

## **Attachment C**

### **Monitoring and Reporting Program No. R1-2020-0001 For Waste Discharge Requirements For Discharges related to Green Diamond Resource Company's Forest Management Activities Conducted Within the Elk River Watershed in Humboldt County**

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code section 13267, subdivision (b) and requires GDRCo to implement the monitoring and reporting described below. The purpose of the MRP is to ensure that GDRCo complies with waste discharge requirements established by this Order, to track activities covered under the Order, and to provide information to help evaluate the effectiveness of the Order in protecting and restoring the beneficial uses of water and implementing TMDL hillslope water quality targets and numeric indicators and the zero load allocation. Therefore, the burden, including the costs of this monitoring and reporting, bears a reasonable relationship to the Regional Water Board's need for the reports and benefits to be obtained from the reports. The Regional Water Board has delegated its authority to the Executive Officer to revise, modify, and reissue the MRP.

#### **I. MONITORING**

##### **A. Roads**

GDRCo shall inspect all roads that are accessible by standard 4-wheel drive vehicle or ATV within the Upper Elk River according to the following schedule:

1. At least once annually between April 1 and October 15 to ensure that drainage structures and facilities are intact and fully functional, and to identify any active or imminent road-related failures of the road prism, cutbanks, or fills which can deliver sediment to streams, and identify and schedule any corrective action needed to control sediment discharge;
2. As soon as conditions permit following any storm event that generates 2.5 inches or more of precipitation in a 24-hour period.

##### **B. Non-road Sediment Sources**

Non-road controllable sediment discharge sources (e.g., failing skid trail crossings and watercourse diversions within timber harvest units) shall be inspected twice after treatment to evaluate the implementation and effectiveness of the completed treatment. One inspection shall occur prior to the winter period, and once following a full winter. If the site has stabilized and there is no reasonable potential for waste discharge in violation of the Basin Plan, no further monitoring of the site will be required.

If any minor maintenance issue, such as debris plugging or damage to waterbreaks, is identified following treatment, maintenance shall be conducted as soon as feasible prior to the next winter period.

If a major maintenance issue, such as fill failure resulting in significant sediment delivery or watercourse diversion, major maintenance shall be conducted as soon as feasible prior to the next winter period and the site shall be monitored for an additional year, once prior to the winter period, and once following a full winter.

C. Master Inventory

All sediment sources under the master inventory shall be inspected after treatment, once prior to the winter period (October 16) and once following the winter period (after May 14) to ensure that all prescribed management measures have been implemented, are functioning as designed, and that no new sediment sources have developed.

D. Road Related Sites after Completion of Master Inventory Treatments

Upon completion of all sites from the master inventory, inventory and treatment of any new road related sediment sources in the Elk River watershed shall be conducted pursuant to Green Diamond's Routine Road Maintenance Program (AHCP 6.2.3.9) and the Road Management WDR (Order R1-2010-0044).

E. Landslide Monitoring

The purpose of landslide monitoring is to determine if there are changes to the landslide pattern and delivery rate in the Elk River in response to land management activities and to identify new landslides that occur in the years between analyses.

1. The landslide inventory shall include the following:

- Unique identifier code
- Primary watershed name
- Sub-basin name
- Aerial photo year number and scale
- Feature type
- Reactivation status
- Landslide dimensions and volume
- Delivery percentage, volume, and certainty
- Watercourse class affected
- Aspect of hillslope
- Geomorphic association (i.e. inner gorge, headwall swale, planar slope, break in slope, vertical and horizontal/convex and concave slope, other unstable areas, etc.)
- Hillslope angle

