

CITY OF GRASS VALLEY
GENERAL PLAN
MINERAL MANAGEMENT ELEMENT

Prepared by the Grass Valley Planning Department

Adopted by City Council Resolution No. 93-96
August 24, 1993

Ratified by the California State
Mining and Geology Board
September 16, 1993

Mineral Management in Grass Valley

BACKGROUND/GOALS/OBJECTIVES

From the mid 1800s to the mid-20th century, gold mining was the primary economic force within Grass Valley. Before 1956, at the time Grass Valley's Empire Mine closed (one of the largest mines in the region), Nevada County produced more gold than any county in the state. More recently there has been some renewed interest in opening existing mines in and near the city. Urban growth in the region has also stimulated the demand for aggregate materials such as sand and gravel derived from open pit mines.

The California State Surface Mining and Reclamation Act (SMARA) of 1975, was established to ensure the proper reclamation of properties disturbed by surface mining operations and to protect access to mineral resources of regional and statewide significance. The Mineral Management Element was prepared to comply with the requirements of SMARA. Recognizing the regional, statewide and national significance of minerals and the need to allow urban growth, the Mineral Management Element was developed. Pursuant to SMARA this document has been incorporated as an element of the Grass Valley General Plan.

The primary goal of the element is to recognize and protect where feasible valuable mineral resources for current and future generations in a manner that does not create land use conflicts. Objectives of the element are as follows:

1. To protect where feasible valuable mineral deposits from intrusion by incompatible land uses that will impede or preclude mineral extraction or processing.
2. To promote the proper management of all mineral resource activities in the city and to minimize the impact of extraction and processing on neighboring activities and the environment.
3. To work cooperatively with Nevada County and other agencies to coordinate mining and reclamation activities that affect or impact the city within and near the city planning area.

DEFINITIONS

As use in this document, the terms and phrases shall have the indicated meaning as noted in Appendix "A".

APPLICABILITY

This element applies to all areas within the City Planning Area; territory involving the City of Grass Valley and an area of influence outside the city limits as delineated on the General Plan map (refer to Map A). The entire planning area encompasses approximately 9,541 acres, or about 14.9 square miles. The element also applies to mining and reclamation projects near or adjacent to the city planning area where the city is impacted from mining activities and reclamation projects.

GEOLOGIC SETTING

The steep and moderate topographic characteristics of Grass Valley are derived from past volcanic and geologic uplift activity. In general, ridge and rock formations tend to run in a northwest to southeast direction, with drainage toward the southwest. Drainage channels have cut into geologic formations and followed the westward tilting of the Sierra Nevada fault block. Typically, the folded and faulted areas are rounded and smooth with dome-like appearance, and volcanic areas resembling plateaus.

SIGNIFICANT MINERALS IN GRASS VALLEY

There are five classes of mineral deposits in Nevada County, some of which are potentially found in the Grass Valley City Planning Area, which are in sufficient grade and tonnage to be of economic significance within the foreseeable future (50-year period). These are:

1. Deposits formed by hydrothermal process, including gold-quartz veins and polymetallic massive and disseminate sulfide deposits (gold, copper, zinc).
2. Placer deposits (gold).
3. Deposits formed by magmatic segregation (chromite).
4. Industrial mineral formed by diverse processes, including quartz, clay, barite, carbonate rock (limestone), talc, and asbestos.
5. Construction aggregate deposits, including sand and gravel and crushed stone deposits.

The California State Surface Mining and Reclamation Act (SMARA) of 1975 identifies five categories for use in classifying the State's lands as follows:

- (a) MRZ-1 Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. This zone shall be applied where well-developed lines of reasoning, based upon economic/geologic principles and adequate data demonstrate that the likelihood for occurrence of significant mineral deposits is nil or slight.
- (b) MZR-2 Areas where adequate information indicates that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence. This zone shall be applied to (a) known mineral deposits or (b) where well developed lines of reasoning, based upon economic geologic principles and adequate data, demonstrate that the likelihood for occurrence of significant mineral deposits is high.
- (c) MRZ-3 Areas containing mineral deposits the significance of which cannot be evaluated from available data.
- (d) MRZ-4 Areas where available information is inadequate for assignment to any other MRZ zone.
- (e) SA Areas containing unique or rare occurrences of rocks, minerals or fossils that are of outstanding scientific significance.

