	**LANES**	**ADT**	**LOS**	**ADT**	**LOS**
64.	Idaho Maryland Rd	E of Railroad	4	24,700	C	31,800	F
24.	La Barr Meadows	SE of E. McKnight Way	2	10,100	B	10,900	C
80.	La Barr Meadows	N of Crestview/Smith Ext	2	7,950	A	8,400	A
82.	La Barr Meadows	S of Crestview/Smith Ext	2	11,200	C	12,200	C
74.	Main Street	S of Squirrel Creek	2	10,200	B	18,000	F
63.	Main Street	W of Auburn	2	9,450	B	11,600	C
71.	Main Street	E of Bennett St	2	16,500	F	20,000	F
70.	Main Street	N of Idaho Maryland	4	21,900	C	25,500	D
73.	McCourtney Road	W of 20 Ramps	2	9,900	B	13,900	D
50.	W. McKnight Way	SW of Taylorville Rd	4	16,800	A	20,000	B
25.	Mill Street	S of Neal St	2	12,100	C	15,300	E
26.	Mill Street	NE of Rhode Island St	2	8,600	A	12,500	D
92.	Mill Street	N of McCourtney	2	12,100	C	16,200	F
27.	Neal Street	E of Church St	2	3,750	A	6,350	A
77.	Nevada City Hwy	S of Sierra College	4	15,400	A	18,400	A
28.	Nevada City Hwy	Grass Vly City Limits	4	15,000	A	16,800	A

83.	Nevada City Hwy	E of Brunswick	2	11,800	C	11,900	C
78.	Ophir	S of Bennett	2	9,050	A	12,900	D
57.	Sierra College Dr	E of Main Street	4	16,700	A	22,500	C
58.	Sutton Way	E of Brunswick	2	10,800	A	11,050	C
59.	Sutton Way	W of Brunswick	2	6,300	A	11,900	C
68.	Sutton Way	N of Dorsey Dr	2	6,150	A	10,300	B
84.	Sutton Way	S of Dorsey Dr	2	5,200	A	8,000	A
60.	Whispering Pines Ln	W of Brunswick Rd	2	8,250	A	11,500	B

ADT = Average Daily Traffic

LOS = Level of Service

TABLE 3.9-10C

CUMULATIVE ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

COLLECTOR

				2020		BUILDOUT	
	ROAD	LOCATION	NO. OF LANES	ADT	LOS	ADT	LOS
29.	Allison Ranch Rd	S of McCourtney	2	600	A	1,800	A
30.	Allison Ranch Rd	N of North Star Mine Rd	2	600	A	1,800	A
98.	Allison Ranch Rd	S of Crestview/Smith Ext	2	50	A	100	A
31.	Alta Street	N of West Main St	2	3,000	A	4,500	A
32.	Alta Street	S of Alta Vista Dr (S)	2	1,300	A	1,650	A
33.	Alta Street	N of Alta Vista Dr (S)	2	850	A	1,050	A
34.	Alta Street	SE of Ridge Road	2	1,100	A	1,250	A
96.	Old Auburn Rd	S of McCourtney	2	1,450	A	2,750	A
81.	Old Auburn Rd	S of North Star Connection	2	1,750	A	2,550	A
66.	E. Bennett Road	E of Centennial	2	5,250	A	10,200	E
35.	E. Bennett Road	E Grass Vly City Limit	2	8,150	C	13,500	F
93.	Brighton Street	N of McCourtney	2	6,750	B	8,650	C
36.	Brighton Street	N of McCourtney	2	6,750	B	8,650	C
37.	Brighton Street	S of Chapel	2	3,950	A	5,400	A
38.	Butler Street	W of Minnie	2	3,150	A	3,450	A
39.	Butler Street	E of Packard Dr	2	3,100	A	4,250	A
65.	Centennial Drive	N of E. Bennett	2	7,350	B	9,600	D
91.	North Collector	W of Allison Ranch	2	600	A	2,150	A
99.	South Collector	E of Old Auburn	2	1,150	A	1,800	A
100.	South Collector	E of North Star Loop Rd	2	1,400	A	4,250	A
97.	South Collector	W of Allison Ranch	2	1,950	A	7,850	C
41.	Empire Street	E of Kate Hayes St	2	3,900	A	7,400	B
42.	E. Empire Street	E Grass Vly City	2	3,900	A	7,400	B
43.	Freeman Lane	N of McKnight Way	2	12,200	F	12,300	F

44.	Freeman Lane	SW of McKnight	2	4,800	A	10,100	E
61.	Freeman Lane	E of Mill	2	9,250	D	8,850	D

LOS = Level of Service

ADT = Average Daily Traffic

TABLE 3.9-10C

CUMULATIVE ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

COLLECTOR

			NO. OF	2020		BUILDOUT	
	ROAD	LOCATION	LANES	ADT	LOS	ADT	LOS
45.	Hughes Road	NW of E. Main St	2	13,200	F	15,000	F
46.	Hughes Road	S of Ridge Rd	2	10,400	E	12,700	F
47.	Idaho Maryland Rd	W of Brunswick	2	3,850	A	7,000	B
48.	Idaho Maryland Rd	E of Brunswick Rd	2	3,050	A	4,700	A
49.	McCourtney Road	W of Brighton St	2	9,300	D	9,100	D
101.	McCourtney Road	W of Old Auburn Rd	2	10,100	E	10,900	E
51.	Mill Street	N of Bank Street	2	5,150	A	6,350	A
52.	Richardson Street	E of Alta Street	2	2,900	A	4,500	A
53.	Ridge Road	W of Ridge Estates Rd	2	8,000	C	8,100	C
54.	Ridge Road	N of Hughes Rd	2	10,900	E	14,100	F
55.	Ridge Road	S of Hughes Rd	2	10,400	E	14,900	F
88.	Ridge Road	W of Alta	2	7,600	B	14,200	F
89.	Ridge Road	E of Rough & Ready Hwy	2	11,600	F	23,800	F
56.	Sierra College Dr	SE of Ridge Rd	2	7,200	B	9,800	D
103.	Taylorville	S of McKnight	2	0	A	150	A
104.	Taylorville	S of Crestview/Smith Ext	2	3,100	A	12,500	F

LOS = Level of Service

ADT = Average Daily Traffic

TABLE 3.9-11

CUMULATIVE ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

			NO. OF	2020		BUILDOUT	
	ROAD	LOCATION	LANES	ADT	LOS	ADT	LOS
13.	State Route 174	E of Empire Mine	2	9,000	A	14,300	E
16.	South Auburn St	N of Whiting St	2	10,400	B	14,200	E
95.	Brighton Extension	W of Allison Ranch Rd	2	5,600	A	19,300	F
21.	Brunswick Road	NW of Loma Rica Dr	4	18,600	A	32,200	F

69.	Centennial Drive	S of Idaho Maryland	2	9,600	B	15,100	E
62.	Crestview/Smith Ext	E of Allison Ranch Rd	2	6,050	A	21,000	F
67.	Dorsey Drive	W of Sutton Way	2	13,500	D	23,800	F
85.	Dorsey Drive	E of Sutton	2	12,800	D	24,400	F
86.	Dorsey/Whispering Pines Loop	N of Idaho Maryland	2	12,800	D	19,600	F
64.	Idaho Maryland Rd	E of Railroad	4	24,700	C	31,800	F
74.	Main Street	S of Squirrel Creek	2	10,200	B	18,000	F
71.	Main Street	E of Bennett St	2	16,500	F	20,000	F
25.	Mill Street	S of Neal St	2	12,100	C	16,200	F
66.	E. Bennett Road	E of Centennial	2	5,250	A	10,200	E
35.	E. Bennett Road	E Grass Vly City Limit	2	8,150	C	13,500	F
43.	Freeman Lane	N of McKnight Way	2	12,200	F	12,300	F
44.	Freeman Lane	SW of McKnight	2	4,800	A	10,100	E
45.	Hughes Road	NW of E. Main St	2	13,200	F	15,000	F
46.	Hughes Road	S of Ridge Rd	2	10,400	E	12,700	F
101.	McCourtney Road	W of Old Auburn Rd	2	10,100	E	10,900	E
54.	Ridge Road	N of Hughes Rd	2	10,900	E	14,100	F
55.	Ridge Road	S of Hughes Rd	2	10,400	E	14,900	F
88.	Ridge Road	W of Alta	2	7,600	B	14,200	F
89.	Ridge Road	E of Rough & Ready Hwy	2	11,600	F	23,800	F
104.	Taylorville	S of Crestview/Smith Ext	2	3,100	A	12,500	F

ADT = Average Daily Traffic

LOS = Level of Service

Impact #3.9-10: Buildout of the General Plan will result in substantially increased volumes of traffic through intersections previously identified in Tables 3.9-7 and 3.9-8, between year 2020 and buildout. This is a **significant cumulative impact.**

Discussion/Conclusion: Full buildout of the General Plan would increase the volume of traffic through all key intersections in the Grass Valley area, including those for which impacts were mitigated during the planning period. As directed by the General Plan, ongoing updates to the Capital Improvement Program, Regional Transportation Plan, and other programs will occur, providing amendments and alterations to current documents. Also, the General Plan's goals, objectives, policies, and implementation actions/strategies will help to reduce the magnitude of these impacts. However, this will remain a **significant and unavoidable cumulative impact.**

Impact #3.9-11: Full buildout of the General Plan would place a strain on public transportation services between year 2020 and buildout. This is a **potentially significant cumulative impact.**

Discussion/Conclusion: The cumulative impacts of General Plan buildout on transit service would not be substantially different from the direct impacts identified in Impact #3.9-3. This is a **less than significant cumulative impact.**

Impact #3.9-12: Full buildout of the General Plan would place a strain on bicycle transportation facilities between year 2020 and buildout. This is a **potentially significant cumulative impact.**

Discussion/Conclusion: The cumulative impacts of General Plan buildout on bicycles would not be substantially different from the direct impacts identified in Impact #3.9-4. This is a **less than significant cumulative impact.**

Impact #3.9-13: Full buildout of the General Plan would place a strain on pedestrian transportation facilities between year 2020 and buildout. This is a **potentially significant cumulative impact.**

Discussion/Conclusion: The cumulative impacts of General Plan buildout on pedestrian facilities would not be substantially different from the direct impacts identified in Impact #3.9-5. This is a **less than significant cumulative impact.**

Impact #3.9-14: Full buildout of the General Plan would place a strain on goods movement facilities between year 2020 and buildout. This is a **potentially significant cumulative impact.**

Between 2020 and buildout, the vast majority of new development is forecast to be concentrated in commercial, industrial, and business park land uses. It is anticipated that the City will continue to update all plans and programs periodically both before and after 2020. Nevertheless, the 2020 to buildout land use increases will result in substantial increases in goods movement in the Planning Area. The cumulative impacts of General Plan buildout on the movement of goods will be substantially greater than the direct impacts identified in Impact #3.9-6. This becomes a **significant and unavoidable cumulative impact.**

Impact #3.9-15: Full buildout of the General Plan would place a strain on parking facilities between year 2020 and buildout. This is a **potentially significant cumulative impact.**

Discussion/Conclusion: The cumulative impacts of General Plan buildout on parking would not be substantially different from the direct impacts identified in Impact #3.9-7. The majority of parking needs are in the Downtown area. Although some additional development is anticipated in and near Downtown by buildout, the amount of traffic-generating traffic will not increase precipitously. If current-to-year 2020 parking needs are addressed in accordance with the General Plan and Capital Improvement Program by year 2020, those measures are likely be sufficient to accommodate Downtown parking needs to buildout. This is a **less than significant cumulative impact.**

Impact #3.9-16: Full buildout of the General Plan would place a strain on emergency services logistics between year 2020 and buildout. This is a **potentially significant cumulative impact.**

Discussion/Conclusion: The cumulative impacts of General Plan buildout on emergency services logistics would not be substantially different from the direct impacts identified in Impact #3.9-8. As most development between year 2020 and buildout would be commercial, industrial, and business park, modern street design standards would be required from the outset. This is a **less than significant cumulative impact.**

3.9.3 Mitigation Measures

The 2020 General Plan will result in significant impacts in terms of traffic volumes on roadways and traffic volumes at certain intersections. As listed below, the General Plan contains goals, objectives, policies, and implementation measures to substantially reduce these impacts. If additional mitigation are employed, these impacts can be reduced to **less than significant**. Impacts related to emergency services remain **significant and unavoidable**.

The cumulative impact of the buildout of the General Plan will result in increased traffic volumes on area streets and highways. For one arterial and three collector segments as discussed previously, the impacts cannot be mitigated and therefore remain **significant and unavoidable**.

1-CG	8-CO	3-LUG
1-CO	9-CO	6-LUO
2-CO	10-CO	6-LUG
3-CO	11-CO	15-LUO

2-CG	4-CG	20-LUP
4-CO	12-CO	32-LUP
5-CO	13-CO	1 thru 24-CP
6-CO	5-CG	1 thru 18-CI
7-CO	12-CO	
3-CG	2-LUG	

Mitigation Measure #3.9-1: Provide dual left turn lanes eastbound and westbound and separate the southbound left turn lane at the Main/Idaho Maryland/SR 49 southbound ramps**.** (Applies to Impact #3.9-2)

Effectiveness of Measure: This improvement will improve traffic flow.

Mitigation Measure #3.9-2: Add northbound right turn lane at South Auburn/Empire Street. (Applies to Impact #3.9-2)

Effectiveness of Measure: This improvement will improve traffic flow.

Mitigation Measure #3.9-3: Add northbound right turn lane at Mill St./Neal St. (Applies to Impact #3.9-2)

Effectiveness of Measure: This improvement will improve traffic flow.

Mitigation Measure #3.9-4: Add traffic signal at Freeman/McKnight. (Applies to Impact #3.9-2)

Effectiveness of Measure: This improvement will improve traffic flow and safety.

Mitigation Measure #3.9-5: Add traffic signal at Brunswick Rd./Whispering Pines. (Applies to Impact #3.9-2)

Effectiveness of Measure: This improvement will address traffic flow and safety.

Mitigation Measure #3.9-6: Add traffic signal at Brunswick Rd./Dorsey (extension). (Applies to Impact #3.9-2)

Effectiveness of Measure: This improvement will improve traffic flow and safety.

3.10 NOISE

The following information is taken from the *City of Grass Valley General Plan Update Background Report*, prepared by Brown-Buntin Associates, and the *2020 General Plan Noise Element*, which is based upon recommendations of the California State Office of Noise Control as contained in the *Guidelines for the Preparation and Content of Noise Elements of the General Plan*.

3.10.1 Setting

Noise is often defined simply as unwanted sound, and thus is a subjective reaction to characteristics of a physical phenomenon. Researchers for many years have grappled with the problem of translating objective measurements of sound into directly correlated measures of public reaction to noise. The descriptors of community noise in current use are the results of these efforts, and represent simplified, practical measurement tools to gauge community response.

A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{dn}), which is the sound

level corresponding to a steady-state A-weighted sound level in decibels (dB) containing the same total energy as a time-varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptors such as L_{dn} and CNEL, and shows very good correlation with community response to noise.

Two composite noise descriptors are in common use today: L_{dn} and CNEL. The L_{dn} (Day-Night Average Level) is based upon the average hourly L_{eq} over a 24-hour day, with a +10 decibel weighting applied to nighttime (10:00 p.m. to 7:00 a.m.) L_{eq} values. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were subjectively twice as loud as daytime exposures. The CNEL (Community Noise Equivalent Level), like L_{dn}, is based upon the weighted average hourly L_{eq} over a 24-hour day, except that an additional +4.77 decibel penalty is applied to evening (7:00 p.m. to 10:00 p.m.) hourly L_{eq} values. The CNEL was developed for the California Airport Noise Regulations, and is normally applied to airport/aircraft noise assessment. The L_{dn} descriptor is a simplification of the CNEL concept, but the two will usually agree, for a given situation, within 1 dB. Like the L_{eq}, these descriptors are also averages and tend to disguise short-term variations in the noise environment. Because they presume increased evening or nighttime sensitivity, these descriptors are best applied as criteria for land uses where nighttime noise exposures are critical to the acceptability of the noise environment, such as residential developments. Figure 3.10-1 identifies land use compatibility for community noise environments used in the City of Grass Valley.

Existing Noise Conditions

The Noise Element Guidelines prepared by the State Office of Planning and Research require that major noise sources be identified and quantified by preparing generalized noise contours for current and projected conditions. Significant noise sources include traffic on major roadways and highways, railroad operations, airports, and representative industrial activities and fixed noise sources.

A community noise survey was conducted to describe existing noise levels in noise-sensitive areas within the City of Grass Valley Planning Area so that nosie level performance standards could be developed in the General Plan to maintain an acceptable noise environment. Noise modeling techniques and noise measurements were also used to develop generalized L_{dn}/CNEL or L_{eq} noise contours for the major roadways, railroads and fixed noise sources in the City of Grass Valley General Plan Planning Area for existing conditions.

Noise modeling techniques used source-specific data including average levels of activity, hours of operation, seasonal fluctuations, and average levels of noise from source operations. Modeling methods have been developed for a number of environmental noise sources including roadways, railroad line operations and industrial plants. Such methods produce reliable results as long as data inputs and assumptions are valid. The modeling methods used in the Noise Element closely follow recommendations made by the State Office of Noise Control, and were supplemented where appropriate by field-measured noise level data to account for local conditions. The noise exposure contours are based upon annual average conditions. Because local topography, vegetation or intervening structures may significantly affect noise exposure at a particular location, the noise contours should not be considered site-specific.

The most significant noise sources in the community are traffic on local roadways, industrial and commercial activities, and aircraft operations at the Nevada County Airpark. For most of the residents of Grass Valley, the dominant noise source is traffic. Existing traffic noise contour data in Grass Valley are described by Table 3.10-1. Figure 3.10-2 graphically represents the existing traffic noise environment. Noise levels due to representative industrial and commercial activities as well as community noise levels in residential areas which are not significantly affected by these noise sources are listed in the General Plan Background Report.

The criteria in the Noise Element are established for determining potential noise conflicts between various land uses and noise sources. The standards are based upon the CNEL/L_{dn} descriptors.

As described above, the CNEL and L_{dn} are 24-hour average noise level descriptors, which apply penalties to noise which occurs during the evening and nighttime hours. The CNEL and L_{dn} descriptors have been found to provide good correlation to the

potential for annoyance from transportation-related noise sources (ie: roadways, airports, railroad operations). However, they do not provide a good correlation to the potential for annoyance from non-transportation or stationary noise sources such as industrial and commercial operations. This is due to the fact that many times stationary noise sources may operate between 8 and 10 hours per day, or will have noise sources such as loading docks, pressure relief valves or alarms which tend to be short duration noise events. When applying an L_{dn} or CNEL criterion, the noise levels associated with these types of short term operations will be averaged over a 24-hour period, thus underestimating the potential for annoyance.

TABLE 3.10-1

EXISTING TRAFFIC NOISE CONTOUR DATA

Segment	Description	CNEL At 100 Feet*	Distance to Traffic CNEL Contour*	
			60 dB	65 dB
State Route 49				
1	Begin Freeway to Grass Val. Int.	69.7	444	206
2	Grass Val. Int. To S.R. 20	71.1	554	257
3	S.R. 20 to N. Auburn Street	71.6	593	275
4	N. Auburn Street to S.R. 174	72.5	684	318
5	S.R. 174 to Bennett Street	72.5	684	318
6	Bennett Street to Idaho Maryland	72.6	697	324
7	Idaho Maryland to Brunswick Road	71.8	613	284
8	Brunswick Road to Banner Ridge	71.7	599	278
State Route 20				
9	West Boundary to Mill Street	67.6	321	149
10	Mill Street to S.R. 49	68.0	340	158
State Route 174				

11	Brunswick Road to Empire Mine Road	59.6	94	44
12	Empire Mine Road to Race Street	56.9	62	29
13	Race Street to Ophir Road	56.7	60	28
14	Ophir Road to S.R. 49	57.4	69	32
Alta Street				
15	West Main to Alta Vista	54.9	46	21
16	Alta Vista to Ridge Road	54.1	40	19
South Auburn Street				
17	Mohawk Street to School Alley	57.6	69	32
18	School Alley to Whiting Street	57.0	63	29
19	Whiting Street to Mc Knight Way	57.2	65	30
Banner Lava Cap				
20	Entire Length	54.6	44	20
Brighton Street				
21	Mc Courtney to Chapel	54.5	43	20
Brunswick Road				
22	49/20 O.C. to Idaho Maryland	62.8	155	72
23	Idaho Maryland to Loma Rica Drive	60.3	104	48
24	Loma Rica Drive to Bennett Street	60.3	104	48
Dorsey Drive				

25	Ridge Road to E. Main Street	53.7	38	18
26	E. Main Street to Segworth	56.1	55	25
Empire Street				
27	49/20 O.C. to Le Duc Street	55.6	51	24
28	Le Duc Street to Kate Hayes Street	55.0	46	21
29	Kate Hayes Street to Grass Valley Limit	54.9	45	21
Freeman Lane				
30	Mc Knight Way to Taylorville Road	57.8	71	33
Hughes Road				
31	East Main Street to Ridge Road	57.6	69	32
Idaho Maryland Road				
32	Brunswick Road to 49/20 O.C.	54.2	41	19
La Barr Meadows				
33	Entire Length	58.7	82	38
Loma Rica Road				
34	Entire Length	57.0	63	29
Mc Courtney Road				
35	Entire Length	58.0	74	34
West Mc Knight Way				

36	Taylorville Road to Freeman	58.1	75	35
Mill Street				
37	Main Street to Neal Street	56.0	54	25
38	Neal Street to Rhode Island Street	56.3	57	26
Neal Street				
39	East of Church Street	55.9	53	25
Ridge Road				
40	Ridge Estates Road to Hughes Road	55.7	52	24
41	Hughes Road to Alta Street	57.6	69	32
Sutton Way				
42	South of Brunswick	58.2	76	35
43	North of Brunswick	60.0	100	47
Taylorville Road				
	Freeman lane to Mc Knight Way			
44	Mc Knight Way to Mill Street	52.7	33	15
45		57.3	67	31

Source: Brown-Buntin Associates, 1998.

3.10.2 Impacts

Impact Evaluation Criteria: Appendix G of the CEQA Guidelines indicates that a project will have a significant impact on the environment if it would:

- expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
- expose persons to or generate excessive groundborne vibration or groundborne noise levels
- result in a substantial permanent increase in ambient noise levels
- result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity

- expose people within two miles of a public airport or public use airport to excessive noise levels

Traffic Noise: Based on the Noise Element standards, traffic noise impacts are assumed to occur if any of the following conditions are experienced:

- New noise-sensitive uses are located inside the 60 dB CNEL roadway noise contours,
- Traffic noise associated with new projects exceeding 60 dB CNEL encroaches upon existing noise-sensitive land uses,
- Traffic noise levels increase by more than 3 dB.

Industrial and Commercial Noise Sources: Based on the Noise Element standards, noise impacts associated with fixed sources are assumed to occur if any of the following conditions are experienced:

- New noise-sensitive uses are located where the noise from fixed sources exceeds the standards of Table 6-5 of the Noise Element.
- Noise associated with new fixed sources exceeds the standards of Table 6-5 of the Noise Element existing noise sensitive land uses.
- Noise due to existing fixed sources undergoing modifications increases so as to exceed the standards of Table 6-5 of the Noise Element at existing noise sensitive land uses.

Aircraft Noise: Based on the Noise Element standards, aircraft noise impacts are assumed to occur if any of the following conditions are experienced:

- New noise-sensitive uses are located inside the 60 dB CNEL contour for Nevada County Airpark.
- Noise associated with development of the Nevada County Airpark exceeds 60 dB CNEL at existing noise-sensitive land uses.
- Aircraft noise levels increase by more than 3 dB.

Impact #3.10-1: Development in the City of Grass Valley Planning Area in accordance with the General Plan is projected to introduce additional traffic volumes. Increases in noise levels associated with those changes will be a **potentially significant impact**.

Discussion/Conclusion: To assess the potential noise effects of those changes, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to predict distances to CNEL contours for all highways and major roadways under existing conditions and those that are expected to occur in the year 2020, and under buildout conditions, based upon the land use designations proposed by the General Plan. Predicted future traffic noise levels are shown in Tables 3.10-2 (2020 General Plan). The noise contours shown in Figure 3.10-3 represent the projected future traffic noise environment for the year 2020.

The noise contours and the data presented in Tables 3.10-2 show that predicted future (2020) traffic noise levels will exceed the noise impact criteria for existing and proposed uses at some locations paralleling Highways 20, 40 and 20/49, as well as other major roadways (see Figure 3.10-3). Specifically, new noise-sensitive uses are located inside the 60 dB CNEL roadway noise contours; traffic noise associated with new projects exceeding 60 dB CNEL encroaches upon existing noise-sensitive land uses; and traffic noise levels increase by more than 3 dB.

TABLE 3.10-2

PREDICTED FUTURE (2020) TRAFFIC NOISE LEVELS

Segment	Description	CNEL dB, at 100 Feet*	Distance (feet) to CNEL Contour*	
			60 dB	65 dB
State Route 49				
1	Begin Freeway to Crestview/Smith Ext.	71.8	609	283
2	Crestview/Smith Ext. to Grass Valley Int.	71.4	574	266
3	Grass Valley Int. to S.R. 20	72.4	674	313
4	S.R. 20 to N. Auburn St.	74.7	957	444
5	N. Auburn St. to S.R. 174	74.2	880	409
6	S.R. 174 to Bennett St.	74.2	880	409
7	Bennett St. to Idaho-Maryland	75.1	1014	471
8	Idaho-Maryland to Dorsey Dr.	74.5	925	430
9	Dorsey Dr. to Brunswick Rd.	73.1	748	347
10	Brunswick Rd. to Banner Ridge	73.0	734	341
State Route 20				
11	West Boundary to Mill St.	70.2	480	223
12	Mill St. to S.R. 49	70.6	509	236
State Route 174 58				
13	Brunswick Rd. to Empire Mine Rd.	61.5	126	58
14	Empire Mine Rd. to Race St.	58.0	74	34
15	Race St. to Ophir St.	56.5	59	27
16	Ophir St. to S.R. 49	60.2	103	48
Alta Street				
17	West Main to Alta Vista	53.4	36	17
18	Alta Vista to Ridge Rd.	48.0	16	7
South Auburn Street				
19	Main St. to Mohawk St.	56.2	56	26

20	Mohawk St. to School Alley	57.6	69	32
21	School Alley to Whiting St.	58.8	84	39
22	Whiting St. to Mc Knight Way	60.2	103	48
Banner Lava Cap				
23	Entire Length	N/A	N/A	N/A
East Bennett Road				
24	Entire Length	57.8	71	33
Brighton Street				
25	Chapel to Mc Courtney	57.0	63	29
26	Mc Courtney to Allison Ranch Rd.	56.1	55	26
Brunswick Road				
27	49/20 O.C. to Ranchview Ct.	61.0	116	54
28	Ranchview Ct. to Idaho Maryland	60.3	105	49
29	Idaho Maryland to Whispering Pines	59.7	95	44
30	Whispering Pines to Loma Rica Dr.	61.4	123	57
31	Loma Rica Dr. to Bennett St.	59.2	88	41
Centennial Drive				
32	Entire Length	58.5	79	37
Crestview/Smith Ext.				
33	E. of Allison Ranch Rd.	56.5	58	27
34	E. of Taylorville Rd.	53.6	37	17
Dorsey Drive				
35	E. Main St. to Segworth	60.5	109	50
36	Segworth to Sutton Way	60.0	99	46
37	E. of Sutton Way	59.7	96	45
Dorsey/Whispering Pines				
38	N. of Idaho Maryland	59.7	96	45
39	S. of Idaho Maryland	57.8	72	33
Empire Street				

40	49/20 O.C. To Le Duc St.	55.6	51	23
41	Le Duc St. to Kate Hayes St.	54.6	43	20
42	Kate Hayes St. to Grass Valley Limit	54.6	43	20
Freeman Lane				
43	Taylorville Rd. to Mc Knight Way	59.5	93	43
44	Mc Knight Way to Begin	55.5	50	23
Hughes Road				
45	E. Main St. to Ridge Rd.	59.9	98	45
Idaho Maryland Road				
46	Brunswick Rd. to 49/20 O.C.	54.5	43	20
La Barr Meadows Road				
47	Mc Knight Way to Crestview/Smith Ext.	58.7	82	38
48	S. of Crestview/Smith Ext.	59.2	88	41
Loma Rica Rd.				
49	Entire Length	N/A	N/A	N/A
Main Street				
50	Squirrel Creek Rd. to Auburn St.	58.7	82	38
51	Auburn St.	58.4	78	36
52	Bennett St. to Idaho Maryland	60.8	114	53
53	N. of Idaho Maryland	62.1	137	64
Mc Courtney Road				
54	Begin to Old Auburn Rd.	58.7	82	38
55	Old Auburn Rd. to Brighton St.	58.3	78	36
56	Brighton St. to 20 Ramps	58.6	81	38
West Mc Knight Way				
57	Taylorville Rd. to Freeman	60.9	115	53
Mill Street				
58	Main St. to Neal St.	55.8	52	24
59	Neal St. to Rhode Island St.	59.5	92	43

60	Rhode Island St. to Mc Courtney Rd.	59.5	92	43
Neal Street				
61	E. of Church St.	54.4	42	20
Nevada City Highway				
62	Hughes Rd. to Sierra College Dr.	60.5	109	50
63	Sierra College Dr. to Brunswick Rd.	60.4	107	50
64	E. of Brunswick Rd.	59.4	91	42
Ophir Street				
65	S. of Bennett St.	58.2	76	35
Ridge Road				
66	W. of Rough & Ready Hwy.	59.3	90	42
67	Rough & Ready Hwy. to Alta St.	57.5	68	31
68	Alta St. to Hughes Rd.	58.8	84	39
69	Hughes Rd. to Ridge Estates	59.0	86	40
Sierra College Drive				
70	Ridge Rd. to Main St.	57.2	65	30
71	E. of Main St.	60.9	115	53
South Collector				
72	W. of Allison Ranch	51.6	27	13
Sutton Way				
73	Begin to Brunswick Rd.	59.0	86	40
74	Brunswick Rd. to Dorsey Dr.	56.7	60	28
75	Dorsey Dr. Idaho Maryland	55.8	53	24
Taylorville Rd.				
76	Freeman Ln. to Mc Knight Way	52.7	33	15
77	Mc Knight Way to Crestview/Smith Ext.	N/A	N/A	N/A
78	S. of Crestview/Smith Ext.	53.6	37	17
Whispering Pines Lane				
79	Entire Length	57.8	72	33

* Distance measured from centerline of roadway

However, the goals, policies, objectives and implementation actions and strategies contained in the General Plan Noise Element have been specifically detailed to provide sufficient directive to ensure that future development will be protected from traffic related noise through compliance with all applicable noise standards. Specifically, Noise Element Implementation Actions and Strategies 5-NI and 6-NI regulate development of new noise -sensitive land uses in areas exposed to significant transportation noise levels. Measures 6-NI and 7-NI regulate noise created by new transportation noise sources and road widening projects. Measure 8-NI, 9-NI and 10-NI provide mechanisms for the evaluation of proposed projects affected by transportation noise sources. Potential noise impacts associated with fixed noise sources are mitigated by Measures 1-NI through 4-NI, 9-NI and 10-NI of the Noise Element. Therefore, implementation of the standards contained in the Noise Element will ensure that noise impacts from increases in traffic will have a **less than significant impact** on noise.

