

NEVADA COUNTY  
MINERAL EXPLORATION AND/OR EXTRACTION  
**ENVIRONMENTAL ASSESSMENT**

MINING:  X       EXPLORATION:  X       FILE NOS: \_\_\_\_\_

ASSESSOR'S PARCEL NO(S):

| Brunswick Industrial Site |               |
|---------------------------|---------------|
| Assessor Parcel Number    | Acres         |
| 009-630-037               | 21.8          |
| 009-630-039               | 15.07         |
| 006-441-003               | 15.19         |
| 006-441-004               | 0.85          |
| 006-441-005               | 50.01         |
| 006-441-034               | 16.01         |
| <b>Total</b>              | <b>118.93</b> |

| Centennial Industrial Site |                     |
|----------------------------|---------------------|
| Assessor Parcel Number     | Acres               |
| 009-550-032                | 20,908 SF (0.48 AC) |
| 009-550-037                | 4.47                |
| 009-550-038                | 40.1                |
| 009-550-039                | 42,668 SF (0.98 AC) |
| 009-550-040                | 5,662 SF (0.13 AC)  |
| 009-560-036                | 10.25               |
| <b>Total</b>               | <b>56.41</b>        |

APPLICANT: Rise Grass Valley Inc.

PHONE NO.: 604-260-4577

CONTACT PERSON: Benjamin Mossman

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This Environmental Assessment provides information required for the processing of your application. Incorrect or incomplete information may cause a delay in processing. This form should be completed by the applicant, or his/her authorized representative. It may be reproduced by the applicant in order to provide expanded responses. Appropriate exhibits should be submitted to supplement written descriptions and responses.

Pursuant to Nevada County General Plan policy and Land Use & Development Code Section L-II 4.3, an Archaeological Survey and a Biological Inventory of the site must be prepared for the project, pursuant to established procedures (attached):

## **A. EXISTING CONDITIONS:**

### **1. Describe the existing natural features of the subject property, including topography, vegetation, drainage, year round streams, bodies of water. (attach exhibits)**

The project includes two surface properties referred to as the Centennial Industrial Site and the Brunswick Industrial Site. Details on natural features of the property are included in Section 5 “*Site Setting*” of the Project Description, Drawing A201, Preliminary Drainage Analysis, and biological and aquatic resource reports included with this application.

### **2. Describe the existing man-made features of the subject property, including buildings, roads, wells, septic systems, etc. (attach exhibits)**

Details on existing man-made features of the property are included in Section 5 “*Site Setting*” of the Project Description, Drawing A201, and cultural resources survey report included with this application.

### **3. Describe surrounding land uses and distances within the vicinity of the subject property, distances of the surrounding land uses, and environmental character of the surroundings. (aerial photos would be most helpful)**

**Be specific. (Example: five, single-family residences, 500 feet to the north; a duplex 200 feet, and a pine forest adjacent to the west; a state highway and gas station 200 feet to the east; and grazing land immediately to the south.) Attach exhibits.**

Details on surrounding uses of the property are included in Section 5.3 “*Surrounding Land Uses*” of the Project Description and Drawings A201, B101 and C101 which include aerial photography included with this application.

The Brunswick Industrial Site is located in unincorporated Nevada County approximately 2 miles from the center of the city of Grass Valley and State Route 49. The site is surrounded by a mix of industrial and residential zoned land.

To the west: The majority of land is vacant forested land and zoned residential agricultural (RA-3). A small portion of land near the southwest corner of the property is zoned residential (R1) approximately three residential buildings are located with 500 feet of the boundary.

To the north: East Bennett Road is located adjacent to boundary. Land is zoned residential agricultural (RA-1.5). Approximately thirteen residential buildings are located within 500 feet of the property to the north. A vacant area of industrial zoned land to the northeast of the property is currently under development.

To the east: Brunswick road is located adjacent to the boundary and land is zoned residential agricultural (RA-5 and RA-3). An NID Canal (DS Extension) is located ~250 ft from the boundary and approximately twenty-two residential buildings are located within 500 feet of the property.

To the south: Land is zoned residential agricultural (RA-X). Approximately six residential buildings are located within 500 feet of the property.

The Centennial Industrial Site is located in unincorporated Nevada County and adjacent to the city limits of Grass Valley, which is to the west, north, and east of the property. The site is surrounded by industrial zoned land on all sides.

To the west: two large commercial businesses, DeMartini RV Sales and Hills Flat Lumber Co. are located within 500 feet.

To the north: the main stem of Wolf creek runs east to west through the site and Idaho-Maryland Road is located adjacent to boundary. Approximately five commercial / industrial buildings and one residential building are located within 500 feet of the property to the north.

To the east: Centennial Drive is located adjacent to a portion of the boundary and approximately sixteen commercial / industrial are located within 500 feet of the property. A historic berm and log pond are located to the east of the property and a culvert drains water from this pond onto the property.

To the south: Largely undeveloped industrial zoned land with some area used for outdoor storage and one commercial / industrial is located within 500 feet of the property.

## **B. PROJECT FEATURES**

### **1. Mineral(s) to be explored and/or mined:**

Gold

**2. a. Mining method(s): Check all applicable**

|                          |                                      |
|--------------------------|--------------------------------------|
| Mining Method(s)         |                                      |
| a. Check all applicable: |                                      |
|                          | Open Pit                             |
|                          | Hilltop Quarry                       |
|                          | Sidehill Quarry                      |
|                          | Low Level Quarry                     |
|                          | Gravel/Sand Pit                      |
|                          | Gravel Bar Skimming                  |
|                          | Clay Pit                             |
|                          | Borrow Pit                           |
|                          | Single Bench                         |
|                          | Multiple Bench                       |
| X                        | Underground                          |
|                          | Mechanical Excavation/<br>Harvesting |
| X                        | Drill and Blast                      |
|                          | Shovel                               |
|                          | Dragline                             |
| X                        | Waste Dump                           |
|                          | Tailings Ponds                       |
|                          | Truck to Processing Plant            |
| X                        | Conveyor to Processing Plant         |
|                          | Rail Transport                       |
|                          | Slurry Pipelines                     |
|                          | Other (specify):                     |
|                          |                                      |
|                          |                                      |

**2. b. Exploration method(s): Check all applicable**

|                          |                    |
|--------------------------|--------------------|
| Exploration Method(s)    |                    |
| a. Check all applicable: |                    |
| 1)                       | Test Trenches      |
|                          | Backhoe            |
|                          | Tractor            |
|                          | Other (specify)    |
|                          |                    |
| 2)                       | Drilling           |
|                          | Rotary             |
| X                        | Core               |
|                          | Wagon Drill        |
|                          | Other (specify)    |
|                          |                    |
| 3)                       | Seismic            |
|                          | Explosives         |
|                          | Non-explosives     |
|                          |                    |
|                          | 4) Dredging        |
|                          | 5) Sluicing        |
|                          | 6) Other (specify) |
|                          |                    |
|                          |                    |

|  |                 |
|--|-----------------|
| Estimate total sample volume:<br>(in tons and cubic yards) |                 |
|  | tons            |
|  | yd <sup>3</sup> |
| Depth of Sampling:   |                 |
|  |                 |
|  |                 |

**3. Describe the mineral recovery or exploratory process: (type of chemicals, method, size and type of crushing equipment, etc.)**

See Section 6.5 “Aboveground Facilities Construction and Operations” of the Project Description.

**4. If processing of ore or concentrate is done on-site, describe the treatment process: (type of chemicals, method, size, and type of equipment) If not, explain where processing will take place and method of transport:**

See Section 6.5 “Aboveground Facilities Construction and Operations” of the Project Description.

**5. Is the proposal on an existing and/or historic mine site?**

Yes    No   **If Yes, describe briefly: (specify existing, historic, or both)**

The Idaho-Maryland Mine, located in the Grass Valley – Nevada City mining district of northern California, was one of the most productive and best known gold mines in the United States. The Idaho-Maryland Mine has a rich history of gold production and mining work completed between 1863 and 1956 by various operators. The I-M Mine was reportedly the second largest gold mine in the United States in 1941, producing up to 129,000 oz gold per year before being forced to shut down by the US government in 1942 due to World War II. See Section 2 “Background” of the Project Description.

**6. Geologic description, including general geologic setting, with more detailed geologic description of the mineral deposit to be explored or mined, and principal minerals or rock types present:**

The project site is located in the northern Sierra Nevada foothills, at the north end of the historic Mother Lode gold mining district in California. The northern Sierra Nevada foothills are part of a belt of metamorphic rocks that extends approximately 180 miles northward from the area of Yosemite Valley to north of Nevada County. The metamorphic belt is approximately 20 to 40 miles wide. It is bounded on the east by granitic intrusive rocks of the Sierra Nevada batholith and plunges beneath younger sedimentary rocks of the Central Valley on the west.