Mineral resource zones and significant mineral deposit locations in Grass Valley, based on the Mineral Land Classification of Nevada County, Special Report 164, are delineated on Map A. Consistent with the State's designations, MZR-2 areas are classified as significant mineral resource lands. For immediate economic significance, gold and construction aggregate are the most important mineral commodities in Grass Valley. Although significant portions of the city are classified as MRZ-2 there is limited opportunity to mine these areas due to the incompatibility presented by existing urban development and in many cases limited access routes for large vehicles. The following sites in Grass Valley are noted to have some regional significance:

Aggregate Resources:

North Star Rock Products, Inc., located on the south side of Idaho Maryland Road, just east of Highway 49. The operation is permitted under City Council Resolution No. 92-175 and Nevada County Use Permit No. 92-037.

Gold Resources:

Grass Valley South Area: This area encompasses a series of cavity-filling quartz-carbonate-ankerite veins containing free

gold and lesser amounts of lead, copper zinc and tungsten. Included within this area are the historic Empire and North Star mine. Although many veins have been mined (some workings extend to about 11,000 feet down deep), significant amounts of gold are likely to exist at yet deeper levels. There are no known current gold mining operations in this area.

Grass Valley Northeast Area: This area encompasses a complex system of cavity-filling quartz veins that occupy a network of faults and fissures situated between the Grass Valley and Weimer fault zones. Significant gold resources are likely to exist along some section of the vein system which were previously uneconomic or never explored. There are no known current gold mining operations in this area.

Plates 2a through 7a, extrapolated from the Mineral Land Classification Report of Nevada County No. 164, are incorporated by reference in this document (refer to the attached maps). The City Planning Area has been outlined on these plates. Also, Map A, General Plan Map, delineating the MRZ-2b areas has also been incorporated by reference in this document. Map B delineates areas targeted by the city for conservation and possible future mineral extraction.

MINERAL MANAGEMENT ELEMENT POLICIES AND ACTIONS

The following are policies and actions that shall be implemented by the city as part of the general plan program. Much of these policies and actions are incorporated into the city's mineral management ordinance.

Recreational Mining

Policy 1: Ensure a high level of safety for recreational mining.

Policy 2: Recognize the historic importance of prospecting in Grass Valley.

Action 1: Recreational mining as defined herein shall not require a city use permit; however, certain federal or state regulations and local building and sanitation regulations may apply.

Exploration

Policy 3: Identify areas targeted for conservation and possible future extraction.

Action 2: The city has identified specific areas targeted for conservation and possible future extraction (refer to Map B).

Action 3: Exploration is conditionally permitted in **compatible** General Plan designations (refer to Appendix A). A Planning Commission Use Permit shall be required if:

- a. Overburden or mineral deposits in excess of 1,000 cubic yards are disturbed as defined by the life of the mine, or
- b. The operation in any one location exceeds one acre in size as defined by the life of the mine, or
- c. De-watering will occur or water will be discharged from the site as a result of the operation.

Exploration is not permitted in **incompatible** General Plan Designations (refer to Appendix A).

Action 4: All exploratory operations shall require a reclamation plan if:

- a. Overburden or mineral deposits in excess of 1,000 cubic yards are disturbed as defined by the life of the mine, or
- b. The operation in any one location exceeds 10,000 square feet in size as defined by the life of the mine, or

In those instances where a reclamation plan is not required, an erosion control plan approved by Grass Valley Engineering and Building Departments and a grading plan shall be required for those operations in which 50 cubic yards or more of overburden are disturbed.

Mine Development and Operation

Policy 4: The city encourages extraction of mineral resources in compatible areas prior to intensified urbanization or conversion to other incompatible land use development.

Policy 5: The city will consider the social and economic impacts associated with proposed mining operations.

Policy 6: Already existing development - commercial, residential and community - as well as undeveloped private lands, should be protected from adverse environmental effects caused by mining through enforced use permit conditions and mitigation measures, or denial of projects.

Policy 7: The public should be adequately noticed of all significant mining, exploration and reclamation projects.

Action 5: All operations shall comply with the General Plan Noise Element and City Noise Ordinance Standards.

Action 6: Grass Valley recognizes, accepts and adopts by reference those State Classification Reports as found in Appendix A of this Element providing information on the location of significant mineral deposits within the City's Planning Area.