Impact #3.10-2: Development in the City of Grass Valley Planning Area in accordance with the General Plan is projected to introduce new industrial and commercial land uses. Increases in fixed source noise levels associated with those uses will be a **potentially significant impact**.

Discussion/Conclusion: The General Plan will provide for changes in commercial and industrial land uses, which could introduce new noise sources to noise sensitive areas. In addition, new development proposals could place noise sensitive uses in close proximity to existing fixed noise sources, such as industrial and commercial land uses. However, there are no specific development proposals assumed for the General Plan, so it is not possible to predict the extent of any changes in noise exposures due to future industrial and commercial development. However, the goals, policies, objectives and implementation actions and strategies contained in the General Plan will provide sufficient directive to ensure that future development will comply with all applicable noise standards. Potential noise impacts associates with fixed noise sources are mitigated by Measures 1-NI through 4-NI, 9-NI and 10-NI of the Noise Element. Therefore, with the implementation of the Noise Element standards, this is a **less than significant impact**.

Impact #3.10-3: Development of the land area in the City of Grass Valley in accordance with the General Plan is expected to introduce increased use of the nearby airport. Increases in noise levels associated with those changes will be a **potentially significant impact**.

Discussion/Conclusion: The CNEL contours associated with predicted future activity at the Nevada County Airpark are depicted in Figure 3.10-4. There are no noise sensitive land uses currently located within the 60 dB CNEL contour for future aircraft operations. Potential noise impacts associates with fixed noise sources are mitigated by Measures 1-NI through 4-NI, 9-NI and 10-NI of the Noise Element. Provided that no noise sensitive land uses are permitted to encroach upon the airport, as directed by the Noise Element, there will be no expected impact due to future airport operations. This is a **less than significant impact**.

Impact #3.10-4: Build out in the City of Grass Valley Planning Area in accordance with the 2020 General Plan is projected to introduce additional traffic volumes. Increases in noise levels associated with those changes will be a **potentially significant cumulative impact**.

Discussion/Conclusion: To assess the potential noise effects of those changes, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used to predict distances to CNEL contours for all highways and major roadways under existing conditions and those that are expected to occur in the year 2020, and under build out conditions, based upon the land use designations proposed by the General Plan. Predicted future traffic noise levels are shown in 3.10-3 (General Plan Build Out). Table 3.10-4 shows the relative changes in predicted future noise levels as compared to existing conditions.

The noise contours and the data presented in Tables 3.10-3 show that predicted future build out traffic noise levels will exceed the noise impact criteria for existing and proposed uses at some locations paralleling Highways 20, 40 and 20/49, as well as other major roadways. Specifically, new noise-sensitive uses are located inside the 60 dB CNEL roadway noise contours; traffic noise associated with new projects exceeding 60 dB CNEL encroaches upon existing noise-sensitive land uses; and traffic noise levels

increase by more than 3 dB.

However, the goals, policies, objectives and implementation actions and strategies contained in the General Plan Noise Element have been specifically detailed to provide sufficient directive to ensure that traffic noise associated with future development will comply with all applicable noise standards. Specifically, Noise Element Implementation Actions and Strategies 5-NI and 6-NI regulate development of new noise -sensitive land uses in areas exposed to significant transportation noise levels. Measures 6-NI and 7-NI regulate noise created by new transportation noise sources and road widening projects. Measure 8-NI, 9-NI and 10-NI provide mechanisms for the evaluation of proposed projects affected by transportation noise sources. Potential noise impacts associates with fixed noise sources are mitigated by Measures 1-NI through 4-NI, 9-NI and 10-NI of the Noise Element. Therefore, implementation of the standards contained in the Noise Element will ensure that cumulative noise impacts from increases in traffic will have a **less than significant cumulative impact**.

TABLE 3.10-3

PREDICTED BUILD OUT TRAFFIC NOISE LEVELS

Segment	Description	CNEL, dB, at 100 Feet*	Distance (feet) to CNEL Contour*	
			60 dB	65 dB
State Route 49				
1	Begin Freeway to Crestview/Smith Ext.	74.6	942	437
2	Crestview/Smith Ext. to Grass Valley Int.	74.8	975	453
3	Grass Valley Int. to S.R. 20	74.8	968	449
4	S.R. 20 to N. Auburn St.	76.4	1244	577
5	N. Auburn St. to S.R. 174	75.8	1128	524
6	S.R. 174 to Bennett St.	75.8	1128	524
7	Bennett St. to Idaho-Maryland	76.5	1252	581
8	Idaho-Maryland to Dorsey Dr.	75.7	1118	519
9	Dorsey Dr. to Brunswick Rd.	73.7	818	379
10	Brunswick Rd. to Banner Ridge	73.4	781	363
State Route 20				
11	West Boundary to Mill St.	71.6	595	276
12	Mill St. to S.R. 49	71.2	556	258
State Route 174 58				
13	Brunswick Rd. to Empire Mine Rd.	63.5	171	79
14	Empire Mine Rd. to Race St.	59.0	86	40
15	Race St. to Ophir St.	57.8	71	33

16	Ophir St. to S.R. 49	60.7	111	52
Alta Street				
17	West Main to Alta Vista	55.2	48	22
18	Alta Vista to Ridge Rd.	48.9	18	8
South Auburn Street				
19	Main St. to Mohawk St.	59.1	87	40
20	Mohawk St. to School Alley	58.8	83	39
21	School Alley to Whiting St.	60.2	103	48
22	Whiting St. to Mc Knight Way	62.1	137	64
Banner Lava Cap				
23	Entire Length	N/A	N/A	N/A
East Bennett Road				
24	Entire Length	60.0	99	46
Brighton Street				
25	Chapel to Mc Courtney	58.0	74	34
26	Mc Courtney to Allison Ranch Rd.	61.5	126	59
Brunswick Road				
27	49/20 O.C. to Ranchview Ct.	61.4	125	58
28	Ranchview Ct. to Idaho Maryland	62.0	136	63
29	Idaho Maryland to Whispering Pines	61.5	126	59
30	Whispering Pines to Loma Rica Dr.	63.7	177	82
31	Loma Rica Dr. to Bennett St.	62.7	152	71
Centennial Drive				
32	Entire Length	60.4	107	50
Crestview/Smith Ext.				
33	E. of Allison Ranch Rd.	61.9	133	62
34	E. of Taylorville Rd.	59.6	94	44
Dorsey Drive				
35	E. Main St. to Segworth	61.6	127	59

36	Segworth to Sutton Way	62.4	145	67
37	E. of Sutton Way	62.5	148	68
Dorsey/Whispering Pines				
38	N. of Idaho Maryland	61.6	127	59
39	S. of Idaho Maryland	60.1	101	47
Empire Street				
40	49/20 O.C. To Le Duc St.	58.8	83	39
41	Le Duc St. to Kate Hayes St.	57.4	67	31
42	Kate Hayes St. to Grass Valley Limit	57.4	67	31
Freeman Lane				
43	Taylorville Rd. to Mc Knight Way	59.6	93	43
44	Mc Knight Way to Begin	58.7	82	38
Hughes Road				
45	E. Main St. to Ridge Rd.	60.4	107	50
Idaho Maryland Road				
46	Brunswick Rd. to 49/20 O.C.	57.1	64	30
La Barr Meadows Road				
47	Mc Knight Way to Crestview/Smith Ext.	59.0	86	40
48	S. of Crestview/Smith Ext.	59.5	93	43
Loma Rica Rd.				
49	Entire Length	57.0	63	29
Main Street				
50	Squirrel Creek Rd. to Auburn St.	61.2	120	56
51	Auburn St.	59.3	90	42
52	Bennett St. to Idaho Maryland	61.7	129	60
53	N. of Idaho Maryland	62.7	152	71
Mc Courtney Road				
54	Begin to Old Auburn Rd.	59.0	86	40
55	Old Auburn Rd. to Brighton St.	58.2	76	35

56	Brighton St. to 20 Ramps	60.1	101	47
West Mc Knight Way				
57	Taylorville Rd. to Freeman	61.7	129	60
Mill Street				
58	Main St. to Neal St.	56.7	60	28
59	Neal St. to Rhode Island St.	60.5	108	50
60	Rhode Island St. to Mc Courtney Rd.	60.8	112	52
Neal Street				
61	E. of Church St.	56.7	60	28
Nevada City Highway				
62	Hughes Rd. to Sierra College Dr.	61.3	122	57
63	Sierra College Dr. to Brunswick Rd.	60.9	115	53
64	E. of Brunswick Rd.	59.4	91	42
Ophir Street				
65	S. of Bennett St.	59.8	96	45
Ridge Road				
66	W. of Rough & Ready Hwy.	62.4	145	67
67	Rough & Ready Hwy. to Alta St.	60.2	103	48
68	Alta St. to Hughes Rd.	60.4	106	49
69	Hughes Rd. to Ridge Estates	60.2	102	48
Sierra College Drive				
70	Ridge Rd. to Main St.	58.6	80	37
71	E. of Main St.	62.2	140	65
South Collector				
72	W. of Allison Ranch	57.6	69	32
Sutton Way				
73	Begin to Brunswick Rd.	59.1	87	40
74	Brunswick Rd. to Dorsey Dr.	59.4	91	42
75	Dorsey Dr. Idaho Maryland	57.7	70	33

Taylorville Rd.				
76	Freeman Ln. to Mc Knight Way	52.7	33	15
77	Mc Knight Way to Crestview/Smith Ext.	40.4	5	2
78	S. of Crestview/Smith Ext.	59.6	94	44
Whispering Pines Lane				
79	Entire Length	59.3	89	41
* Distance measured from centerline of roadway				

TABLE 3.10-4

EXISTING, FUTURE (2020) AND BUILD OUT TRAFFIC NOISE LEVELS

Segment	Description	CNEL, dB, at 100 feet			Difference, dB:	Difference, dB:
		Existing	2020	Build Out	2020 less Existing	Build Out less Existing
State Route 49						
1	Begin Freeway to Crestview/Smith Ext.	69.6	71.8	74.6	2.2	5.0
2	Crestview/Smith Ext. to Grass Valley Int.	69.6	71.4	74.8	1.8	5.2
3	Grass Valley Int. to S.R. 20	71.4	72.4	74.8	1.1	3.4
4	S.R. 20 to N. Auburn St.	71.6	74.7	76.4	3.1	4.8
5	N. Auburn St. to S.R. 174	72.5	74.2	75.8	1.6	3.3
6	S.R. 174 to Bennett St.	72.5	74.2	75.8	1.6	3.3
7	Bennett St. to Idaho-Maryland	72.6	75.1	76.5	2.4	3.9
8	Idaho-Maryland to Dorsey Dr.	71.8	74.5	75.7	2.7	3.9
9	Dorsey Dr. to Brunswick Rd.	71.8	73.1	73.7	1.3	1.9
10	Brunswick Rd. to Banner Ridge	71.7	73.0	73.4	1.3	1.7
State Route 20						
11	West Boundary to Mill St.	67.6	70.2	71.6	2.6	4.0
12	Mill St. to S.R. 49	68.0	70.6	71.2	2.6	3.2

State Route 174						
13	Brunswick Rd. to Empire Mine Rd.	59.4	61.5	63.5	2.1	4.1
14	Empire Mine Rd. to Race St.	56.8	58.0	59.0	1.3	2.2
15	Race St. to Ophir St.	56.5	56.5	57.8	0	1.3
16	Ophir St. to S.R. 49	57.4	60.2	60.7	2.9	3.3
Alta Street						
17	West Main to Alta Vista	54.9	53.4	55.2	-1.5	0.3
18	Alta Vista to Ridge Rd.	54.1	48.0	48.9	-6.1	-5.2
South Auburn Street						
19	Main St. to Mohawk St.	N/A	56.2	59.1	N/A	N/A
20	Mohawk St. to School Alley	57.6	57.6	58.8	0	1.2
21	School Alley to Whiting St.	57.2	58.8	60.2	1.6	3.0
22	Whiting St. to Mc Knight Way	57.8	60.2	62.1	2.4	4.3
Banner Lava Cap						
23	Entire Length	54.6	N/A	N/A	N/A	N/A
East Bennett Road						
24	Entire Length	52.0	57.8	60.0	5.8	8.0
Brighton Street						
25	Chapel to Mc Courtney	54.5	57.0	58.0	2.5	3.5
26	Mc Courtney to Allison Ranch Rd.	N/A	56.1	61.5	N/A	N/A
Brunswick Road						
27	49/20 O.C. to Ranchview Ct.	62.8	61.0	61.4	-1.8	-1.4
28	Ranchview Ct. to Idaho Maryland	59.5	60.3	62.0	0.8	2.5
29	Idaho Maryland to Whispering Pines	60.3	59.7	61.5	-0.6	1.2
30	Whispering Pines to Loma Rica Dr.	60.1	61.4	63.7	1.2	3.6
31	Loma Rica Dr. to Bennett St.	58.9	59.2	62.7	0.2	3.8
Centennial Drive						
32	Entire Length	N/A	58.5	60.4	N/A	N/A
Crestview/Smith Ext.						

33	E. of Allison Ranch Rd.	N/A	56.5	61.9	N/A	N/A
34	E. of Taylorville Rd.	N/A	53.6	59.6	N/A	N/A
Dorsey Drive						
35	E. Main St. to Segworth	56.1	60.5	61.6	4.4	5.5
36	Segworth to Sutton Way	N/A	60.0	62.4	N/A	N/A
37	E. of Sutton Way	N/A	59.7	62.5	N/A	N/A
Dorsey/Whispering Pines						
38	N. of Idaho Maryland	N/A	59.7	61.6	N/A	N/A
39	S. of Idaho Maryland	N/A	57.8	60.1	N/A	N/A
Empire Street						
40	49/20 O.C. To Le Duc St.	55.6	55.6	58.8	0	3.2
41	Le Duc St. to Kate Hayes St.	55.0	54.6	57.4	-0.4	2.4
42	Kate Hayes St. to Grass Valley Limit	54.9	54.6	57.4	-0.3	2.5
Freeman Lane						
43	Taylorville Rd. to Mc Knight Way	57.8	59.5	59.6	1.8	1.8
44	Mc Knight Way to Begin	N/A	55.5	58.7	N/A	N/A
Hughes Road						
45	E. Main St. to Ridge Rd.	57.6	59.9	60.4	2.3	2.8
Idaho Maryland Road						
46	Brunswick Rd. to 49/20 O.C.	54.2	54.5	57.1	0.3	2.9
La Barr Meadows Road						
47	Mc Knight Way to Crestview/Smith Ext.	58.7	58.7	59.0	0	0.3
48	S. of Crestview/Smith Ext.	N/A	59.2	59.5	N/A	N/A
Loma Rica Rd.57.0						
49	Entire Length	57.0	N/A	57.0	N/A	N/A
Main Street						
50	Squirrel Creek Rd. to Auburn St.	N/A	58.7	61.2	N/A	N/A
51	Auburn St.	N/A	58.4	59.3	N/A	N/A

52	Bennett St. to Idaho Maryland	N/A	60.8	61.7	N/A	N/A
53	N. of Idaho Maryland	N/A	62.1	62.7	N/A	N/A
Mc Courtney Road						
54	Begin to Old Auburn Rd.	N/A	58.7	59.0	N/A	N/A
55	Old Auburn Rd. to Brighton St.	58.0	58.3	58.2	0.3	0.2
56	Brighton St. to 20 Ramps	N/A	58.6	60.1	N/A	N/A
West Mc Knight Way						
57	Taylorville Rd. to Freeman	58.1	60.9	61.7	2.8	3.6
Mill Street						
58	Main St. to Neal St.	56.0	55.8	56.7	-0.2	0.7
59	Neal St. to Rhode Island St.	56.3	59.5	60.5	3.2	4.2
60	Rhode Island St. to Mc Courtney Rd.	N/A	59.5	60.8	N/A	N/A
Neal Street						
61	E. of Church St.	55.9	54.4	56.7	-1.5	0.8
Nevada City Highway						
62	Hughes Rd. to Sierra College Dr.	N/A	60.5	61.3	N/A	N/A
63	Sierra College Dr. to Brunswick Rd.	60.2	60.4	60.9	0.2	0.7
64	E. of Brunswick Rd.	N/A	59.4	59.4	N/A	N/A
Ophir Street						
65	S. of Bennett St.	N/A	58.2	59.8	N/A	N/A
Ridge Road						
66	W. of Rough & Ready Hwy.	N/A	59.3	62.4	N/A	N/A
67	Rough & Ready Hwy. to Alta St.	N/A	57.5	60.2	N/A	N/A
68	Alta St. to Hughes Rd.	57.5	58.8	60.4	1.3	2.9
69	Hughes Rd. to Ridge Estates	57.6	59.0	60.2	1.4	2.6
Sierra College Drive						
70	Ridge Rd. to Main St.	53.7	57.2	58.6	3.5	4.9
71	E. of Main St.	55.2	60.9	62.2	5.7	7.0
South Collector						

72	W. of Allison Ranch	N/A	51.6	57.6	N/A	N/A
Sutton Way						
73	Begin to Brunswick Rd.	58.2	59.0	59.1	0.8	0.9
74	Brunswick Rd. to Dorsey Dr.	60.0	56.7	59.4	-3.4	-0.6
75	Dorsey Dr. Idaho Maryland	N/A	55.8	57.7	N/A	N/A
Taylorville Rd.						
76	Freeman Ln. to Mc Knight Way	52.7	52.7	52.7	N/A	N/A
77	Mc Knight Way to Crestview/Smith Ext.	N/A	N/A	40.4	N/A	N/A
78	S. of Crestview/Smith Ext.	N/A	53.6	59.6	N/A	N/A
Whispering Pines Lane						
79	Entire Length	50.4	57.8	59.3	7.4	8.9
* Distance measured from centerline of roadway ***Note: Shaded cells indicate predicted significant increases in traffic noise levels.***						

3.10.3 Mitigation Measures

The following General Plan Goals, Policies, Objectives and Implementation Actions and Strategies will ensure that any increases in noise levels resulting from the 2020 General Plan Amendment will result in a **less-than-significant impact**:

1-NG	4-NP	5-NI
1-NO	5-NP	6-NI
2-NO	6-NP	7-NI
3-NO	1-NI	8-NI
1-NP	2-NI	9-NI
2-NP	3-NI	10-NI
3-NP	4-NI	

Implementation of these goals, objectives, policies and implementation actions and strategies will reduce the effects on noise to a less than significant level, and no additional mitigation measures are required.

3.11 PUBLIC SAFETY/HAZARDS

3.11.1 Setting

Section 65302(g) of the California Government Code requires that general plans adopted by planning agencies include "A safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction and other seismic hazards identified pursuant to Chapter 7.8 (commencing with Section 2690) of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wild land and urban fires." Existing conditions associated with these risks to public safety, as well as related issues, are discussed below.

As required by Section 65302(g), the City of Grass Valley consulted with the Department of Conservation, Division of Mines and Geology (DMG) and the Governor's Office of Emergency Services (OES) prior to completing the Safety Element to obtain information known by and available to these agencies.

Subsidence and Liquefaction

A substantial portion of the Planning Area is underlain by an extensive labyrinth of abandoned mine shafts. The Empire Mine tunnels alone extend some 365 miles beneath the City of Grass Valley. The susceptibility of mine shafts to subsidence or cave-ins during an earthquake would depend on distance from the epicenter, water content of the soil, and depth and physical condition of the shaft. Generally, in hard rock areas such as Grass Valley, the likelihood of shaft collapse is reduced by the solidarity of the bedrock material (City of Grass Valley 1980); However, the Old Brunswick shaft of the Idaho-Maryland Mine Complex near Grass Valley collapsed during the 1998 storm season . Due to the geology of the area, liquefaction is not a significant problem in the Grass Valley area (Colburn 1998).

Slope Instability

Unstable soils and geologic conditions have historically resulted from vegetation removal associated with wildfires, timber harvesting, mining, and grading as part of road and building and site development. Depending on local topographic, geologic and hydrogeologic conditions, significant precipitation can exacerbate unstable conditions, resulting in landslides and mudslides. Any area adjacent to a hydraulically mined area is subject to landslide activity due to the removal of supporting rock and soil. Under such conditions, earthquakes or heavy rains can initiate slide activity.

Landslides are events in which surface masses of slope-forming earth move outward and downward from their underlying and stable floors in response to the force of gravity. Unstable or potentially unstable slopes are susceptible to slide, falls, creeps, or mud flows. Although slope movements can occur in any type of rock material, certain bedrock formations exhibit a high susceptibility to such movement. This type of formation is generally not found in the western portion of the county (County of Nevada 1995), but could occur on a local basis.

Flood Hazards

As indicated by Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), the City of Grass Valley and the Planning Area are relatively well drained (see Figure 7.3 in the Grass Valley General Plan Update). The 100-year flood designations are generally confined to narrow bands along local drainages. Major transportation corridors do not appear to be susceptible to flooding in a 100-year flood event. Idaho Maryland Road east of SR 49/20 and South Auburn Street south of Whiting Street will be flooded during a 100-year flood. To the extent culverts and storm drains are not maintained, other localized flooding could occur. Homes located in the flood hazard areas would be subject to flooding in a 100-year flood event unless special mitigation is employed.

Wildland Fire

The Grass Valley region has a generally high potential for wildland fires of devastating intensity. This is due to the presence, particularly in less urban settings, of heavier timber, woodland and brush, the occurrence of steep slopes, dry weather conditions, and human activity. Generally, vegetative areas of over 8% slope are considered as fire hazardous (County of Nevada 1995).

Existing standards for development that are expected to provide adequate access, fire flows, and other facilities to maintain an appropriate level of fire protection will continue to derive from the California Building Code, the California Fire Code, and the California Mechanical Code.

Peak Load Water Supply Requirements for Firefighting

The City's municipal water system serves the majority of the City's incorporated boundaries, or approximately 1,357 acres. A few properties outside the City are also served, such as the Nevada County Fair Grounds (see Section 3.5 Public Services and Utilities - Water System).

Under a current agreement, the City purchases raw water from NID and then treats and distributes the water. Of the 330,000 acre feet of water available to NID, about 170,000 acre feet are currently used. There appears to be sufficient water for future regional urban demands to accommodate future growth. The City's treatment facility has the capacity to treat five times the amount of water currently processed. Limitations exist on expansion of the City's water service due to topographical constraints and location of the treatment facility (City of Grass Valley 1997).

Due to the location of most reservoirs at 100-200 feet in elevation above the City, the City of Grass Valley water system provides excellent pressure and flows for firefighting purposes. There are isolated areas of inadequate piping and areas that have no hydrants. These areas are being upgraded as the City develops (Burke 1998). As the City has expanded its geographic limits, areas served by NID have been detached from NID and annexed to the land served by the City.

Suggested fire flow requirements from area fire departments are presented in the respective Water Master Plans. Table 3.11-1 summarizes the suggested fire flows for different types of land uses.

TABLE 3.11-1

FIRE FLOW SUMMARY

Land Use	Fire Flow* (gpm)	Duration (hours)
Residential Low Density	500	2
Urban Single Family	500	2
Urban Medium Density	1,000	2
Urban High Density	1,000-2,000	2
Commercial	1,000-2,000	2-4
Industrial	1,500-3,500	2-4
School	2,000	4

*Fire flow used for projection purposes is 2,000 gpm times 3-hour duration which equals 360,000 gpd.

Source: Nevada County General Plan, 1995

Emergency Evacuation Routes

The City currently maintains approximately 38 miles of roadways, excluding state highways (e.g., Highway 49 and SR 20). Over $10.5 million has been identified in the City's Capital Improvement Program (CIP) for significant reconstruction of these roadways and signalization of key intersections over the next 20 years. A list of these improvements is provided in the CIP. The CIP also outlines improvements and additions to the City's off-street parking facilities, such as rehabilitation of existing parking lots and the addition of one or two multi-level parking facilities to increase the available parking in the downtown area (City of Grass Valley 1997).

Similar to most foothill towns, the City of Grass Valley has comparatively narrow streets in older developed areas. Improvements to roadways, intersections, and off-street parking facilities cited above help alleviate congestion and improve fire access in these areas. Hilly roads slow response times, particularly in snow conditions, although the Grass Valley Fire Department is equipped to deal with these conditions. Nationally recognized standards are used in planning for new development to prevent access constraints to fire equipment and improve emergency evacuation capabilities (Burke 1998).

Airports

The Nevada County Airpark lies to the east of Grass Valley. The Federal Aviation Administration (FAA) defines the most critical areas as those immediately beyond the runway ends the initial departure and final approach sectors. It is within these approach/departure sectors that the concentration of aircraft accidents occurs. In addition, there are studies indicating that about half of all airport accidents occur on airport property and an additional 15 percent of accidents occur within one mile outside the airport property. This suggests that areas immediately off the ends of the runway and under the airport traffic pattern should be carefully evaluated for developed land use.

The Foothill Airport Land Use Commission designates airport safety areas. Safety areas for Nevada County Airpark are bordered, but not encroached upon, on the north and south sides by residential developments or industrial buildings. All other safety areas at the airport are surrounded by open space (County of Nevada 1995).

Hazardous Materials

The significance of environmental or human exposure to hazardous materials depends on the type, location, and quantity of the material released. In the Grass Valley area, hazardous materials may be transported via roadways, railways, and airways. Industrial facilities that use, store, or dispose of hazardous materials present the greatest potential to toxic exposure due to accidental release. However, most of the hazardous waste stream in Nevada County, including Grass Valley, is generated by "small quantity generators." Hazardous materials and wastes are regulated by federal and state laws and are required to be recycled or properly disposed. Transport of hazardous materials is also heavily regulated. However, illegal storage and disposal and unintentional releases of hazardous materials from leaks and accidents can still occur.

Where hazardous materials are found to be illegally stored or otherwise accidentally released, the initial response is provided by the local fire agencies. Site assessment and cleanup is conducted by the Marysville Fire Department, which is operated by CDF. When discovered, fuel storage tank leaks are cleaned up under the jurisdiction of the California Regional Water Quality Control Board, Central Valley Region.

There are seven sites listed on the Comprehensive Environmental Response, Compensation, Liability Information System (CERCLIS) database in the Grass Valley area. CERCLIS is a database used by the U.S. Environmental Protection Agency (EPA) to track activities conducted under the Comprehensive Environmental Response and Liability Act (CERCLA 1980) and the Superfund Amendments and Reauthorization Act (SARA) (1986). Sites included are identified primarily by Treat, Storage, and Disposal (TSD) facility hazardous substances reporting requirements and releases larger than specific Reportable Quantities (RQ) established by EPA. None of the sites listed are Superfund sites, and all seven sites are "No Further Remedial Action Planned Sites" (NFRAP). NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the site being placed on the National Priority List (NPL), or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

Ten sites are listed in the Solid Waste Facilities, Sites, and Operations Database for the Grass Valley area. These sites include

closed as well as operating solid waste landfills compiled by the California Integrated Waste Management Board.

The above waste sites are regulated by the State and Nevada County; however, their locations should be considered in making land use decisions to avoid the potential for impacts to public health or safety. Specific information regarding the type and locations of hazardous waste sites is on file at the Nevada County Planning Department.

Naturally Occurring Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals found in many parts of California. The most common type of asbestos is chrysolite, but other types are also found in the state. Serpentine rock, which has a grayish-green to bluish-black color and an often shiny appearance, often contains chrysolite asbestos and is abundant in the Sierra foothills.

Asbestos is not found in all serpentine rock, but when it does occur, it is typically present in amounts ranging from less than 1 percent up to about 25 percent or more. Asbestos is released from serpentine rock when it is broken or crushed. This can happen when cars drive over unpaved roads or driveways surfaced with serpentine rock, when land is graded for building purposes, or at quarrying operations. It is also released naturally through weathering and erosion. Once released from the rock, asbestos can become airborne and may stay in the air for long periods of time (ARB 1998).

Given the proximity of Grass Valley to potential serpentine deposits, it is possible that construction activities and road surfacing could involve asbestos-containing serpentine rock or soils.

All types of asbestos are hazardous and may cause lung disease and cancer. The longer a person is exposed to asbestos and the greater the intensity of exposure, the greater the chances for a health problem. The Air Resources Board (ARB) adopted a statewide control measure which prohibits use of serpentine rock for surfacing applications if it has more than five percent asbestos, and requires testing of serpentine material that is sold (ARB 1990).

3.9.2 Impacts

Impact Evaluation Criteria: Appendix G of the CEQA Guidelines indicates that a project will have a significant impact on the environment if it would:

- create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials
- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school
- 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 create a significant hazard to the public or the environment
- 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, result in a safety hazard for people residing or working in the project area
- for a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area
- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- 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

Impact #3.11-1: New development in accordance with the 2020 General Plan could potentially expose property, people, and the environment to hazardous materials. This is a **potentially significant impact**.

Discussion/Conclusion: Of major concern to future projects approved under the General Plan is proximity to hazardous waste sites and the potential for accidental release or improper use, storage, handling, or transport of hazardous materials. The General

Plan does address, in specific goals, objectives, policies, and implementation strategies, ways of preventing these incidents from occurring including requiring new development located on officially identified hazardous waste sites to conduct appropriate investigations, submit results to the City, and prepare a mitigation plan (13-SI), and to consider the location and characteristics of documented hazardous waste sites as part of the environmental assessment process for proposed developments.

Another major concern is development in close proximity to abandoned mine shafts which could contain toxic gases or toxic materials. The General Plan discusses various ways of preventing impacts resulting from mining activities such as requiring development plans in mined areas to include in-depth assessments of potential safety, including mining-related excavations, and health hazards and accompanying mitigation measures (4-SP) and establishing a mine-related hazards program which would include a mine hazard database, technical studies, and other pertinent information (6-SI). These goals, policies, objectives and implementation actions and strategies ensure that new growth and development will comply with all applicable health and safety standards. Therefore, this is a **less than significant impact**.

Impact #3.11-2: New development in accordance with the 2020 General Plan could potentially interfere with an emergency response plan or emergency evacuation plan. This is a **potentially significant impact**.

Discussion/Conclusion: The Safety Element is required by California law to address evacuation routes in the event of a catastrophe. The General Plan does address, in specific goals, objectives, policies, and implementation strategies, ways of preventing interference with emergency response or evacuation such as requiring future developments to provide multiple ingress/egress points, to facilitate emergency vehicle access and mobility (4-SI), and removing impediments to emergency access from public streets and rights-of-way (22-CP). The General Plan also recommends the coordination of circulation and development plans with public safety agencies, fire department/districts and emergency service providers (24-CP). These goals, policies, objectives and implementation actions and strategies will prevent interference with emergency response or evacuation to the extent feasible. The General Plan will, as a result, comply with this requirement. This will reduce this potential impact to a **less than significant** level.