The rocks within the metamorphic belt were initially deposited as sedimentary and volcanic rocks in the Paleozoic and Mesozoic eras. The sedimentary and volcanic rocks were deposited in a subsiding sea adjacent to an island arc terrain that formed as a result of subduction of the Pacific tectonic plate beneath the North American tectonic plate. Tectonic activity, including compression, the intrusion of granodiorite as part of the Sierra Nevada batholith, and faulting, caused the sedimentary and volcanic rocks to undergo regional and contact metamorphism. In the Idaho-Maryland Mine area, the rocks are part of an unnamed metamorphic complex located to the west of the more well-known Calaveras Complex (or Calaveras Formation) and Shoo Fly Formation. Following uplift and erosion of the Sierra Nevada, tertiary volcanic and volcanoclastic deposits were deposited over the eroded surface of the metamorphic belt. Subsequent erosion has removed areas of the tertiary volcanic and volcanoclastic deposits, exposing the underlying older metamorphic and intrusive rocks.

The property site and area occurs within a meta-andesite deposit, which is a metamorphosed andesitic submarine volcanic unit. The degree of metamorphism may vary in this unit, such that parts of it have been referred to as amphibolite schist, porphyrite, diabase, and quartz porphyrite. This metamorphic unit is referred to as the “Brunswick Porphyrite Block. The area is mostly within mafic intrusive and metamorphic rocks, including gabbro and serpentinite. The gabbro and serpentinite tend to form a band around the northern half of the Brunswick Porphyrite Block. To the east of the Brunswick Porphyrite Block are fine-grained metasediments (slates, argillites) and minor dioritic intrusions of the Mariposa Formation. Tertiary andesite volcanic deposits are present at the surface to the east and southwest of the Brunswick Porphyrite Block. Based on well log information, the tertiary andesite deposits are typically less than a few hundred feet thick, forming a relatively thin mantle that obscures the underlying bedrock geology and faulting.

**7. Will there be any potentially hazardous materials, such as toxic substances, flammables, or explosives used or stored at the site?**

**Yes**    **No**   **If Yes, describe method of use, storage and disposal:**

See Section 6 “*Site Plan*” and Section 7 “*Operations*” of the Project Description.

A Hazardous Materials Inventory Statement is included with this application.

**8. Estimates number of employees:**

**ESTIMATED NUMBER OF EMPLOYEES**

| Phase                                    | Estimated number of employees |
|--|-------------------------------|
| Construction – Contractors and employees | 52                            |
| Exploration (Underground)                | 121                           |
| Mine Operation                           | 312                           |
| Reclamation - contractors                | TBD                           |

## 9. Estimated Time Frames

See Section 7.1 “Hours of Operation and Employment” of the Project Description for daily hours of operation. The following table provides an approximate life of project assuming approval in 2020.

**ESTIMATED TIME FRAMES**

| Estimated Time Frames                         | Begin <sup>1</sup>                                      | End <sup>1</sup>   |
|---|---|--|
| Construction                                  | Year 2021   | Approximately 1 year from commencement   |
| Exploration (underground)                     | Year 2022   | Ongoing throughout life of mine  |
| Mine Operation                                | Year 2022   | Dependant on exploration and operational success. Estimated life of mine is 80 years.  |
| Reclamation                                   | Ongoing during operations and upon completion of mining | Engineered fill slopes reclaimed in conjunction with fill placement. Final reclamation, including removal of some buildings, will take from 2-5 years after mine closure |
| For Seasonal Operation, list operating months | NOT APPLICABLE  |  |

**Notes:** <sup>1</sup> Time frames are approximate and dependent on factors such as receipts of required permits, equipment and personnel availability, fluctuations in the economy, and exploration and financing success.

## 10. Mine Operation Time Periods

See Section 7.1 “Hours of Operation and Employment” of the Project Description for mine operation time periods.

## 11. Anticipated annual production: (include all mined materials such as overburden, waste rock, ore, etc.)

Details of annual production are described in Section 6.4 “Underground Mining” of the Project Description included with the application. Anticipated annual production of mined materials are as follows:

Barren Rock: 182,500 tons per year

Gold Mineralized Rock: 365,000 tons per year

## 12. Total life cycle production

Details of total life cycle production are described in the Project Description included with the application.

**TOTAL LIFE CYCLE PRODUCTION**

|   | <b>Material</b>   | <b>Tons or yards</b>  |
|---|---|---|
| A | Mine waste returned to underground mine (cemented paste backfill) | ~182,500 tons per year of sand tailings   |
| B | Aggregate / crushed rock to off-site uses                         | ~182,500 tons per year of barren rock<br>~175,200 tons per year of sand tailings<br>~7,300 tons per year of gold concentrate                                  |
| C | Fill material imported for on-site disposal                       | None  |
| D | Mine waste disposed offsite                                       | None  |
| E | Total volume of material to be explored                           | Drill core from underground mine totals a minor volume of relative material produced. Volume of material explored by drilling dependant on time and schedule. |
| D | What is ratio of tons of material being mined?                    | ~ 1 ton of barren rock for every 2 tons of ore  |

**13. Ground Water**

|   |  |   |
|---|--|---|
| A | Ground water depth                                       | Varies – Hydrogeology report to provide details                           |
| B | Maximum shaft/tunnel/pit depth                           | Up to 10,000 feet below ground surface planned, current depth ~3,400 feet |
| C | Estimated daily quantity of water pumped for de-watering | Up to 3,600,000 gallons per day (2,500 gallons per minute)                |

A hydrology and water quality analysis report are to be submitted before the end of December 2019.

**14. Maximum amount of surface disturbance, including drill pads, trenching, access roads, etc.:**

Brunswick Industrial Site: 60 acres  
 Centennial Industrial Site: 44 acres  
 Total: 104 acres

**15. If the nature of the deposit and the exploration and/or mining method used will permit, describe and show the steps or phases of the mining operation that allow concurrent reclamation, and include proposed time schedule for such concurrent activities. If the nature of the deposit and/or mining method does not allow concurrent (annual) reclamation, explain why.**

See Section 5 “Reclamation” of the Idaho-Maryland Mine Reclamation Plan prepared by Benchmark Resources.

**16. Describe the ultimate physical condition of the site and specify proposed use(s), or potential uses, of the mined lands as reclaimed:**

See Section 5 “Reclamation” of the Reclamation Plan. A majority of the aboveground facilities and structures will remain to support the sites postmining industrial land use. All paved surfaces, including access roads, parking areas, and driveways, will remain to facilitate access to the site and buildings.

The engineered fill piles at the Brunswick and Centennial sites will be maintained until they are used for future industrial purposes.

**C. ENVIRONMENTAL IMPACTS:**

**1. Land**

**a. How many cubic yards will be moved or disturbed?**

During construction at the Brunswick site approximately 60,000 cubic yards will be moved on-site for grading work and detention pond construction. Additionally, approximately 50,000 cubic yards will be excavated and then replaced during construction of the Service shaft.

Approximately 1,440,000 yards of engineered fill will be placed on the Brunswick site and 1,040,000 yards of engineered fill will be placed on the Centennial site.

**b. Will the Project result in the destruction, covering or modification of any unique geological and/or physical features, such as unstable soils or historical faults?**

Yes     No    **If Yes, what protective measures are anticipated?**

**c. Will the project result in increased erosion from wind or water, on-site or off-site?**

Yes     No    **If Yes, explain:**

**d. Will the project expose the people or property to geologic hazards, such as earthquakes, landslides, mud slides, ground failures, or similar hazards?**

Yes     No    **If Yes, explain:**

**e. Will the project result in the loss of agricultural lands?**

Yes     No    **If Yes, specify:**

**f. Is all or a portion of this property subject to a Williamson Land Act Contract (i.e., an agricultural preserve)?**

Yes     No    **If Yes, specify:**

**g. Is all or a portion of this property zoned TPZ?**     Yes     No

**If Yes, attach exhibit and copy of timber management plan.**

**2. Water:**

**a. Will the project result in any stream alteration?**     Yes     No

**For operations occurring within or adjacent to a seasonal or permanent stream, river or other body of water, describe actions being taken to protect water quality and wildlife habitat:**

The project will result in the removal and/or alteration of “waters of the U.S.”, including wetlands, and “waters of the State of California” at the Brunswick Industrial Site, as shown in Drawing B102. Wetlands are also mapped at the Centennial Industrial Site and are expected to be removed and mitigated under the separate DTSC cleanup project as shown in Drawing C102. The aquatic resources, potential impacts, and mitigation measures are described in detail in the following reports included with this application:

*Brunswick Industrial Site and East Bennett Road ROW Aquatic Resources Delineation of Water of the United States and State of California.* Greg Matuzak Environmental Consulting LLC. 2019.