Action 7: The General Plan Mineral Management map shall include a Significant Mineral Deposit identification reflecting MRZ-2 areas as determined in the reports and similar studies. At anytime a Classification Report is presented to the city, said map shall be amended to reflect the report within a reasonable period of time. When it is necessary, due to the lack of specificity, to clarify the exact location of this identification, said reports shall be used.

Action 8: Use permit time limits for each project shall be established on a case-by-case basis. Time limits shall be based on the reasonably expected life of the mining operation and potential conflicts with future neighboring land uses. Each project shall have a periodic review for compliance with the use permit by the Engineering Department.

Action 9: Recognize the importance of water conservation and quality for the present and future need of the city by:

- a. Requiring the conservation of on-site water during mining operations.
- b. Requiring that off-site water discharge complies with state water quality standards.
- c. Requiring that any increase or decrease of off-site discharge is not detrimental to the downstream environment or downstream water users.

Action 10: The city shall require satisfactory and credible forms of accessible security from all mining projects to cover all damages which may occur from the projects.

Action 11: Public noticing for any proposed mining operation subject to a use permit shall require notification of all residents, businesses and property owners located within

a minimum 1,000 feet from the property boundaries of the proposed mining operation.

Surface Mining

- Policy 8: To ensure the protection of significant aggregate deposits, the city may zone "MR" all such identified and potential deposits within compatible General Plan designations (refer to Appendix A).
- Policy 9: Zone changes removing the "MR" district from the base district shall be considered by the city only when specific studies similar in nature to State Classification Reports prove that a significant mineral deposit no longer exists or if mining is determined not to be feasible due to physical constraints such as limited access to the site. Such studies shall be subject to review and comment by the State Division of Mines and Geology and the State Mining and Geology Board prior to the zone change taking effect.
- Policy 10: Due to the impacts associated with aggregate mining (noise, dust, aesthetic, vibration and traffic) on typical urban uses, aggregate mining is very limited within city limits. Aggregate mining, however, may be appropriate within the city planning area far removed from incompatible urban uses, where such mining is planned as an ultimate grading design for eventual urban development. Such improvements could include a shopping center, public facility, or roadway/bridge.
- Policy 11: Consistent with the General Plan Source Reduction and Recycling Element, the City promotes recycling of existing construction materials and mine tailings to offset the continuing demand for aggregate materials.
- Action 12: Surface mining shall be allowed only after impacts on the environment and hereby land uses have been adequately reviewed and found to be in compliance with the California Environmental Quality Act.
- Action 13: The city shall use the "MR" Mineral Extraction Combining District as a means to provide for the public awareness of the potential for surface mining to occur where it has been established that important minerals are present. The "MR" District shall be used only on those lands which are within any of the compatible General Plan designations as defined herein.
- Action 14: In considering aggregate mining use permit applications the Planning Commission shall consider the feasibility

and may require recycling non-hazardous materials such as construction and road base material and mine tailings as part of a proposed aggregate mining/processing activity.

Subsurface Mining

Action 15: Regardless of the General Plan designation, subsurface mining throughout the city may be permitted upon obtaining a use permit from the Planning Commission. Said mining shall be allowed only after impacts on the environment and affected surface land uses have been adequately reviewed and found to be in compliance with the California Environmental Quality Act.

Action 16: Surface access to subsurface mining may be permitted only in compatible General Plan designations as defined herein. However, vent and escape shafts may be conditionally approved upon obtaining a use permit from the Planning Commission in incompatible General Plan designations where surface disturbance is minimal.

Application Review, Processing and Coordination:

Policy 12: For development projects which may preclude mineral extraction, the city shall balance mineral values against alternative land uses and consider the importance of mineral resources to the state and nation as a whole.

Policy 13: When reviewing development projects which preclude mining at locations which have been classified as MRZ-2 by the Mineral Land Classification of Nevada County, CA, Special Report No. 164, the city will consider the feasibility of preserving mining extraction opportunities on the site to the extent feasible.

Policy 14: The city will consider updating this element when amendments are made to the Nevada County General Plan Mineral Management Element that affect the city.