Impact #3.11-3: Development in the vicinity of the Airport could result in a safety hazard for people residing or working in the area. This is a **potentially significant impact**.

Discussion/Conclusion: The Grass Valley City Council adopted the Nevada County Airpark Comprehensive Land Use Plan (CLUP) in 1989. This document contains specific provisions regarding structure height, land use and safety in the Airpark vicinity. The proposed General Plan conforms to the standards required by the CLUP. One of the General Plan's policies (13-SP) recommends the continued implementation of the provisions of the Nevada County Airpark Comprehensive Land Use Plan, as well as coordinating as appropriate with Nevada County, Airpark management, and the Foothill Airport Land Use Commission regarding Airpark plans and safety considerations. This policy will further prevent any airport safety impact from occurring and will reduce the effect to a **less than significant** level.

Impact #3.11-4: New development in accordance with the 2020 General Plan could potentially increase fire hazard in areas with flammable brush, grass, or trees. This is a **potentially significant impact**.

Discussion/Conclusion: Additional development in the foothills increases the potential for wildland fires caused by illegal or inappropriate burning, ignition by lawnmowers, improper disposal of cigarettes, barbeques, etc. The General Plan does address, in specific goals, objectives, policies, and implementation strategies, ways of preventing wildland fires including incorporating fire hazard reduction considerations into land use plans/patterns (6-SP),developing and implementing fire-safe community design and landscaping standards, construction codes, and property maintenance regulations (9-SP), and assuring public awareness of fire-safety measures, including those addressing property maintenance. These goals, policies, objectives and implementation actions and strategies will, to the extent feasible, prevent this impact from occurring and will reduce this potential impact, however give the existing setting, the potential for wildland fire hazard will still exist. Therefore, this will remain a **potentially significant impact.**

Impact #3.11-5: Development in accordance with the proposed 2020 General Plan Update will result in changes in absorption rates, drainage patterns, and the rate and amount of surface runoff within the Planning Area. This could expose people or property

to water related hazards such as flooding. This is a **potentially significant impact**.

Discussion/Conclusion: This is discussed in detail in Section 3.2 (Hydrology and Water Quality) and in 3.5 (Public Services and Utilities) of the EIR. The General Plan goals, polices, objectives, and implementation actions and strategies that have been discussed in Section 3.2 would reduce the effect to a **less than significant** level.

Impact #3.11-6: New development in accordance with the 2020 General Plan could result in exposure to naturally occurring asbestos contained in Serpentine rock common in the Sierra foothills. This is a **potentially significant impact**.

Discussion/Conclusion: Exposure to asbestos in soils is an issue of growing concern. Many foothill communities are studying this problem to determine how serious the potential health risk is and what can be done to reduce any potential risk resulting from developing on serpentine soils. At this time the significance of this potential problem and any appropriate mitigation measures is inconclusive. Therefore, this will remain a **potentially significant impact**.

3.11.3 Mitigation Measures

Because the General Plan update includes goals, objectives, policies and implementation actions and strategies that require evaluation of potential impacts to public health and safety, **all potentially significant impacts with the exception of Impacts #3.11-4 and #3.11-6 are expected to be reduced to a less than significant level**. These goals, objectives, policies and implementation actions and strategies are as follows:

1-SG	4-SO	22-CP
1-SO	5-SO	24-CP
2-SO	1 thru 13-SP	
3-SO	1 thru 17-SI	

Implementation of these goals, objectives, policies and implementation actions and strategies will reduce the effects on public safety/hazards to a less than significant level, with the exception of the two identified impacts, which remain **potentially significant.**

3.12 CULTURAL RESOURCES

3.12.1 Setting

The information contained in the Setting description comes from Chapter 13 (Cultural/Historical Resources) of the *Grass Valley General Plan Update Background Report* prepared by Quad Knopf.

Prehistoric Period

The project area lies within the ethnographic territory of the Hill Nisenan, a branch of the Southern Maidu. A family of the Penutian linguistic stock, the Nisenan had three major dialects of speech: the Northern Hill, Southern Hill and Valley, each believed to have been generally mutually unintelligible.

The Nisenan utilized the resources of the American, Bear, southern Feather and Yuba River drainages. Boundaries generally included the Sacramento River on the west, the Feather River on the northwest, probably the Yuba River on the north, the north side of the Cosumnes on the south and the crest of the Sierras on the east.

Nisenan subsistence was patterned around the seasonal gathering of a multitude of plant and animal resources. Plant food sources consisted of acorns (especially those of the black oak), roots, grasses, herbs, berries, fruits and seeds. Game animals taken by snare, net or arrow included deer, antelope, rabbit, elk, birds, salmon and other fish. Although they were not domesticators, a certain amount of "plant enhancement" occurred, primarily by using the practice of careful burning to enhance new plant growth and to allow more visibility for hunting. Some plants, especially those used for basketry, were "encouraged" by removal of weeds and probably by water implementation. Deer and rabbits were hunted in drives, often by members of several villages. Smaller animals such as woodrats, field mice and squirrels were also an important food source. Some birds were netted and eaten; others, such as hawks, eagles and flickers were used only for their feathers. Fish were taken by use of soaproot poison or with bipointed hooks. Rabbits and medium-sized birds were covered with mud and steam-roasted, small animals and birds were cooked in their skins or skinned, dried and pounded into powder. Grasshoppers were trapped in pits, smoked and steamed in grape leaves.

Nisenan political organization was based on territorial ownership. "Nisenan" means "from among us" 'of our side.' They resided in several different settlements while still referring to themselves as one distinct political unit, a "tribelet." Each tribelet usually had one principal village and several allied subsidiary villages. In the foothills, villages were located at lower elevations on ridges and flats, especially those with southern exposure, near major streams. Upper elevation areas were used for warm weather hunting and gathering, with the people moving about and utilizing small campsites.

Five major villages are known within an approximate six-mile radius of Grass Valley. Three were large centers with inter-community dance houses: Tuyi to the southeast, Tetema northeast of Nevada City, and Kayempaskan northwest of Grass Valley. Other nearby villages were Hi'et on Wolf Creek and Tsekankan to the west of Grass Valley. The holocaust resulting from the influx of immigrant Euro-Americans ended the Indian way and precise Nisenan settlement information has been difficult to obtain.

Historic Period

The Spanish may have explored the Yuba and Bear Rivers in 1822. Russian, American and Hudson's Bay trappers were also in the general area in search of beaver in the 1820s. In 1822-23 the Russians reportedly built cabins on the Bear River about 20 miles east of the Planning Area. The earliest documentation of Euro-American presence in the Grass Valley area was in 1846, when Claude Chana and some other French immigrants passed through the area on their way down from the Truckee Pass. The spring-fed meadow of the future Grass Valley was discovered by their hungry cattle, which had broken away from their camp during the night.

The summer after John Marshall's discovery of gold at Coloma in January 1848, Marshall camped overnight on Deer Creek at the site of present-day Nevada City and recovered a small amount of gold by panning. In October of the same year, David Stump and two other prospectors from Oregon mined Wolf Creek near the sites of the Eureka and Idaho mines. These were possibly the only mining attempts in the county in that year, but within three years over 10,000 miners were working in the area.

In early 1849, the first settlement in Nevada County was established east of Smartville near Pleasant Valley to provide supplies for miners and Indians. In August 1849, a Dr. Saunders built a cabin on Badger Hill at the eastern edge of present day Grass Valley. Others soon moved to the area and the nucleus of the present town was formed. In September, the Boston Ravine area was settled by Rev. H.H. Cummings, four cabins being erected on the south side of the ravine. A sawmill was also established in the fall of 1849. The post office was established on July 10, 1851 under the name of Centerville, which was changed to Grass Valley on August 20, 1852. Gold-bearing quartz was discovered at Gold Hill in 1850, and at Ophir, Rich and Massachusetts Hills shortly after. The Gold Hill and Allison Ranch were the leading lode mines during the 1850s.

Mining activities slowed down during the Comstock rush between 1859-65, but regained impetus in the late 1860s. A more serious decline occurred in the 1870s, and by 1880 only the Empire and Idaho mines were active. In 1884, the North Star was reopened, and the North Star, Empire, Idaho-Maryland, Pennsylvania and W.Y.O.D. became highly productive. By 1900 the Idaho-Maryland had yielded $12.5 million, but was idle between 1901-19. From 1900 to 1925, the North Star and Empire were the largest producers, and by 1928, the North Star had a total output of $33 million.

Development of the Mining Industry

The first mining was almost entirely from surface placering. Drift mining began in the 1850s and continued until about 1900. In October 1850, the most noteworthy discovery of gold-bearing quartz was made on Gold Hill in Grass Valley by George Knight, which led to the development of quartz-mining in the area. The Gold Hill Mine, 1850-57, had a total production of $4 million. Many other gold veins were discovered in this vicinity, the more prominent being at Massachusetts Hill, and the Eureka on Wolf Creek in 1841, Allison Ranch, North Star, Empire and the Idaho discovered in 1863. The most productive have been the consolidated North Star and Empire mines to the south and east of Gold Hill. These mines operated for more than a century, yielding over $80 million. The longest vein extends for nearly two miles and the longest shaft extended nearly 7,000 feet, with 4,000 feet of vertical depth. The Empire Mine is currently a State Park and museum. Other mines operating into recent times include the Idaho-Maryland and the Brunswick. Hard-rock quartz mining nearly became synonymous with Grass Valley, the district being California's top-ranking producer, with a total yield of over $300 million. A total of 98 mines with total yields of $100,000 or more are listed for Grass Valley. Much of the mining activity took place between 1850 and 1900, slowing down in the early part of this century. Mining of all sorts picked up during the 1930s depression, when many people were out of work and moved from higher-cost cities to more rural areas where living was cheaper and perhaps some gain could be had in smaller mining operations and associated businesses. Mining was suspended during World War II, leading to the failure of many of Nevada County's mines. After the war, the Empire, Pennsylvania, North Star and Idaho-Maryland mines re-opened, but operations gradually decreased, with the Idaho-Maryland closing in 1956 and the Empire-Star in 1957, ending 106 years of mining operations in the Grass Valley District. The Idaho-Maryland Mine had eventually ranked as California's second highest gold producer.

MacBoyle and the Loma Rica Ranch

The Idaho-Maryland Corporation, owned by Errol MacBoyle, purchased large tracts of land from individuals in the 1930s, including the Loma Rica Ranch and Loma Rica Rancho. The Ranch contained the stables and caretaker's house, while the Rancho was southwest in the current area of MacBoyle Lake and the Nevada County Airpark. The Ranch portion with the caretaker's house has been referred to as the "1850s Henry McCarty Ranch," but records indicate it was originally purchased in 1870 by Joaquin Marquez Lopez. When the Idaho-Maryland Corporation purchased the property in 1936, it contained the caretaker's house, also known as the ranch house. The house structure has been described as "having stylistic qualities common to modest dwellings from the 1850s through the 1880s, possibly pre-dating Lopez' 1870 purchase."

MacBoyle desired to raise prize horses and began construction on the current Loma Rica Ranch Center, probably shortly after the 1936 purchase. No expense was spared to build a state-of-the-art facility. Included in the complex were foaling and stallion barns, exercise yards and rings, a laboratory, garage, shop, pump house and feed cribs. MacBoyle purchased brood mares and began breeding thoroughbreds, all the horses being given names beginning with "Gold." The ranch became a prominent estate in Grass Valley, MacBoyle reportedly hoping to create an estate comparable to Hearst's San Simeon.

In 1939, MacBoyle visited the Golden Gate International Exposition at Treasure Island and observed the "Fountain of Western Waters" in the Court of Pacifica, a design of landscape architect John McLaren, widely known for his creation of Golden Gate Park, formerly an area of sand dunes. He was so impressed by the fountains, he desired to copy the effect on his ranch, southeast of the Ranch Center, on land previously under cultivation in fruit orchards. The Loma Rica Ranch of 300 acres and over 40,000 pear trees was one of the largest pear orchards in the world. MacBoyle decided to build a reservoir and a home overlooking the rest of the Ranch. He began work in the early 1940s, creating the reservoir known as MacBoyle Lake, with a replica of the Fountain of Western Waters at the east end and a footbridge into the reservoir to a stone masonry gazebo at the western end, the base of which contained control valves for the waterlines feeding the mines to the northwest. While not confirmed, John McLaren has been reported as having designed and/or overseen the construction of the lake. If so, construction was at or near completion in 1943, the year John McLaren died. The fountain was fitted with electrical wiring to power lights from the original fountain, as well as a speaker system.

The plans for a house were also apparently achieved. A home was constructed southwest of the lake, reportedly still standing on MacBoyle Way east of Brunswick, south of the Nevada County Airpark. Errol MacBoyle suffered a stoke in 1943 which left him a permanent invalid, although he was still able to spend hours at his lakeside gazebo. He died in 1949 and is buried in Grass Valley.

Loma Rica Air Field/Airpark

In the 1930s, MacBoyle built Loma Rica Field, a private airport for transporting gold from the Idaho-Maryland Mine to the San Francisco Mint. In 1941, the U.S. Army Air Corps used the field temporarily as a squadron training site, but with the mines closed during the war, the field fell into disuse. After the war, attempts were made to revive it, but it was not until 1957 that it regained use as a County-run public airport.

Ethnic Groups in Grass Valley

When mining began in 1848, it was an unskilled/unorganized venture, and the miners had been Americans born and raised in the continental United States and territories. As the venture became an occupation demanding intensive manual labor for low wages, the Irish appeared on the scene along with the Chinese, though the latter were harder working for longer hours and lower wages, which often created animosities against the Chinese. When the mining occupation became sophisticated, requiring experience with depth and dynamite, Cornish miners already familiar with deep shaft mining in the acquisition of tin were imported. These shifts in mining methods were reflected in the late 1860s Grass Valley population; three quarters of the adult male population were foreign born and just over half of those were Cornish men.

African-Americans

The 1850s and 1860s witnessed many black men lured to California with the sole intent of finding enough of the yellow metal to buy their freedom. In 1850, six black men arrived in Grass Valley, while five black men and one young black girl arrived in Nevada City. All eleven were housed with whites; however, that was the extent of equality.

In 1852, Grass Valley's black population increased greatly with the closing of a nearby mine that had operated via slave labor. Beginning in 1863, each New Year was welcomed in with celebrations of the Emancipation. The celebration, which marked slavery's end in the West Indies, became the largest formal event in Grass Valley and Nevada City. Today, there is little physical evidence of the sections of town where the pioneering blacks resided.

Chinese

The overseas Chinese immigration into California began during the 1850s. Chinese who headed toward Grass Valley found themselves relegated to a plot of land between Bank and Auburn streets and Colfax Avenue, with Wolf Creek trickling along to the eastern margin. Grass Valley's Chinatown was initiated by the gold strike of nearby Gold Hill, but increased drastically in population when the Central and Southern Pacific Railroads in the 1860s released many of the Chinese linemen.

Overseas Chinese residents once involved with the earlier phases of mining often turned to more economically stable businesses, such as restaurants, mercantile shops, laundries, and tending excellent vegetable gardens that for more than a half century supplied the entire community with produce. Chinese laundries were the first businesses to be erected around Bennett Street and Colfax Avenue in Grass Valley, suggesting the Chinatown covered a generally broader circumference than the available old maps illustrate. Between the 1850s and 1860s, Chinese miners were greater in number than Chinese businessmen, but by the 1870s, this trend was reversed.

The evolution in economic development saw an increase in structures made from wood "jammed together often divided into small rooms after the Chinese tradition." Perusal of a 1903 fire insurance map illustrates a few structures of more substantial overseas Chinese architectural design. The map notes buildings of rock with dirt ceilings, the predecessor of ceiling sprinklers. Both rock and brick and rammed earth structures have been archaeologically recorded. Such structures usually had heavy metal shutters and doors as well as the dirt ceilings. The ceiling timbers were covered with a thin sheet of red silk (a sign of good luck) that was then covered with twelve inches of dirt. Should a fire start the heavy shutters and doors would be closed in an effort to suffocate the flames. If the ceiling timbers were burnt, the silk and dirt would fall smothering the fire.

The majority of the Chinese arrived in California from Kwangtung province in southern China. Kwangtung province, like other provinces at that time, was suffering great strife created by both natural and political upheavals. With the news of gold being

struck across the ocean, the opportunity to attain wealth and assist the family by sending money home was a keen proposition. Men were found jobs by employment companies in California communicating with a mainland China office. The requisite number of men would arrive via a credit ticket that they paid off once they were employed. The curiosity about the men with the long braided queues, small shoes, plain attire, different facial structure and speech was initially intriguing, but poor relations began to grow.

Their work ethic (working longer hours for lower wages than Euro-Americans) and their desire not to become acculturated, remaining a more closed community than the other ethnic groups, were seeds of ostracism that resulted in periodic sessions of murder, riots, fires, and beatings. The foreign miners tax was put into effect against all non-Euro-American miners, but was most strongly waged against the Chinese miners. Nevertheless, the animosity was not felt or supported by all, a point proved by Messrs Turton and Knox, subcontractors for the Nevada County Narrow Gauge Railroad. Between 1875 and 1876, the subcontractors hired about three hundred Chinese because their dedication to work and shunning of intoxicants made them far better workers than the Irish.

Despite all this, the Chinese remained a strong element in the mining towns, with many of their residents becoming prominent citizens. Today, the only remnants of their section of Town is a boulder with a plaque dedicated to the town. The degree to which the now black-topped parcel with peripheral structures retains historical data is unsure, but some historical data may be sealed beneath the parking lot.

Cornish Miners

After the easy gold was taken and gold could only be reached by going deep into the earth, Cornish miners came to Grass Valley, making up more than seventy percent of the miners in the Empire Mine. The mines in Nevada County were among the wettest in the Mother Lode and for that reason, the British brought with them the "Cornish Pump," a contraption that could rid mine shafts of any quantity of water. Without the Cornish Pump, deep hard rock mining in the state may not have been conducted until the turn of the century. The combination of men and pump allowed the Empire Mine to reach a depth of over eleven thousand feet and three hundred fifty seven miles of shafts. Today, the main evidence of the Cornish miners in Grass Valley are the Empire Mine, their descendants, and foods, especially the Cornish Pasty.

Jews

By the mid-1850s, German Jews in the country only a few years controlled the dry-goods business. They were active throughout the Mother Lode as peddlers and merchants, but mining was not a profession or enterprise in which Jews took much interest. Nevertheless, several Jewish men are noted to have been active in the construction of mining ditches surrounding the Grass Valley region. The early start of the Jews in the Gold Rush era found them with their dry-goods strapped to their backs traipsing through the Mother Lode keeping their customers costs low with no overhead, no fancy attire to maintain, and some even boasted of fresh goods on a weekly basis.

A combination of legal proclamations increasing the costs for monthly peddler licensing and the clerks processing fee had little effect on slowing down the peddlers; however, an 1857 incident brought the peddlers' trade to a dramatic cessation. A Mr. Jackson enroute to Grass Valley one Sunday at five o'clock in the morning was robbed of his money and pack, tied to a tree, and threatened with death if he hailed the soon approaching Marysville stage. These particular facts are probably responsible for the California federal census between 1850 and 1880 reflecting a single peddler-Joseph Rosenthal of Hornitos. With the decline in the peddler trade, many Jewish men set up businesses in the towns where they had once visited, becoming not only dry goods merchants but also butchers, blacksmiths, clerks, and bookkeepers.

Becoming part of the community, they established homes, and were more involved with supporting organizations and attending meetings, to the extent there was no conflict with their religious beliefs. Thus, membership in the Masonic Order (Nevada City) the Independent Order of Knighthood (Grass Valley), or the Sons of Temperance (Nevada City and Springfield) was common. The retention of religious beliefs did not guarantee the same concern over everyday rituals, a point that may reflect more a slow but steady decrease in population that began during the 1880s. The lack of a synagogue and missing Jewish cemetery illustrate this point. Plans had been made to erect a synagogue during the height of the Jewish population; however, as the Jewish

population began to decrease, the plot of land originally purchased for the synagogue was sold. The parcel that once held the Jewish cemetery was also sold. Today, the literary archives are the predominant evidence of the Jews in Grass Valley, which once had the third largest Jewish community after Sacramento and San Francisco.

Historic Roads and Landscapes

Several historic roads in the Grass Valley area still retain much of their historic appearance and setting, although they may have been widened and paved. Roads that retain much, if not all, of their original "historical setting" and appearance include the Old Auburn Road and the Allison Ranch Road, both in the southwest quadrant; East Main Street, the original principal road between Grass Valley and Nevada City; Brunswick Road, away from the freeway area; the Idaho-Maryland Road on the eastern portion; and Alta Street near the central part of town. East Main is particularly interesting in its setting, with remnants of a 1920s auto court on its northeastern portion, a c.1930s house in the central portion adjacent to remains of an early gas station, and the large historic home at the Nevada County Country Club. The two roads on the southwest are in heavy forested areas, with open meadows and small ranches along Old Auburn Road.

The historic Downtown retains many buildings from the era prior to 1950, but is also the scene of much denser traffic, both cars and pedestrians, signal lights, and modern structures, lessening the visual historic impact.

Historical Resources

In constructing buildings, early residents employed their own versions of East Coast and New Orleans designs, tempered by the availability and type of materials at hand. The architecture they produced carried traces of former places and times. Thus, a mixture of architectural styles can be found, including Greek Revival, Gothic Revival, Italianate, Second Empire, Eastlake, Queen Anne, Classical Revival, Colonial Revival, etc. in modest vernacular commercial buildings, as well as grand mansions of the newly rich. Styles and building types evolving in Grass Valley during the 1850s and up to 1900 reflect a pattern of similar structures constructed throughout the western United States during that era.

The architecture of Grass Valley reflects the scale and era of its construction, and the diversity of its population. As a result of the rich mixture of history, people, ideas and gold, an important heritage of architectural resources has evolved. This valuable heritage should be protected by means of historic preservation programs that include funding opportunities, rehabilitation information, incentives, and an effective community historic preservation program. The National Historic Preservation Act of 1966 established the structure nationally for the recognition of this kind of communal heritage, through the formulation of the National Register of Historic Places and its administration by the National Park Service.

3.12.2 Impacts

Impact Evaluation Criteria: Virtually any physical evidence of past human activity can be considered a cultural resource, although not all such resources are considered to be significant. They often provide the only means of reconstructing the human history of a given site or region, particularly where there is no written history of that area or that period. Consequently, their significance is judged largely in terms of their historical or archaeological interpretive values. Along with research values, cultural resources can be significant, in part, for their aesthetic, educational, cultural and religious values.

In assessing historical impacts under CEQA, the most directly applicable criteria are those contained in the California Register Act, enacted by the California Legislature in 1992, and codified in Public Resources Code Sections 5020, 5024 and 21085. This Act created the California Register of Historical Resources and established criteria for assessing a "substantial adverse change" to a property that may be eligible for listing in the California Register of Historical Resources.

The law creates several categories of properties that may be eligible for the California Register. Certain properties are included in the program automatically, including: Properties listed in the National Register of Historic Places; properties determined eligible for listing in the National Register of Historic Places; and certain classes of State Historical Landmarks. Other properties may be added through a nomination process and according to criteria yet to be developed by the State Historical Resources Commission (SHRC). The most practical criteria for assessing eligibility for the California Register are the criteria for listing in the National

Register of Historic Places. The National Park Service has developed explicit eligibility criteria for listing in the National Register and guidelines for applying those criteria.

Section 15064.5 of the State CEQA Guidelines provides the following guidance for determining the significance of impacts to archaeological and historical resources:

(a) For purposes of this section, the term "historic resources" shall include the following:

(1) A resource listed in, or determined to be eligible for listing in the California Register of Historical Resources.

(2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

(3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historic resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Public Resources Code § 5024.1, Title 14 CCR, Section 4800.3) as follows:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. Has yielded, or may be likely to yield, information important in prehistory or history.

(b) A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

(1) Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration in the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

(2) The significance of an historical resource is materially impaired when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics that account for a determination by a lead agency, based upon substantial evidence in light of the whole record, that the resource is an historical resource for purposes of CEQA.

(3) Generally, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings shall be considered as mitigated to a level of less than a significant impact on the historical resource.

(4) A lead agency shall identify any potentially feasible measures to mitigate significant adverse changes in the significance of an historical resource. The lead agency shall ensure that any adopted measures to mitigate or avoid significant adverse change are fully enforceable through permit conditions, agreements, or other measures.

(5) When a project will affect state-owned historical resources, as described in Public Resources Code Section 5024, and the lead agency is a state agency, the lead agency shall consult with the State Historic Preservation Officer as provided in Public Resources Code Section 5024.5. Consultation should be coordinated in a timely fashion with the preparation of environmental documents.

(c) CEQA applies to effects on archaeological sites.

(1) When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, which is defined as any site which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

(2) If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, this section, and Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.

(3) If an archaeological site does not meet the criteria outlined above, but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of that section. The time and cost limitations described in Public Resources Code Section 21083.2(c-f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.

(4) If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

(d) When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the most likely descendant (MLD), as designated by the Native American Heritage Commission, and the applicant to develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. Action implementing such an agreement is exempt from:

(1) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5).

(2) The requirements of CEQA and the Coastal Act.

(e) In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent

human remains until:

(A) The coroner of the county in which the remains are discovered has been informed and has determined that no investigation of the cause of death is required, and

(B) If remains are of Native American origin,

1. The MLD has made a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or

2. The Native American Heritage Commission was unable to identify a MLD or the MLD failed to make a recommendation within 24 hours after being notified by the commission.

(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(A) The Native American Heritage Commission is unable to identify a descendant;

(B) The descendant identified fails to make a recommendations; or

(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the native American Heritage Commission fails to provide measures acceptable to the landowner.

(f) As part of the objectives, criteria, and procedures required by Section 21082 of the Public Resources Code, a lead agency should make provisions for historical or unique archaeological resources accidentally discovered during construction. These provisions should include an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an important historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Construction work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place.

Preparation of the Historical Element of the General Plan included in-depth historical and cultural research and a records survey. One result of the research project is the Cultural Sensitivity map (Figure 3.12-1). Documented historical and cultural features, lore, and historical appearance all contribute to cultural sensitivity.

Research methodology, text, and lists of historic features are contained in the General Plan Background Report. This information identifies areas of significant cultural resources, both known and potentially suspect. To this end, and to make the information available for use in the easiest manner possible, it was determined early on to utilize the visual aid of a Sensitivity map which would show areas of high and moderate sensitivity, thus facilitating decisions on any plans for future developments, where unknown impacts could be a problem.

The summary of the finding from previous surveys and studies concluded by the Grass Valley General Plan Update Background is contained in table format on file with the City of Grass Valley.

To prepare this table, comprehensive Records Search through the North Central Information Center was undertaken as the first principal research project. This study yielded a total of 103 prior reports performed within the confines of the Planning Area. In order to effectively and efficiently utilize this information, it was decided to divide the project area into quadrangles (NE/NW/SW/SE), which could then be discussed as separate geographical entities. The report references would be placed in a separate section in the bibliography, but also placed as an 'annotated bibliography' within a data base format with consecutive numbering, which numbers would also be affixed to their proper place on a Survey Map. Thus, the reports and surveys could be easily accessed by location.

As all ethnic properties, from Native American villages to Chinatowns to Jewish cemeteries (for example), are important resources, a study was done on the ethnic makeup of Grass Valley in the historic period. The California Gold Rush received world-wide attention and is considered to have been the largest peacetime voluntary migration in world history, with citizens of many countries coming to the state. Contributions of all these people have been notable, and remains of their activities can be important cultural resources. It was hoped that research would provide clues on the locations of various ethnic neighborhoods and business enterprises related to specific cultural groups.

As much of the significant historic-activity areas have been researched and surveyed over the years, field work was to be limited to drive-by assessments in order to become familiar with the historic areas and their current status. Analysis of many of the important historical sites has been done, so formal evaluations of sites were not attempted here. Surveys occurring several years in the past should be re-done for future specific projects, as conditions can change, and with them the amount of information available. Knowing the history of the area and the activities on each portion of the land is of most help in predicting the locations of significant cultural finds.

Native American use is known to have been high in the Sierra foothills, but with the very sudden, extreme impacts of the Gold Rush, very little has remained within the area of Grass Valley itself, even though several Native families retained residence in Grass Valley and Nevada City, adapting to the new culture of the immigrants. Several sites have been located, primarily in areas which retain their rural character and were not disturbed as much by mining activities. It is possible that deeply buried sites may still remain in some areas where shafts and other subsurface activities of the historic period did not exist.

Aside from the historic downtown area of Grass Valley, some areas still retain a good historic appearance and have structures of significant value. These include residences as well as commercial sites (primarily mining, but also including lumbering, water conveyance and retention areas, agriculture, and sites involving early transportation and its associated activities [early gas stations, auto courts, etc.]

Previous surveys have been concentrated in the northeast quadrant of the Planning Area, with quite a few in the southeast and north/northwest. Unsurveyed areas are primarily in the west, and the south/southwest portions. The central downtown area has not been subject to surveys, probably because little has changed, other than private improvements not subject to environmental review and thus, survey. However, the City has maintained some listings of historic properties, which will be dealt with under Historical Resources.

With regards to the Sensitivity Map, the General Plan Update's Background Report concluded that areas not marked as High or Moderate Sensitivity still need to be addressed. If not already surveyed, these areas still need to be surveyed prior to any development, as it is still possible that there could be cultural resources present. Also, if a prior survey was performed some time ago (pre-1995), a Records Check should be performed at the North Central Information Center as California State University, Sacramento to determine if anything new has been found in or adjacent to the project land, and at that time a new survey may be required to check on the condition of previously-located resources or the potential for findings if conditions may have changed. That could be especially important if there have been recent storms which may have eroded the soil, thus possibly uncovering additional buried resources, or if environmental conditions were poor at the time of original survey (heavy grasses or other vegetational obscurance, etc.). Surveys done some time ago by archaeologists were often not as sensitive to historic resources as current standards require.

Impact #3.12-1: New development in accordance with the General Plan could have a substantial adverse effect on cultural resources. This is a **potentially significant impact**.

Discussion/Conclusion: Projects approved under the updated General Plan could adversely impact cultural resources which includes archaeological, historical and architectural sites, features, and artifacts through the excavation of soils, building and in-fill development. Geologic units in the Grass Valley Planning Area are known to contain paleontological and archaeological resources, which will require project-specific evaluations when development proposals are made in these areas. Furthermore, as discussed earlier in this section, a records search was conducted of the Planning Area by the North Central Information Center which resulted in the production of the Cultural Sensitivity Map (Figure 3.12-1). Areas that have not been identified in the map to be of high or moderate sensitivity still need to be addressed before development can occur. This is a **potentially significant impact.**

The General Plan contains several specific goals, objectives, policies, and implementation strategies that address these issues including using the Neighborhood map (Figure 3-7 in General Plan) to assist private developers and the City in preserving and enhancing historic/cultural features, which will also entail defining and describing the distinctive features to be preserved in specific neighborhoods (6-HI), and continuing the Grass Valley Historical Commission's inventory of historical landmarks and sites within the 1872 Townsite (2-HI). The results of this inventory can be used to preserve resources within the Townsite (3-HI). Furthermore, the General Plan recommends the investigation and implementation of procedures to protect historic structures from demolition (8-HP), and the maintenance of a Historic Resources Ordinance and active programs to implement City policy for historic conservation and enhancement.

