4.15 Utilities and Service Systems

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
15.	**UTILITIES AND SERVICE SYSTEMS—Would the project:**				
a)	Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☒	☐	☐	☐
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
d)	Require new or expanded water supply resources or entitlements?	☒	☐	☐	☐
e)	Result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☒	☐	☐	☐
f)	Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☒	☐	☐	☐

4.15.1 Setting

For a discussion of stormwater drainage, please refer to 4.8, *Hydrology and Water Quality*.

Water

Water Service

The Nevada Irrigation District (NID) is an independent California special district that supplies irrigation, municipal, domestic, and industrial water for its 287,000-acre service area, including the project area. NID collects water from its own high mountain watershed, operates a network of water treatment plants, produces hydroelectric power, and provides outdoor recreation. NID presently operates seven water treatment plants that supply some 3 billion gallons, or approximately 9,000 acre-feet, of treated drinking water per year (NID, 2006a). The Loma Rica plant, which has a capacity of 8 million gallons per day (mgd) and serves a population of 11,653, provides treated water service to the project area (NID, 2006b and City of Grass Valley, 1998).

Existing Water Use

NID maintains a water main on the east side of Brunswick Road, as well as other stubouts, fire suppression, and distribution facilities in the immediate vicinity of the project area. However, because the three project sites are currently vacant, there is no existing water use at these sites.

Wastewater

The Nevada County Sanitation District provides wastewater treatment service in unincorporated western Nevada County while the City of Grass Valley provides its own wastewater treatment service within the City.

Nevada County

The currently unincorporated portions of the project area (the New Brunswick and Idaho-Maryland sites) are currently within the Nevada County Sanitation District No. 1 service area. There are eight zones within the Sanitation District with facilities that collect and treat 955,000 gallons of wastewater each day. The Sanitation District provides sewer service to 5,840 accounts in western Nevada county with a population of 16,500 (Nevada County, 2006). Rural areas of Nevada County are characterized by large residential lots and open areas, where the use of septic tanks is common.

City of Grass Valley

The City of Grass Valley provides wastewater treatment service to all properties in the City limits and to the Glenbrook Sanitation District, which is outside the City limits. The City provides wastewater collection, treatment, and disposal service to an area of 2,884 acres, approximately 4.5 square miles. The City's wastewater treatment plant (WWTP) was originally built in 1950 and is located on a 29-acre site at 556 Freeman Lane in the southwest portion of Grass Valley (City of Grass Valley, 1998). The WWTP has a rated capacity of 2.8 mgd average dry-weather flow conditions and can accommodate a service population of 21,000 persons (City of Grass Valley, 1999b; City of Grass Valley, 2006). Solids produced during the wastewater treatment process are contracted to be removed from the WWTP site and the treated wastewater is discharged into Wolf Creek, a tributary of the Bear River.

Existing Wastewater Generation

All three project sites are currently vacant, so there is no wastewater currently being generated.

Solid Waste

The Nevada County Integrated Waste Management (Solid Waste) Division is responsible for all solid waste and hazardous materials disposal and recycling services. Waste Management of Nevada County is the current hauler for both solid waste refuse and collection of recyclables in the project area. Refuse collected by Waste Management and self-hauled refuse are collected at the McCourtney Road Transfer Station and Recycling Center located at 14741 Wolf Mountain Road in Grass Valley. Since Nevada County does not have a solid waste landfill, all solid waste refuse is hauled to out-of-County landfills under a contract with Norcal Waste Systems, Inc.

While the contract with Norcal Waste Systems does not specify a particular landfill to receive the waste, waste is currently hauled to Ostrom Road Landfill in Yuba County (Vaughan, 2006). According to the California Integrated Waste Management Board (CIWMB), the Ostrom Road Landfill has a total permitted capacity of approximately 41.8 million cubic yards, of which approximately 73 percent (or 30.5 million cubic yards) is used and approximately 27 percent (11.2 million cubic yards) is remaining. The Ostrom Landfill is expected to reach its capacity and close in approximately 2066 (CIWMB, 2006a).

In 2000, total business waste disposal in the City of Grass Valley was 7,147 tons with an estimated employee disposal rate of 6 pounds per employee per day (CIWMB, 2006b). Total business waste disposal for unincorporated Nevada County in 2000 was estimated to be 19,154 tons per year with an estimated employee disposal rate of 4.2 pounds per employee per day (CIWMB, 2006c).