Action 17: In reviewing development of a site classified as MRZ-2 by the Mineral Land Classification of Nevada County, CA, Special Report No. 164 the city may require as part of the development application submittal of a mineral resource report. Such reports shall include an evaluation of the significance of mineral deposits located on the project site, the feasibility of extraction and delivery of mineral deposits from the site, and the importance of these minerals to their market region.

Action 18: In reviewing development of a site classified as MRZ-2 by the Mineral Land Classification of Nevada County, CA,

Special Report No. 164, the city shall consider measures to preserve mining opportunities of the site. Such measures may include, but not be limited to, development redesign to preserve mine access and mitigation of incompatible uses on the site and developing proper access routes to and from the site for mining vehicles and equipment.

Action 19: The city shall consider the goals and policies of the Nevada County General Plan Mineral Management Element in reviewing mining and reclamation projects.

Action 20: The city will work cooperatively jointly with Nevada County and other agencies in processing permit applications

REFERENCES

The following documents have been incorporated into Mineral Management Element by reference:

City of Grass Valley General Plan, Adopted September 14, 1982
WPM Planning Team, Sausalito, CA

Glossary of Geology, American Geological Institute, 1987
California State Mining and Geology Board, 1988
A Dictionary of Mining, Mineral and Related Terms, U.S.
Bureau of Mines, 1968.

Mineral Land Classification of Nevada County, California,
Special Report 164, 1990
California Department of Conservation, Division of Mines and
Geology, Sacramento, CA

Mineral Management Element, Part of the Nevada County General
Plan, as Amended, November 9, 1991, Nevada City, CA

Source Reduction and Recycling Element, City of Grass Valley,
Adopted October 27, 1992.

APPENDIX A

DEFINITIONS

Aggregates: Aggregates are classified into two major categories: (1) crushed stone; and (2) sand and gravel. Crushed stone is regulated under Surface Mining policies. Sand and gravel, produced from modern or ancient stream beds or flood plains, are covered under specific Surface Mining policies. Commercial aggregates may also be produced from waste from Surface or Subsurface mines; in such cases the appropriate policies apply.

CEQA: California Environmental Quality Act

City Planning Area: Territory involving the City of Grass Valley and an area of influence outside the city limits, generally within a radius of 1.5 miles from downtown as delineated on the General Plan map.

Compatible General Plan Designations: Those Grass Valley General Plan designations potentially compatible for surface mining, including the following:

- Town Center Commercial
- Shopping Center Commercial
- Local Commercial
- Other Community Commercial
- Office and Professional
- Planned Employment Center
- Manufacturing
- Public/Semi Public Facilities
- Open Space Opportunity
- Utilities
- Schools (only if mining is part of the schools' curriculum)

Compatible Land Use: Land uses inherently compatible with surface mining or surface access to subsurface mining. Generally, this is land with a minimum of public or private investment in structures and land improvements, and which may allow mining because of the relative economic value of recovered minerals in comparison to the value of the land and its improvements. Examples of such uses may include, but shall not be limited to, rural residential, industrial, recreational, agricultural, silvicultural, grazing and open space.

Development: (a) The preparation of a mining property or area so that an ore body can be opened for analysis.
(b) The preparation or opening up of an ore body to estimate its tonnage and quality. Development is an intermediate stage between exploration and mining.

Exploration: The search for economic mineral or ore by (1) geological surveys, (2) geophysical or geochemical prospecting, (3) bore holes and trial pits, (4) surface or underground workings, drifts or tunnels. Exploration aims at locating the presence of economic deposits and establishing their nature, shape and grade.

Feasible: Capable of being accomplished with reasonable assurance of success based upon economic/geologic principles, adequate data, well developed lines of reasoning and best available technology.

Incompatible General Plan Designations: Those Grass Valley General Plan designations incompatible for surface mining, including the following:

Urban High Density
Urban Medium Density
Urban Low Density
Urban Estate Density
Parks and Recreation
Schools (if mining is not part of the schools' curriculum).

Incompatible Land Use: Land uses inherently incompatible with surface mining nor surface access to subsurface mining. Generally, this is land with significant public or private investment in structures, land improvements and landscaping and that may prevent mining because of the greater economic value of the land and its improvements. Examples of such uses may include, but shall not be limited to, high density residential, low density residential, public facilities and commercial.