*Brunswick Industrial Site and East Bennett Road ROW Biological Resources Assessment.* Greg Matuzak Environmental Consulting LLC. 2019.

*Brunswick Industrial Site and East Bennett Road ROW Watercourse / Wetlands / Riparian Areas Management Plan.* Greg Matuzak Environmental Consulting LLC. 2019.

*Centennial Industrial Site Aquatic Resources Delineation of Water of the United States and State of California.* Greg Matuzak Environmental Consulting LLC. 2019.

*Centennial Industrial Site Biological Resources Assessment.* Greg Matuzak Environmental Consulting LLC. 2019.

*Technical Memorandum for Centennial Industrial Site: Idaho-Maryland Mine Project - Biological Resources Impact Assessment.* Greg Matuzak Environmental Consulting LLC. 2019.

**b. Will there be any increased run-off?**     Yes     No    **Explain:**

Post development runoff during storm events, including the treated mine water discharge of 5.6 cfs, from both the Centennial and Brunswick sites will be equal to or less than the estimated current run-off. Therefore, with the construction of the detention ponds, the project will have no impact or increase of flows in creeks during storm events.

The storm water drainage system is described in a report included with this application:

*Hydrology and Hydraulic Calculations for the Preliminary Drainage Study & Detention Basin Sizing for Centennial and Brunswick Sites.* Nevada City Engineering. October 2019.

**c. Will there be any discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?**

Yes     No    **If Yes, explain:**

Groundwater present in the existing mine workings and inflow into the underground mine workings during the life of the projected will be pumped to surface, treated, and discharged to South Fork Wolf Creek at the Brunswick Site. A detailed description is included in Section 6 "Site Plan" of the Project Description. Supporting documents include reports:

A hydrology and water quality analysis report, prepared by EMKO Environmental Inc., will be submitted before the end of December 2019.

The water treatment is described in a report included with this application:

*Idaho-Maryland Water Treatment Plant Design Report.* Linkan Engineering. November 2019.

**d. Will there be any septic tank installation, sedimentation or potential chemical contamination? Indicate amount of effluent which may be generated. Percolation tests should be provided.**

Yes     No    **If Yes, explain:**

A septic tank will be installed on the Brunswick Industrial Site and the amount of effluent which may be generated is estimated at 5,690 gallons per day based on employee numbers, shifts, and uses. The site evaluation for an on-site Pressure Dose sewage disposal system is described in a letter report, prepared by Navo & Sons, Inc., included in Appendix A of this application.

**e. Industrial water requirements:**

Brunswick Industrial Site

**Amount required per day :** 123,000 gallons per day

**Source :** Treated mine water

**Will water be recirculated for re-use?**  **Yes**  **No**

See Section 7.4 “*Water Supply and Consumption*” of the Project Description for additional details regarding industrial water requirements at the Brunswick Industrial Site.

Centennial Industrial Site

**Amount required per day :** 42,000 gallons per day

**Source :** NID

**Will water be recirculated for re-use?**  **Yes**  **No**

See Section 7.4 “*Water Supply and Consumption*” of the Project Description for additional details regarding industrial water requirements at the Centennial Industrial Site.

**f. Will there be any changes in the quantity of ground waters, either through direct additions or withdrawals, or through interception of any aquifer, by cuts or excavations?**

**Yes**  **No** **If Yes, explain and describe method to monitor effects:**

Groundwater present in the existing mine workings and inflow into the underground mine workings during the life of the projected will be pumped to surface, treated, and discharged to South Fork Wolf Creek at the Brunswick Site. See Section 6 “*Site Plan*” of the Project Description.

Pumping of ground water could potentially result in a draw-down of the water table, in areas in close proximity to the existing mine workings. As described in Section 6.7 “*Potable Water Pipeline*” of the Project Description, out of an abundance of caution, the existing NID potable water pipeline will be extended on East Bennett Road to provide potable water service to residences currently on wells that may be affected by the project.

Supporting documents include reports:

A hydrology and water quality analysis report, prepared by EMKO Environmental Inc., will be submitted before the end of December 2019.

A groundwater model using finite element methods including predictive simulations and sensitivity analysis report, prepared by Itasca Denver, Inc., will be submitted before the end of December 2019.

- g. Will there be a substantial reduction in the amount of water, otherwise available for public water supplies?**     Yes         No        **If Yes, explain:**

See 2f above.

- h. Will the project expose people or property to water-related hazards, such as flooding or ground slippage?**     Yes         No        **If Yes, explain:**

- i. Will there be any significant changes in temperature, flow, or chemical content of surface thermal springs?**     Yes         No        **If Yes, explain:**

### 3. Air and Noise

- a. Will there be any changes in air movement, temperature, dust, ash, smoke, fumes or odor as a result of the project?**     Yes         No        **If Yes, explain:**

An air quality assessment report, prepared by Dudek, to be submitted before the end of December 2019.

- b. Method of dust control: (specify water or chemicals to be used, and frequency of application)**

The majority of the Brunswick work site has already been, or will be paved in order to reduce dust from vehicle traffic. In areas where engineered fill is placed and compacted water will be used as necessary to control dust and allow for required compaction levels.

The processing plant is located indoors and milling will be done with water which largely eliminates dust. Industrial dust control techniques will be used as necessary in the processing plant.

- c. Will the project result in a change in existing noise or vibration (due to blasting or use of heavy earth moving or breaking equipment) levels in the vicinity?**

Yes     No        **If Yes, explain:**

A noise and vibration analysis report and underground blasting assessment report are included with this application:

*Noise and Vibration Analysis – Idaho Maryland Mine.* Bollard Acoustical Consultants, Inc. 2019.

*Environmental Factors of Blasting Report for the Proposed Idaho-Maryland Gold Project.* Intercontinental Development Corporation – Precision Blasting Services. September 2019.

**d. What types of noise will be created by the project both during and after construction?**

A detailed noise impact analysis is included with this application:

*Noise and Vibration Analysis – Idaho Maryland Mine.* Bollard Acoustical Consultants, Inc. 2019.

**e. Determine average noise levels (Leq)\* at the property line \*\* for three time periods: Day (7:00 am to 7:00 pm); Evening (7:00 pm to 10:00 pm); and Night (10:00 pm to 7:00 am) in dBA. Exploratory:  Mining:**

A detailed noise impact analysis is included with this application:

*Noise and Vibration Analysis – Idaho Maryland Mine.* Bollard Acoustical Consultants, Inc. 2019.

**f. What is the difference and location to the nearest receptor?**

A detailed noise impact analysis is included with this application:

*Noise and Vibration Analysis – Idaho Maryland Mine.* Bollard Acoustical Consultants, Inc. 2019.

**4. Plants and Animals**

**a. Will there, as a result of the project, be any changes in the species, or the number of plants and animals?  Yes  No If Yes, specify:**

Detailed biological inventory reports and biological impact assessments are included with this application:

*Brunswick Industrial Site and East Bennett Road ROW Biological Resources Assessment.* Greg Matuzak Environmental Consulting LLC. 2019.

*Centennial Industrial Site Biological Resources Assessment.* Greg Matuzak Environmental Consulting LLC. 2019.

*Technical Memorandum for Centennial Industrial Site: Idaho-Maryland Mine Project - Biological Resources Impact Assessment.* Greg Matuzak Environmental Consulting LLC. 2019.

**b. Will the project result in the loss of, or a reduction in any unique, rare or endangered species of plants or animals including their habitat?**

Yes  No **If Yes, explain:**

Detailed biological inventory reports, biological impact assessments, and special status plant survey reports are included with this application:

*Brunswick Industrial Site and East Bennett Road ROW Biological Resources Assessment.* Greg Matuzak Environmental Consulting LLC. 2019.

*Brunswick Mine Special Status Plant Survey Report.* Wendy Boes Botanical Consultant. 2019.

*Centennial Industrial Site Biological Resources Assessment.* Greg Matuzak Environmental Consulting LLC. 2019.

*Technical Memorandum for Centennial Industrial Site: Idaho-Maryland Mine Project - Biological Resources Impact Assessment.* Greg Matuzak Environmental Consulting LLC. 2019.

*Centennial Industrial Site Special Status Plant Survey Report.* Wendy Boes Botanical Consultant. 2019.

- c. Will new species be introduced into the area, or will the project result in a barrier to the normal replenishment of existing species of plants or animals?**

Yes     No    **If Yes, explain:**

- d. Describe any actions being taken during the project, and as part of the reclamation process, that will enhance/protect wildlife habitat:**

Areas to remain as open space, outside the project areas of disturbance, are detailed in Section 6 “*Site Plan*” of the Project Description.