These goals, objectives, policies and implementation actions and strategies and Mitigation Measures #3.12-1 and #3.12-2 listed below will reduce this impact to a **less than significant level.**

3.12.3 Mitigation Measures

Although the General Plan update includes goals, objectives, policies and implementation actions and strategies that require evaluation of potential impacts to cultural resources, all potentially significant impacts are not reduced to a less than significant level without the inclusion of additional mitigation measures. These goals, objectives, policies and implementation actions and strategies are as follows:

1-HG	2-CDO	4-CDG
1-HO	3-CDO	15-CDO
2-HO	2-CDG	1-CDP
1 thru 9-HP	7-CDO	2-CDP
1 thru 9-HI	3-CDG	2-CDI
1-CDG	11-CDO	3-CDI

Implementation of the following mitigation measures will reduce the effects on cultural resources to a **less than significant level**.

Mitigation Measure #3.12-1: Add Policy 10-HP to the Final General Plan as follows: Where historic and prehistoric cultural resources have been identified, the City shall require that development be designed to protect such resources from damage, destruction, or defacement whenever possible.

Effectiveness of Measure: This policy will strengthen General Plan protection of cultural resources.

Mitigation Measure #3.12-2: Add Policy 11-HP to the Final General Plan as follows: If previously undiscovered cultural resources or human remains are encountered during construction or excavation, the procedures identified in Section 15064.5 to the CEQA Guidelines shall be followed.

Effectiveness of Measure: This policy will assure adequate notice of the obligation to comply with cultural resource protection measures.

3.13 PARKS AND RECREATION

3.13.1 Setting

This information is taken from the Grass Valley General Plan Update Recreation Element and Background Report.

The City of Grass Valley owns and maintains six parks/recreation facilities. These include two community parks (Memorial Park and Condon Park) and four neighborhood parks (Pelton Wheel Museum/Glen Jones Park, Brighton Park, Dow Alexander Park, and Elizabeth Daniels Park) (see Figure 3.13-1). Memorial Park is fully developed as a recreational facility and includes a Video History Museum. Condon Park is only partially developed. The LOVE Building (Community Center) occupies a portion of Condon Park near Minnie Street. The park includes two ballfields and a "disk golf" course. The majority of the park is wooded open space.

Two notable park/recreation facilities owned and operated by entities other than the City of Grass Valley are the Nevada County Country Club and Sierra College Park. The Nevada County Country Club is a nine-hole public golf course located on East Main Street. Sierra College Park, developed in 1998-1999, is a baseball and soccer facility located on the Sierra College campus The Nevada County Country Club is a nine-hole public golf course located on East Main Street.. The facility will be available to community organizations for soccer and other large-field sporting needs.

Acreages of the two existing, non-city owned facilities are:

-
- Nevada County Country Club, 58 acres
- Sierra College Park, 8 acres (approximate)

Substantial acreage is devoted to park and recreation facilities outside the Grass Valley city limits but within the Planning Area. Notable facilities are the Empire Mine State Park and the Nevada County Fairgrounds.

Empire Mine State Park is a part of the California Park system. The Park, over 800 acres, includes the old mine, historic and interpretive buildings and exhibits, and over one square mile of forested open space, natural areas, and several miles of foot trails.

The Nevada County Fairgrounds is a 100 acre facility owned and maintained by the State Fairgrounds Authority. The Fairgrounds is classified as a regional park. The annual Nevada County Fair and other cultural and recreational activities take place at the Fairgrounds, which are used year-round. The Fairgrounds house several community facilities, including the Senior Citizens Building.

3.13.2 Impacts

Impact Evaluation Criteria: Appendix G of the CEQA Guidelines indicates that a project will have a significant impact on the environment:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered government 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 or other performance objectives for parks.
- 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.

- Require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Impact #3.13-1: New growth in accordance with the General Plan could put increasing pressure on parks and recreational facilities. This is a **potentially significant** impact.

Discussion/Conclusion: The General Plan could affect parks and recreation in a number of ways. New growth in accordance with the General Plan could put increasing pressure on existing parklands and recreational facilities; encroach on recreational areas; or eliminate future opportunity to provide for parks and recreational facilities in developing areas. The General Plan's Recreation Element recognizes that recreational lands and facilities need to be protected and enhanced and new recreational lands need to be designated to keep pace with population growth. Also, such lands and their associated recreational amenities require money for acquisition, development, and maintenance.

The General Plan contains several goals, objectives, policies, and implementation strategies that specifically reduce the impact of new development on parks and recreational facilities including reserving land or entitlements in advance of need (5-RI), pursuing alternatives to City acquisition of recreational areas via homeowners associations, assessment districts, and private organizations, and providing a focal point and coordinating mechanism for the efforts of non-governmental entities involved in the acquisition of property or property rights for City recreational purposes (4-RI). In addition, the General Plan goes on to recommend that a City-sponsored open space district should be established to operate and manage existing and future open space resources (4-RP), and that the Parks and Recreation Commission should be assigned full responsibility for the planning, programming, and administration of recreational facilities (7-RI). Lastly, the General Plan suggests that in preparing the Parks and Recreation System Master Plan, General Plan provisions such as the Trails-Sidewalks Network Plan should be incorporated (1-RI), and the standard of park acreage to population should be increased (2-RP). Therefore, the General Plans goals, policies, objective and implementation strategies are designed to reduce this impact to a **less than significant** level.

3.13.3 Mitigation Measures

The General Plan update includes goals, objectives, policies and implementation actions and strategies that require evaluation of potential impacts to parks and recreation facilities. These goals, objectives, policies and implementation actions and strategies are as follows:

1-RG	4-RO	1 thru 12-RP
1-RO	2-RG	1 thru 7-RI
2-RO	5-RO	7-COSO
3-RO	6-RO	5-COSI

Because the General Plan update includes policies that require evaluation of impacts of development on parks and recreation facilities,, these impacts are expected to be **less than significant**. Therefore, no further mitigation measures are required in this program level EIR.

3.14 CONSERVATION AND OPEN SPACE

3.14.1 Setting

The City of Grass Valley contains over 200 acres of various recreational and open space areas. The City's current (as of 1995) park and open space provision ratio is 21.12 acres per 1,000 population. Within the City's Sphere of Influence, the ratio has been

calculated at 112.05 acres per 1,000 population. Based upon an inventory conducted by Nevada County in 1996, there is approximately 1.86 acres of regional park land for each person, or 1,860 acres per 1,000 population within western Nevada County. It is anticipated that as Grass Valley expands its boundaries into its Planning Area, additional open space opportunities would be added.

3.14.2 Impacts

Impact Evaluation Criteria: Appendix G of the CEQA Guidelines indicates that a project will have a significant impact on the environment if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered government 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 or other performance objectives for Open Space.

Impact #3.14-1: Growth and development in accordance with the General Plan will increase pressures to develop open space lands. This is a **cumulative, significant unavoidable and irreversible impact.**

Discussion/Conclusion: This impact could be directly and cumulatively significant. In the absence of adequate planning for this impact, there would soon be a significant loss of open space in Grass Valley. The General Plan contains several goals, objectives, policies, and implementation strategies that specifically address the impact of new development on open space including establishing a City-sponsored open space district to operate and manage existing and future open space resources (4-RP), establishing and assigning responsibility for land/development rights acquisition for open space purposes (5-COSI), and enlisting the interests and efforts of appropriate state and federal agencies and private foundations regarding open space protection (19-COSP). Furthermore, the General Plan recommends that a development review process be maintained which documents compliance with the goals, objectives, policies, and implementation strategies of the General Plan (6-COSI). Lastly, an agreement with the County of Nevada should be reached for a strategy to protect open space in the Planning Area (18-COSP) which would include establishing an urban limit line beyond which urban land uses, densities, facilities and services will not extend (20-COSP). These goals, policies, objectives, and implementation actions and strategies would reduce the effect, however it will remain a **cumulative, significant unavoidable and irreversible impact.**

The following General Plan Goals, Policies, Objectives and Implementation Actions and Strategies will reduce impacts to open space resulting from the 2020 General Plan Amendment. However, it will remain a **cumulative, significant unavoidable and irreversible impact.**

1-RG	1 thru 12-RP	17-COSP
1-RO	1 thru 7-RI	18-COSP
2-RO	7-COSO	19-COSP
3-RO	11-COSP	20-COSP
4-RO	13-COSP	1-COSI
2-RG	14-COSP	3-COSI
5-RO	15-COSP	4-COSI
6-RO		5-COSI

3.14.3 Mitigation Measures

There are no other mitigation measures that will reduce this impact to a less than significant level. Therefore, this will remain a **cumulative, significant unavoidable and irreversible impact.**

3.15 CUMULATIVE IMPACTS

According to §15355 of the *CEQA Guidelines*, the term cumulative impacts "...refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Individual effects that may contribute to a cumulative impact may be from a single project or a number of separate projects. Individually, the impacts of a project may be relatively minor, but when considered along with impacts of other closely related or nearby projects, including newly proposed projects, the effects could be cumulatively significant. A classic example of a cumulative effect may be a small residential development found to represent incremental effects on roadway levels of service. However, if five other such projects were proposed and approved within a one-mile radius of that project, along with commercial facilities designed to serve these residential developments, levels of service at key roadway segments and intersections might be severely affected. Thus, CEQA recognizes the need to consider cumulative effects of projects.

By its nature, a general plan consists of policies to regulate a multitude of diverse projects, which cumulatively are certain to cause environmental effects without appropriate mitigation. CEQA recognizes that the exact nature of many or most of the development projects that will be proposed under the Plan and their associated environmental effects cannot be predicted with certainty at the time the Plan and EIR are prepared. The Plan can, however, set "ground rules" under which development will occur, so that there is some control and general predictability regarding the secondary environmental effects likely to occur. Section 15146 of the *CEQA Guidelines* states the following with respect to the degree of specificity required of an EIR prepared for a general plan:

The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR.

(a) An EIR on a construction project will necessarily be more detailed in the specific effects of the project than will be an EIR on the adoption of a local general plan...because the effects of the construction can be predicted with greater accuracy.

(b) An EIR on a project such as the adoption or amendment of a...local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow.

The General Plan Land Use Map assigns a land use designation to all properties within the Planning Area. If the entire Planning Area were to be developed as depicted on the Land Use Plan Map, the Planning Area would be considered "buildout". The basic projections developed during the General Plan process for the 20-year planning period (to the Year 2020) - population, housing units, employment, and demands for land clearly indicate that less than full "buildout" will occur by the Year 2020. Therefore, the EIR addressed the 20-year planning period as the project, and assumes the Plan buildout as the Cumulative Impact.

CUMULATIVE EFFECTS

Air Quality

Impact #3.4-1: An increase in regional emissions of non-attainment pollutants from mobile and stationary sources will result from implementation of the 2020 General Plan. This is a **significant cumulative impact.**

Aesthetics

Impact #3.8-4: New development in accordance with the 202- General Plan could crate new sources of light or glare and cumulatively increase night lighting in the area. This is a **significant cumulative impact.**

Transportation

Impact #3.9-9: Traffic volumes on area streets will continue to grow from 2020 to buildout of the Plan, putting a strain on the roadway network. This is a **significant and cumulative impact**.

Impact #3.9-10: Build out of the General Plan will result in substantially increased volumes of traffic through city intersections between the year 2020 and Plan buildout. This is a **significant and cumulative impact**.

Impact #3.9-11: Full buildout of the General Plan would place strain on public transportation services between year 2020 and buildout. This is a **significant and cumulative impact**.

Impact #3.9-14: Full buildout of the General Plan would place strain on goods movement facilities between year 2020 and buildout. This is a **significant and cumulative impact**.

Conservation and Open Space

Impact #3.14.1: Growth and development in accordance with the General Plan will increase pressures to develop open space lands. This is a **cumulative significant unavoidable and irreversible impact**.

3.16 GROWTH INDUCING IMPACTS

Section 15126.2(d) of the *CEQA Guidelines* requires discussion of "...the ways the proposed project could foster or encourage economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment." A classic example of a growth-inducing impact is construction of a wastewater treatment facility in a previously undeveloped area that may be intended to serve a specific development, but which, by its existence, might also remove a barrier to the development of adjacent lands.

The updated *General Plan* explicitly recognizes that growth and development are inevitable. In fact, the City has structured the *General Plan* to achieve development to foster economic growth and diversification, while simultaneously providing environmental protection and maximal retention of open space, and the existing character of Grass Valley.

As noted, CEQA associates development of new utilities and other infrastructure and public services with growth inducement. However, while this *General Plan* provides for new roads and other such improvements, these facilities are planned to serve existing development where such facilities and services are absent or they will be provided as a condition of approval for new development. New development will be within a fairly contained development pattern within the Planning Area, thereby preventing "leap-frog" development, urban sprawl, and loss of open space.

The Plan is explicit regarding those areas open to eventual development and those to be preserved as open space. Areas that are currently or potentially to be developed will be fully served by public services and facilities, including an effective and efficient transportation system. Provisions are included for improving the economy and minimizing vehicle miles traveled.

The State General Plan Guidelines (Office of Planning and Research 1998:275) discusses growth management in relation to general plans. It lists several principles that have been defined by state and federal courts that must be observed in establishing a growth management system, including:

- Local governments must act within the powers delegated to them by the California Constitution and state statutes
- Regulations using the police power must promote the public's welfare
- A local government's actions cannot discriminate against individuals or groups on the basis of race, religion, age or economic status

- Local governments cannot enact regulations which directly prohibit immigration or discriminate against newcomers
- Land use controls must allow for some reasonable use of private property
- A landowner whose property is subject to an overly restrictive land use regulation may be entitled to just compensation, even if the restriction is a temporary one

Although these principles were developed primarily as a result of legal challenges to attempts by local governments to limit growth, they nevertheless should apply equally to any attempt by a local government to manage growth, whether is seeks to limit or induce growth. The General Plan does not exceed powers delegated to the City by the California Constitution or state statutes, it promotes the general public welfare, it does not discriminate on the basis of race, religion, or economic status, it does not discriminate against newcomers or directly prohibit immigration, it allows for reasonable uses of private property, and does not overly restrict private land uses.

It also is relevant that, through the Plan and through its mandated police power to regulate land use, the City retains its authority to deny any development proposal that is found, via the CEQA process to be growth-inducing if it violates the parameters established by the General Plan. Conversely, the City retains the power to approve such projects when it is perceived that the public benefits of the project override the growth-inducing impact. In short, the City is well-equipped, both through the General Plan and its police power, to regulate growth as it deems appropriate and it the best interests of the public.

It is also important to note that in comparison to the 1982 General Plan, the proposed project is not growth inducing. The old plan projected a year 2000 population of 24,500. The proposed General Plan Update projects a 2020 population of 23,395, less than the 1982 Plans population projection for 2000.

It is concluded that the Plan is growth-accommodating rather than growth-inducing, because it will carefully regulate growth to achieve the desired benefits, while preserving and protecting portions of the City as open space. Also, the Plan provides for accommodation of new growth with adequate housing, jobs, and public services. It further is concluded that the Plan provides appropriate mechanisms to carefully regulate growth within the framework of the legal principles for growth management that have resulted from judicial decisions. **This is a less-than-significant impact.**

3.17 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(c) of the CEQA Guidelines requires that an EIR discuss significant irreversible environmental changes that would result from the proposed project. Specifically, this section addresses irreversible commitments to land uses that would put non-renewable resources permanently out of reach or, conversely, commit such resources to consumption now rather than preserving them for future generations.

Non-renewable resources that may be affected by growth and development under the Plan include wildlife habitat and mineral resources. Treatment of these resources under the Plan is described above in this Draft EIR. Plan provisions are included to mitigate the loss or use of these resources to acceptable levels. For example, the Plan provides protection for watershed areas and requires biological surveys for virtually all development projects to ensure that effects to wildlife and their habitats are identified and mitigated. Open space preservation under the Plan is maximized to the greatest feasible extent to protect mineral deposits and other non-renewable resources. In areas where development will potentially occur, investigations are required where mineral resources might be present to determine whether the value of such resources may exceed the need for development. Furthermore, land restoration is required after mineral extraction operations to prepare such land for other beneficial uses.

Some irreversible commitment of non-renewable resources is likely to occur as a result of growth and development under the Plan. However, assuming that growth and development occurs in accordance with the goals, objectives, policies, and implementation strategies of the Plan, significant irreversible environmental changes will be minimized to an acceptable level.

3.18 EFFECTS NOT FOUND TO BE SIGNIFICANT

Section 15128 of the *State CEQA Guidelines* requires that an EIR contain a statement briefly indicating the reason what various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. Those effects determined not to be significant based on the Initial Study prepared for this General Plan EIR and included as Appendix A include the following:

LAND USE:

- **Disrupt or divide the physical arrangement of an established community (including a low-income or minority community).**

This is a less than significant Impact. A primary purpose of the General Plan update is to enhance land use compatibility and continuity in the City of Grass Valley.

POPULATION AND HOUSING:

- **Displace existing housing, especially affordable housing.**

This is a less than significant impact. No housing will be displaced as a direct result of the proposed project.

GEOLOGY AND SOILS:

- **Seiche, tsunami, or volcanic hazard.**

The site is not near any bodies of water subject to tsunami (tidal wave) or seiche. Neither is the site proximate to any source of volcanic hazard. This impact is considered less than significant.

AIR QUALITY:

- **Alter air movement, moisture, or temperature, or cause any change in climate.**

The General Plan has no potential to alter air movement, moisture, temperature, or cause a change in climate. This is a less than significant impact.

ENERGY AND MINERAL RESOURCES:

- **Conflict with adopted energy conservation plans**

Adoption of the General Plan will not impact energy conservation plans. This is a less than significant impact.

- **Use non-renewable resources in a wasteful and inefficient manner.**

Adoption of the General Plan will not impact non-renewable resources. This is a less than significant impact.

CHAPTER 4.0

ALTERNATIVES TO THE PROJECT

4.1 DESCRIPTION OF ALTERNATIVES

The California Environmental Quality Act and the implementing State CEQA Guidelines require that alternatives to the proposed project be discussed in the EIR. The value of such discussion is to inform public decision-makers of the differential environmental impacts which may be associated with each potential alternative, and to enable a reasoned judgment to be made as to which alternative to the proposed project may be environmentally superior. Section 15126.6 of the State CEQA Guidelines provides the following description of what should be included in the alternatives discussion of an EIR:

(a) Alternatives to the Proposed Project. An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasiblely attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

(b) Purpose. Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

(c) Selection of a range of reasonable alternatives. The range of potential alternatives to the proposed project shall include those that could feasiblely accomplish most of the

basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.

(d) Evaluation of Alternatives. The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.

(e) "No Project" alternative.

(1) The specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (see Section 15125).

(2) The "no project" analysis shall discuss the existing conditions at the time the notice of preparation is published, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

(3) A discussion of the "no project" alternative will usually proceed along one of two lines:

(A) When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation, the "no project" alternative will be the continuation of the plan, policy or operation into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan.

(B) If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this "no project" consequence should be discussed. In certain instances, the no project alternative means "no build" wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.

(c) After defining the no project alternative using one of these approaches, the lead agency should proceed to analyze the impacts of the no project alternative by projecting what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

(f) Rule of reason. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasiblely attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.

(A) Feasibility. Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

(B) Alternative locations.

1. Key question. The key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting

the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.

2. None feasible. If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR. For example, in some cases there may be no feasible alternative locations for a geothermal plant or mining project which must be in close proximity to natural resources at a given location.

3. Limited new analysis required. Where a previous document has sufficiently analyzed a range of reasonable alternative locations and environmental impacts for projects with the same basic purpose, the lead agency should review the previous document. The EIR may rely on the previous document to help it assess the feasibility of potential project alternatives to the extent the circumstances remain substantially the same as they relate to the alternative.

(C) An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative.

The California General Plan Guidelines (Chapter 4, page 107) state as follows:

Several alternative draft plans are typically considered en route to adopting a general plan. Similarly, the EIR for the plan must describe a reasonable range of alternatives and analyze each of their effects. Consistent with CEQA, the alternative plans should share most of the same objectives. Each of the alternatives should avoid or lessen one or more of the significant effects identified as resulting from the proposed plan (in a situation where the proposal is yet to be selected from among the alternatives, the competing alternatives should not all have the same level of impacts).

The sections that follow present a description of the alternatives considered and an analysis of the alternatives in the context of CEQA, the State CEQA Guidelines and the State General Plan Guidelines. This EIR includes an evaluation of the no project alternative (which is required to be addressed) and two alternative growth direction scenarios. Finally, this Section presents an analysis of the comparative environmental superiority of the various alternatives, as required by CEQA. The two alternative growth direction scenarios (Alternative #2, Northerly Emphasis and Alternative #3, Southerly Emphasis) were considered and rejected by the General Plan Steering Committee; however, the Planning Commission and City Council will consider these scenarios as part of the decision making process.

Circulation alternatives were also considered and evaluated for the two alternative growth direction scenarios as the proposed General Plan was being developed. The regional Travel Demand Forecasting model was employed to identify daily traffic

volumes on State highways and arterial/collector streets, and these daily traffic forecasts were compared to general Level of Service thresholds to identify those locations where standards may be exceeded in the future, or the need for additional circulation system improvements may become evident.

The original evaluation of General Plan alternatives addressed the ramifications of both land use and circulation systems. Analysis of circulation plans addressed alternatives for major facilities linking the community with Highways 20 and 49, as well as the location of new Wolf Creek crossings. The key issue reviewed as part of this investigation was the location of a new Wolf Creek crossing linking the North Star Annexation area with Highway 49. Alternatives addressed included the southerly extension of Freeman Lane (per the current General Plan), a westerly extension of McKnight Way, and the creation of a new route extending westerly from Highway 49 near Crestview Drive to North Star. For this EIR, the traffic volume forecasts for the Northerly Emphasis and Southerly Emphasis alternatives assume implementation of the Freeman Lane Extension to North Star.

4.1.1 Alternative #1 No Project Alternative

Description and Rationale

Given the nature of a general plan update, there is more than one way to characterize the "no project" alternative. For a simple development project, such as a residential subdivision, the "no project" alternative simply assumes that the development will not be constructed. The potential environmental effects of not constructing such a project can then easily be compared to the potential effects of construction and occupation of the project. However, with regard to a general plan update, the situation is somewhat less straightforward.

California planning law requires each local (i.e., county or incorporated city) government to maintain a general plan and periodically update it with public input. Therefore, it is not realistic to assume that "no project" in this case means a situation in which the City decides to operate from this moment forward with no general plan.

The California General Plan Guidelines (Chapter 4, page 107) state as follows:

The EIR must also evaluate the "no project" alternative. This would describe what physical changes might reasonably be expected to occur in the foreseeable future if the general plan update were not adopted, based on the existing general plan and available infrastructure and services.

Similarly, Section 15126.6(e)(3)(A) of the CEQA Guidelines states:

When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation, the "no project" alternative will be the continuation of the existing plan, policy or operation into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan.

Therefore, the "no project" alternative is considered a continuation of the existing 1982 Grass Valley General Plan. This alternative compares development in accordance with the 1982 General Plan with the 2020 development scenario of the proposed General Plan Update. However, development is limited by available infrastructure and services.

4.1.2 Alternative #2: General Plan - Northerly Emphasis Development Scenario

Description and Rationale

The Northerly Emphasis seeks to maintain a tight development pattern, minimizing urban sprawl.

The Northerly Emphasis assigns future development to the north and east of downtown as much as possible. By steering growth accordingly, most new development will be 1) within the Wolf Creek watershed (efficient provision and extension of infrastructure, especially wastewater, storm drainage, recreation, and circulation facilities) and 2) convenient to downtown, Glenbrook, the Litton/Sierra College complex, and existing industrial and business parks. Gravity flow of wastewater (from new developments) to the City wastewater treatment plant on Freeman Lane/Wolf Creek is accomplished under this Alternative. The Northerly Emphasis Alternative is depicted in Figure 4-1.

Residential infill will account for 900 new housing units within the current city limits, the maximum potential. Residential "outfill" (outside of the City limits but adjacent to or very near existing development) is assumed to account for 842 units, approximately 80% of outfill build out potential. Unlike infill, outfill depends on annexation and extension/expansion of City services, a factor which might inhibit some development.

Significant transportation improvements, including non-vehicular facilities (bikeways, sidewalks, trails) as well as street and highways improvements must facilitate circulation, especially within the triangle formed by Brunswick Road, East Bennett, and the Freeway. Vehicular access to downtown from the east, a new interchange at Dorsey or vicinity, and connections between Idaho Maryland Road and East Bennett are all likely transportation improvements resulting in part from the Northerly Emphasis.

Housing unit allocations to the three major annexation areas are maintained at

annexation agreement levels. However, the agreed-upon 363 housing units at North Star have been moved to the northern portion of that 760 acre property to a 183-acre area. Residential densities are increased, as about 91 acres of residential land will accommodate the 363 units, contrasted with 312 acres in the annexation agreement. In addition, the 20 acre CBD (Central Business District) and scaled down Business Park and Industrial areas are contained within the 183-acre northern sector.

By shifting development north, and closer to established neighborhoods of southwestern Grass Valley, the extension of City services and infrastructure is facilitated. This includes gravity flow from North Star residential areas to the wastewater treatment plant.

Additional residential and office/industrial development of the North Star property will be deferred in time until warranted by supply-demand factors for such land elsewhere in the Planning Area. A 13 acre school site and 175 acres of open space will be formally designated and "developed" during the 20-year planning period.

The Loma Rica Ranch and Kenny Ranch annexation areas will develop per annexation agreements.

Commercial development will occur as 1) upgrading and intensification of present commercial areas and 2) expansion to vacant, commercially designated properties. Upgrading and intensification will occur in downtown, Glenbrook, and the Pine Creek complex, as well as commercial strips along East Main, South Auburn, and Highway 174. Some expansion will occur in or near Glenbrook and Pine Creek. New expansion sites include 22 acres at Kenny Ranch (per annexation agreement), the aforementioned North Star CBD, and Railroad Avenue/Idaho Maryland Road (serving in part the East Bennett Valley complex).

The main focus of industrial expansion will be 1) the Loma Rica Industrial Park and 2) industrial infill along Idaho Maryland Road. North Star will have a compact industrially-designated area.

Business Park development will occur as Whispering Pines "builds out", Litton Business Park develops to its potential, and business parks are established in each of the three SDAs (major annexation areas).

It is assumed that substantial areas within the three major annexations will be set aside for conservation and recreational purposes. The Northerly Emphasis emphasizes significant conservation/open space projects to be developed in conjunction with residential growth, particularly within the aforementioned Brunswick/East Bennett/Freeway triangle, and within the city limits as "infill" conservation/recreation projects. More extensive open space set asides will occur within the three major

annexation areas. Riparian corridors and recreational trails will be planned in anticipation of new development, and implemented in conjunction with new residential and non-residential projects.

Planning Assumptions

1. Infill residential allocation is 900 units (potential range is 450-900 units)

2. For the three major annexation areas, housing units are assumed to be those committed to in pre-zoning agreements:

Loma Rica Ranch 180

Kenny Ranch 100

North Star 363

Housing in the three major annexation areas is assumed to be single family, with a variety of densities and housing types. Multi-family housing opportunities will be made available primarily as close-in "infill" and "outfill".

1. The concept of "outfill" is used to describe vacant properties outside the city limits but inside the Planning Area. The range of potential "outfill" housing units is from 800 to 1,000. The Northerly Emphasis Alternative assumes 842 outfill housing units (the assumed split is 55%/45% single family vs. multi-family units, or 463 single family and 379 multi-family units.) This level of outfill development is projected to occur within the 20-year planning period, pending availability of appropriate City services and infrastructure. The largest cluster of outfill property is located between Sutton and Brunswick Road, immediately southeast of Glenbrook and northwest of Loma Rica Ranch. Here, more than 60% of residential outfill development will occur (515 of a total 842 units), based on current entitlements and an evaluation of development potential.

2. East Bennett Valley is designated as a predominantly multi-family neighborhood of 435 housing units. The East Bennett Valley area comprises 144 acres lying north and south of East Bennett Street. However, the 40-acre meadow south of East Bennett and straddling Wolf Creek South Fork is under serious consideration for purchase and preservation as an environmentally significant area. Such a purchase would both protect an environmentally sensitive area and provide a natural amenity for nearby residential development. The remaining 104 acres north of East Bennett can accommodate the projected number of multi-family units, with ample acreage left over for appropriate

additional open space, parking, roads, etc. Currently designated "Planned Employment Center" by the Grass Valley General Plan and a combination of "Business Park" and "Industrial" by the Nevada County General Plan, the area has a close-in location (within walking or bicycling distance of downtown and nearby employment centers).

3. Overall density of new residential developments: 3.30 units per acre.

4.1.3 Alternative #3: General Plan - Southerly Emphasis Development Scenario

Description and Rationale

The Southerly Emphasis assigns most new residential development to the southern portion of the Planning Area, generally south of McKnight Way. Residential development to the north includes residential annexation agreement allocations to Kenny Ranch and Loma Rica Ranch (100 and 180 dwelling units, respectively), and a maximum potential of 900 infill units. No outfill units are assumed (other than the three major annexation areas of North Star, Loma Rica Ranch and Kenny Ranch). City annexations and service extensions are to the south, whereas most of the potential for outfill development is north of downtown. The Southerly Emphasis Alternative is depicted in Figure 4-2.

The Southerly Emphasis includes a major new commercial area at the old Bear River Mill site, between Highway 49 and LaBarr Meadows Road. It also assumes considerable residential development in an arc from Conway Ranch/McCourtney Road east through North Star and Berryman Ranch. Also assumed is substantial residential development on the west side of Osborne Hill, east of LaBarr Meadows (an area presently designated for business park and planned employment center purposes).

A characteristic of the Southerly Emphasis could be to develop a "new town" south of present Grass Valley, in which new residents could live, work, and shop without going to and through downtown and other congested areas on a daily basis.

It is likely that the Southerly Emphasis would entail a Highway 49 interchange in conjunction with the aforementioned 70 acre commercial development. Residential aspects of the Alternative would require a decision regarding a Wolf Creek crossing and connection with Highway 49, an issue currently unresolved.