Energy

Electrical power and natural gas are provided to the project area by Pacific Gas and Electric Company (PG&E). PG&E is regulated by the CPUC and is the primary provider of gas and electrical power to project area. PG&E's service area extends from Eureka to Bakersfield (north to south), and from the Sierra Nevada to the Pacific Ocean (east to west). PG&E obtains its energy supplies from power plants and natural gas fields in northern California and from energy purchased outside its service area and delivered through high voltage transmission lines. To promote the safe and reliable maintenance and operation of utility facilities, the CPUC has mandated specific clearance requirements between utility facilities and surrounding objects or construction activities.

4.15.2 Regulatory Context

State

Senate Bill 610

Senate Bill 610 (Stats. 2001, c.643) amended Section 21151.9 of the Public Resources Code (relating to CEQA), Sections 10631 and 10656 of the Water Code (relating to Urban Water Management Plans), and Sections 10910, 10911, 10912, and 10915 of the Water Code (relating to the preparation of water supply assessments). The purpose and legislative intent of Senate Bill 60 (SB 610) was to further integrate land use and water supply planning, and to ensure that long-term water supplies were available to support new land uses. The laws took effect on January 1, 2002.

SB 610 requires the preparation of a Water Supply Assessment (WSA) for large-scale development projects. The WSA report evaluates the water supply available for new development based on anticipated demand. For the broad range of projects which are subject to this law,[1] the

[1] California Water Code Section 10912 states that a "project" for SB 610 purposes is "…A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area…"

statutory WSA must be requested by the lead agency from the local water provider at the time the lead agency determines that an EIR is required for the project under CEQA. The water agency must then provide the assessment within 90 days (but may request a time extension under certain circumstances). The WSA must include specific information including an identification of existing water supply entitlements and contracts. The governing board of the water agency must approve the assessment at a public hearing.

Because the proposed project would result in the operation of 186,500 square feet of processing plant floor area, it would not exceed the applicable threshold of 650,000 square feet of processing plant floor area as set forth in California Water Code Section 10912.[2]

Assembly Bill 939

The Regional Integrated Waste Management Plan state law (Assembly Bill 939), enacted in 1989, established a new integrated waste management planning process, including requirements for counties and cities to meet adopted waste diversion goals for source reduction, recycling, and composting programs. The purpose was to direct attention to the increasing waste stream and decreasing landfill capacity, and to mandate a reduction of waste being disposed. Jurisdictions were required to meet diversion goals of 25 percent by 1995 and 50 percent by the year 2000. A disposal reporting system was established with CIWMB oversight, facility and program planning was required, and cities and counties began to address their waste problems. The waste diversion rate for the City of Grass Valley in 2002 was 62 percent (CIWMB, 2006b). The waste diversion rate for unincorporated Nevada County was 42 percent in 1998 with a CIWMB-approved time extension to meet its 50 percent diversion rate goal (CIWMB, 2006c).

Local

Nevada County General Plan[3]

The Nevada County General plan includes the following applicable goals, objectives, and policies related to utilities and service systems:

- Goal 3.1: Provide for public facilities and services commensurate with development type and intensity.
- Objective 3.2: Ensure that the capacity, availability, financing, and capability of public services and facilities are sufficient to meet levels of service requirements for development.
- Objective 3.4: Develop and operate public facilities and services in an environmentally sound way.

2 To ensure that SB 610 would not apply to this project, it should be verified that the 650,000 square feet of floor area applies to building floor space, and does not include outside storage area because the project proposes 885,000 square feet of outside storage area.

3 Under the proposed project, Nevada County plans and policies would only apply to the New Brunswick site, which would not be annexed into the City of Grass Valley as part of this proposed project.

- Policy 11.1: Adopt water conservation standards, consistent with State guidelines, for multi-family, commercial and industrial development encouraging installation and use of low-flow plumbing fixtures, drip irrigation systems, and drought-tolerant landscape plantings.

(Nevada County, 1996a).

City of Grass Valley General Plan

The City of Grass Valley General Plan includes the following applicable goals, objectives, policies, and implementation strategies related to utilities and service systems:

- Goal 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.

- Objective 6-COSO: Assurance of appropriate resource conservation and environmental protection measures as prerequisites to development.

- Policy 21-COSP: Continue to implement water quality improvement plans, including storm water separation and sewage treatment plant expansion.

- Implementation Strategy 20-COSI: 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.

- Implementation Strategy 21-COSI: Assure adequate provision for extending sewer service to areas experiencing inadequate on-site disposal systems, should the need arise.

(City of Grass Valley, 1999a).