Various biological reports prepared for the Brunswick and Centennial Industrial Sites, included in this application, detail the protection and mitigation measures for wildlife habitat. Supporting reports include:

*Brunswick Industrial Site and East Bennett Road ROW Biological Resources Assessment.* Greg Matuzak Environmental Consulting LLC. 2019.

*Centennial Industrial Site Biological Resources Assessment.* Greg Matuzak Environmental Consulting LLC. 2019.

*Technical Memorandum for Centennial Industrial Site: Idaho-Maryland Mine Project - Biological Resources Impact Assessment.* Greg Matuzak Environmental Consulting LLC. 2019.

## **5. Light and Glare**

- a. Will the proposed project produce new light and glare?**

Yes     No    **If Yes, specify amount, type, and duration:**

The Brunswick site will have exterior lighting at buildings and in the parking lot and illumination will be required during non-daylight hours throughout the life of the project. A preliminary lighting design and

photometric plan (refer to Drawing E001, E100, and E110), prepared by M. Neils Engineering, Inc., is included with this application.

## 6. Land Use

- a. **Might the project conflict with existing land uses including recreational, educational, religious or scientific?**     Yes     No    **If Yes, explain:**

Existing land uses include open space with remnants of existing gold mining and other industrial operations. No recreational, education, religious, or scientific land uses exist on or near the site.

- b. **In what way will the project cause change in the land use pattern, scale, or character of the general area?**

Historically, underground gold mining occurred below the majority of the property. Aboveground portions of the sites were used for various gold mining and processing activities. A major sawmill previously operated on the Brunswick Industrial Site and closed in 1991. The Hap Warnke sawmill operates on the Centennial Industrial Site and is currently inactive. Since 2018, Rise has been conducting exploration drilling to characterize underground resources in anticipation of future mining. As described in the Project Description included with this application, the Project includes underground mining, aboveground gold and waste rock processing, and offsite hauling of engineered fill. The site has a General Plan designation of Industrial. The Application is seeking a zone change on six of the twelve parcels from Light Industrial with Site Performance Combining District (M1-SP) to Light Industrial with Mineral Extraction Combining District (M1-ME).

The uses proposed in the attached Project Description are allowed under these land use designations.

- c. **Distance from the location of the nearest recognized named community:**

The City of Grass Valley is adjacent to the Centennial Industrial Site boundary. Please see Section 5.3 “*Surrounding Land Uses*” of the attached Project Description providing a summary of surrounding land uses.

## 7. Natural Resources

- a. **Will the project result in the increased rate of use of any renewable or non-renewable natural resource?**     Yes     No    **Which one(s):**

The project will use energy which includes utility supplied electricity, petroleum products such as diesel fuel, and various materials to produce gold and gold concentrates.

## 8. Risk or Upset

- a. **Will the project involve a risk of explosion or the release of hazardous substances, including but not limited to oil, pesticide, herbicide, chemicals, or radiation, in the event of accident or upset conditions, flammables, or explosives?**

Yes     No    **If Yes, explain:**

The project will comply with all local, state and federal regulations related to the storage, use, and disposal of hazardous substances.

- b. **Will the proposal result in possible interference with an emergency response plan or an emergency evacuation plan, or will it result in improving such plans or capabilities?**

Yes     No    **If Yes, explain:**

The project will have fully trained and equipped mine rescue teams. Mine rescue teams will be trained in accordance with MSHA regulations and be available to respond to underground and surface fires, accidents, or medical emergencies. The operator will seek cross training opportunities and mutual aid agreements with local emergency response organizations and other mining operations. The project will always have skilled tradesmen onsite including electricians and mechanics.

## 9. Population

- a. **Will the project have a growth-inducing effect on the community?**

Yes     No    **If Yes, describe in detail:**

The project will not result in direct or indirect growth-inducing effect on the local community. The project will employ approximately 300 people during full operations. The current population of Nevada County is approximately 100,000 people. This level of employment would not result in a substantial increase in the population of Nevada County and result in the need for additional housing, public infrastructure, emergency services, or other direct growth effects.

Utility infrastructure installed as a result of the Project would be limited to the proposed electrical transmission line that would provide power to the Project. The transmission line would be sized to meet the anticipated power requirements of the Project and would not provide a new source of electricity that would indirectly induce growth in surrounding areas through the removal of a barrier associated with inadequate electrical supply infrastructure.

Any required off-site roadway improvements would be intended solely to off-set any traffic impacts of the project, provide safe access and achieve acceptable levels of service for existing and future projected traffic volumes. The improvements would not remove a barrier to growth or otherwise induce growth.

Additional off-site roadway improvements are required to achieve acceptable levels of service within the region as a result of regional growth both with and without the Project.

- b. Could the project alter the location, distribution, or displacement of the human population of the area?**    Yes       No      **Explain:**

The project does not propose any land uses that would remove or require changes in the location of surrounding residences or businesses. All aboveground project facilities will be located on property owned by Rise. Access to the site would be provided by public roadways.

- c. How many new permanent residences will the project generate?**

None.

## 10. Housing

- a. Will the proposal effect existing housing, or create a demand for additional housing?**

Yes       No      **Explain:**

See response 9a above.

## 11. Traffic / Roads

- a. Describe the proposed access to the project:**

The Brunswick site main access will be from an existing driveway on Brunswick Road. An existing driveway from East Bennett Road will be used as an exit for large trucks turning right towards Brunswick Road and for emergency access.

The Centennial site will be accessed from a new driveway from Whispering Pines Lane.

A traffic impact analysis report, prepared by KD Anderson & Associates, Inc. Transportation Engineers, will be submitted before the end of December 2019.

- b. Will the project involve off-site hauling of: (ANSWER YES OR NO)**

1. Exploration samples:      No
2. Sand:      Yes
3. Aggregate:      Yes
4. Ore:      No
5. Waste:      No

6. Other mined material, specify: Gold Concentrate

If Yes, specify:

|   | Peak<br>(one-way trips) | Average<br>(one-way trips) |
|---|-------------------------|----------------------------|
| 1. Number of one-way truck trips per day:             | 210                     | 102                        |
| 2. Number of one-way truck trips per week:            | 1470                    | 714                        |
| 3. Number of one-way truck trips on weekend (2-days): | 420                     | 204                        |

4. Hours of hauling activities:

- a) Weekdays: 6:00am – 10:00pm
- b) Weekends: 6:00am – 10:00pm

5. Volume of material, and daily, and total amounts:

| Material Type    | Daily Amount<br>(tons per day) | Annual Amount<br>(tons per year) |
|------------------|--------------------------------|----------------------------------|
| Gold Concentrate | 20 tpd                         | 7,300 tpy                        |
| Sand Tailings    | 480 tpd                        | 175,200 tpy                      |
| Barren Rock      | 500 tpd                        | 182,500 tpy                      |

6. Size haul trucks: 20-tons

A traffic impact analysis report, prepared by KD Anderson & Associates, Inc. Transportation Engineers, will be submitted before the end of December 2019.

**c. Will the project involve the transportation of off-site material to this site?**

- Yes     No    **If Yes, specify:**

**d. Describe existing and proposed on-site and off-site road improvement:**

| 1. On-site: | Existing | Proposed |
|-------------|----------|----------|
| Width:      | N/A      | 25 ft    |
| Surface:    | N/A      | Asphalt  |
| Name:       | N/A      | None     |

| 2. Off-site: | Existing  | Proposed |
|--------------|---|----------|
| Width:       | County/City Roads                                       | N/A      |
| Surface:     | Asphalt   | N/A      |
| Name:        | Brunswick<br>East Bennett Road<br>Whispering Pines Lane | N/A      |

## 12. Public Service

**Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:**

The project site is within the boundary of the various public services listed below and therefore already covered by their services. The project would not result in a new or altered need. The following table provides a list of the public services that service the project site or include it within their service boundary.

| Service                              | Service Provider  |
|--------------------------------------|---|
| Fire District                        | Ophir Hill and Nevada County Consolidated                         |
| Sheriff Department                   | Nevada County Sheriff   |
| School District                      | Union Hill and Grass Valley                                       |
| Closest School                       | Union Hill Elementary Charter School and Union Hill Middle School |
| Park, Campground, or Recreation Area | Empire Mine State Park  |
| Solid Waste                          | Waste Management of Nevada County                                 |
| Medical                              | Sierra Nevada Memorial Hospital                                   |

**a. Fire Protection? Agency supplying protection:** Ophir Hill & Rise Grass Valley Inc.

Yes     No    **If Yes, explain:**

The project will have fully trained and equipped mine rescue teams. Mine rescue teams will be trained in accordance with MSHA regulations and be available to respond to underground and surface fires, accidents, or medical emergencies. The operator will seek cross training opportunities and mutual aid agreements with local emergency response organizations and other mining operations.