By making a large commercial area available, the city would stand a better chance of accommodating large commercial establishments unable to locate on small or constrained parcels. Although economic studies do not demonstrate a current potential for many such establishments, much can change in 20 years. To better "fit" smaller markets and local aesthetic preferences, traditional large store retailers have begun to

locate scaled-down versions of their large establishments in smaller cities and towns nationwide. In addition, the commercial area (and its extension south out the Planning Area) would have the potential to accommodate warehousing and similar activities, which can be difficult to locate or disruptive elsewhere.

Two factors require close examination:

- The feasibility of transportation improvements, both on Highway 49 and connecting southerly residential areas with Highway 49.
- The efficacy of concentrating so much future growth downstream from the city wastewater treatment plant, now undergoing a 9+ million dollar expansion.

Planning Assumptions

1. Infill will reach its maximum potential of 900 housing units.
2. North Star will increase its annexation agreement housing unit allocation from 363 to 900.
3. Other development west of Wolf Creek and south of McKnight Way will occur at Conway Ranch and along Wolf Creek. East of Wolf Creek the Berryman Ranch area is assumed to develop, as is the Mother Lode area between Highway 49 and the Empire Mine State Park property.
4. Multi-family housing will comprise 40%-45% new housing in the new residential developments, with the exception of Kenny Ranch.
5. New industrial development will be concentrated at Loma Rica Industrial Park and along Idaho Maryland Road, to the north; and within a new 117 acre industrial area (per annexation agreements) within North Star.
6. Business Park developments will be located at Whispering Pines build out; Litton; and the three major annexation areas per annexation agreements (a total of 326 acres).
7. Overall density of new residential developments is 1.99 units per acre.

4.2 COMPARISON OF ALTERNATIVES

4.2.1 No Project Alternative

The following impacts have been identified associated with the No Project alternative:

Geology and Soils: The Grass Valley area is rated as a low-intensity earthquake zone. A low-intensity zone is defined by the United States Geological Survey (USGS) as an area that is likely to experience an earthquake measuring 5.0 to 5.9 in magnitude on the Richter scale, and a maximum intensity of VI or VII on the Modified Mercalli scale.

Grass Valley and the surrounding region are located in an area of mountainous upland soil (USDA 1993). The soil associations that occur in the existing Planning Area include the Josephine-Sites-Mariposa association, Secca-Boomer association, Aiken-Cohasset association, and Boomer-Sites-Sobrante association.

Under the 1982 General Plan, development will occur that could expose people or structures to potential adverse effects, including the risk of loss, injury or death. However, this is not substantially different from the 2020 General Plan. Therefore, both the project and the no project alternative require specific mitigation measures to address potential impacts associated with geology and soils.

Hydrology and Water Quality: Development in accordance with the 1982 and the 2020 General Plan will result in an increase in impervious surfaces because of a greater amount of residential, commercial and industrial development, which will impact hydrology and water quality. In comparison to the proposed project, both the 1982 General Plan and the 2020 General Plan require specific mitigation measures to address potential impacts associated with hydrology and water quality. However, the higher development potential of the 1982 plan could have a greater impact on hydrology and water quality.

Biological Resources: Development in accordance with the 1982 General Plan will affect the same types of biological resources as the proposed General Plan. In comparison, both the 1982 General Plan and the 2020 General Plan require specific mitigation measures to address potential impacts to biological resources. However, the higher development potential of the 1982 plan could have a greater impact to biological resources than the 2020 General Plan.

Air Quality: Development in accordance with the 1982 General Plan would result in levels of emissions similar to the proposed 2020 General Plan. However, the proposed 2020 General Plan places a greater emphasis on use of transit, bicycles and transportation system management. Stationary source emissions could be higher under the 1982 General Plan because of the greater amount of potential residential, commercial and industrial development.

Public Services and Utilities: Development in accordance with the 1982 General Plan would be consistent with the City's existing CIP and the draft Sewer Master Plan. Both the 1982 General Plan and the 2020 General Plan require specific mitigation measures to address potential impacts to public services and utilities; however, the higher

development potential of the 1982 plan could have a greater impact to services and utilities than the 2020 General Plan.

Land Use and Planning: The General Plan 2020 Land Use Diagram will result in changes to the present Grass Valley General Plan, adopted in 1982. The proposed General Plan will not change the established Sphere of Influence (SOI), but will result in changes to the designated Planning Area (net increase of 544 acres). This generally involves including currently developed areas outside the 1982 Planning Area boundary within the 2020 General Plan Update. Table 4-1 presents acreage and percentages by land use categories for the 1982 General Plan.

The substantive differences between the 1982 General Plan and the proposed 2020 General Plan are the percentage of development allocated for residential, commercial and industrial development. The other difference is that the 2020 Plan establishes of policies to direct development and infrastructure initially toward the core area, with the expansion moving out development to the fringe area and periphery later in the planning period. The proposed General Plan will result in a decrease of 5,032 residential units, from 16,061 units in the 1982 General Plan to 11,029 units in the 2020 General Plan. The proposed Plan also decreases commercial and industrial land use designations by 926 acres (total of 2,497 acres in the 1982 Plan and 1,535 acres in the 2020 Plan). This is attributed to the reduction of commercial and industrial land use designations in the Bennett Road, Motherlode and North Star areas. Table 4.2-1 presents acreage and percentages by land use categories for the 1982 General Plan and Table 4.2-2 presents the proposed 2020 General Plan.

Under the 1982 General Plan, the three major annexation areas could still be developed; they are within the existing Sphere of Influence and have designated land uses. However, they could not be developed in accordance with the land use plans and densities contained in the annexation agreements between the property owners/developers and the City.

Population and Housing:

The population projected for the build out of the 1982 General Plan is greater than the population projected for the 2020 General Plan. Specifically , build out of the 1982 Plan will have a population of 24,599, in comparison to the 2020 General Plan population of 23,395. The proposed 2020 General Plan will also result in a decrease of 5,032 residential units, from 16,061 units in the 1982 General Plan to 11,029 units in the 2020 General Plan. Therefore, the 2020 Plan will have less impact on population and housing than the existing General Plan.

Aesthetics: The 1982 General Plan does not include as comprehensive a Community Design Element as the 2020 Plan, and therefore provides less opportunity for the City to influence the architectural and site planning of new development and redevelopment

in a positive fashion.

Transportation: Most of the roadway system in the Grass Valley area operates acceptably under existing conditions under the 1982 General Plan, as shown in Table 4-3. On a daily basis, no locations of the freeway system currently fall below LOS C. The only arterials that fall below the LOS D threshold is Brunswick Road and the Nevada City Highway in the vicinity of Nevada City. None of the collectors within Grass Valley exceed this threshold. All of the intersections studied for the General Plan Update currently operate at LOS C or better. However, the signalized McKnight Way/Highway 49 ramps intersections, which are closely spaced, can when evaluated as one intersection be interpreted to operate at LOS D. Most of the all-way stop intersections and all of the unsignalized intersections (with the exception of the McKnight Way/La Barr Meadows Road/South Auburn Street intersection) operate acceptably at LOS C or better. However, build out of the 1982 General Plan will result in the Levels of Service of some roadway segments and intersections degrading below LOS C and D, and roadway improvements will be required to maintain acceptable Levels of Service.

Public transit in Grass Valley consists of both "fixed route" services and specialized services. Fixed route service is provided by Gold Country Stage, and Durham Transportation provides demand-based paratransit service under contract to a nonprofit agency. Gold Country Telecare is a private, nonprofit organization serving elderly, handicapped and disabled persons.

Transportation Systems Management (TSM) and Transportation Demand Management (TDM) are two strategies that increase the efficiency of the existing transportation system. TSM actions maximize transportation system operating efficiency through low cost, physical improvements. TDM actions maximize transportation system utilizations through modification of travel behavior decisions. Specifically, TDM actions attempt to modify travel choices and alter relative transportation prices for different travel decisions. Given the increased demand on public resources and concerns for the environment, Grass Valley can expect demand to increase for the expansion and improvement of existing transportation facilities and programs in lieu of new, capital intensive improvements. The use of TSM/TDM actions under the 2020 General Plan will play an important role in meeting this new demand. The 1982 General Plan does not emphasize TJM/TDM as a means to improve transportation systems.

Noise: A community noise survey was conducted to document noise exposure in areas containing noise sensitive land uses. Under existing conditions, the survey results indicate that typical noise levels in noise sensitive areas are in the range of 46.9 dB to 68.9 dB CNEL. Traffic on State and local roadways, industrial activities, aircraft overflights and neighborhood activities are the controlling factors for background noise levels in the majority of the Planning Area. In general, most areas which contain noise sensitive uses are moderately quiet to noisy, and are representative of an urban

environment. Some residential areas have outdoor activity areas directly exposed to major noise sources, such as Highway 49 and existing industrial areas. Noise exposure at some of those residences may be considered in excess of generally acceptable noise exposure criteria. Ambient noise levels generally reach a minimum during the hours of 12:00 a.m. to 5:00 a.m., increasing during the daytime hours as a function of increased traffic and other human activities. Existing traffic noise contour data and a summary of measures noise levels are included in the General Plan Background Report. In addition to major roadways, existing noise sources which generate complaints to the City include the downtown Chevron car wash, the North Star Quarry, truck delivery and loading dock noise and construction noise. Build out of the 1982 General Plan would result in increases in noise levels on major roadways, but without the protections offered by the policies of the proposed General Plan Noise Element. Because the 1982 General Plan designates more land for residential, commercial and industrial development, it holds the potential for more stationary noise sources to be developed.

Public Safety/Hazards: Public safety hazards associated with development in accordance with the 1982 General Plan would be essentially similar to those associated with the proposed 2020 General Plan.

Cultural Resources: Development in accordance with both the existing and 2020 General Plans have the potential to result in the disturbance and/or destruction of cultural resources. However, the 2020 General Plan provides greater protections of cultural resources through its goals, objectives, policies and implementation actions and strategies.

Parks and Recreation: The acreage devoted to parks and recreation under the 1982 General Plan is very high; it exceeds the parks-to-population ratio of most communities. The proposed 2020 General Plan provides for more realistic standards for acquiring, developing and maintaining lands for parks and open space purposes.

Conservation and Open Space: In comparison to the 1982 General Plan, the general directive of the 2020 General Plan is for a more compact community, which will allow for greater areas of open space. In addition, the 2020 Plan provides numerous goals, objectives, policies and implementation actions and strategies to promote conservation and protect open space. This will better serve conservation and open space in Grass Valley than the 1982 Plan.

4.2.2 Alternative #2 Impacts: General Plan - Northerly Emphasis Development Scenario

The following provides a qualitative analysis of the environmental impacts of the Northerly Emphasis Development Scenario, which was considered while formulating the proposed 2020 General Plan Update.

Geology and Soils: The Northerly Emphasis Alternative would result in development that could expose people or structures to potential adverse effects associated with geology and soils. However,

both the Northern Emphasis and the 2020 General Plan will require specific mitigation measures to address potential impacts. Therefore, the project and the alternative are viewed as comparable.

TABLE 4.2-1

1982 GENERAL PLAN - PLANNING AREA

Land Use Category	**Acreage**	**Percentage**
Residential		
Urban Estate Density	775.95	8.30%
Urban Low Density	2,964.60	31.71%
Urban Medium Density	517.42	5.53%
Urban High Density	229.39	2.45%
Commercial		
Town Center Commercial	42.09	0.45%
Shopping Center Commercial	242.01	2.59%
Local Commercial	5.03	0.05%
Other Community Commercial	261.29	2.79%
Office and Professional	153.07	1.64%
Industrial		
Planned Employment Center	1,515.58	16.21%
Manufacturing - Industrial	277.95	2.97%
Other		
Public	114.66	1.23%

Semi Public Facilities	108.19	1.16%
Schools	121.85	1.30%
Utilities	42.74	0.46%
Park and Recreation	725.71	7.76%
Open Space Opportunity	393.83	4.21%
Right of Way	859.04	9.19%
Total	9,350.40	100.00%

TABLE 4.2-2

2020 GENERAL PLAN - PLANNING AREA

Land Use Category	**Acreage**	**Percentage**
Residential		
Urban Estate Density	2,348	23.7%
Urban Low Density	1,379	13.9%
Urban Medium Density	314	3.2%
Urban High Density	273	2.8%
Commercial		
Commercial	466	4.7%
Office - Professional	162	1.6%
Industrial		
Manufacturing - Industrial	528	5.3%
Mixed Use		
Business Park	437	4.5%
Special Development Area	1,403	14.2%

Overlay Designations*		
Town Center*	34*	N/A
Open Space Opportunity*	366*	N/A
Other		
Public	333	3.4%
Institutional Non-governmental	123	1.2%
Schools	228	2.3%
Utilities	43	0.4%
Park and Recreation	752	7.7%
Right of Way	913	9.2%
Open Space	192	1.9%
Total	9,894	100.00%

* Overlay designations not included in acreage or percentages

Hydrology and Water Quality: The Northerly Emphasis Alternative assigns future development to the north and east of downtown as much as possible. By steering growth accordingly, most new development will be within the Wolf Creek watershed. Residential infill will account for 900 new housing units within the current city limits, the maximum potential. Residential "outfill" is assumed to account for 842 units, approximately 80% of outfill build out potential. This increase in development will result in an increase in impervious surfaces, which will impact hydrology and water quality.

The Northerly Emphasis Alternative would create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage facilities. Due to the relatively high density of 3.30 units per acre, the potential exists for a significant increase in impervious surfaces, which will increase the amount of runoff and increase downstream flood hazard. Although each future project will be required to individually assess the potential for impacts to hydrology and water quality, the Northern Emphasis alternative could have a greater impact on hydrology and water quality.

Biological Resources: It is assumed that substantial areas within the three major annexation areas will be set aside for conservation and recreational purposes. The

Northerly Emphasis Alternative emphasizes significant conservation/open space projects to be developed in conjunction with residential growth, particularly within the Brunswick/East Bennett/Freeway triangle and within the City limits as "infill" conservation/recreation projects. More extensive open space set asides will occur within the three major annexation areas. Riparian corridors and recreational trails will be planned in anticipation of new development, and implemented in conjunction with new residential and non-residential projects.

The Northerly Emphasis Alternative, like the 2020 Plan, would not have a substantial adverse impact 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. All future development will require review on project-specific level of analysis, which will ensure compliance with policies to protect biological resources and comply with state and federal laws and requirements. Therefore, the project and the alternative are viewed as comparable

Air Quality: Compared to the proposed General Plan, the Northerly Emphasis Alternative has the potential to result in a lower level of vehicular emissions because of its more compact development form, which facilitates the use of alternative transportation modes such as walking, bicycling and transit. This could have less impacts on air quality than the 2020 General Plan.

Public Services and Utilities: The Northerly Emphasis Alternative assigns future development to the north and east of downtown as much as possible. By steering growth accordingly, most new development will be within the Wolf Creek watershed (allowing for more efficient provision of infrastructure and extensions of facilities) and convenient to downtown, Glenbrook, the Litton/Sierra College complex, and existing industrial and business parks. Gravity flow of wastewater (from new developments) to the City wastewater treatment plant on Freeman/Wolf Creek is accomplished under this Alternative. By shifting development north, and closer to established neighborhoods of southwestern Grass Valley, the extension of City services and infrastructure is facilitated. This includes gravity flow from North Star residential areas to the wastewater treatment plant.

Land Use and Planning: The Northerly Emphasis Alternative seeks to maintain a tight development pattern, minimizing urban sprawl.

Housing unit allocations to the three major annexation areas are maintained at annexation agreement levels. However, the agreed-upon 363 housing units at North Star have been moved to a 183-acre area in the northern portion of that 760 acre property. Residential densities are increased, as about 91 acres of residential land will accommodate the 363 units, contrasted with 312 acres in the annexation agreement. In addition, the 20 acre CBD (Central Business District) and scaled down Business Park and Industrial areas are contained within the 183-acre northern sector.

Additional residential and office/industrial development of the North Star property would be deferred in time until warranted by supply-demand factors for such land elsewhere in the Planning Area.

The 13 acre school site and 175 acres of open space would be formally designated and "developed" during the 20-year planning period.

The Northerly Emphasis Alternative would not physically divide an established community, or conflict with habitat conservation or natural community conservation plans.

Population and Housing: The total number of housing units and population for the Northern Emphasis are similar to the proposed 2020 General Plan.

Aesthetics: Visually, the Northern Emphasis and the 2020 General Plan are very similar. Both propose a more compact land use pattern, directing future growth toward the northern and eastern parts of the city. Both development scenarios contain policies for the preservation of open space and advocate design guidelines for the protection of community aesthetics.

Transportation: Significant transportation improvements, including non-vehicular facilities (bikeways, sidewalks, trails), as well as street and highways improvements, must be made to facilitate circulation, especially within the triangle formed by Brunswick Road, East Bennett, and the Freeway. Vehicular access to downtown from the east, a new interchange at Dorsey or vicinity, and connections between Idaho Maryland Road and East Bennett are all likely transportation improvements resulting in part from the Northerly Emphasis Alternative.

The overall development levels anticipated under General Plan alternatives is similar to that projected for the proposed General Plan. The holding capacity of the Northerly Emphasis Alternative is 2,820 additional dwelling units. This alternative could also accommodate 773± acres of new non-residential uses (not including areas designated for open space.)

Because the level of development anticipated by year 2020 does not represent full build out under either the proposed General Plan or its alternatives, the total trip generation associated with new development would not be appreciably different under the Northerly Emphasis Alternative.

The evaluation of General Plan alternatives addressed the ramifications of both land use and circulation systems. Analysis of circulation plans addressed alternatives for major facilities linking the community with Highways 20/49, as well as the location of new

Wolf Creek Crossings. The key issue reviewed as part of this investigation was the location of a new Wolf Creek crossing linking the North Star Annexation area with Highway 49. Alternatives addressed included the southerly extension of Freeman Lane per the current General Plan, a westerly extension of McKnight Way, and the creation of a new route extending westerly from SR 49 near Crestview Drive to North Star. For this EIR, the traffic volume forecasts for the Northerly Emphasis Alternative assume implementation of the Freeman Lane Extension to North Star.

Table 4-3 compares current traffic volumes at selected locations on area streets (refer to Index Figure 4-2 of the Circulation Element) with future (year 2020) daily traffic volume forecasts and Levels of Service under the proposed General Plan and both the Northerly and Southerly Emphasis Alternatives. Review of these forecasts indicates that most of the existing and assumed future roadways have the capacity to provide LOS D or better conditions.

Implementation of the Northerly Emphasis Alternative will, however, result in several new locations where anticipated traffic volumes will exceed LOS D. Overall, the proposed General Plan would result in eight locations where forecast Levels of Service would exceed LOS D, while the Northerly Emphasis Alternative would result in a total of six roadway segments exceeding LOS D. The impacted roadway segments are identified as follows:

- Dorsey Drive/west of Sutton Way
- Main Street/east of Bennett Street
- Hughes Road/northwest of Main Street
- Hughes Road/south of Ridge Road
- Ridge Road/north of Hughes Road
- Ridge Road/south of Hughes Road

TABLE 4-3

GENERAL PLAN ALTERNATIVES

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

FREEWAYS

			NO. OF LANES		EXISTING		2020					
							PREFERRED		SOUTH		NORTH	
	ROAD	LOCATION	EXISTING	2020	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
1.	State Route 49/20	S of N. Auburn St	4	4	29,000	A	59,500	B	60,500	B	57,400	A

2.	State Route 49/20	S of Bennett St	4	4	36,000	A	52,500	A	51,900	A	49,900	A
3.	State Route 49/20	S of Idaho-Maryland	4	4	37,000	A	64,900	B	63,600	B	63,700	B
73.	State Route 49/20	S of Dorsey	4	4	30,500	A	56,600	A	NA			
4.	State Route 49/20	S of Brunswick Rd	4	4	30,500	A	41,100	A	40,300	A	41,100	A
74.	State Route 49/20	N of Brunswick Rd	4	4	30,000	A	40,000	A	NA			
75.	State Route 49	S of Crestview/Smith Ext	4	4	21,700	A	35,800	A	NA			
5.	State Route 49	N of Crestview/Smith Ext	4	4	21,700	A	32,700	A	NA			
6.	State Route 49	S of SR 20	4	4	32,500	A	41,650	A	43,300	A	40,500	A
7.	State Route 20	W of Mill St	4	4	14,200	A	25,200	A	26,100	A	24,500	A
8.	State Route 20	W of SR 49	4	4	15,000	A	27,500	A	28,900	A	27,400	A
76.	State Route 20	W of Brighton	4	4	14,200	A	25,200	A	NA			

ADT = Average Daily Traffic

LOS = Level of Service

NA = Not Available

TABLE 4-3 CONT'D

GENERAL PLAN ALTERNATIVES

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

ARTERIALS

							2020					
			NO. OF LANES		EXISTING		PREFERRED		SOUTH		NORTH	
	ROAD	LOCATION	EXISTING	2020	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS

9.	State Route 174	E of SR 20	2	2	6,200	A	12,000	C	13,000	C	12,100	B
10.	State Route 174	E of Central St	2	2	4,500	A	7,350	A	8,700	A	7,000	A
11.	State Route 174	E of Ophir St	2	2	5,100	A	5,150	A	6,450	A	5,600	A
12.	State Route 174	S of Race St	2	2	5,400	A	7,250	A	7,800	A	8,600	A
13.	State Route 174	E of Empire Mine	2	2	5,600	A	9,000	A	10,900	C	10,500	B
79.	South Auburn St	S of Main	2	2	NA	NA	5,700	A	NA			
14.	South Auburn St	S of Mohawk St	2	2	7,802	A	7,800	A	9,450	B	7,550	A
15.	South Auburn St	N of School Alley	2	2	6,852	A	6,950	A	9,300	A	6,950	A
16.	South Auburn St	N of Whiting St	2	2	7,139	A	10,400	B	11,900	C	9,400	B
17.	South Auburn St	NW of E. McKnight Way	2	4	8,228	A	14,300	A	18,500	A	12,400	A
90.	Bennett Road	E of SR 49/20	2	2	NA	NA	5,700	A	NA			
94.	Brighton Extension	S of McCourtney	2	2	NA	NA	4,600	A	NA			
95.	Brighton Extension	W of Allison Ranch Rd	2	2	NA	NA	5,600	A	NA			

ADT = Average Daily Traffic

LOS = Level of Service

NA = Not Available

TABLE 4-3 CONT'D

GENERAL PLAN ALTERNATIVES

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

ARTERIALS

							2020					
			NO. OF LANES		EXISTING		PREFERRED		SOUTH		NORTH	
	ROAD	LOCATION	EXISTING	2020	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
18.	Brunswick Road	On Overcrossing 49/20	4	4	26,172	D	17,100	A	16,100	A	17,800	A

72.	Brunswick Road	N of Dorsey Drive	2	4	12,235	C	14,600	A	NA			
19.	Brunswick Road	S of Ranchview Ct	2	4	12,235	C	14,600	A	13,200	A	15,900	A
20.	Brunswick Road	N of Whispering Pines	2	4	14,504	E	12,600	A	14,504	A	12,100	A
21.	Brunswick Road	NW of Loma Rica Dr	2	4	14,056	E	18,600	A	17,800	A	20,100	B
22.	Brunswick Road	NW of E. Bennett	2	2	10,686	B	11,200	C	10,200	B	11,800	C
69.	Centennial Drive	S of Idaho Maryland	2	2	NA	NA	9,600	B	NA			
62.	Crestview/Smith Ext	E of Allison Ranch Rd	2	2	NA	NA	6,050	A	NA			
102.	Crestview/Smith Ext	E of Taylorville	2	2	NA	NA	3,100	A	NA			
40.	Dorsey Drive	SE of Segsworth Way	2	4	5,541	A	15,400	A	14,400	A	15,700	A
67.	Dorsey Drive	W of Sutton Way	2	2	NA	NA	13,500	D	13,900	D	14,800	E
85.	Dorsey Drive	E of Sutton	2	2	NA	NA	12,800	D	NA			
86.	Dorsey/Whispering Pines Loop	N of Idaho Maryland	2	2	NA	NA	12,800	D	NA			
87.	Dorsey/Whispering Pines Loop	S of Idaho Maryland	2	2	NA	NA	8,250	A	NA			

ADT = Average Daily Traffic

LOS = Level of Service

NA = Not Available

TABLE 4-3 CONT'D

GENERAL PLAN ALTERNATIVES

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

ARTERIALS

					2020

	ROAD	LOCATION	NO. OF LANES		EXISTING		PREFERRED		SOUTH		NORTH	
			EXISTING	2020	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
23.	Empire Street	E of Le Duc St	2	2	4,923	A	4,900	A	5,100	A	3,700	A
64.	Idaho Maryland Rd	E of Railroad	2	4	12,111	C	24,700	C	24,000	C	24,200	C
24.	La Barr Meadows	SE of E. McKnight Way	2	2	10,028	B	10,100	B	NA			
80.	La Barr Meadows	N of Crestview/Smith Ext	2	2	NA	NA	7,950	A	NA			
82.	La Barr Meadows	S of Crestview/Smith Ext	2	2	NA	NA	11,200	C	NA			
74.	Main Street	S of Squirrel Creek	2	2	5,763	A	10,200	B	11,400	C	12,000	C
63.	Main Street	W of Auburn	2	2	NA	NA	9,450	B	9,750	B	9,550	B
71.	Main Street	E of Bennett St	2	2	12,172	C	16,500	F	16,700	F	17,600	F
70.	Main Street	N of Idaho Maryland	2	4	NA	NA	21,900	C	21,300	B	22,400	C
73.	McCourtney Road	W of 20 Ramps	2	2	NA	NA	9,900	B	14,800	F	10,600	B
50.	W. McKnight Way	SW of Taylorville Rd	2	4	8,882	A	16,800	A	23,400	C	18,300	A
25.	Mill Street	S of Neal St	2	2	5,786	A	12,100	C	13,300	D	12,600	D
26.	Mill Street	NE of Rhode Island St	2	2	5,750	A	8,600	A	9,500	B	8,500	A
92.	Mill Street	N of McCourtney	2	2	NA	NA	12,100	C	NA			

ADT = Average Daily Traffic

LOS = Level of Service

NA = Not Available

TABLE 4-3 CONT'D

GENERAL PLAN ALTERNATIVES

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

ARTERIALS

					2020

	ROAD	LOCATION	NO. OF LANES		EXISTING		PREFERRED		SOUTH		NORTH	
			EXISTING	2020	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
27.	Neal Street	E of Church St	2	2	5,239	A	3,750	A	4,600	A	4,450	A
77.	Nevada City Hwy	S of Sierra College	2	4	NA	NA	15,400	A	NA			
28.	Nevada City Hwy	Grass Vly City Limits	2	4	14,355	E	15,000	A	12,800	D	14,800	A
83.	Nevada City Hwy	E of Brunswick	2	2	NA	NA	11,800	C	NA			
78.	Ophir	S of Bennett	2	2	NA	NA	9,050	A	NA			
57.	Sierra College Dr	E of Main Street	2	4	4,546	A	16,700	A	17,000	A	19,500	B
58.	Sutton Way	E of Brunswick	2	2	9,040	A	10,800	A	10,600	A	12,200	C
59.	Sutton Way	W of Brunswick	2	2	13,661	F	6,300	A	6,200	A	7,100	B
68.	Sutton Way	N of Dorsey Dr	2	2	NA	NA	6,150	A	6,550	A	7,000	B
84.	Sutton Way	S of Dorsey Dr	2	2	NA	NA	5,200	A	NA			
60.	Whispering Pines Ln	W of Brunswick Rd	2	2	1,494	A	8,250	A	5,050	A	6,300	A

ADT = Average Daily Traffic

LOS = Level of Service

NA = Not Available

TABLE 4-3 CONT'D

GENERAL PLAN ALTERNATIVES

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

COLLECTORS

	ROAD	LOCATION	NO. OF LANES		EXISTING		2020					
							PREFERRED		SOUTH		NORTH	
			EXISTING	2020	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
29.	Allison Ranch Rd	S of McCourtney	2	2	720	A	600	A	1,000	A	800	A

30.	Allison Ranch Rd	N of North Star Mine Rd	2	2	665	A	600	A	1,000	A	800	A
98.	Allison Ranch Rd	S of Crestview/Smith Ext	2	2	NA	NA	50	A	NA			
31.	Alta Street	N of West Main St	2	2	4,203	A	3,000	A	3,400	A	3,700	A
32.	Alta Street	S of Alta Vista Dr (S)	2	2	3,587	A	1,300	A	1,650	A	1,650	A
33.	Alta Street	N of Alta Vista Dr (S)	2	2	3,476	A	850	A	950	A	1,050	A
34.	Alta Street	SE of Ridge Road	2	2	3,380	A	1,100	A	1,200	A	1,450	A
96.	Old Auburn Rd	S of McCourtney	2	2	NA	NA	1,450	A	NA			
81.	Old Auburn Rd	S of North Star Connection	2	2	NA	NA	1,750	A	NA			
66.	E. Bennett Road	E of Centennial	2	2	NA	NA	5,250	A	6,700	B	7,450	C
35.	E. Bennett Road	E Grass Vly City Limit	2	2	2,142	A	8,150	C	12,800	F	9,000	D
93.	Brighton Street	N of McCourtney	2	2	NA	NA	6,750	B	10,400	E	7,400	B
36.	Brighton Street	N of McCourtney	2	2	3,830	A	6,750	B	NA			

LOS = Level of Service NA = Not Available

ADT = Average Daily Traffic (2) = Planned Road

TABLE 4-3 CONT'D

GENERAL PLAN ALTERNATIVES

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

COLLECTORS

							2020					
			NO. OF LANES		EXISTING		PREFERRED		SOUTH		NORTH	
	ROAD	LOCATION	EXISTING	2020	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
37.	Brighton Street	S of Chapel	2	2	2,581	A	3,950	A	5,500	A	5,450	A
38.	Butler Street	W of Minnie	2	2	813	A	3,150	A	4,950	A	5,400	A
39.	Butler Street	E of Packard Dr	2	2	929	A	3,100	A	6,700	B	6,300	A
65.	Centennial Drive	N of E. Bennett	(2)	2	NA	NA	7,350	B	11,100	F	4,300	A
91.	North Collector	W of Allison Ranch	(2)	2	NA	NA	600	A	NA			

99.	South Collector	E of Old Auburn	(2)	2	NA	NA	1,150	A	NA			
100.	South Collector	E of North Star Loop Rd	(2)	2	NA	NA	1,400	A	NA			
97.	South Collector	W of Allison Ranch	(2)	2	NA	NA	1,950	A	NA			
41.	Empire Street	E of Kate Hayes St	2	2	4,278	A	3,900	A	4,850	A	3,800	A
42.	E. Empire Street	E Grass Vly City	2	2	4,178	A	3,900	A	4,850	A	3,900	A
43.	Freeman Lane	N of McKnight Way	2	2	8,142	C	12,200	F	8,750	C	8,550	C
44.	Freeman Lane	SW of McKnight	2	2	NA	NA	4,800	A	15,700	F	8,550	C
61.	Freeman Lane	E of Mill	2	2	NA	NA	9,250	D	NA			
45.	Hughes Road	NW of E. Main St	2	2	7,852	C	13,200	F	12,500	F	13,700	F

LOS = Level of Service NA = Not Available

ADT = Average Daily Traffic (2) = Planned Road

TABLE 4-3 CONT'D

GENERAL PLAN ALTERNATIVES

ROADWAY DAILY TRAFFIC VOLUMES LEVELS OF SERVICE

COLLECTORS

							2020					
			NO. OF LANES		EXISTING		PREFERRED		SOUTH		NORTH	
	ROAD	LOCATION	EXISTING	2020	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
46.	Hughes Road	S of Ridge Rd	2	2	3,872	A	10,400	E	9,650	D	10,900	E
47.	Idaho Maryland Rd	W of Brunswick	2	2	3,570	A	3,850	A	5,550	A	5,250	A
48.	Idaho Maryland Rd	E of Brunswick Rd	2	2	1,918	A	3,050	A	4,000	A	4,550	A
49.	McCourtney Road	W of Brighton St	2	2	8,650	C	9,300	D	8,150	C	7,800	C
101.	McCourtney Road	W of Old Auburn Rd	2	2	5,676	A	10,100	E	NA			
51.	Mill Street	N of Bank Street	2	2	5,399	A	5,150	A	5,400	A	5,100	A
52.	Richardson Street	E of Alta Street	2	2	1,171	A	2,900	A	3,250	A	3,500	A

53.	Ridge Road	W of Ridge Estates Rd	2	2	5,059	A	8,000	C	5,700	A	6,650	B
54.	Ridge Road	N of Hughes Rd	2	2	7,815	C	10,900	E	10,500	E	11,600	F
55.	Ridge Road	S of Hughes Rd	2	2	7,625	B	10,400	E	11,400	F	12,700	F
88.	Ridge Road	W of Alta	2	2	5,339	A	7,600	B	NA			
89.	Ridge Road	E of Rough & Ready Hwy	2	2	4,253	A	11,600	F	NA			
56.	Sierra College Dr	SE of Ridge Rd	2	2	3,180	A	7,200	B	6,800	B	8,050	C
103.	Taylorville	S of McKnight	2	2	NA	NA	0	A	NA			
104.	Taylorville	S of Crestview/Smith Ext	2	2	NA	NA	3,100	A	NA			

LOS = Level of Service NA = Not Available

ADT = Average Daily Traffic (2) = Planned Road

The Alternative also impacts the SR 49/McKnight Way roundabouts. The Northerly Emphasis Alternative would deliver LOS C.