2005 Nevada Irrigation District Urban Water Management Plan

The 2005 Nevada Irrigation District Urban Water Management Plan (UWMP) was submitted to the Department of Water Resources on December 10, 2005 and adopted on January 20, 2006. According to the UWMP, under normal water years, no water supply deficiencies are anticipated. The UWMP Act requires that water purveyors evaluate water demand and supply scenarios for periods of drought, wherein as little as 50 percent of the water supply may be available. According to the UWMP, if water supply was reduced to 50 percent of the current supply volume, NID's projected demand over the next three years (through 2008) would continue to be met without shortages. The UWMP states that demand reductions will take place in accordance with NID's Drought Contingency Plan. Therefore, if supply was reduced to a even greater extent, agricultural use would be reduced by as much as 50 percent and manufacturing and industrial demand would be reduced as well (NID, 2006b).

4.15.3 Impacts Discussion

Comment [j1]: HKV we are getting a copy of the will serve letter from PG&E.

Methods

General information to determine utilities impacts was gathered from the Nevada County General Plan and the City of Grass Valley General Plan. More specifically, the effort to determine solid waste impacts included obtaining existing solid waste generation and landfill capacity information available on the California Integrated Waste Management Board's online jurisdictional and landfill profiles. Personal contact was also made with Dave Vaughan of Yuba Sutter Disposal Inc. to determine at which landfill solid waste from the project would be disposed. Information regarding water and wastewater generation and treatment was obtained from the websites of the City of Grass Valley Public Works Department, the County of Nevada Department of Transportation and Sanitation, and the Nevada Irrigation District, as well as the 2005 Nevada Irrigation District Urban Water Management Plan. Finally, information regarding projected energy demands and sources of supply were obtained from the project applicant's Annexation Application prepared by MACTEC.

Results

Under the proposed project, the Round Hole and Idaho-Maryland sites would be under the jurisdiction of the City of Grass Valley and the New Brunswick site would remain in unincorporated Nevada County.

Stormwater would be routed through a system of gutters and drains to retention ponds prior to discharge into Wolf Creek. For a more complete discussion of stormwater drainage, please refer to Section 4.8, *Hydrology and Water Quality*.

Impact 4.15-1: The proposed project would require additional domestic water service from the Nevada Irrigation District. This would be a potentially significant impact.

The project's water would be provided by NID. Potable water for onsite construction and operations personnel would require a new potable water supply line. The project applicant would be required to fund main extensions to provide adequate domestic water supply, fire flows, and system redundancy to the proposed project. The project applicant does not anticipate the need for potable water at the Round Hole or New Brunswick sites.

Project operations would employ up to 400 employees. The Nevada County General Plan determines industrial water usage on a per employee basis and estimates that industrial uses result in demand for approximately 110 gallons per day (gpd) per employee (Nevada County, 1996b). Therefore, the proposed project is projected to result in demand for approximately 44,000 gpd. The Nevada County General Plan states that "there does not appear to be a significant constraint upon increased domestic/commercial waters" (Nevada County, 1996b). However, written verification from NID stating that it can and will serve the project's water needs is necessary to adequately assess the significance of this project impact.

In addition, approximately 15,000 square feet of landscaped area would be located at the Idaho-Maryland site entry and to the south of the office building and visitor's center. Absent installation of drip irrigation and use of drought tolerant native planting to reduce landscaping water use, the proposed project would be inconsistent with Nevada County General Plan Policy 11.1 to "encour[age] installation and use of low-flow plumbing fixtures, drip irrigation systems, and drought-tolerant landscape plantings," resulting in a potentially significant water demand impact.

Process water would be taken from mine dewatering and would be recycled, and mine water would also be used for onsite fire water systems. So these two water uses would not add to the demand on the NID system.

Impact 4.15-2: The proposed project would decrease the excess wastewater capacity of the City of Grass Valley WWTP. This would be a potentially significant impact.

At the Idaho-Maryland and New Brunswick sites, mine dewatering would occur from the new and historical underground workings. A new water treatment system would process the extracted mine water. At the Idaho-Maryland site, mine water removed from the decline and local underground workings would be contained in a mine water settling pond and treated at the mine water treatment system before being redirected to a storm water detention pond.

The proposed mine water treatment systems at the Idaho-Maryland and New Brunswick sites would be packaged systems with three stages of water treatment. The Idaho-Maryland site system would be designed to treat a maximum of 1,200 gallons per minute (gpm). The New Brunswick site system would be designed to treat a maximum of 2,700 gpm initially for six to nine months, then would drop to 1,400 gpm thereafter. The flow rates through these systems would vary according to the mining rate and season. Each system would be designed to aerate the water as well as removing turbidity and contaminants including iron, manganese, arsenic, lead, mercury, and aluminum. The system discharges would be designed to meet water quality standards in compliance with the California Toxics Rule under the Clean Water Act. Water from the Idaho-Maryland site would be discharged into Wolf Creek via two diffusers. The mine dewatering at the New Brunswick site would be discharged to the South Fork Wolf Creek through a diffuser. Please refer to Section 4.8, *Hydrology and Water Quality*, for a more complete discussion of mine water treatment.