**b. California Highway Patrol and Sheriff Department Law enforcement protection?**

Yes     No    **If Yes, explain:**

The Brunswick site will be fenced, gated, and have private security onsite.

**c. Schools? Which school districts?**

Yes     No    **If Yes, explain:**

**d. Federal, State, local or private parks, campgrounds or recreation facilities?**

Yes     No    **If Yes, explain:**

**Distance from and location of nearest such facility and name:**

Not Applicable

**e. Maintenance of public facilities including roads?**

Yes     No    **If Yes, explain:**

**f. Social Services?**

Yes     No    **If Yes, explain:**

**g. Solid waste facilities?**

Yes     No    **If Yes, explain:**

**Method of trash and industrial waste disposal:**

Dumpsters for regular trash disposal and recycling to be onsite and leased from and picked up by Waste Management Inc.

Hazardous chemical disposal (waste oils etc.) disposed as per local, state, and federal requirements by qualified and licensed contractors.

**Mine operator hauling to landfill:**

As necessary, waste from project operations may be hauled to the Ostrom Road landfill in Yuba county or another similar facility.

**Garbage service (specify which):**

Waste Management Inc.

**Destination:**

Waste Management Inc.

**h. Medical facilities:**

Yes     No    **If Yes, explain:**

**i. Other Services Required:**

None

**13. Energy**

**a. Will the project result in a substantial increase in the demand upon existing sources of energy, or require the development of new sources of energy?**

Yes     No    **If Yes, explain:**

**b. Source of power:**

**1. Public/private utility company:**

Pacific Gas and Electric Company.

A Will Serve Letter from PG&E has been included in Appendix B of this application.

**2. Generator: (specify diesel/gas, size, quantity, etc.)**

The Brunswick site will have four backup diesel-powered generators located in a generator building. Generators will have capacity to provide 6 MW on a continuous basis and Tier 4F emission ratings.

**3. Other: (explain)**

None

**14. Utilities**

**Will the proposal result in a need for new systems, or substantial alterations to the following utilities?**

**Communication systems?**     Yes     No    **If Yes, explain:**

**a. Source of domestic water:**

**Private well**

None

**Water District:**

Nevada Irrigation District (NID).

Rise Grass Valley has existing water accounts with NID for the various parcels that comprise the Brunswick Industrial Site.

**Other**

**b. Method of sewage disposal:**

The site evaluation for an on-site Pressure Dose sewage disposal system is detailed in a letter report, prepared by Navo & Sons, Inc., included in Appendix A of this application.

**c. Describe storm water drainage system (use exhibit)**

The storm water drainage system is described in a report included with this application:

*Hydrology and Hydraulic Calculations for the Preliminary Drainage Study & Detention Basin Sizing for Centennial and Brunswick Sites.* Nevada City Engineering. October 2019.

**15. Human Health**

**a. Will the project result in the creation of any health hazard or potential health hazard (excluding mental health)?**

Yes     No    If Yes, specify:

**Identify health hazards and define methods of control.**

A quantitative health risk assessment, prepared by Dudek, will be submitted before the end of December 2019.

**16. Aesthetics**

**a. How will the different project phases compare aesthetically with the surrounding area?**

An aesthetics report including an analysis and renderings from important public viewpoints, prepared by Benchmark Resources, will be submitted before the end of December 2019.

- b. **Will the project cause a change in scenic views from existing residential areas, or public lands or roads?**     Yes     No    **If Yes, describe in detail nature of change and duration.**

## 17. Cultural Resources

- a. **Are there any sites of historical, archeological or paleontological interest on the subject property?**     Yes     No     Don't know    **If Yes, explain:**

Any potential sites of interest are described in the survey report included with this application:

*Cultural Resources Survey Report for the Idaho-Maryland Mine Project.* InContext Cultural Resources Solutions. October 2019.

### **Source of information:**

*Cultural Resources Survey Report for the Idaho-Maryland Mine Project.* InContext Cultural Resources Solutions. October 2019.

- Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure or object?**     Yes     No    **If Yes, explain:**

The Cultural Survey Report identifies several potential items of interest which may be impacted by the project.

A comprehensive report on impacts to potential sites of interest is being prepared by Incontext Cultural Resources Solutions and will be submitted before the end of December 2019.

## 18. General

- a. **As a result of the project, how many local people will be employed?**

The project will employ an estimated 312 persons during full mine operations, the majority of which would be local to Nevada County.

- b. **What effect will the project have on the local tax base?**

The project is expected to have a positive effect on the local tax base.

- c. **What is the relationship of this project to a larger or future project?**

None

- d. **Identify State or Federal agencies that require permits, leases or licenses, and the type to be issued:**

**POTENTIAL PERMITS AND APPROVALS FOR THE IDAHO MARYLAND MINE PROJECT**

| Agency/Department                         | Permit/Authorization   | Required For   |
|---|--|--|
| <b>FEDERAL AGENCIES</b>                   |  |  |
| Army Corps of Engineers                   | Individual/Nationwide Section 404 Discharge Permit (Clean Water Act, 33 USC 1341)                            | Dredge/fill into “waters of United States”   |
| Fish and Wildlife Service                 | Biological Assessment, Section 7 Consultation, Biological Opinion (Endangered Species Act, 16 USC 1531-1544) | Activity where there may be an effect on federally regulated species   |
|   |  | Activity where incidental take of federally listed species anticipated   |
| Advisory Council on Historic Preservation | Section 106, (National Historic Preservation Act, 16, USC 470); Designation survey, determination of effort  | Potential impacts to historic, architectural, archeological, or cultural characteristics of properties that qualify to meet National Register Criteria (State Historic Preservation Officer responsible for administration) Note: Also refer to National Natural Landmarks Program (36 CFR 62) and National Historic Landmarks Program (36 CFR 65) |
| Bureau of Alcohol, Tobacco, and Firearms  | Purchase, Storage, or Transportation of Explosives Permit (27 CFR 55)  | Purchase and/or transporting explosives across a state line. Storage requirements apply to all persons storing explosives.   |
| Mine Safety and Health Administration     | Notice of Commencement of Operations   | Notice of the ownership and location of the mine   |
|   | Emergency Fire, Evacuation, and Rescue Plan  | Potential emergency situation plans required for Surface operations  |
|   | Legal Identity Report  | Reporting the type of operation, location and ownership  |
|   | Record of Inspection of Self-Propelled Equipment   | Records, on self-propelled equipment must be maintained for six months and be available to inspectors  |
|   | Record of Testing the Resistance of Electrical Ground System   | Recording the test required annually and after installation, repair, or medication of the electrical ground systems  |
|   | Miner Training Program   | Mine safety training programs educating workers  |
|   | MSHA Identification Number   | Tracking all mine sites  |
| <b>STATE AGENCIES</b>                     |  |  |
| Regional Water Quality Control Boards     | General Construction Activity Stormwater Permit; Notice of Intent (40 CFR Part 122)                          | Stormwater discharges associated with construction activity  |

| Agency/Department   | Permit/Authorization   | Required For  |
|---|--|---|
|   | National Pollutant Discharge Elimination System Permit (33 USC 1251 <i>et seq.</i> )   | Discharge of waste into surface waters of California  |
|   | Water Discharge Permit (Water Code 13000 <i>et seq.</i> )  | Discharge of wastewater that may affect groundwater quality   |
| State Water Resources Control Board Division of Water Rights        | 401 (Water Quality) Certification (Clean Water Act, 33 USC 1251: if the project requires Army Corps of Engineers 404 permit) | Discharge into "water of the United States" including wetlands  |
|   | General Industrial Activity Stormwater Permit. Notice of Intent (40 CFR Part 122)  | Stormwater discharges associated with industrial activity, unless covered by individual NPDES Permit  |
|   | Spill Prevention Control and Countermeasures Plan. (Health and Safety Code 25270 <i>et seq.</i> ; 40 CFR Part 112.)          | Underground storage of petroleum of 42,000+ gallons. Above ground storage with 10,000+ gallons; or any spill affecting surface waters, single tank of 600 gallons or 1320 total |
| State Office of Historic Preservation                               | Section 106, National Historic Preservation Act (16 USC 470; 36 CFR 62; 36 CFR 65).  | Avoidance of historic, archaeological, or cultural characteristics of properties that meet National Register Criteria   |
| California Department of Fish and Wildlife                          | Lake/Streambed Alteration Agreement  | Substantial alteration of the bed or bank of river, stream, or lake (includes road or land construction across a natural streambed)   |
|   | Incidental Take Permit   | For take of any species listed under the California Endangered Species Act ("CESA")   |
| California Occupational Safety and Health Administration (Cal-OSHA) | Annual permit  | Construction/demolition of any structure over 3 stories   |
|   | Construction permit  | Worker safety/health  |
|   | Underground Diesel Permit  | Underground use of diesel engines   |
| Northern Sierra Air Quality Management District                     | Authority to Construct (Local district rules, per Health and Safety Code 42300 <i>et seq.</i> )                              | Constructing, modifying or operation a facility or equipment that may emit pollutants from a stationary source  |
|   | Permit to Operation (Local district rules)   | Operation equipment that may emit pollutants from a stationary source   |

## CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements and information presented are true and correct to the best of my knowledge and belief.