While the required roadway improvements for both the Northerly and Southerly Expansion Alternatives would be similar to those recommended for the proposed General Plan, it is likely that the Northerly Emphasis Alternative will require incrementally fewer roadway improvements.

The impacts of the Northerly Emphasis Alternative on transit service and bicycles would not be substantially different from those identified for the proposed General Plan. The impacts of the Northerly Emphasis Alternative on the need for Transportation Systems Management would not be substantially different from those identified for the proposed General Plan. The impacts of the Northerly Emphasis alternative on the movement of goods would not be substantially different from those identified for the proposed General Plan.

Noise: Development in accordance with the Northerly Emphasis Alternative would result in increased noise levels, primarily associated with major roadways. Because this alternative is characterized by a more compact urban form and higher residential densities, ambient noise levels

could be greater than the proposed General Plan.

Public Safety/Hazards: There is nothing in the Northerly Emphasis Alternative that would inherently result in a significant increase in hazards or risk to public safety. All

future development would be reviewed on a case- by-case basis to ensure that safety and hazard standards are met. This Alternative would not cause a significant hazard to the public or the environment, and would have similar impacts to public health and safety as the 2020 General Plan.

Cultural Resources: The Northerly Emphasis Alternative seeks to maintain a tight development pattern, minimizing urban sprawl. In terms of cultural resources, this Alternative's emphasis on a tighter development pattern would be advantageous in terms of reducing the amount of new development around the existing urban periphery, and therefore result in less excavation and potential disruption of buried artifacts. However, infill development could also result in greater impact to existing historical structures in the historic areas of downtown area of Grass Valley. Regardless of where development will occur, all future projects will require specific environmental analysis, ensuring that impacts to cultural resources are considered and appropriate mitigation measures implemented. Therefore, the alternative would have a similar impacts to cultural resources as the 2020 General Plan.

Parks and Recreation: This Alternative provides tat substantial areas within the three major annexation areas will be set aside for recreational purposes. Future development would not cause substantial physical deterioration of existing park and recreation facilities. Further, all future development would be reviewed on a case-by-case basis to ensure compliance with park and recreation policies. Therefore, the alternative would have a similar impacts to parks and recreation as the 2020 General Plan.

Conservation and Open Space: The Northerly Emphasis Alternative emphasizes significant conservation/open space projects to be developed in conjunction with residential growth, particularly within the aforementioned Brunswick/East Bennett/Freeway triangle and within the City limits as "infill" conservation/recreation projects. More extensive open space set asides will occur within the three major annexation areas. Riparian corridors and recreational trails will be planned in anticipation of new development, and implemented in conjunction with new residential and non-residential projects.

This Alternative would not cause substantial physical deterioration of open space. Further, all future development would be reviewed on a case-by-case basis to ensure compliance with park and recreation policies. Therefore, the alternative would have similar impacts to open space and conservation as the 2020 General Plan.

4.2.3 Alternative #3 Impacts: General Plan - Southerly Emphasis Development Scenario

The following provides a qualitative analysis of the environmental impacts of the Southerly Emphasis Development Scenario, which was considered while formulating the proposed 2020 General Plan Update.

Geology and Soils: Grass Valley area is rated as a low-intensity earthquake zone. A low-intensity zone is defined by the United States Geological Survey (USGS) as an area that is likely to experience an earthquake measuring 5.0-5.9 in magnitude on the Richter scale, and a maximum intensity of VI or VII on the Modified Mercalli scale. The Richter scale measures the amplitude of seismic waves recorded by a seismograph, while the modified Mercalli scale measures the intensity of an earthquake by the way it is felt and responded to by humans, and by the amount of damage it does to buildings and structures (City of Grass Valley 1996).

Southeast of the central city are Boomer-Sites-Sobrante association soils with undulating to steep, well-drained loams formed over metabasic rock. Most of these soils have depths of 40-60 inches or more to weathered bedrock. Boomer-Sites-Sobrante association soils have permeabilities in the range of 0.2 to 0.6 inches per hour, but Sobrante soils can have permeabilities up to about 2.0 inches per hour (moderately slow to moderate permeabilities).

The Southerly Emphasis Alternative would result in development that could expose people or structures to potential adverse effects, including the risk of loss, injury or death. However, Uniform Building Code requirements and standard construction practices would reduce this potential impact.

Therefore, this alternative is not seen as being substantially different than the 2020 General Plan in terms of impact to geology and soils.

Hydrology and Water Quality: The Southerly Emphasis Alternative assigns future development to the south of downtown as much as possible. By steering growth accordingly, it would allow development of a "new town" south of present Grass Valley. This increase in development will result in an increase in impervious surfaces, which will impact hydrology and water quality, predominantly downstream from Grass Valley.

The proposed Alternative would create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage facilities. The potential exists for a significant increase in impervious surfaces, which will increase the amount of runoff and increase downstream flood hazard. Although each future project will be required to individually assess the potential for impacts to hydrology and water quality, the potential impact to hydrology and water quality could be greater with this alternative.

Biological Resources: The Southerly Emphasis Alternative assigns most new residential development to the southern portion of the Planning Area, generally south of McKnight Way. Like the proposed 2020 Plan, future development of this alternative will require review on project-specific level of analysis, which will ensure compliance with policies to protect biological resources and comply with state and federal laws and requirements.

Therefore, this is seen as being the same as the project.

Air Quality: Compared to the proposed General Plan, the Southerly Emphasis Alternative has the potential to result in a higher level of vehicular emissions because of its less compact development form and "new town" features, which do not facilitate the use of alternative transportation modes such as walking, bicycling and transit.

Public Services and Utilities: A characteristic of the Southerly Emphasis Alternative could be to allow development of a "new town" south of present Grass Valley, in which new residents could live, work, and shop without going to and through downtown and other congested areas on a daily basis. This would require the installation and provision of public services and utilities in an area where they presently do not exist.

The most significant issue regarding public services and utilities is the efficacy of concentrating so much future growth downstream from the City wastewater treatment plant, now undergoing a 9+ million dollar expansion. This would require the pumping of effluent uphill for treatment at the expanded wastewater plant.

Land Use: The Southerly Emphasis assigns most new residential development to the southern portion of the Planning Area, generally south of McKnight Way. Residential development to the north includes pre-zoned residential allocations to Kenny Ranch and Loma Rica Ranch (100 and 180 units, respectively), and the maximum potential of 900 infill units. No outfill units are assumed (other than the three major annexation areas). City annexations and service extensions are to the south, whereas most of the potential for outfill development is north of downtown.

A characteristic of the Southerly Emphasis could be to develop a "new town" south of present Grass Valley, in which new residents could live, work, and shop without going to and through downtown and other congested areas on a daily basis.

The Southerly Emphasis includes a major new commercial area at the old Bear River Mill site, between Highway 49 and LaBarr Meadows Road. It also assumes considerable residential development in an arc from Conway Ranch/McCourtney Road east through North Star and Berryman Ranch. Also assumed is substantial residential development on the west side of Osborne Hill, east of LaBarr Meadows (an area presently designated for business park and planned employment center purposes).

The Southerly Emphasis Alternative would not physically divide an established community, or conflict with habitat conservation or natural community conservation plans.

Population and Housing: The total number of housing units and population for the Southern Emphasis Alternative are similar to the proposed 2020 General Plan.

Aesthetics: The Southerly Emphasis assigns most new residential development to the southern portion of the Planning Area. A characteristic of the Southerly Emphasis could be to develop a "new town" south of present Grass Valley. This contrasts with the 2020 Plan which generally proposes a more compact development pattern focused in the northern and eastern parts of the city.

Both development scenarios contain policies for the preservation of open space and advocate design guidelines for the protection of community aesthetics.

Transportation: The overall development levels under General Plan alternatives is similar to that projected for the proposed General Plan. The holding capacity of the Southerly Emphasis Alternative is 2,820 new dwelling units. This alternative could also accommodate 1,172.2 acres of new non-residential uses (not including areas designated for open space.)

Because the level of development anticipated by year 2020 does not represent full build out under either the proposed General Plan or its alternatives, the total trip generation associated with new development would not be appreciably different under the Southerly Emphasis Alternative.

The evaluation of General Plan alternatives addressed the ramifications of both land use and circulation systems. Analysis of circulation plans addressed alternatives for major facilities linking the community with Highways 20/49, as well as the location of new Wolf Creek Crossings. The key issue reviewed as part of this investigation was the location of a new Wolf Creek crossing linking the North Star Annexation area with SR 49. Alternatives addressed included the southerly extension of Freeman Lane in accordance with the current General Plan, a westerly extension of McKnight Way, and the creation of a new route extending westerly from Highway 49 near Crestview Drive to North Star. For this EIR, the traffic volume forecasts for the Southerly Emphasis Alternative assumes implementation of the Freeman Lane Extension to North Star.

Table 4-3 compares current traffic volumes at selected locations on area streets (refer to Index Figure 4.2 of the Circulation Element) with future (year 2020) daily traffic volume forecasts and Levels of Service under the proposed General Plan and both the Northerly and Southerly Emphasis Alternatives. Review of these forecasts indicates that most of the existing and assumed future roadways have the capacity to provide LOS D or better conditions.

Implementation of the Southerly Emphasis Alternative will, however, result in several new locations where anticipated traffic volumes will exceed LOS D. Overall, the proposed General Plan would result in eight locations where forecast levels of Service would exceed LOS D, while the Southerly Emphasis Alternative would result in six additional locations exceeding LOS D (a total of nine roadway segments.) The impacted

roadway segments are identified as follows:

- Main Street/east of Bennett Street
- McCourtney Road/west of Highway 20 ramps
- East Bennett Road/east of Grass Valley city limits
- Brighton Street/north of McCourtney Road
- Centennial Drive/north of Bennett Street
- Freeman Lane/east of Mills
- Hughes Road/northwest of East Main Street
- Ridge Road/north of Hughes Road
- Ridge Road/south of Hughes Road

The Southerly Emphasis Alternative would also impact the Highway 49/McKnight Way roundabouts. This alternative would increase traffic through these roundabouts and result in LOS E/F. While the required roadway improvements for both the Northerly and Southerly Emphasis Alternatives would be similar to those recommended for the proposed General Plan, it is likely that the Southerly Emphasis Alternative will require incrementally greater roadway improvements.

The Southerly Emphasis Alternative, because of its less compact form and "new town" features, would not facilitate the use of transit service, walking and bicycles compared to the proposed General Plan. The impacts of this alternative on the need for Transportation Systems Management would not be substantially different from those identified for the proposed General Plan. The impacts of the Southerly Emphasis Alternative on the movement of goods would not be substantially different from those identified for the proposed General Plan.

Noise: Development in accordance with the Southerly Emphasis Alternative would result in increased noise levels, primarily associated with major roadways. Because this alternative allows development of a "new town" somewhat separated from the existing urban area, impacts could occur in new locations in comparison with the proposed General Plan.

Public Safety/Hazards: There is nothing in the Southerly Emphasis Alternative that would inherently result in a significant increase in hazards or risk to public safety. All future development would be reviewed on a case-by-case basis to ensure that safety and hazard standards are met. This proposed Alternative would not cause a significant hazard to the public or the environment.

Cultural Resources: In terms of cultural resources, this alternative's emphasis on developing in a new area south of the existing development patterns would resulting in excavation and could cause disruption to buried artifacts. However, regardless of where development occurs, all future projects will require specific environmental analysis,

ensuring that impacts to cultural resources are considered and appropriate mitigation measures implemented.

Parks and Recreation: It is assumed that substantial areas within the three major annexation areas will be set aside for conservation and recreational purposes. The Southerly Emphasis Alternative emphasizes significant conservation/open space projects to be developed in conjunction with residential growth. Riparian corridors and recreational trails will be planned in anticipation of new development, and implemented in conjunction with new residential and non-residential projects.

This Alternative would not cause substantial physical deterioration of existing park and recreation facilities. Further, all future development would be reviewed on a case-by-case basis to ensure compliance with park and recreation policies.

Conservation and Open Space: The Southerly Emphasis alternative assumes that substantial areas within the three major annexation areas will be set aside for conservation purposes. It also emphasizes significant conservation/open space projects to be developed in conjunction with residential growth. Riparian corridors and recreational trails will be planned in anticipation of new development, and implemented in conjunction with new residential and non-residential projects.

This Alternative would not cause substantial physical deterioration of open space and conservation facilities. Further, all future development would be reviewed on a case-by-case basis to ensure compliance with park and recreation policies.

4.3 CONCLUSIONS

In accordance with State CEQA Guidelines, all reasonable project alternatives have been evaluated to determine their comparative environmental superiority. Impacts of the proposed General Plan that have been identified as significant, if not mitigated, are presented in Section Three. Significant impacts which cannot be fully mitigated are also described in Section Three. Accordingly, alternatives that reduce or avoid these impacts represent environmentally superior alternatives to the proposed General Plan. As described at the beginning of this Section, if the environmentally superior alternative is the "no project" alternative, the EIR must also identify an environmentally superior alternative among the remaining alternatives.

Based upon the analysis contained and documented in this EIR, the No Project Alternative would actually allow a higher level of development (specifically, residential, commercial and industrial development) in comparison to the proposed General Plan. Adopted in 1982, the existing General Plan is out of date and will not meet community needs for physical development over the next 20 years. The existing General Plan does not include sufficient historical or community design standards, which afford greater

protection for historical resources and community aesthetics. The Southerly Emphasis Alternative would have greater impacts on public services and facilities because it would not allow for gravity flow of wastewater. It would also result in greater reliance on the automobile for transportation. The Northerly Emphasis Alternative would provide for more compact development, thus facilitating provision of public services and utilities and use of alternative transportation modes (transit, walking and bicycling), fewer impacts on roadway and intersection Levels of Service, as well as decreasing the amount of land converted to urban use. Therefore, this EIR concludes that the Northerly Emphasis Alternative is the environmentally superior alternative.

CHAPTER 5.0

LIST OF PERSONS PREPARING THIS EIR &

LIST OF PERSONS CONSULTED

PERSONS PREPARING THIS EIR

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CHAPTER 6.0

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Maps - Various

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Draft Environmental Impact Report

NOTICE OF PREPARATION

To:

From: City of Grass Valley

Planning Department

125 E. Main Street

Grass Valley, CA 95945-6588

Subject: Notice of Preparation of a Draft Environmental Impact Report

The City of Grass Valley will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (is is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to William N. Roberts at the address shown above. We will need the name for a contact person in your agency.

Project Title: General Plan Update

Project Applicant, if any:

Date Signature

Title City Planner

Telephone (530) 274-4330

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

ENVIRONMENTAL CHECKLIST FORM

1. Project Title:

City of Grass Valley General Plan Update

2. Lead Agency Name and Address:

City of Grass Valley

125 E. Main Street

Grass Valley, CA 95945-6588

3. Contact Person and Phone Number:

William N. Roberts, City Planner

(530) 274-4330

4. Project Location:

The project location consists of the City of Grass Valley and its surrounding uses in Nevada County, California (see Figures 1 and 2).

5. Project Sponsor's Name and Address:

City of Grass Valley

125 E. Main Street

Grass Valley, CA 95945-6588

6. General Plan Designation:

Not applicable. The project involves updating the City's General Plan.

7. Description of Project:

The Grass Valley City Council has authorized an update of its General Plan, which was last updated in 1982. A Steering Committee composed of the mayor, two City Council members, two Planning Commission members, and three members at large has been established to guide the policy and technical development of the General Plan.

During the anticipated one-year process, the Steering Committee will meet twice each month for the first seven months and hold a number of public workshops to solicit public input on

the general plan update. In addition, the Planning Commission and City Council will, at appropriate times, hold public hearings about and consider the general plan update and EIR.

General Plan Elements included in this update are identified below, along with a discussion of their relevance:

Land Use

The existing Land Use Element (LUE) was adopted in 1982 and requires updating to include subsequent changes in population, economic development directions and additional areas proposed for annexation. Areas subject to flooding will be addressed, and the Zoning Ordinance will be revised to enhance consistency with the LUE.

Circulation

The existing circulation element was adopted in 1982 and also requires updating to incorporate the recommendations of the Sub-regional Transportation Model and other studies by the Nevada County Transportation Commission. Appropriate adjustments to the existing Circulation Element and/or the Sub-regional Traffic Model will be necessary to provide consistency with the LUE and to address identified traffic problems.

Open Space/Conservation

The Open Space and Conservation Elements were adopted in 1982. These elements will be combined along with the Scenic Highways element. They will also be revised to achieve consistency with the updated LUE and state General Plan Guidelines.

Noise

Noise from various sources will be identified and guidelines developed to establish

land use patterns that minimize exposure to excessive noise. The noise element may include measures to address existing and foreseeable noise problems, if any, and serve as a guideline for compliance with state noise insulation standards.

Safety

The safety element will include mapping of known seismic and other geologic hazards, evacuation routes, peak load water supply requirements, and minimum road widths and clearances around structures as related to fire and geologic hazards. As required, the State Division of Mines and Geology and the Office of Emergency Services will be consulted.

Urban Design, Historical and Recreation

These optional elements were updated in 1982. The Urban Design element led to formation of the Design Review Board in 1988. The Historical Element led to formation of the Historical Commission, and the Recreation Element is the basis for park land dedication as required under the Quimby Act. The name of the Urban Design Element will be changed to the Community Design Element.

Housing, Mineral Management and Energy

The Housing, Mineral Management, and Energy elements are not included in the general plan update. The Housing element will not require updating until 2002. These elements will be considered, however, in the general plan update.

8. Surrounding Land Uses and Setting:

The City of Grass Valley is located at an elevation of approximately 2400 feet in the foothills of the Sierra Nevada Mountains, about 60 miles northeast of Sacramento. Figure 1 depicts the location of Grass Valley. Natural landscapes of the City's vicinity are characterized by rolling to steep topography typified by mixed oak woodland and coniferous forest.

A charter city incorporated in 1893, the city has a current estimated population of 9,500. Grass Valley occupies an area of 3.75 square miles, which is approximately 25 percent of the City's 15-square mile Sphere of Influence.

Grass Valley is the business center of western Nevada County. Nevada County's recently adopted General Plan has directed growth toward existing urban areas, and several major annexations are currently under consideration by the City.

Surrounding the City of Grass Valley to the north, is found roughly one-acre residential

properties, with larger tracts of undeveloped land further north. To the northeast is found the heavily developed Glenbrook area comprising a wide variety of commercial services and to a lesser extent, light industrial land uses. A combination of large tract mined areas and the Loma Rica area is located to the east, along with the Nevada County Air Park and Loma Rica industrial area. On the southeast, there is the Whispering Pines Industrial Park, the Empire Mine State Park, and lower density rural residential uses. To the south and southwest between State Route (SR) 49 and SR 20 are significant open space areas, notably the Northstar Mine property (275 acres) and low density rural residential. The northwest quadrant includes a mix of residential and undeveloped land.

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

No other public agencies whose discretionary approval is required have been identified.

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.

x	Land Use & Planning	x	Transportation/ Circulation	x	Public Services
x	Population & Housing	x	Biological Resources	x	Utilities & Service Systems
x	Geologic Problems	x	Energy & Mineral Resources	x	Aesthetics
x	Water	x	Hazards	x	Cultural Resources
x	Air Quality	x	Noise	x	Recreation
				x	Mandatory Findings of Significance

DETERMINATION

(To be completed by the Lead Agency.)

On the basis of this initial evaluation:

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

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION will be prepared.

X 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 significant effect(s) 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, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." 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, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project.

_____ _____

Signature Date

_____ _____

Printed Name Lead Agency

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses

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

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

3) "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). Earlier analyses are discussed in Section XVII at the end of the checklist.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
I. LAND USE AND PLANNING. ***Would the proposal:***				
a) Conflict with general plan designation or zoning?				x
b) Conflict with applicable environmental plans or policies adopted by agencies with jurisdiction over the project?	x			
c) Be incompatible with existing land use in the vicinity?	x			
d) Affect agricultural resources or operations (e.g. impacts to soils or farmlands, or impacts from incompatible land uses)?	x			
e) Disrupt or divide the physical arrangement of an established community (including a low-income or minority community)?				x
II. POPULATION AND HOUSING. ***Would the proposal:***				
a) Cumulatively exceed official regional or local population projections?	x			
b) Induce substantial growth in an area either directly or indirectly (e.g. through projects in an undeveloped area or extension of major infrastructure)?	x			
c) Displace existing housing, especially affordable housing?	x			
III. GEOLOGIC PROBLEMS. ***Would the proposal result in or expose people to potential impacts involving:***				

a) Fault rupture?	x			
b) Seismic ground shaking?	x			
c) Seismic ground failure, including liquefaction?	x			
d) Seiche, tsunami, or volcanic hazard?				x
e) Landslides or mudflows?	x			
f) Erosion, changes in topography or unstable soil conditions from excavation, grading, or fill?	x			
g) Subsidence of the land?	x			
h) Expansive soils?	x			
I) Unique geologic or physical features?	x			
IV. WATER. ***Would the proposal result in:***				
a) Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	x			
b) Exposure of people or property to water related hazards such as flooding?	x			
c) Discharge into surface waters or other alteration of surface water quality (e.g. temperature, dissolved oxygen or turbidity)?	x			
d) Changes in the amount of surface water in any water body?	x			
e) Changes in currents, or the course or direction of water movements?	x			
f) Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or through substantial loss of groundwater recharge capability?	x			
g) Altered direction or rate of flow of groundwater?	x			

h) Impacts to groundwater quality?	x			
i) Substantial reduction in the amount of groundwater otherwise available for public water supplies?				x
V. AIR QUALITY. ***Would the proposal:***				
a) Violate any air quality standard or contribute to an existing or projected air quality violation?	x			
b) Expose sensitive receptors to pollutants?	x			
c) Alter air movement, moisture, or temperature, or cause any change in climate?				x
d) Create objectionable odors?	x			
VI. TRANSPORTATION/CIRCULATION. ***Would the proposal result in:***				
a) Increased vehicle trips or traffic congestion?	x			
b) Hazards to safety from design features (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	x			
c) Inadequate emergency access or access to nearby uses?	x			
d) Insufficient parking capacity on-site or off-site?	x			
e) Hazards or barriers for pedestrians or bicyclists?	x			
f) Conflicts with adopted policies supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	x			
g) Rail, waterborne or air traffic impacts?			x	
VII. BIOLOGICAL RESOURCES. ***Would the proposal result in impacts to:***				

a) Endangered, threatened or rare species or their habitats (including but not limited to plants, fish, insects, animals, and birds)?	x			
b) Locally designated species (e.g. heritage trees)?				x
c) Locally designated natural communities (e.g. oak forest, coastal habitat, etc)?				x
d) Wetland habitat (e.g. marsh, riparian and vernal pool)?	x			
e) Wildlife dispersal or migration corridors?	x			
VIII. ENERGY AND MINERAL RESOURCES. ***Would the proposal:***				
a) Conflict with adopted energy conservation plans?				x
b) Use non-renewable resources in a wasteful and inefficient manner?				x
c) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	x			
IX. HAZARDS. ***Would the proposal involve:***				
a) A risk of accidental explosion or release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation)?	x			
b) Possible interference with an emergency response plan or emergency evacuation plan?	x			
c) The creation of any health hazard or potential health hazard?			x	
d) Exposure of people to existing sources of potential health hazards?	x			
e) Increased fire hazard in areas with flammable brush, grass, or trees?	x			

X. NOISE. ***Would the proposal result in:***				
a) Increases in existing noise levels?	x			
b) Exposure of people to severe noise levels?	x			
XI. PUBLIC SERVICES. ***Would the proposal have an effect upon, or result in a need for new or altered government services in any of the following areas:***				
a) Fire protection?	x			
b) Police protection?	x			
c) Schools?	x			
d) Maintenance of public facilities, including roads?	x			
e) Other government services?	x			
XII. UTILITIES AND SERVICE SYSTEMS. ***Would the proposal result in a need for new systems or supplies, or substantial alterations to the following utilities:***				
a) Power or natural gas?	x			
b) Communications systems?	x			
c) Local or regional water treatment or distribution facilities?	x			
d) Sewer or septic tanks?	x			
e) Storm water drainage?	x			
f) Solid waste disposal?	x			
g) Local or regional water supplies?	x			
XIII. AESTHETICS. ***Would the proposal:***				
a) Affect a scenic vista or scenic highway?	x			
b) Have a demonstrable negative aesthetic effect?	x			
c) Create light or glare?	x			

XIV. CULTURAL RESOURCES. ***Would the proposal:***				
a) Disturb paleontological resources?	x			
b) Disturb archaeological resources?	x			
c) Affect historical resources?	x			
d) Have the potential to cause a physical change which would affect unique ethnic cultural values?	x			
e) Restrict existing religious or sacred uses within the potential impact area.	x			
XV. RECREATION. ***Would the proposal:***				
a) Increase the demand for neighborhood or regional parks or other recreational facilities?	x			
b) Affect existing recreational opportunities?	x			
XVI. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory?	x			
b) Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?			x	

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

I. LAND USE AND PLANNING: Would the proposal:

a. Conflict with general plan designation or zoning?

No Impact

The proposed project will, by definition, result in changes to existing elements of the City's General Plan. The General Plan is required by law to be internally consistent, so the updated elements (Land Use, Circulation, Open Space/Conservation, Noise, Safety, Urban Design, Historical and Recreation) must be consistent with the remaining elements (e.g., Housing). In the event that proposed changes in the elements under update cause a need for changes in the remaining elements to retain consistency and adequacy, a program for updating them will be prepared and implemented at that time. Zoning is also required to be consistent with the General Plan. It is anticipated that, following adoption of the updated General Plan, zoning changes will be required in some areas to maintain consistency with the General Plan.

b. Conflict with applicable environmental plans or policies adopted by agencies with jurisdiction over the project?

Potentially Significant Impact

No other agencies have jurisdiction over the City's General Plan. However, it is possible that the General Plan could result in development that conflicts with plans or policies adopted by agencies with jurisdiction over certain resources within the City. Examples include potential impacts to streambeds under the jurisdiction of the California Department of Fish and Game, other waterways under the jurisdiction of the U.S. Army Corps of Engineers, and impacts to air quality that may conflict with adopted plans of the Northern Sierra Air Quality Management District (NSAQMD). However, the City considers these resources as integral to the quality of life desired in Grass Valley and

will work toward maintaining consistency with the plans and policies of these agencies. Therefore, in completion of the update, appropriate mitigation measures will be developed.

c. Be incompatible with existing land use in the vicinity?

Potentially Significant Impact

A primary purpose of the General Plan update is to enhance compatibility of land uses in the City and its Sphere of Influence. However, some land use changes, while made to enhance long-term land use compatibilities, may result in isolated non-conforming land uses until such uses are altered through development.

d. Affect agricultural resources or operations (e.g. impacts to soils or farmlands, or impacts from incompatible land uses)?

Potentially Significant Impact

It is anticipated that adoption and implementation of the General Plan may, in some areas, result in changes from present or planned agricultural uses. Agricultural uses within the urbanizing area may be indirectly affected due to the proximity of new urban land uses and/or some agricultural uses may be displaced by other uses.

e. Disrupt or divide the physical arrangement of an established community (including a low-income or minority community)?

No Impact

A primary purpose of the General Plan update is to enhance land use compatibility and continuity in the City of Grass Valley.

II. POPULATION AND HOUSING. Would the proposal:

a. Cumulatively exceed official regional or local population projections?

Potentially Significant Impact

Growth and development in accordance with the General Plan may result in a buildout population that is different from regional or local population projections. A primary purpose of the General Plan update is to manage this growth to minimize the impacts of the increased population on transportation systems, air quality, agriculture, and other resources. Each natural resource and public service system needs to be reviewed in the context of appropriate mitigation measures that will serve to minimize the impacts of

growth.

b. Induce substantial growth in an area either directly or indirectly (e.g. through projects in an undeveloped area or extension of major infrastructure)?

Potentially Significant Impact

Growth is occurring in the City of Grass Valley under the existing General Plan. Growth and development in accordance with the updated General Plan will result in planned extensions of major infrastructure and development of undeveloped areas. Provision for such growth is an important part of this project, and the General Plan is intended to manage this growth, maximizing public services efficiencies and minimizing environmental impacts. However, development of certain lands in accordance with the General Plan update could result in impacts to public services, sensitive biological resources, waterways, or other resources that could be significant without appropriate mitigation.

c. Displace existing housing, especially affordable housing?

Potentially Significant Impact

No housing will be displaced as a direct result of the proposed project. It is possible that housing could be replaced by other uses in accordance with changed General Plan land use designations, public facility/transportation changes, or zone ordinance changes in response to the General Plan update. Mitigation measures will be necessary to prevent significant displacement of housing stock, particularly affordable housing.