Wastewater generated onsite from the onsite buildings at the Idaho-Maryland site would be treated at City of Grass Valley WWTP. Wastewater requiring treatment by the City's WWTP would not be generated at the Round Hole or New Brunswick sites. Project operations would employ up to 400 employees. The Nevada County General Plan determines industrial wastewater generation on a per employee basis and estimates that industrial uses result in approximately 2/3 of water demand, or approximately 73.5 gpd per employee (Nevada County, 1996b). Therefore, the proposed project is projected to result in wastewater generation of approximately 30,000 gpd. The City's WWTP was recently expanded to a total capacity of 2.8 million gpd. However, written verification from the City of Grass Valley Public Works Department stating that it can and will

serve the project's wastewater generation is necessary to adequately assess the significance of this project impact.

Impact 4.15-3: The proposed project would generate solid waste. This would be a potentially significant impact.

The proposed project has the potential to generate considerable quantities of solid waste from the residual rock from the mine. The mill is anticipated to have a maximum production rate of 3,200 short tons per day (STPD) from gold processing, a maximum of 2,400 STPD of which would be used in the manufacture of ceramic brick, tiles, and building materials. The ceramics plant would use gold mine development rock and tailings as feedstock. Approximately 800 STPD of gold tailings – the difference between mining and ceramic production rates – would be returned underground as backfill. Manufacture of the ceramic products and backfilling of up to 800 STPD would minimize and/or eliminate the solid waste that would require disposal off site.

In addition, the proposed project would result in approximately 400 operations employees that would generate solid waste onsite. The City's current rate of disposal is approximately 6 pounds per employee per day (CIWMB, 2006b). Based on this estimate, the project could generate approximately 2,400 pounds per day of employee-generated solid waste. Without recycling, the proposed project could have an impact on the City's diversion rate, which would conflict with the City's required waste diversion rate.

Waste Management of Nevada County would provide solid waste collection services to the project site and would haul discarded waste to the Ostrom Road Landfill in Yuba County or another landfill with permitted capacity. The Ostrom Road Landfill has an estimated remaining permitted capacity of approximately 11.2 million cubic yards. The CIWMB estimates that the Landfill will not reach its capacity until 2066, and therefore, it would have sufficient capacity to receive the solid waste that would be generated by the proposed project (CIWMB, 2006a). Nevertheless, without onsite recycling, the proposed project could adversely impact the City's diversion rate resulting in a potentially significant solid waste impact.

Impact 4.15-4: The proposed project would increase annual consumption of electricity and natural gas, which would increase demand on nonrenewable resources. This would be a potentially significant impact.

The project applicant has projected energy demands for the project sites. According to the project applicant, approximately 150 gigawatt (GW) hours per year of electricity would be required at the Idaho-Maryland site and up to 2.1 billion cubic feet per year of natural gas would be required for the ceramics plant. In addition, approximately 20 GW hours per year of electricity would be required at the New Brunswick site and approximately 2 GW hours per year of electricity would be required at the Round Hole site. The project applicant proposes to obtain its electricity and

natural gas from PG&E (MACTEC, 2005). PG&E has stated that it will have adequate supplies to serve the project's estimated demands (PG&E, 2006).

The proposed development would result in an increased demand for electricity and natural gas services. Implementation of energy conservation measures would be important to ensure that this increase would not result in the wasteful, inefficient, or unnecessary consumption of energy and to ensure the responsible use of non-renewable resources. In addition, energy conservation measures would be necessary to ensure the project would be consistent with City of Grass Valley General Plan Objective 6-COSO, which calls for "[a]ssurance of appropriate resource conservation and environmental protection measures as prerequisites to development" (City of Grass Valley, 1999a).

4.15.4 Data Gaps

1. A letter is needed from the City of Grass Valley Public Works Department stating that its WWTP has sufficient capacity to treat the project's projected wastewater flows of approximately 30,000 gpd.

2. A letter is needed from Nevada Irrigation District (NID) stating that it has sufficient water supplies to be able to serve the project's projected water demand of 44,000 gpd.

3. Information is needed regarding waste disposal at the New Brunswick site (i.e., whether waste generated at New Brunswick site would be taken back to Idaho-Maryland site where it would be picked up).

4. Information is needed regarding the existing use and remaining treatment capacity at the City of Grass Valley WWTP (i.e., year 2005).

References – Utilities and Service Systems

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