Benjamin Mossman  
President, Rise Grass Valley Inc.

Signature of Applicant or  
Authorized Representative

18 November 2019

Date

# **APPENDIX A**

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## **NAVO & SONS, INC. ON-SITE SEPTIC SITE EVALUATION**

**NAVO & SONS, INC.**

PO Box 975  
815 Idaho-Maryland Rd.  
Grass Valley CA 95945

"Your Septic System Specialist"

530 273-2964

530 885-6066

916 652-7665

www.navo.com

October 28, 2019

Rise Grass Valley Inc.  
Atten: Tessa Brinkman  
PO Box 271  
Grass Valley, CA 95945

Reference: 12791 Brunswick Rd.  
APN: 006-441-005

Dear Tessa,

We have completed our site evaluation for the referenced parcel. This work was performed to create a sewage disposal area for this commercial project. 8 soil test pits were excavated by others on October 17, 2019 and witnessed by the Nevada County Environmental Health Department. This site is suited for a Pressure Dose sewage disposal system around soil test pits 1, 2, 3, 4, 5, 6, 7 & 8. Enclosed are copies of the soil test pit log, percolation sheet, and site drawing.

The average percolation rate around the soil test pits 1 through 8 is 26 mpi.  
Average perc rate = 26 mpi

The gallonage is for calculations is based upon (2) 12 hr shifts with 67 people per shift and UPC code 67 people/shift x 35 gals/person (showers) = 2345 gallons / 12 hrs shift x 2 shifts = 4690 gals per day

Also 40 people during the day shift without showers are at 15 gals/person = 600 gals per day

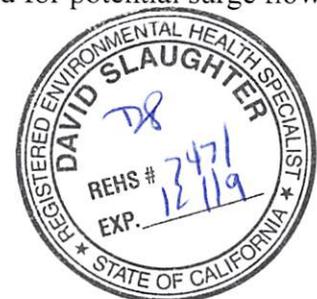
Commercial washing machines @ 23 gals per 8 coveralls per use.  
8 loads per shift x 2 shifts = 400 gals per day

Total gallons calculated 5690 gals per day

$$\text{Application rate} = 5 / \sqrt{26} = .98 \text{ gal / ft}^2 / \text{day}$$
$$5690 \text{ gal / day} / .98 \text{ gal / ft}^2 / \text{day} = 5806 \text{ ft}^2$$

5806 ft<sup>2</sup> / 3 ft / L.F. = 1935 L.F. of Pressure Dose leach line for this commercial system and it will require the same amount (1935 lineal feet) will need to be reserved for 100% repair area. The available area is over 35,000 sq ft based upon the perc and mantle results.

Therefore a minimum of 1935 lineal feet of Pressure Dose sewage disposal leach line is required for this 4 zone commercial system. Leach lines shall be installed 36" wide by 24" deep, with 12" of drain rock and 7-foot separation on center per line, installed level on contour. Also a minimum 10,000-gallon septic tank with watertight risers over each lid and outlet effluent filter is required for this pressure dose system with a 10,000 gallon pump tank. The pump tank is oversized to accommodate for power loss and for potential surge flow in the future.



Based upon the above calculated gallonage, the size of the septic would be 8,000 gals. To mitigate potential backups, overflows, ect (from power outages), we are recommending 10,000 gal septic tank and 10,000 gallon pump tank. This will create a 12 hr buffer in which operation and flows can continue without power before high water alarms are triggered.

I recommend pumping these large tanks at this commercial facility a minimum of annually. I would highly recommend the tanks be checked every six months to monitor solids in the septic and pumping when the reach 25% of the tank.

Because this septic system is a commercial system and pressure dose the following will be required:

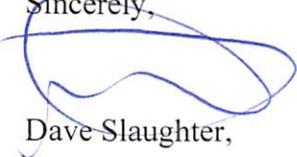
- 1) The leach will be pressure dosed leach lines consisting of a minimum of 4 zones (most likely 6) This rotation of zones not only allows these zone to rest in between doses. It also prevent over saturation of any one zone. Also if one zone has a problem, it could be isolated and repairs while the other zones are working. This will not only result in less to no downtime, but greatly reduce the possibility of sewage spills (surfacing). Also duplex (2) pumps will be used in the pump tank. If one fails, there is a backup. These pumps will alternate to extent their life, unless one fails.
- 2) The distance from the future shower and laundry area to the leach field is between 1800 to 2000 feet with approximately a 130' rise in elevation to the leach field. This pump line (2") will be running through a low area up gradient from potentially sensitive areas. Although the area are well over 500-1000 feet downhill, this pump line shall be sleeved in this low area to mitigate potential issues if this line were to rupture.
- 3) During installation, it is our recommendation and practice to leave as many trees as possible for a number of reasons.
  1. Removing trees means creating large holes in the leach area, and this is not preferred
  2. Trees help stabilize soil but too many tree roots can clog a leach field.
  3. Vegetation can help absorb leaching effluent (natures water filter)
- 4) All Setbacks shall be maintained
  1. 10' setback from developed property lines
  2. 50' setback from undeveloped property lines
  3. 50' setback from seasonal drainages
  4. 25' from enter line of swales (no established drainage channel)
  5. 100' from any perennial streamed or domestic wells.
- 5) This Pressure Dose septic system requires annual maintenance for the life of the system.
- 6) This septic system should be installed by a licensed contractor (A, C-34, or C-42). Preferably familiar with installation of this system. This report in not a construction permit. A permit to install this system must be obtained from the Department of Environmental Health.
- 7) The pump screen should be removed and rinsed off every year. Also the pump, pump float, alarm float, and alarm should be checked for proper operation yearly.

- 8) The primary and 100% repair area must be protected from vehicular traffic, corrals, animal enclosures, stables, structures, below or above ground pools, or any other activity that causes alterations such as grading, cuts/fills, etc. Failure to do so may void this report.
- 9) Please note that all drainage should be diverted away from the septic tank, pump tank, and leach field. Irrigation in the area of the leach trenches should be kept to a minimum to avoid saturating the soil. Drip irrigation should be used.
- 10) Also we recommend water conservation should be enlisted for water use to maximize the life expectancy of the absorption trenches. Also take care of any leaks immediately to avoid unnecessary saturating of the leach trenches.

If any additional area for sewage disposal is requires in the future, the surrounding area to the North, South, East and West looks contiguous to the sewage disposal area. More testing may or may not be required should the need arise. Every mantle but mantle 7 were almost identical in depth, color, texture, and percs. #7 has slightly higher rock content but still met minimum standards.

If any other pertinent information is required, please feel free to contact me at the office 530-273-2964. Thank you for this opportunity to work with you.

Sincerely,



Dave Slaughter,

REHS #7471

*Enclosed*

|                                     |   |                                 |   |                           |    |
|-------------------------------------|---|---------------------------------|---|---------------------------|----|
| <i>Percolation Data Sheet</i> ..... | 4 | <i>Soil Test Pit Logs</i> ..... | 7 | <i>Site Drawing</i> ..... | 9  |
| <i>Soil Test Pit Logs</i> .....     | 5 | .....                           | 8 | <i>Site Drawing</i> ..... | 10 |
| <i>Soil Test Pit Logs</i> .....     | 6 | <i>Soil Test Pit Logs</i> ..... | 8 | <i>Site Drawing</i> ..... | 11 |



*Percolation Data Sheet*

Job Address: 12791 Brunswick Rd.