III. GEOLOGIC PROBLEMS. Would the proposal result in or expose people to potential impacts involving:

a. Fault rupture?

Potentially Significant Impact

Part of the General Plan update includes updating the Safety Element, which includes mapping of known seismic and other geologic hazards. This mapping will be accomplished in consultation with the California Division of Mines and Geology and the Office of Emergency Services. This will allow avoidance of known fault rupture zones. In addition, mitigation measures should be incorporated to provide for site-specific geologic studies in areas identified as potentially containing faults.

b. Seismic ground shaking?

Potentially Significant Impact

As noted above, the Safety Element includes mapping of known seismic and other geologic hazards. New development in accordance with the General Plan will result in exposure of additional people to geologic hazards, although new structures built in conformance with the Uniform Building Code utilize seismic shaking design criteria and should offer the highest protection from seismic activity.

c. Seismic ground failure, including liquefaction?

Potentially Significant Impact

Development in accordance with the updated General Plan could result in placement of structures in areas where potential geologic hazards, such as soils susceptible to liquefaction and/or settlement are found to exist. Mitigation may include special studies in areas suspected to have geologic hazards and development of appropriate geotechnical engineering recommendations.

d. Seiche, tsunami, or volcanic hazard?

Less Than Significant

The site is not near any bodies of water subject to tsunami (tidal wave) or seiche. Neither is the site proximate to any source of volcanic hazard. This impact is considered less than significant.

e. Landslides or mudflows?

Potentially Significant Impact

Areas of landslide or mudflow could potentially exist in the City due to the rolling topography. Areas potentially affected by landslides or mudflows should be identified in the Safety element, and mitigation measures should be considered that provide for adequate study in these areas. However, grading ordinance requirements adopted by the City of Grass Valley serve as effective mitigation measures for dealing with landslide exposure.

f. Erosion, changes in topography or unstable soil conditions from excavation, grading, or fill?

Potentially Significant Impact

New or expanded development in accordance with the General Plan will require grading.

In areas with sloping terrain, relatively permanent alteration to the natural topography may occur. If improper grading or cut-and-fill occurs, or if development is attempted on extremely steep slopes, it is likely that erosion, siltation, subsidence, or other unstable soil conditions could occur. Erosion will be most severe where soil cover is removed and soil particles are disturbed. The City Grading Ordinance is generally expected to provide adequate mitigation for these impacts. It should reviewed to determine if additional mitigation is required.

g. Subsidence of the land?

Potentially Significant Impact

See item (g) above.

h. Expansive soils?

Potentially Significant Impact

See item (g) above.

i. Unique geologic or physical features?

Potentially Significant Impact

Known unique geologic or physical features (e.g., mine shafts) should be described, and mitigation measures developed to avoid significant impacts to them.

IV. WATER. Would the proposal result in:

a. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?

Potentially Significant Impact

The General Plan will designated areas for new development, which will create impervious ground surfaces in the form of pavements and buildings. This may result in cumulatively significant excess storm water runoff.

b. Exposure of people or property to water related hazards such as flooding?

Potentially Significant Impact

Development in areas subject to flooding may require construction of flood control facilities, such as dams, levees, drainage swales and storm drain retention and detention basins, to divert or store floodwaters.

c. Discharge into surface waters or other alteration of surface water quality (e.g. temperature, dissolved oxygen or turbidity)?

Potentially Significant Impact

Under the updated General Plan, new developments could be allowed that discharge waste into surface waters. Process wastewater discharges will be subject to permits issued by the Regional Water Quality Control Board, which will require mitigation of significant water quality impacts. The construction of projects in the City of Grass Valley is subject to City grading ordinance requirements, which will provide mitigation measures to address erosion and the introduction of construction materials into surface waters. Projects that do not involve process wastewater discharges result in pollutants from motor vehicles, such as petroleum hydrocarbons, glycol, and dissolved heavy metals. Developments on watershed lands should be carefully evaluated for potential effects on surface water quality. Additional mitigation measures should be identified where necessary to ensure that these impacts are mitigated.

d. Changes in the amount of surface water in any water body?

Potentially Significant Impact

See (a) and (b) above.

e. Changes in currents, or the course or direction of water movements?

Potentially Significant Impact

See (a) above. In addition, the General Plan may allow development in areas where proposals may involve alteration of surface waters. Where surface waters involved are natural drainages, the California Department of Fish and Game and the U.S. Army Corps of Engineers permitting processes will afford mitigation. Where surface waters affected are engineered, the City of Grass Valley's permitting process will provide mitigation.

f. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or through substantial loss of groundwater recharge capability?

Potentially Significant Impact

New development authorized by the General Plan could result in additional withdrawals of groundwater. Mitigation measures may be needed to provide for continued availability of groundwater.

g. Altered direction or rate of flow or groundwater?

Potentially Significant Impact

See Item IV(f). It is possible that future groundwater withdrawals resulting from implementation of the General Plan could change the rate or flow of groundwater. Construction activities could also intercept groundwater-bearing strata, and surface water pollutants from development projects could enter groundwater.

h. Impacts to groundwater quality?

Potentially Significant Impact

See Item IV(f). It is possible that future groundwater withdrawals resulting from implementation of the General Plan could change groundwater quality. Additional development in areas not served by community systems may result in cumulative effects on groundwater.

i. Substantial reduction in the amount of groundwater otherwise available for public water supplies?

No Impact

The General Plan update is intended to guide development of the City of Grass Valley, comprising the sum total of residential, commercial, industrial and recreational water demand. It is not a specific development project that could utilize and reduce available water resources at the expense of the public.

V. AIR QUALITY. Would the proposal:

a. Violate any air quality standard or contribute to an existing or projected air quality violation?

Potentially Significant Impact

Development under the General Plan will increase regional air emissions from additional automobile traffic, lawn mowers, industrial sources, and other sources. Since the air basin is designated as non-attainment, significant cumulative impacts to air quality could occur.

b. Expose sensitive receptors to pollutants?

Potentially Significant Impact

Some of the increased air emissions discussed above may increase exposure of sensitive receptors (i.e., children, elderly, infirm) to air pollutants.

c. Alter air movement, moisture, or temperature, or cause any change in climate?

No Impact

The General Plan has no potential to alter air movement, moisture, temperature, or cause a change in climate.

d. Create objectionable odors?

Potentially Significant Impact

If new residential development in accordance with the General Plan is planned in proximity to specific types of commercial facilities, industrial operations, or facilities such as wastewater treatment plants, residents may be exposed to unpleasant odors.

VI. TRANSPORTATION/CIRCULATION. Would the proposal result in:

a. Increased vehicle trips or traffic congestion?

Potentially Significant Impact

Development under the General Plan will result in additional population and related additional vehicle trips. Consequently, it is possible that increased traffic congestion will occur. A Circulation Element based on technical traffic studies will be prepared in accordance with state law. The Circulation Element will include mitigation measures aimed at improving traffic flow and safety.

b. Hazards to safety from design features (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

Potentially Significant Impact

The General Plan may affect traffic loads and distribution, therefore affecting safety. Appropriate mitigation measures should be evaluated in the Circulation Element.

c. Inadequate emergency access or access to nearby uses?

Potentially Significant Impact

In some areas of Grass Valley, steep topography, narrow streets, and on-street parking often limit emergency access and egress. These conditions create considerable peril in terms of access by ambulance, police, and fire-fighting equipment. A Safety Element to be prepared as part of the General Plan will address this issue.

d. Insufficient parking capacity on-site or off-site?

Potentially Significant Impact

Increased parking demand is likely to be associated with the increased traffic [cited in VI (a)] and possible land use changes.

e. Hazards or barriers for pedestrians or bicyclists?

Potentially Significant Impact

The General Plan may affect traffic loads and distribution, thereby effecting potential hazards or barriers for pedestrians or bicyclists. Appropriate mitigation measures should be evaluated in the Circulation Element.

f. Conflicts with adopted policies supporting alternative transportation (e.g. bus turnouts, bicycle racks)?

Potentially Significant Impact

It is possible that the General Plan might conflict with adopted policies or implementation of alternative transportation. These issues should be considered in the Circulation Element.

g. Rail, waterborne or air traffic impacts?

Potentially Significant Impact

It is possible that the General Plan could result in development that might affect air traffic patterns and inhibit operations at airports, including the County Air Park.

VII. BIOLOGICAL RESOURCES. Would the proposal result in impacts to:

a. Endangered, threatened or rare species or their habitats (including but not limited to plants, fish, insects, animals, and birds)?

Potentially Significant Impact

New development in accordance with the General Plan may convert wildlife habitat to other uses and restrict uninterrupted open space with serves as habitat for certain wildlife species. It is anticipated that the General Plan land use designations and policies will be designed to assure protection of and mitigate impacts upon special status animal species, species of concern and their habitats. Measures may include conservation or open space easements, requirements for sit-specific biotic surveys, restrictions on fence construction and enhancement of riparian corridors.

b. Locally designated species (e.g. heritage trees)?

No Impact

The City of Grass Valley has no locally designated species.

c. Locally designated natural communities (e.g. oak forest, coastal habitat, etc.)?

No Impact

The City of Grass Valley has no locally designated natural communities.

d. Wetland habitat (e.g. marsh, riparian and vernal pool)?

Potentially Significant Impact

See Items VII(a). Although there are regulatory processes (e.g., CDFG, USACE) designed to identify and mitigate the loss of wetlands, indirect impacts can occur to wetlands due to development upgradient of such areas. Silt and other contaminants can be deposited in wetlands via drainage from construction sites and developed areas. The City of Grass Valley's Grading Ordinance should help mitigate some of these impacts, but should, along with related objectives and policies, be reviewed to identify potential modifications to increase protection of downstream wetlands.

e. Wildlife dispersal or migration corridors?

Potentially Significant Impact

See Item VII(a).

VIII. ENERGY AND MINERAL RESOURCES. Would the proposal:

a. Conflict with adopted energy conservation plans?

No Impact

Adoption of the General Plan will not involve the operation of any specific business or project.

b. Use non-renewable resources in a wasteful and inefficient manner?

No Impact

Refer to Item VIII(a).

c. Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?

Potentially Significant Impact

There is a potential for the General Plan to affect existing and/or planned mining operations in the Planning Area. The Open Space and Conservation Element will address mineral resource and extraction protection issues.

IX. HAZARDS. Would the proposal involve:

a. A risk of accidental explosion or release of hazardous substances (including, but not limited to: oil, pesticides, chemicals or radiation)?

Potentially Significant Impact

The General Plan is neither a specific development project nor will it specify types of industrial substances to be stored, used, or transported in the City. The regulation of hazardous materials by state and federal agencies will not change as a result of the General Plan. However, it is possible that the General Plan that could allow development in areas of serpentine rock that could contain asbestiform minerals.

b. Possible interference with an emergency response plan or emergency evacuation plan?

Potentially Significant Impact

It is possible that the General Plan could allow development that might interfere with egress routes or other aspects of emergency response or evacuation.

c. The creation of any health hazard or potential health hazard?

Less Than Significant

Refer to Item IX(a) above.

d. Exposure of people to existing sources of potential health hazards?

Potentially Significant Impact

Refer to IX (a).

e. Increased fire hazard in areas with flammable brush, grass, or trees?

Potentially Significant Impact

Additional development in the foothills increases the potential for wildland fires caused by illegal or inappropriate burning, ignition by lawnmowers, improper disposal of cigarettes, barbeques, etc.

X. NOISE. Would the proposal result in:

a. Increases in existing noise levels?

Potentially Significant Impact

The new General Plan may result in exposure of existing or new land uses to high or higher noise levels associated with new or expanded roadways, sport facilities, industrial facilities, and other uses. The Noise Element will contain measures to help mitigate new noise impacts.

b. Exposure of people to severe noise levels?

Potentially Significant Impact

Refer to Item X(a) above.

XI. PUBLIC SERVICES. Would the proposal have an effect upon, or result in a need for new or altered government services in any of the following areas:

a. Fire protection?

Potentially Significant Impact

New development allowed under the General Plan will place additional demands on fire protection services.

b. Police protection?

Potentially Significant Impact

New development allowed under the General Plan will place additional demands on police protection services.

c. Schools?

Potentially Significant Impact

New development allowed under the General Plan will place additional demands on schools. The adequacy of current school impact fees will need to be evaluated in the EIR.

d. Maintenance of public facilities, including roads?

Potentially Significant Impact

New development allowed under the General Plan will result in greater use of existing public facilities, such as roads and park and recreation facilities, and the necessity of new public facilities that will require maintenance.

e. Other government services?

Potentially Significant Impact

New development allowed under the General Plan will place additional demands on public library services. The adequacy of library funding mechanisms to keep pace with the additional growth will be evaluated in the EIR.

XII. UTILITIES AND SERVICE SYSTEMS. Would the proposal result in a need for new systems or supplies, or substantial alterations to the following utilities:

a. Power or natural gas?

Potentially Significant Impact

Development under the General Plan will require extensions of power and natural gas, where available. These extensions will be evaluated in terms of availability of affected resources and impacts to service areas and the environment in terms of extension.

b. Communications systems?

Potentially Significant Impact

Although communications systems are very likely readily available to serve any new development, the physical impacts of trenching or other development could impact the natural environment or present potential aesthetic impacts. Methodologies for evaluating these impacts on a project-specific basis will need to be evaluated in the EIR.

c. Local or regional water treatment or distribution facilities?

Potentially Significant Impact

Under the new General Plan, the demands of additional development may exceed the capabilities of the local water treatment and distribution system to provide water to the City of Grass Valley or other portions of its service area. System capacities and infrastructural adequacies should be discussed in the EIR.

d. Sewer or septic tanks?

Potentially Significant Impact

New development under the General Plan will result in increased demand for development of new and expanded wastewater treatment systems. These systems may result in impacts related to land use conflicts, water quality, biological and cultural resources and air quality. Additional development in areas not served by community systems may result in cumulative effects on groundwater.

e. Storm water drainage?

Potentially Significant Impact

See IV (a) and (b).

f. Solid waste disposal?

Potentially Significant Impact

New development under the General Plan will increase solid waste flows to existing disposal facilities. The capacities of solid waste facilities to accommodate these increases in waste should be evaluated in the EIR.

g. Local or regional water supplies?

Potentially Significant Impact

Refer to Item XII(c) above.

XIII. AESTHETICS. Would the proposal:

a. Affect a scenic vista or scenic highway?

Potentially Significant Impact

New development in accordance with the General Plan, if not carefully designed, can result in adverse impacts on existing vistas and creation of aesthetically offensive sites open to public view. Timber harvesting and mining may result in localized aesthetic impacts. It is anticipated that the General Plan will include policies in the Community Design Element designed to preserve the desirable physical and design features in Grass Valley and carry them over into new development so that old and new development appear compatible. It is also anticipated that the Open Space/Conservation Element will provide for preservation of natural open space whenever feasible to preserve the aesthetic benefits of vegetation and wildlife, including buffer strips where logging and mining impacts will occur.

b. Have a demonstrable negative aesthetic effect?

Potentially Significant Impact

See XIII (a).

c. Create light or glare?

Potentially Significant Impact

New development in accordance with the General Plan may result in new sources of

light and glare (e.g. certain types of commercial and industrial development and public facilities), and new residential development may be exposed to existing sources of light and glare. Strong sources of light and glare can create a significant nuisance effect on sensitive receptors, particularly residences and stationary populations such as rest homes. The EIR should identify mitigation measures that would allow analysis of light and glare impacts associated with specific developments.

XIV. CULTURAL RESOURCES. Would the proposal:

a. Disturb paleontological resources?

Potentially Significant Impact

Geologic units in the Grass Valley Planning Area known to contain paleontological resources will be identified and the EIR should require project-specific evaluations when development proposals are made in these areas.

b. Disturb archaeological resources?

Potentially Significant Impact

The foothill regions were among the most heavily utilized by Native Americans. Development under the General Plan could result in impacts to archaeological resources, many of which are unknown and unrecorded. The EIR should set standards for evaluating the sensitivity of project sites with regard to the potential for archaeological resources to be present.

c. Affect historical resources?

Potentially Significant Impact

Grass Valley is an historic area, dating from the Gold Rush. The City will be updating its Historical Element as a part of the General Plan project, which will contain policies and guidelines for protection of historic resources. The EIR should evaluate the adequacy of these policies and guidelines.

d. Have the potential to cause a physical change which would affect unique ethnic cultural values?

Potentially Significant Impact

The potential for unique ethnic cultural values to be impacted by development under the General Plan should be evaluated in the EIR.

e. Restrict existing religious or sacred uses within the potential impact area?

Potentially Significant Impact

The potential for unique ethnic cultural values to be impacted by development under the General Plan should be evaluated in the EIR.

XV. RECREATION. Would the proposal:

a. Increase the demand for neighborhood or regional parks or other recreational facilities?

Potentially Significant Impact

Development under the General Plan will increase demand for neighborhood, and possibly, regional parks and other recreational facilities. The City's present Recreation Element will be updated and guidelines for protection of parks and recreational facilities developed. These guidelines should be evaluated in the EIR and appropriate mitigations identified.

b. Affect existing recreational opportunities?

Potentially Significant Impact

Refer to Item XV(a).

XVI. MANDATORY FINDINGS OF SIGNIFICANCE.

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory?

Potentially Significant Impact

The following significant impacts or potentially significant impacts have been identified in this Initial Study that have the potential to degrade the quality of the environment or eliminate important examples of the major periods of California history or prehistory:

Items I(b), III(f), IV(c), IV(h), V(a), V(b), V(d), VI(a), VI(d), VI(e), and IX(e).

b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?

Less Than Significant

Preparation and adoption of the General Plan represents long-term land use and environmental planning for Grass Valley.

c. 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)?

Less Than Significant

Preparation and adoption of the General Plan involves comprehensive study and planning and by definition does not involve individual projects that would have individual impacts.

d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impact

The following significant or potentially significant impacts have been identified in this Initial Study that have the potential to cause substantial adverse effects on human beings, either directly or indirectly:

Items I(c), I(d), II(c), III(a), III(b), III(c), III(e), IV(b), IV(c), IV(f), IV(h), V(a), V(b), VI(a), VI(b), VI(c), VI(e), IX(d), X(a), XI(a), and XI(b).

XVII. EARLIER ANALYSES

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

a) **Earlier analyses used.** Preparation of the General Plan involves development and updating of numerous studies. Thus, this Initial Study is not based on older analyses.

b) **Impacts adequately addressed.** Where insufficient data exists, as identified above, additional studies will be conducted as part of the General Plan and EIR.

c) **Mitigation measures.** Mitigation measures incorporated from earlier documents that will result in "less than significant impacts." No such mitigation measures apply to the proposed project.

APPENDIX C

GOALS, OBJECTIVES, POLICIES, IMPLEMENTATION ACTIONS AND STRATEGIES

Land Use Goals and Objectives

1-LUG Promote balanced community growth and development in a planned and orderly way.

1-LUO Availability of sufficient building sites properly zoned to accommodate projected growth.

2-LUO Avoidance of future adverse environmental, public facilities and services impacts.

2-LUG Promote infill as an alternative to peripheral expansion where feasible.

3-LUO Reduction in the amount of land necessary to accommodate future growth.

4-LUO Reduction in environmental impacts associated with peripheral growth.

5-LUO Continued revitalization of central Grass Valley.

3-LUG In areas of new development, plan for a diversity of land uses and housing types, including mixed use developments.

6-LUO Reduction in congestion and travel time to acquire needed goods and services.

7-LUO Preservation of open space and unique property features.

8-LUO Provision of a full range of housing opportunities and types.

4-LUG Protect and enhance the character of established single family neighborhoods.

9-LUO Preservation of existing neighborhoods.

10-LUO Protection of present quality of life.

11-LUO Retention of historic structures and community character.

5-LUG Provide for a broad range of housing opportunities, including opportunities for low, moderate and middle income households.

12- LUO Designation of residential building sites sufficient in number and variety to meet projected demand.

13-LUO Provision of sufficient affordable housing units for those working in Grass Valley.

14-LUO Utilization of available programs to promote the construction of affordable housing.

6-LUG Promote a jobs/housing balance within the Grass Valley region in order to facilitate pleasant, convenient and enjoyable working conditions for residents, including opportunities for short home to work journeys.

15-LUO Reduction in the number of vehicle miles driven.

16-LUO An improved quality of life for those working in the Grass Valley Planning Area.

17-LUO Future employment opportunities as adults for today's youth in well paying local jobs.

7-LUG Create a healthy economic base for the community, including increasing employment opportunities through attraction of new and compatible industry and commerce, and through retention, promotion and expansion of existing businesses.

18-LUO Creation and retention of wealth in Grass Valley.

19-LUO Employment opportunities for present and future residents.

20-LUO An expanding local tax base.

21-LUO Creation of an economy conducive to quality growth and development.

8-LUG Create a sound fiscal environment for municipal government through land use planning and decision-making that ensures a positive return to the local community.

22-LUO A healthy City government and special districts.

23-LUO Adequately funded local government services.

24-LUO Ability to respond to new service demands and the needs of a changing population.

9-LUG Coordinate peripheral development with the County General Plan and appropriate entities currently providing services in the Planning Area.

25-LUO Optimization of service delivery and land use decision making.

26-LUO Avoidance of land use and inter-jurisdictional conflict.

Land Use Policies

1-LUP Maintain a General Plan that reflects the needs of the total community, including residents, business and industry.

2-LUP Require adequate information when reviewing development proposals, including full environmental review and fiscal impact analyses, to assure minimization of environmental, public facilities and services impacts.

3-LUP Maintain standards for population density and building intensity for each land use category identified in the General Plan.

4-LUP Identify areas appropriate for infill development and show them on the Land Use Diagram.

5-LUP Actively market infill and available parcels during contacts with developers and community members.

6-LUP Develop a more specific development strategy for identified infill parcels following General Plan adoption.

7-LUP Utilize California Redevelopment Law to provide incentives to infill development.

8-LUP Encourage and facilitate mixed-use developments on infill sites.

9-LUP Provide for higher residential densities on infill sites and in the Downtown area.

10-LUP Annex properties within the Grass Valley Planning Area prior to or in conjunction with their development.

11-LUP Where feasible, treat newly developing areas as Planned Developments.

12-LUP Permit increases in residential density (clustering) on portions of development sites while maintaining overall density.

13-LUP Encourage convenience goods and services opportunities to be incorporated into any significant development proposal.

14-LUP Encourage incorporation of multiple family development in new development areas while maintaining high design standards.

15-LUP Identify established neighborhoods and show them on the Land Use Diagram.

16-LUP Maintain zoning that promotes protection of existing single family residential areas from inappropriate encroachments.

17-LUP Utilize California Redevelopment Law, where appropriate, to enhance older neighborhoods and protect them from blighting influences.

18-LUP Maintain an active code enforcement program.

19-LUP Provide for a workable number of neighborhood planning/improvement areas, using the General Plan Neighborhoods map as a guide.

20-LUP Avoid circulation improvements that bisect or adversely impact established neighborhoods.

21-LUP Provide for secondary housing units on single-family residential lots.

22-LUP Assure that a sufficient number of sites are zoned for multiple family use.

23-LUP Encourage mixed use developments incorporating a variety of densities on infill sites and in areas proposed for annexation.

24-LUP On large parcels, encourage clustering of residential units on the most developable portions of the site in order to reduce infrastructure and other housing-related construction costs.

25-LUP Utilize clustering and other land use techniques to protect environmentally sensitive resources, such as heritage trees and wetlands.

26-LUP In partnership with housing developers, consider use of Community Development Block Grant funds, redevelopment funds and other funding programs that may become available from time-to-time to reduce the cost of housing for low and moderate income families.

27-LUP Establish a record keeping system enabling the number of jobs created to be correlated with the number of available housing units by type within the Grass Valley Planning Area.

28-LUP Promote the construction of affordable housing utilizing the techniques and approaches described in this General Plan.

29-LUP Promote the establishment and expansion of businesses and industries offering professional, light manufacturing and technical employment opportunities related to existing and developing forms of technology.

30-LUP Encourage mixed use developments on larger parcels in newly developing areas incorporating jobs generating businesses and industry housing.

31-LUP Promote primary jobs and core employment opportunities; those that export goods while importing capital.

32-LUP Encourage development of state of the art telecommunications infrastructure to attract new employers and serve the needs of the telecommuter.

33-LUP Promote Downtown as a hub for area cultural, entertainment and retail development.

34-LUP Prepare and provide a local economic information profile to prospective new businesses.

35-LUP Recognize the importance of and encourage home-based businesses that do not conflict with the character of established neighborhoods.

36-LUP Establish and utilize methods for assessing the fiscal impacts of land use-related projects under consideration by the Planning Commission and/or City Council.

37-LUP Assure that new development pays its fair share of the cost of municipal services.

38-LUP Consider use of special assessments to pay for unique service demands.

39-LUP Assure that acceptable inter-agency agreements regarding future service and facility provision are in place prior to approval of any major new development.

40-LUP Refer all development proposals to potentially affected governmental entities for review and comment.

41-LUP Request and respond to referrals from Nevada County concerning pending land use decisions within the Grass Valley Planning Area.

42-LUP Cooperate with Nevada County to prepare a hillside/slope ordinance to regulate uniformity and appropriately develop density and intensity.

43-LUP Establish and maintain a clear boundary between the City of Grass Valley and unincorporated areas of Nevada County, beyond which urban land use types and densities will not be permitted.

44-LUP Encourage the application of City standards throughout the City's Sphere of Influence.

Land Use Implementation Actions and Strategies

1-LUI Revise the zoning map to reflect new General Plan designations.

2-LUI Revise zoning text to reflect General Plan changes, including density/intensity standards for zoning districts

3-LUI Review development regulations to assure adequate project information is submitted to adequately assess and mitigate environmental and fiscal impacts.

4-LUI Establish and maintain a data base containing information needed to determine the City's jobs-housing balance.

5-LUI Review redevelopment and revitalization programs and activities, and adjust plans to meet the goals, objectives, and policies of the General Plan.

6-LUI Review housing code enforcement practices, and adjust as needed to meet the goals, objectives, and policies of the General Plan.

7-LUI Establish a neighborhood-level planning/improvement program, to be the basis

for neighborhood-level service and facility planning and citizen participation in neighborhood-level decision-making. Identify and delineate neighborhoods in a pattern appropriate to neighborhood-level planning and improvement, using the General Plan Neighborhoods map as guide.

8-LUI Coordinate with LAFCo, Nevada County, and other agencies and special districts regarding provisions of this General Plan, application of General Plan provisions in unincorporated portions of the Planning Area, and the timing and directions of future annexations.

9-LUI Establish standard processes and procedures for planning, annexation, and service provision in the unincorporated Planning Area.

10-LUI Establish uniform procedures and planning requirements for SDA-designated areas.

11-LUI Review service provision/extension plans, policies, and procedures to assure compatibility with the General Plan.

Circulation Goals and Objectives

1-CG Provide a circulation system that utilizes a variety of transportation modes, including alternative means of transportation.

1-CO Development of a viable pedestrian and bicycle transportation network (sidewalks, paths, lanes and trails) providing alternatives to motorized vehicular transportation.

2-CO Ongoing examination of transit opportunities and funding mechanisms.

3-CO Inclusion of alternative transportation in local and regional transportation plans, as appropriate.

2-CG Ensure that street and roadway improvements complement and support land use goals, objectives, policies and plans.

4-CO Placement of public transportation access at convenient locations.

5-CO Convenient, safe and functional facilities for pedestrians, bicyclists and equestrians.

6-CO Flexible standards that respect existing neighborhoods.

7-CO Use of City standards throughout the Planning Area.

3-CG Provide for the safe and efficient movement of people and goods in a manner that respects existing neighborhoods and the natural environment.

8-CO Routing of through-traffic around neighborhoods to collector streets.

9-CO Use of traffic calming techniques to protect neighborhoods and residents from adverse traffic impacts.

10-CO Protection of stream courses, riparian areas and other natural features.

11-CO Development and implementation of a comprehensive traffic safety program, including improvement of facilities serving pedestrian needs.

4-CG Maintain, improve and expand the existing circulation and transportation system to provide reasonable ingress, egress and internal movement.

12-CO Establishment of and adherence to a functional hierarchy of streets and highways, both within the city and throughout the Planning Area.

13-CO Improvement of the transportation system to facilitate commerce and economic development.

5-CG Maintain Adequate Emergency Access

12-CO Improvement and maintenance of adequate emergency access throughout the city.

Circulation Policies

1-CP Coordinate bikeway and trail system planning with Nevada County, linking the city network with similar facilities in unincorporated areas.

2-CP Plan for multi-purpose transportation/recreation bicycle and pedestrian facilities to optimize facility usage and enhance potential funding.

3-CP Improve public transportation to better link existing and future residential areas with high traffic generating commercial/industrial nodes.

4-CP Develop plans for free or low-fare transit serving the downtown area, Empire Mine and other areas of particular interest.

5-CP Develop plans, in conjunction with existing transit agencies, for a shuttle bus service to accommodate inter-modal transfers and to make transit facilities more convenient.

6-CP Locate transit stops and park and ride facilities near freeway interchanges and in conjunction with higher density residential and mixed-use developments.

7-CP Provide park and ride facilities to encourage car pooling and discourage excess automobile usage.

8-CP Incorporate bicycle lanes and sidewalks in street cross-sections whenever feasible.

9-CP Adopt appropriate designs, techniques and standards to calm traffic through residential neighborhoods.

10-CP Encourage Nevada County to utilize City roadway, access and circulation standards within the Planning Area.

11-CP Design selected streets and intersections employing modern roundabouts and other traffic calming techniques.

12-CP Adhere to high safety standards where pedestrians and bicyclists are exposed to motorized vehicles.

13-CP Assure the continuity of sidewalks by instituting a city-wide sidewalk planning/construction programs.

14-CP Provide street lighting in existing neighborhoods as necessary.

15-CP Avoid environmentally sensitive areas, to the extent feasible, when expanding the roadway network.

16-CP Eliminate curb cuts and other vehicular encroachments along arterial and collector streets where feasible and practical, to promote both efficient traffic flow and traffic safety.

17-CP Redesign and reconstruct freeway access and connector streets, to include a new interchange at Dorsey Drive and Highway 20/49.

18-CP Study bypass routes designed and located to avert undesirable through-traffic in residential and non-residential neighborhoods.

19-CP Add vehicular parking in the downtown area.

20-CP Re-design intersections on collector streets to improve and "smooth" traffic flow.

21-CP Defer to preservation of community character, including historical and architectural features, when planning and implementing transportation improvements.

22-CP Remove impediments to emergency access from public streets and rights-of-way.

23-CP Establish and periodically review emergency access standards in appropriate city development codes and ordinances.

24-CP Coordinate circulation and development plans with public safety agencies, fire departments/districts and emergency service providers.

Circulation Implementation Actions and Strategies

1-CI Adopt the roadway classification system outlined in the Circulation Element. The City shall plan, design and regulate roadways in accordance with the functional classification system reflected in Figure 4-1 and Table 4-1.