Mineral: In this document the word mineral is used in a non-technical sense to embrace all inorganic and organic substances that are excavated from the earth for use by man.

"MR" Mineral Extraction Combining Zoning District: A district intended to protect those areas where information indicates that mineral deposits are present and to

forewarn potential land users of the possibility the property has mineral values and may be mined. This district shall be used for those lands classified by State Classification Reports as MRZ-2 or similar documentation.

Recreational Mining: The extraction of minerals primarily for recreation on a seasonal basis and using such devices as pans, rockers and dredges with intakes less than or equal to eight inches in diameter.

SMARA: State Surface Mining and Reclamation Act of 1975

Subsurface Mining: The extraction of minerals by underground means, including shafts, slopes, audits, drifts, crosscuts, winzes, raises and stopes.

Surface Mining: The extraction of minerals by open-pit mining, quarrying, dredging and related operations on the surface, including comminution, concentration, processing, waste disposal and tailings disposal. Said extraction shall not include the processing and use of on-site aggregate for on-site construction. Excavation or grading solely for the purpose of on-site construction, may be exempt from SMARA.

Surface Access to Subsurface Mines: The surface facilities serving an underground mine may include headframes, hoists, service plant, support buildings, comminution, concentration, processing, waste disposal, tailings disposal and on-site roads.

Tailings: The gangue and other refuse material resulting from the washing, concentration or treatment of ground ore. The slurry is transported to a tailings pond, the solids settling while the liquid may be withdrawn.

Waste: The barren rock excavated from a mine. The waste dump is the area where waste is disposed of or piled.

APPENDIX B

Regulatory Agencies

LOCAL GOVERNMENT

TYPE OF APPROVAL

Grass Valley Planning Commission
Contact: Grass Valley Planning
Department at (916) 273-1462

Use Permit Review
Reclamation Plan Review

Grass Valley Design Review Board
Contact: Grass Valley Planning
Department at (916) 273-1462

Reclamation Plan Review

Grass Valley Building Department
Contact: (916) 273-3370

Grading Permit

Grass Valley Engineering
Department
Contact: (916) 273-6824

Encroachment Permit
Tree Removal Permit

Grass Valley Fire Department
Contact: (916) 273-273-6868

Fire Prevention Requirements
Hazardous Waste Disposal

Grass Valley Police Department
Contact: (916) 273-3321

Permit for use and handling of
Explosives

STATE GOVERNMENT

Northern Sierra Air Quality
Management District
Contact: (916) 265-1398

Air Permit to Operate

CalOSHA
Contact: (916) 322-3640

Notification of Commencement of
Underground Operations

Highway Patrol
Contact: (916) 273-4415

Hazardous Materials
Transportation License

Regional Water Quality Control
Board, Central Valley
Contact: (916) 361-5600

Waste Discharge Permit
NPDES No Discharge Permit

Department of Water Resources
Contact: (916) 445-7416

Permit to Construct Dams
Permit to Construct Dams

Department of Health Services
Contact: (916) 657-1452

Hazardous Waste Disposal Permit

STATE GOVERNMENT (Cont.)

TYPE OF APPROVAL

Department of Fish and Game
Contact: (916) 355-0922

Streambed Alteration Permit
Suction Dredging Permit

Water Resources Control Board
Contact: (916) 445-9552

Permit to Appropriate Water

Division of Mines and Geology
Contact: (916) 322-1082

Placer Mining Water Pollution
Verification
Reclamation Plan Review

Mining and Geology Board
Contact: (916) 322-1082

Review and Approval of Mineral
Management Policies and Any
Amendments Thereto

Department of Transportation
Contact: (916) 741-4233

Encroachment Permit - State
Highways
Project Review of Mining Near
State Highway Bridges

Solid Waste Management Board
Contact: (916) 327-0454

Solid Waste Facilities Permit

FEDERAL GOVERNMENT

Mine Health and Safety
Administration
Contact: (916) 978-4755

Legal Identity Report

Environmental Protection Agency
Contact: (415) 744-1500

Spill Prevention Control Report
Particulate Emissions Approval

Forest Service or Bureau of Land
Management
Contact: (916) 978-4754

Notice of Intent
Plan of Operations
Right-of-Way Grant or Easement

Corps of Engineers
Contact: (916) 639-2342

Permit for Discharge of Dredged
or Fill Material

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