APN: 006-441-005

|   | Perc Hole #1    |                  |      | Perc Hole #2    |             |      | Perc Hole #3    |                  |      |
|---|-----------------|------------------|------|-----------------|-------------|------|-----------------|------------------|------|
|   | Time            | Depth: 30 "      |      | Time            | Depth: 30 " |      | Time            | Depth: 30 "      |      |
| 1   | 7:35AM          | 36.00            | Drop | 7:35AM          | 36.00       | Drop | 7:35AM          | 36.00            | Drop |
| 2   | 7:45AM          | 33.00            | 3.00 | 7:45AM          | 34.50       | 1.50 | 7:45AM          | 34.00            | 2.00 |
| 3   | 7:55AM          | 31.50            | 1.50 | 7:55AM          | 33.50       | 1.00 | 7:55AM          | 33.00            | 1.00 |
| 5   | 8:05AM          | 30.75 R<br>36.00 | 0.75 | 8:05AM          | 32.75       | 0.75 | 8:05AM          | 32.25            | 0.75 |
| 6   | 8:35AM          | 34.50            | 1.50 | 8:35AM          | 30.50       | 2.25 | 8:35AM          | 30.25 R<br>36.00 | 2.00 |
| 7   | 9:05AM          | 33.00            | 1.50 |                 |             |      | 9:05AM          | 34.00            | 2.00 |
| 8   |                 |                  |      |                 |             |      |                 |                  |      |
| 9   |                 |                  |      |                 |             |      |                 |                  |      |
|   | Perc Rate (MPI) |                  | 20   | Perc Rate (MPI) |             | 13.3 | Perc Rate (MPI) |                  | 15   |
| Average Perc Rate using correction factor 1.59 = 26.0 MPI |                 |                  |      |                 |             |      |                 |                  |      |

(r) = Percolation test holes are refilled between each reading

Test Date: October 18, 2019  
Test Conducted By: Dave Slaughter

These percolation tests were performed under the guidelines set forth in Nevada County Sewage Disposal Technical Regulations. The statements made above are true and testing was conducted under the supervision of an Environmental Health Specialist.

NEVADA COUNTY SOIL TEST-PIT LOG

Test Date: 10-11-19 Page 1 of 4

Parent Rock Type: V (G) MS A Other Consultant: D. Staughter ES Fauder Farms

SOIL PIT# 1 1st HORIZON Depth: 0 to 28
Slope: 16% Aspect: SW
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color: 2.5YR 4/4
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many v f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # , Horizon #

2nd HORIZON Depth: 28 to 64
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color: 5YR 5/6
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many v f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # , Horizon #

3rd HORIZON Depth: 64 to 92
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color: 7.5YR 5/8
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many v f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # , Horizon #

4th HORIZON Depth: to
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many v f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # , Horizon #
Effective Soil Depth: 120 Groundwater

Consultant Signature [Signature]

Nevada County Staff Signature [Signature]

SOIL PIT# 2 1st HORIZON Depth: 0 to 32
Slope: % Aspect:
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many v f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # , Horizon #

2nd HORIZON Depth: 32 to 56
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many v f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # , Horizon #

3rd HORIZON Depth: 56 to 72
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many v f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # , Horizon #

4th HORIZON Depth: to
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many v f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # , Horizon #
Effective Soil Depth: 72 Groundwater

APN 006-441-005 JOB # 2419-0437
Notes:

NEVADA COUNTY SOIL TEST-PIT LOG

Test Date: 10-7-77

Page 2 of 4

Parent Rock Type: V (G) MS A Other Consultant:

ES Z. Karim

SOIL PIT# 3 1st HORIZON Depth: 0 to 27
Slope: 10% Aspect: S
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 1

2nd HORIZON Depth: 27 to 52
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 2

3rd HORIZON Depth: 52 to 72
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 3

4th HORIZON Depth: to
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon #
Effective Soil Depth: 72 Groundwater

Consultant Signature
Nevada County Staff Signature
Nevada County Soil Log 1 Revised 6-25-01

SOIL PIT# 4 1st HORIZON Depth: 0 to 22
Slope: 11% Aspect:
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon #

2nd HORIZON Depth: 22 to 39
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 2

3rd HORIZON Depth: 39 to 72
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 3

4th HORIZON Depth: to
Texture: s ls sl sc scl l c cl sic sicl sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon #
Effective Soil Depth: 72 Groundwater

APN 006-41-005 JOB # E419-0437
Notes:

Parent Rock Type: V (G) MS A Other Consultant: DS

ES Karim

SOIL PIT# 5 1st HORIZON Depth: 0 to 24
Slope: 17% Aspect: SE
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 1

2nd HORIZON Depth: 24 to 58
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 2

3rd HORIZON Depth: 58 to 72
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 3

4th HORIZON Depth: to
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon #
Effective Soil Depth: 72 Groundwater

Consultant Signature
Nevada County Staff Signature
HighForm Soil Log 1 Revised 6-25-01

SOIL PIT# 6 1st HORIZON Depth: 0 to 27
Slope: 16% Aspect: SE
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 1

2nd HORIZON Depth: 27 to 74
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 2

3rd HORIZON Depth: to
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon #

4th HORIZON Depth: to
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon #
Effective Soil Depth: 72 Groundwater

APN 006-441-005 JOB # EA19-0497
Notes:

NEVADA COUNTY SOIL TEST-PIT LOG

Test Date: 10-17-19

Page 4 of 4

Parent Rock Type: V G MS A Other Consultant:

ES : Z. Karim

SOIL PIT# 7 1st HORIZON Depth: 0 to 20
Slope: 16% Aspect:
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 1

2nd HORIZON Depth: 20 to 60
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES: interm. part. beds consolidated weathered rock

Same as SOIL PIT # 1, Horizon # 2

3rd HORIZON Depth: 60 to 72
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES: pockets weathered rock

Same as SOIL PIT # 1, Horizon # 3

4th HORIZON Depth: to
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 4
Effective Soil Depth: 72 Groundwater

Consultant Signature Zander
Nevada County Staff Signature Zander
HighForm Soil Log 1 Revised 6-25-01

SOIL PIT# 8 1st HORIZON Depth: 0 to 19
Slope: % Aspect:
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 1

2nd HORIZON Depth: 19 to 25
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 2

3rd HORIZON Depth: 25 to 72
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

Same as SOIL PIT # 1, Horizon # 3

4th HORIZON Depth: to
Texture: s ls sl sc scl l c cl sic sid sil si DRX IWRX MWRX DG
Rock Fragments: gravel % cobble % stone %
Color:
Redoxymorphic Features: none few common many
RC color RD color RM color
Structure: gran platy block prism f m c single grain massive
Soil Pores: none few common many f m c inters tubular
Moist Consistence: l vfr fr f vf ef
Plasticity: np sp mp vp Stickiness: ns ss ms vs
Roots: none few common many vf f m c
Boundary: Distinctness: a c g d Topography: s w i b
Moisture: dry moist wet saturated
NOTES:

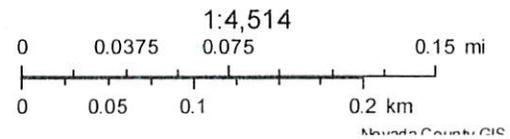
Same as SOIL PIT # 1, Horizon # 4
Effective Soil Depth: 72 Groundwater

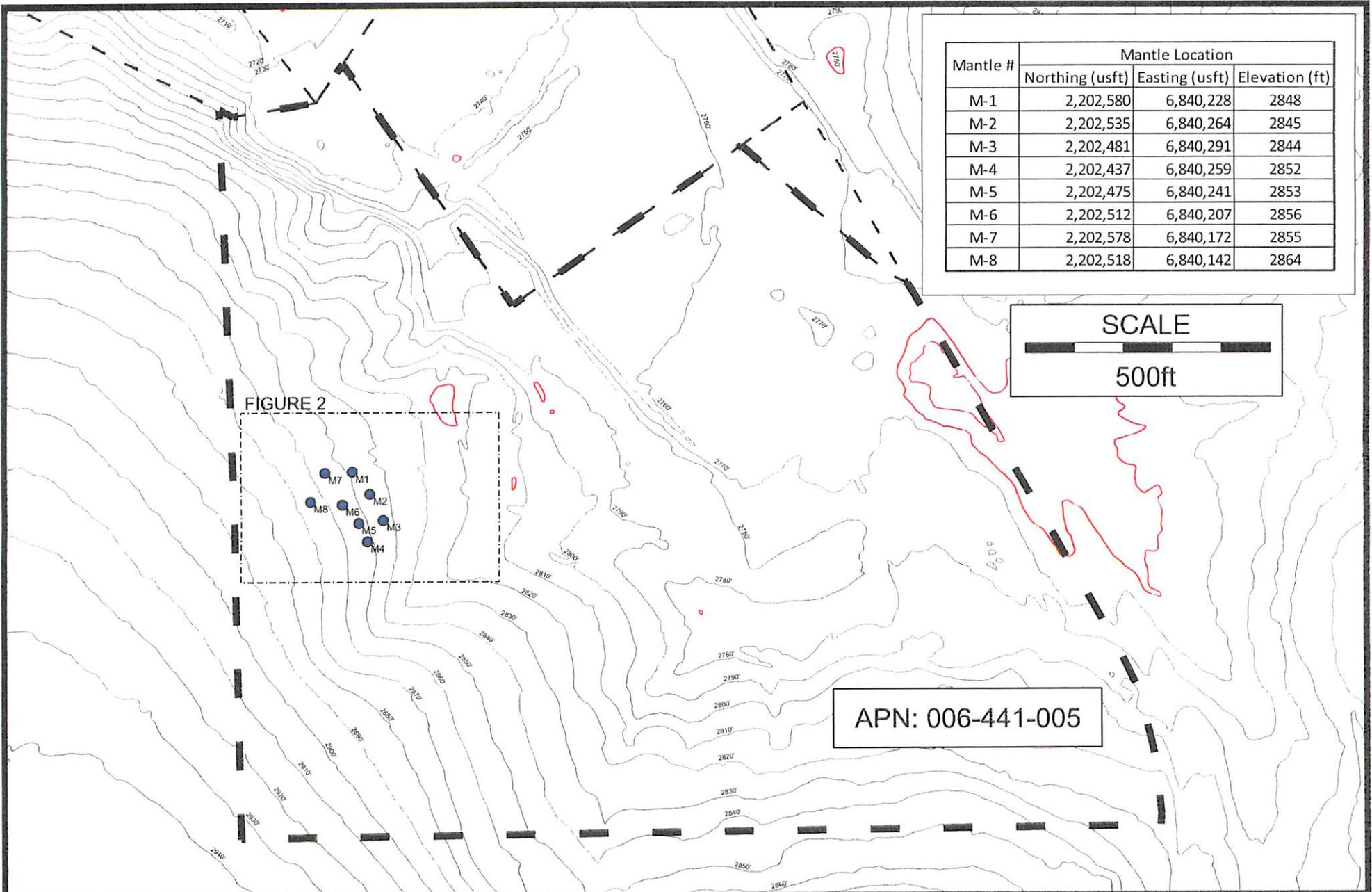
APN 006-441-008 JOB # EN19-0437
Notes:

# Nevada County, CA



October 28, 2019





| Mantle # | Mantle Location |                |                |
|----------|-----------------|----------------|----------------|
|          | Northing (usft) | Easting (usft) | Elevation (ft) |
| M-1      | 2,202,580       | 6,840,228      | 2848           |
| M-2      | 2,202,535       | 6,840,264      | 2845           |
| M-3      | 2,202,481       | 6,840,291      | 2844           |
| M-4      | 2,202,437       | 6,840,259      | 2852           |
| M-5      | 2,202,475       | 6,840,241      | 2853           |
| M-6      | 2,202,512       | 6,840,207      | 2856           |
| M-7      | 2,202,578       | 6,840,172      | 2855           |
| M-8      | 2,202,518       | 6,840,142      | 2864           |

SCALE  
500ft

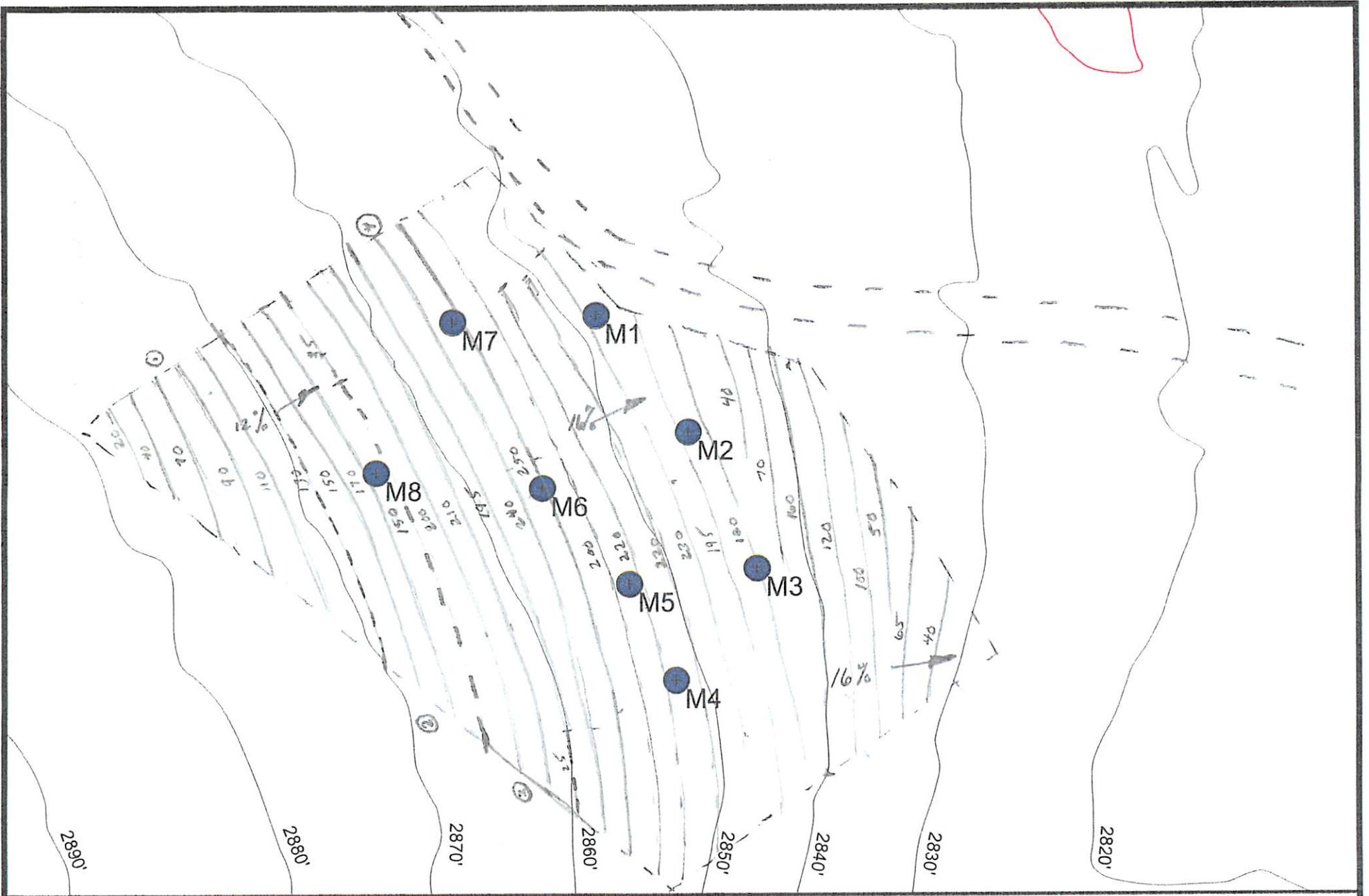
APN: 006-441-005

FIGURE 2



MANTLE NUMBER  
PARCEL BOUNDARY  
CONTOUR INTERVAL = 10FT

**FIGURE 1: MANTLE LOCATION SITE PLAN**  
 PROPERTY OWNER: RISE GRASS VALLEY INC.  
 APN: 006-441-005  
 SITE LOCATION: 12791 Brunswick Road  
 Grass Valley, CA 95945 USA



MANTLE NUMBER  
 PARCEL BOUNDARY  
 CONTOUR INTERVAL = 10FT  
 SCALE: 1" = 50ft

Approx. 38,000 FT<sup>2</sup>

**FIGURE 2: MANTLE LOCATION SITE PLAN 1"=50ft**

PROPERTY OWNER: RISE GRASS VALLEY INC.  
 APN: 006-441-005  
 SITE LOCATION: 12791 Brunswick Road  
 Grass Valley, CA 95945 USA

# **APPENDIX B**

---

## **PACIFIC GAS AND ELECTRIC COMPANY WILL SERVE LETTER**



**Pacific Gas and  
Electric Company™**

**WE DELIVER ENERGY.™**

November 5, 2019

Tessa Brinkman  
Rise Grass Valley, Inc.  
333 Crown Point Circle, Suite 215  
Grass Valley, CA 95945

**Re: Idaho-Maryland Project**  
**APN: 09-630-37, 09-630-39, 06-441-03, 06-441-04, 06-441-05, 06-441-034**  
**Application Number: 117751473**  
**Project Management Number(s): Pending**

To whom it may concern,

This letter is confirmation that PG&E has an application on file requesting service to the Idaho Maryland Project located near East Bennett Street and Brunswick Road in Grass Valley. PG&E confirms there are electric facilities available to serve the proposed project in accordance with all applicable design standards, rules and tariffs on file with the State of California Public Utilities Commission and in accordance with any required land and environmental reviews.

This is to advise that financial arrangements have not yet been made with Pacific Gas and Electric Company for the installation of our facilities to serve Idaho-Maryland Project.

Please feel free to contact me for clarification or questions.

Thank you,

Lee Wells  
Senior New Business Representative  
Pacific Gas & Electric Company  
Grass Valley & Auburn Service Planning  
[lee.wells@pge.com](mailto:lee.wells@pge.com) ~ 530.320.3908