2-CI Regularly update development impact fees.

3-CI Ensure that proposed specific plans are consistent with the provisions of the functional classification component. This shall include incorporation of consistent design standards for roadways, associated bikeways and trails, and landscape areas. Require that large development proposals and specific plans include comprehensive financing plans for streets and highways.

4-CI Work with neighboring jurisdictions and regional planning agencies to coordinate the classification of roadways that cross the City's boundaries. Strive to have compatible functional classifications for gateway roadways.

5-CI Continue to refine and improve the design standards for its roadway system. The design standards shall reflect functional classification and include the following elements:

- Right-of-way requirements
- Roadway cross-sections including landscaping and bikeways
- Signalization and access control

- Land use compatibility, orientation and design standards
- Vehicle and pedestrian safety

Exception to the standards may be necessary but should be kept to a minimum and should be evaluated on a case by case basis.

6-CI Monitor truck traffic. As conditions warrant, develop, enforce, evaluate and update a truck route system to ensure safe and efficient routes through the City.

7-CI Continue to update a Capital Improvement Program (CIP) to implement policy which strives to maintain LOS "D" at all locations during the weekday P.M. peak hour. Define "normally accepted maximum" improvements that are consistent with the character and terrain of Grass Valley.

If forecast traffic volumes cannot maintain LOS "D", the City Council may consider additional "extraordinary" improvements. The City Council may determine, on a case by case basis, that "extraordinary" improvements are not feasible or desirable and may relax the LOS "D" standard for a particular intersection or roadway segment. In considering exceptions to the LOS "D" standard, the City shall consider the following factors:

- The number of hours per day that the intersection or roadway segment would operate at conditions worse the LOS "D".
- The ability of the improvement to reduce peak hour delay and improve traffic operations.
- The impact on accessibility to surrounding properties.
- The right-of-way needs and the physical impact on surrounding properties.
- The visual aesthetics of the required improvements and its impact on community identity and character.
- Environmental impacts including air quality and noise impacts.
- Construction and right-of-way acquisition costs.
- Impacts on pedestrian and bicycle accessibility and safety.
- The impacts of the required construction phasing and traffic maintenance.

In no case should the City plan for worse then LOS "E" at any intersection or roadway segment during the afternoon peak hour.

8-CI Base the Capital Improvement Program on a 20 year horizon and update the Program regularly. Update concurrently with the approval of any significant modification to the land use allocation assumed by the Citywide travel model.

9-CI Regularly monitor traffic volumes on City streets and prepare an annual report documenting recent trends and current Levels of Service.

10-CI Require that Specific Plans contain transportation improvements consistent with the standards of the Circulation Element, and that Specific Plans demonstrate what measures will be required to maintain the City's Level of Service standard and how these measures will be funded. Utilize development agreements to secure improvement, sequencing and funding provisions.

11-CI Prepare a Long-Range Transit Master Plan consistent with the provisions of the Circulation Element. The shall Explore potential benefits of improved transit service on the City's Level of Service standard through the Long-Range Transit Master Plan.

12-CI Evaluate the feasibility of enacting a Transportation Systems Management Ordinance. If a TSM ordinance is enacted, the City shall assess the effectiveness of a TSM Ordinance in reducing vehicle trips, or in making street, parking facilities, public transit and bikeways more effective. Evaluate the TSM Ordinance's overall performance annually. If, after 2 to 3 years the trip reduction goals are not being achieved, revise the TSM Ordinance to include measures to achieve stated goals.

13-CI Prepare a Bikeways Master Plan consistent with the Trails-Sidewalks Plan in this General Plan. Adopt the 1996 Nevada County Master Bicycle Plan and Trails Master Plan. The intent is to ensurethe coordinated implementation of non-automotive circulation systems.

14-CI Coordinate with surrounding jurisdictions to provide acceptable and compatible levels of service on roadways connecting the City. Work with the Nevada County Transportation Commission to implement applicable Level of Service standards. Work with appropriate air pollution control agencies to implement transportation improvements and measures that help meet the established air goals and standards.

15-CI Ensure adequate funding to meet established Level of Service policies. Continue to implement and update traffic impact fees on new development and to obtain gas tax and other revenues to fund the Capital Improvement Program. Explore funding for transit and for non-motorized circulation improvements, to be identified in the Trails-Sidewalks-Bikeways Master Plan. Consider alternative funding sources, such as establishment of assessment district(s). Work with regional planning agencies to explore funding opportunities for all components of its transportation system that are required to meet its Level of Service standard.

16-CI Monitor the status of regional planning efforts and Caltrans design work in order to be cognizant of future right of way requirements and local responsibilities. Maintain a current record of Caltrans and Nevada County Transportation Commission activity for major facilities so future right of way needs can be addressed when reviewing development proposals. Consider future Caltrans right of way needs when evaluating development proposals and shall incorporate measures to preserve rights of way into

development agreements and conditions of approval.

17-CI Identify appropriate environmental traffic volume thresholds for residential streets and shall consider those thresholds in development review. Use traffic calming measures to ensure that these thresholds are maintained on existing streets and provided on local streets in new development.

18-CI Develop a plan for parking that identifies park and ride lots. Consider the need for park and ride facilities and for facilities serving alternative transportation modes when evaluating development proposals. Require construction of these facilities concurrent with development.

Conservation/Open Space Goals and Objectives

1-COSG Provide a balance between development and the natural environment, protecting and properly utilizing Grass Valley's sensitive environmental areas/features, natural resources and open space lands.

1-COSO Inventory of sensitive environmental areas and features.

2-COSO Multi-purpose open space lands, accommodating the needs and requirements of open space/conservation, habitat, recreation, and aesthetics.

3-COSO Protection of rare and endangered animals and plants.

4-COSO Reduction of urban development impacts on native vegetation, wildlife and topography.

5-COSO Encouragement of wildlife through habitat protection.

6-COSO Assurance of appropriate resource conservation and environmental protection measures as prerequisites to development.

2-COSG Protect, enhance and restore hydrologic features, including stream corridors, flood plains, wetlands, and riparian zones.

7-COSO Development of an extensive trail network providing recreational and educational opportunities.

8-COSO Minimize interference with the natural functions of flood plains and naturally flood-prone areas.

3-COSG Ensure the protection of Grass Valley's trees and forested areas.

9-COSO Identification of heritage trees for special recognition and protection.

10-COSO Identification of significant groves and groupings of trees for permanent open space designation.

4-COSG Protect and enhance town entryways, visual corridors and important viewsheds including ridgelines.

11-COSO Identification of particular corridors and views requiring protection or enhancement.

12-COSO Identification of specific aesthetic considerations important to the protection/enhancement of particular corridors and views.

5-COSG Maintain close relationships with public agencies and private organizations regarding conservation, open space and environmental protection.

13-COSO Ongoing communication of information, plans, and concepts.

14-COSO Creation of joint efforts and shared funding responsibilities.

6-COSG Assure compliance with and understanding of air and water quality regulations and standards.

15-COSO Protection of ground- and surface water quality.

16-COSO Inclusion of air and water quality considerations in land use decisions rendered by the Planning Commission and City Council.

Conservation/Open Space Policies

1-COSP Continue to identify mineral resources and development of policies addressing their protection from competing land uses, minimizing impacts on mining activities, in compliance with State law.

2-COSP Establish an active program of land/development rights acquisition in order to protect sensitive environmental areas and features.

3-COSP Encourage clustering, density averaging, and other techniques in larger-scale new developments, as means of preserving open space and natural systems.

4-COSP Establish standards for inclusion and management of permanent open space in new developments.

5-COSP Carefully regulate development on steep slopes.

6-COSP Prevent excessive alteration of the natural topography.

7-COSP Recognize and reinforce Grass Valley's public park system.

8-COSP Study the potential for inter-jurisdictional transfer of development rights.

9-COSP Carefully regulate development for location in flood hazard areas.

10-COSP Establish a city trail network program for friendly acquisition, development and administration of a natural trails system.

11-COSP Return to open space, areas within which flooding poses a clear danger to life and property.

12-COSP Enhance the City's tree ordinance addressing tree maintenance and protection both within new developments and elsewhere in the City.

13-COSP Assist property owners wishing to preserve and protect heritage trees and significant groves.

14-COSP Establish a program to identify and administer a viewshed/view corridor protection program.

15-COSP Assign responsibility for the viewshed/view corridor program.

16-COSP Incorporate viewshed/view corridor standards into the Design Element of the General Plan, City Design Guidelines and other appropriate developmental documents.

17-COSP Utilize the services and expertise of organizations involved in resource conservation and open space protection.

18-COSP Develop and achieve agreement with the County of Nevada on a strategy for conservation and open space protection within the Grass Valley Planning Area and City's Sphere of Influence.

19-COSP Enlist the interest and efforts of appropriate state and federal agencies and private foundations regarding conservation and open space protection.

20-COSP Establish, in cooperation with Nevada County, an urban limit line beyond which urban land uses, densities, facilities and services will not extend.

21-COSP Continue to implement water quality improvement plans, including storm water separation and sewage treatment plant expansion.

22-COSP Implement circulation/transportation measures designed to reduce reliance on the automobile.

23-COSP Respond appropriately to state and federal air and water quality policies and policy changes, understanding the implications of regulations and standards, and maintaining a continuing public education program.

Conservation/Open Space Implementation Actions and Strategies

1-COSI Identify, inventory and map essential information related to conservation and open space, utilizing the City's geographic information system. Include definition, delineation, and mapping of sensitive environmental areas. Maintain and update the information base as warranted.

2-COSI Coordinate information inventories and mapping with Nevada County, particularly for unincorporated portions of the Planning Area.

3-COSI Implement the Open Space Opportunity overlay/Open Space Land Use map designation procedure to ensure ongoing designation of appropriate open space lands in the General Plan. Establish open space restrictions, easements, and other protective measures in conjunction with OSO/OS designations. Inventory and place on OSO and Open Space Land Use maps all open spaces previously reserved by past development conditions and development agreements.

4-COSI Maintain a development review process which documents compliance with the various goals, objectives, and policies of the Conservation/Open Space Element.

5-COSI Establish and assign responsibility for land/development rights acquisition for conservation, open space, and park/recreation purposes.

6-COSI Review development ordinances and regulations to assure adequate provision for clustering, density averaging, and other techniques.

7-COSI Prepare and adopt an ordinance regulating development on steep slopes and on ridgelines, for purposes of natural resource and aesthetic protection.

8-COSI Establish and assign responsibility for a continuing program to rehabilitate, restore, and reclaim abused areas. Abused areas include but are not limited to streams and stream corridors, de-forested areas, and un-reclaimed mines.

9-COSI Establish and assign responsibility for a continuing information and technical assistance program for local residents regarding trees and other natural resources. Enlist the support and participation of the Cooperative Extension Service and the California Department of Forestry and Fire Protection in this effort.

10-COSI Assign responsibility for coordination with federal, state, and local agencies regarding conservation/environmental matters.

11-COSI Review sign regulations and landscaping requirements, upgrade City ordinances as required, and develop an effective enforcement program.

12-COSI Review all development regulations germane to flooding and flood prevention. Assure periodic updates of official flood zone maps.

13-COSI Prepare and adopt guidelines for street tree placement and maintenance.

14-COSI Review the Heritage Tree Ordinance and amend the ordinance to provide better protection to unique trees.

15-COSI Prepare and adopt an ordinance for the identification and protection of groves and clusters of trees deemed of special natural and/or aesthetic value.

16-COSI Study and consider a permanent ban on open burning within the City limits.

Noise Goal and Objectives

1-NG Protect Grass Valley's relatively quiet environment from unnecessary, annoying and potentially damaging noise.

1-NO Coordination of transportation and land use planning to assure acceptable noise levels.

2-NO Determination of the existing noise environment and development of realistic noise standards for different land uses.

3-NO Establishment of a pattern of land uses that minimizes exposure of community residents to excessive noise.

Noise Policies

1-NP Develop a policy framework to function as a guide to planning for appropriate land uses in relation to hazardous and annoying noise.

2-NP Perform adequate acoustical analyses prior to approval of new development projects or transportation facilities.

3-NP Utilize noise contour data to determine land uses affected by transportation-related noise sources.

4-NP Adopt appropriate noise level standards for existing and future residential areas.

5-NP Utilize noise contour data to determine appropriate land use patterns in areas affected by stationary noise sources.

6-NP Locate sensitive land uses (residential neighborhoods, medical facilities, senior care facilities and schools) away from high noise areas.

Noise Implementation Actions and Strategies

1-NI Prohibit development of new noise-sensitive land uses where the noise level due to fixed noise sources will exceed the noise level standards of General Plan Table 6-5 (as measured immediately within the property line or within a designated outdoor activity area of the new development) unless effective noise mitigation measures have been incorporated into the development design to achieve the standards specified in General Plan Table 6-5.

2-NI. Require that noise created by new development of fixed noise sources be mitigated so as not to exceed the noise level standards of General Plan Table 6-5 as measured immediately within the property line of lands designated for noise-sensitive land uses.

3-NI Require that noise created by existing fixed noise sources which undergo modifications requiring City approval be mitigated so as not to exceed the noise level standards of General Plan Table 6-5 (as measured immediately within the property line of lands designated for noise-sensitive land uses). If the existing noise level due to those sources exceeds the standards, require that the noise level after modifications be mitigated so as to not exceed the existing noise level.

4-NI Require that an acoustical analysis be performed where new development of fixed noise sources, or modification of existing fixed noise sources, is likely to produce noise levels exceeding the performance standards of General Plan Table 6-5, and that noise

mitigation be included in the project design.

5-NI Prohibit new development of noise-sensitive land uses in areas exposed to existing or projected future levels of noise from transportation noise sources which exceed the levels specified in General Plan Table 6-6, unless the project design includes effective mitigation measures to reduce exterior noise and noise levels in interior spaces to the levels specified in General Plan Table 6-6.

6-NI Require mitigation of noise created by new transportation noise sources so as not to exceed the levels specified in General Plan Table 6-6 at designated outdoor activity areas and interior spaces of existing noise-sensitive land uses.

7-NI Adopt the following criteria applicable to roadway improvement projects:

Where the existing traffic noise level at the designated outdoor activity area of the affected noise-sensitive use is 65 dB L_{dn} or less, noise created by a roadway improvement project shall be mitigated so as not to exceed the ambient noise level by more than 3 dB $L_{dn.}$

Where the existing traffic noise level at the designated outdoor activity area of the affected noise-sensitive use exceeds 65 dB L_{dn}, noise created by a roadway improvement project shall be mitigated so as not to exceed the ambient noise level by more than 1.5 dB $L_{dn.}$

8-NI Require an acoustical analysis and appropriate mitigation measures where new transportation noise sources are likely to produce noise levels exceeding the standards of General Plan Table 6-6 at existing or planned noise-sensitive uses.

9-NI Require an acoustical analysis (see General Plan Table 6-7) and mitigation measures where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in General Plan Table 6-5 or General Plan Table 6-6.

10-NI Apply the following standards and practices to acoustical analyses:

Where the locations of outdoor activity areas are not known or designated, the exterior noise level standards shall be applied immediately inside the property line of the receiving land use.

In rural areas with large residential lots, the exterior noise level standard shall be applied at a point 100 feet from the residence.

Where it is not practical to mitigate exterior noise levels at patios or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.

Where noise mitigation measures are required to achieve the standards of General Plan Tables 6-5 and 6-6, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.

When determining the effectiveness of noise mitigation measures, the noise standards shall be applied on the receptor side of noise barriers or other property line noise mitigation measures.

If dwellings are located and constructed in accordance with the Noise Element, it may be assumed that the resulting exterior and interior noise levels will conform to the noise standards imposed by lending agencies such as HUD, FHA and CalVet. Construction of new single-family dwellings or modification of existing dwellings in developed areas may not be subject to City review with respect to satisfaction of the standards of the Noise Element. As a consequence, such dwellings may be constructed or modified in areas where noise levels exceed the standards of the Noise Element. It is not the responsibility of the City to ensure that such dwellings meet the noise standards of the Noise Element, or the HUD/FHA/CalVet noise standards.

Safety Goal and Objectives

1-SG Reduce the potential risk of death, injury, property damage, and economic and social dislocation resulting from hazards.

1-SO Assurance of a high level of protection from geologic and seismic hazards for all residents, structures and vital services.

2-SO Reduction of risk from exposure to hazards related to past and present mining, including shafts, tunnels, tailings and toxic materials.

3-SO Reduction of risk from exposure to flood hazards.

4-SO Reduction of risk from exposure to structural and wildlife fires.

5-SO Reduction of risk from exposure to hazardous materials, including contaminated sites.

Safety Policies

1-SP Adopt current uniform codes for new construction.

2-SP Ensure seismic safety and structural integrity in housing and commercial/industrial facilities through code enforcement.

3-SP Develop and implement appropriate flood hazard regulations.

4-SP Based on location or probable need, require development plans in mined areas to include in-depth assessments of potential safety, including mining-related excavations, and health hazards and accompanying mitigation measures.

5-SP Maintain or return to open space lands subject to flooding.

6-SP Incorporate fire hazard reduction considerations into land use plans/patterns, both public and private.

7-SP Identify, maintain, and mark evacuation routes for use in case of disasters or emergencies.

8-SP Assure public awareness of fire-safety measures, including those addressing property maintenance and evacuation.

9-SP Develop and implement fire-safe community design and landscaping standards, construction codes, and property maintenance regulations.

10-SP Adopt and implement appropriate standards for access roads, on-site driveway standards, fuel reduction and emergency water supply.

11-SP Maintain appropriate standards for water supply, pressure and distribution for fire suppression purposes.

12-SP Maintain a high level of inter-jurisdictional cooperation and coordination, including appropriate automatic aid agreements with fire protection/ suppression agencies automatic aid agreements with fire protection/suppression agencies in western Nevada County.

13-SP Continue to implement provisions of the Nevada County Airpark Comprehensive Land Use Plan, and to coordinate as appropriate with Nevada County, Airpark management, and the Foothill Airport Land Use Commission regarding Airpark plans and safety considerations.

Safety Implementation Actions and Strategies

1-SI Adhere to the Land Use Plan's compact overall development pattern, including infill (Land Use Element). A compact development pattern reduces total land area needed to accommodate projected development (thus reducing exposure to potential hazards); facilitates quick response to emergencies from established locations, such as fire stations; and allows cost-effective extension of safety-related infrastructure, such as streets, water and storm-water drainage systems.

2-SI Utilize open space/conservation reserves and easements to restrict development in high-risk areas, such as flood-prone areas, airport safety zones, and areas identified as subject to geologic risk.

3-SI Amend land use regulations to allow clustering and density averaging in conjunction with restricted development of potentially hazardous areas.

4-SI Encourage continuity and linkages within the circulation system. Require future developments to provide multiple ingress/egress points, to facilitate emergency vehicle access and mobility, and to facilitate emergency evacuation movements.

5-SI Maintain high standards of fire preparedness, capacity, and response. Assure the City's capability to maintain such standards as areas are annexed.

6-SI Establish a mine-related hazards program, to include the following specific actions: Initiate and maintain a mine hazard data base, incorporating maps, technical studies, and other germane information. To the extent practical and possible, map and describe identified hazards. Coordinate with Nevada County and the State Division of Mines and Geology in mine hazard research and information collection and dissemination. Provide technical assistance and advice to property owners in identifying and mitigating mine-related hazards on their properties. Determine the appropriate extent of geo-technical field investigations and other research required to determine the presence or absence of potentially hazardous mine-related features. Require appropriate field investigations and other research as part of the approval process for new developments, including individual new structures.

7-SI Continue to regulate development within flood prone areas to reduce the risks of flood hazards to life and property. Avoid stream channel modifications.

8-SI Require new developments to utilize on-site storm water detention techniques.

9-SI Establish site development standards designed to minimize the resulting area and percentage of impervious surface.

10-SI Revise flood hazard maps at appropriate intervals, to reflect the effects of land

use changes subsequent to previous flood hazard studies.

11-SI Incorporate into City construction codes appropriate provisions and revisions of the Uniform Building Code regarding seismic safety.

12-SI Maintain an active code enforcement program to assure the safety of residential and commercial structures.

13-SI Require new developments located on officially identified hazardous waste sites to conduct appropriate investigations, submit results to the City, and prepare a mitigation plan as part of the project review process.

14-SI Enforce provisions of the Nevada County Airpark Master Plan, Nevada County Airpark Comprehensive Land Use Plan, and City Council Resolution 89-153 (General Plan amendment GPA89-01) regarding development in designated Airport Safety Areas.

15-SI Mark evacuation routes with visible signage.

16-SI Establish and maintain public information and awareness programs regarding public safety and hazards, in cooperation with appropriate emergency agencies and organizations.

17-SI Consider the location and characteristics of documented hazardous waste sites as part of the environmental assessment process for proposed developments.

Recreation Goals and Objectives

1-RG Allow for expanded and diverse recreational programs, areas and opportunities.

1-RO Development and continuation of park and open space programs.

2-RO Promote City-sponsored recreation programs.

3-RO Establishment of a mechanism for inter-jurisdictional cooperation in the Grass Valley area.

4-RO Assurance that an adequate amount of parklands are set aside proportionate to needs and growth.

2-RG Facilitate community cultural opportunities.

5-RO Establishment of cultural venues and programs.

6-RO Establishment of general-purpose community gathering places and facilities.

Recreation Policies

1-RP Provide parks and open spaces of different sizes and types to respond to the needs of a diverse population, including trails for pedestrian and equestrian use, bicycle pathways, linear parkways and park-like natural areas.

2-RP Increase the standard of park acreage to population.

3-RP Distinguish neighborhood park needs from community and regional park needs.

4-RP Establish a City-sponsored open space district to operate and manage existing and future open space resources.

5-RP Formalize and enhance walking trails in existing City parks.

6-RP Provide non-motorized linkages between parks and open spaces.

7-RP Include a map in the General Plan designating a trails network for the Planning Area.

8-RP Cooperate with other jurisdictions to address regional park and recreation needs.

9-RP Develop performing arts in various venues, including a performing arts center.

10-RP Expand the existing library as a cultural venue.

11-RP Create a public plaza in downtown for community events and activities.

12-RP Support efforts to establish a community center for mixed ages and a variety of uses.

Recreation Implementation Actions and Strategies

1-RI Prepare Parks and Recreation System Master Plan, incorporating appropriate provisions of this General Plan (including the Trails-Sidewalks Network Plan) into the Master Plan. Establish clear priorities and phasing plans as part of the Master Plan process.

2-RI Establish a formal mechanism for ongoing coordination with Nevada County, to include but not be limited to joint facility funding; agreement on plans, programs, services, and activities.

3-RI Establish and utilize neighborhood planning and participation to determine localized needs and desires for facilities and services.

4-RI Pursue alternatives to city acquisition and maintenance of recreation areas via homeowners associations, assessment districts, and private organizations.

4-RI Provide a focal point and coordinating mechanism for the efforts of non-governmental entities involved in the acquisition of property or property rights related to City park and recreation facilities.

5-RI Reserve land or entitlements in advance of need. Accept dedications and donations if potentially useful for future facilities.

6-RI Inform the general public of recreation-related facilities, services, and future plans, and actively solicit public opinion in return.

7-RI Assign full responsibility to the Parks and Recreation Commission for recreation and related planning, programming, and administration.

Historical Goals and Objectives

1-HG Conserve and enhance the historical identity of Grass Valley.

1-HO Development and continuation of civic historic protection efforts.

2-HO Preservation of buildings of historic and/or architectural merit.

Historical Policies

1-HP Delineate and describe Grass Valley's neighborhoods.

2-HP Identify and record historic neighborhoods and their characteristics in order to protect and preserve those characteristics.

3-HP Establish appropriate design standards and elements that complement Grass Valley's historic heritage in newly developing areas.

4HP Enhance the appearance of City entryways, commercial areas, and streetscapes, in

part through the use of elements in the design standards that complement Grass Valley's historic heritage.

5-HP Place emphasis on preservation and restoration within the 1872 Townsite and 1893 and 1894 annexation areas.

6-HP Encourage maintenance, rehabilitation, renovation, and restoration of older homes utilizing the Heritage Home Awards and other programs.

7-HP Rehabilitate older commercial areas utilizing the Façade Improvement Program and other programs.

8-HP Investigate and implement procedures to protect historic structures from demolition.

9-HP Inform developers, builders and design professionals of Grass Valley's community design standards and preferences, using brochures, photographic displays and other illustrative techniques.

Historical Implementation Actions and Strategies

1-HI Maintain a Historic Resources Ordinance and active programs to implement City policy for historic conservation and enhancement.

2-HI Continue to encourage the Grass Valley Historical Commission's inventory of historical landmarks and sites within the 1872 Townsite.

3-HI Utilize the results of the Grass Valley Historical Commission's inventory of historical landmarks and sites to preserve and enhance resources within the 1872 Townsite.

4-HI Expand the "historical district" to include both sides of West Main Street between Church Street and Auburn Street and the north side of East Main Street between North Auburn Street and Washington Street.

5-HI Require new and restored/rehabilitated buildings in the historical district to adhere to design standards reflecting the city core's historical character. Include in design standards scale and building proportions, color palette, building materials, and architectural elements.

6-HI Use the Neighborhood map to assist private developers and the City in preserving and enhancing neighborhood identity related to historic/cultural features. Define and describe the distinctive features and characteristics to be preserved and enhanced in

specific neighborhoods.

7-HI Continue to support the Historical Commission's Heritage Home Awards Program.

8-HI Initiate and support events and activities designed to give residents and visitors an appreciation of Grass Valley's historical and cultural heritage.

9-HI Continue to support the Facade Improvement Program and Community Development Block Grant Program to assist in restoration and preservation of historical features.

Community Design Goals and Objectives

1-CDG Preserve and enhance the existing community

1-CDO Maintenance of Downtown as the heart of the planning area.

2-CDO Preservation of notable landmarks, streetscape and other areas of architectural or aesthetic value providing continuity with the past.

3-CDO Recognition and protection of major views in the planning area, with particular attention to notable buildings, open space, hillsides, valleys, ridgelines, and forested views.

4-CDO Recognition, protection and reinforcement of the existing street pattern, which represents and conforms to the existing natural terrain rather than intruding into the natural topography.

5-CDO Improvement of automobile circulation and/or circulation for pedestrians and bicycles.

6-CDO Improvement of the appearance of entrances to the community, Downtown, other neighborhoods and commercial districts.

2-CDG Conserve community attributes that provide a senses of the natural setting and continuity with the past.

7-CDO Preservation of remaining unbuildable spaces in a state that complements the community.

8-CDO Recognition and reinforcement of natural boundaries of neighborhoods and

commercial districts.

3-CDG Assure that major new development is sensitive to and strengthens the existing built and natural environment.

9-CDO Provision of a variety of housing types and designs in new residential developments.

10-CDO New development containing higher densities in clustered development patterns that minimize infrastructure requirements and maximize open space.

11-CDO Infill development that is consistent with historic development patterns in terms of scale, design and material.

12-CDO Creation of new development areas that are unique and interesting.

13-CDO High quality streetscape and building design in all new development.

14-CDO Development patterns that promote and protect functional open spaces.

4-CDG Create, maintain and enhance civic places.

15-CDO Maintenance and enhancement of Downtown as the region's civic and cultural hub.

16-CDO Creation of special places for social interaction.

17-CDO Design of new development and infill projects that create a safe and visually interesting environment for the residents and visitors of Grass Valley.

18-CDO Improvement of existing streetscape design.

Community Design Policies

1-CDP Continue to implement programs, such as the facade improvement program and design review, that maintain and enhance Downtown's historic character and commercial vitality.

2-CDP Establish a program to identify and protect viewsheds/view corridors, open space, including hillsides, valleys, ridgelines, forested views, and notable buildings.

3-CDP Modify city development standards to minimize alteration of existing terrain.

4-CDP Provide connections for automobiles, bicycles and/or pedestrians between neighborhoods and commercial districts when neighborhood safety and character are not compromised.

5-CDP Design and construct streetscape improvements along South Auburn Street and Colfax Avenue as they enter Downtown to enhance the area visually and to improve pedestrian access.

6-CDP Design and construct streetscape improvements at the south entrance to the community at Highway 49 to enhance the area visually.

7-CDP Inventory potentially unbuildable properties in an effort to determine highest and best use for such sites.

8-CDP Provide opportunities for attached housing units in single family residential areas, when attached housing will be consistent with established densities and neighborhood appearance.

9-CDP Continue to allow second units on lots in single family residential areas, subject to appropriate development standards and design criteria.

10-CDP Identify and place a map of neighborhoods in the General Plan.

11-CDP Provide connections for automobiles, bicycles and or pedestrians in new development wherever needed to facilitate convenient access and connections with the larger community.

12-CDP Provide a mixture of residential unit designs in all major new residential development.

13-CDP Revise City street standards to minimize paved surface area, encourage slower vehicle speeds and enhance pedestrian access and safety.

14-CDP Integrate natural areas for runoff detention in all major new development.

15-CDP Provide internal pedestrian and bicycle connections and connections to the broader planning area in all major new development.

16-CDP Provide a mix of uses within walking distance in all major new development to promote pedestrian access and to provide definition of the area as a place.

17-CDP Assure adequate City design review of all major new development.

18-CDP Endeavor to locate new entertainment and retail facilities in the Downtown area through redevelopment, public/private partnerships and other development tools.

19-CDP Retain existing public offices and facilities Downtown, including the Library, Post Office, Veterans Hall and City Hall.

20-CDP Design all future major public and private development projects to include areas for public gathering and interaction.

21-CDP Update and consolidate existing design guidelines providing specific criteria focusing on creating gathering places and safe areas for public interaction.

22-CDP Discourage gated communities and encourage open access through projects.

Community Design Implementation Actions and Strategies

1-CDI Expand and refine Facade Improvement Program and City design review. Revise and consolidate the Design Review Guidelines.

2-CDI Amend the Downtown Historic District boundaries to coincide with the present boundaries of the Downtown Parking and Business Improvement District.

3-CDI Systematically inventory and map forested views. Establish a program to identify and protect viewsheds/view corridors, general open space, including hillsides, valleys and ridgelines, and notable buildings.

4-CDI Develop clear standards to minimize excessive grading and terrain modification on steep slopes and within environmentally sensitive areas.

5-CDI Identify and map areas where connections for autos, bicycles and/or pedestrians between neighborhoods and commercial districts are needed. Develop a capital improvement program to establish missing connections.

6-CDI Design and construct streetscape improvements along South Auburn Street and Colfax Avenue as they enter Downtown, and along Highway 49 at the southern entrance to the City.

7-CDI Amend the zoning ordinance and other development codes to facilitate clustering, consistent with allowable densities and intensities.

8-CDI Revise City infrastructure development standards to minimize paved surface area, encourage slower vehicle speeds, enhance pedestrian access and safety, and

integrate natural runoff detention and purification.

9-CDI Encourage the siting of new entertainment and retail facilities Downtown.