- Proximity to watercourse
  - Land use history at point of initiation, upslope, and downslope (including harvesting and roading)
  - Field visit status
  - Stand age class at time of failure (under or over 15 years)
  - Geologic unit
  - Field observation notes
2. Location  
All GDRCo lands in the Elk River Watershed shall be inventoried.
3. Method  
Aerial photo review shall be coupled with a subsample of field inventories to locate and map landslide features. At a minimum, the landslide inventory shall occur every 3-5 years, subject to the availability of aerial photos.
- F. Water Quality Trend Monitoring**  
Data collection and analysis shall be conducted as outlined in the Standard Operating Procedures, and the Turbidity Threshold Sampling Quality Assurance Project Plan for McCloud Creek.
1. Parameters to be measured
    - Stage (m or feet)
    - Velocity (m/sec or ft/sec)
    - Streamflow (m<sup>3</sup>/sec or ft<sup>3</sup>/sec)
    - Turbidity (NTU)
    - Suspended sediment concentration (mg/L)
  2. Location  
The water quality monitoring station is located in McCloud Creek, tributary to South Fork Elk River. The station is situated on Humboldt Redwood Company property approximately 400 feet upstream of the confluence with South Fork Elk River and 2,200 feet downstream of GDRCo's property.
  3. Frequency  
Turbidity and stage will be measured simultaneously at 10-minute increments. Streamflow shall be measured at an interval to ensure that a wide range of all flows is measured and incorporated into the stage-streamflow relationships at the monitoring locations.

Sampling shall begin no later than October 1 annually. The monitoring shall continue each year until there has been a period of 30 continuous days of no rain, at least until May 15. If these conditions are not met, then turbidity monitoring may cease on June 30 for the remainder of the dry season.

**4. Analysis**

Informational items related to streamflow, turbidity, and suspended sediment concentration shall be developed by GDRCo according to hydrologic year, including rating curves for stage-streamflow, turbidity, streamflow-turbidity, and turbidity-suspended sediment relationships. These relationships shall be used to develop “finalized data” which represent stage, turbidity, and streamflow.

**II. REPORTING**

**A. Annual Harvest Reports**

By January 31 of each year, Green Diamond shall submit an Annual Harvest Report with a scaled map containing the following information for timber harvesting completed the previous calendar year and planned for the current calendar year:

1. Acres felled/to be felled, by silvicultural prescription
2. Acres yarded/to be yarded, by yarding technique
3. Acres subject to/to be subject to mechanical site preparation
4. Acres reported to the nearest acre, with the THP number, harvest unit number, and hazard class.
5. A brief description of the methods and/or data sources used to calculate the number of acres.

**B. Watershed Stewardship Report**

By January 31 of each year, GDRCo shall submit a report describing its participation in Elk River Watershed Stewardship. The report shall provide a brief description of its participation in meetings as well as its contributions supporting stewardship.

**C. Data Submission**

Upon request, Green Diamond must provide any records that must be kept under the conditions of the Order or this MRP.

**D. Master Inventory**

An updated copy of the master inventory maintained per the Order shall be submitted annually, by March 31, to the Regional Water Board and shall include

the status of the treatment for each site (i.e. completed, to be scheduled, year scheduled for treatment). Upon completion of corrective action at all the sites from the master inventory, maintenance and submission of the master inventory will not be required, and inventory and treatment of any new road related sediment sources in the Elk River Watershed shall be conducted pursuant to Green Diamond's Routine Road Maintenance Program and the Roads WDR (Order R1-2010-0044).

**E. Landslide Monitoring**

Green Diamond shall provide reports of landslide inventories by December 31 of the most recent photo flight year. If there is some technical reason limiting the ability to conduct the inventory and report by the due date, Green Diamond shall request an extension, in writing within 10 days prior to the due date, with the specific reasons described for the delay.

**F. Water Quality Trend Monitoring**

Green Diamond shall submit a report by November 1 each year containing all of the raw and processed data from the previous hydrologic year (October 1-September 30). The report shall include:

1. A description of the monitoring site
2. A list of equipment used in the collection of data
3. All raw and processed data in tabular form
4. Graphics and supporting data representing the relationships used in any data transformation
5. Complete disclosure of all possible sources of error
6. An activity log of monitoring activities at each sites and observations made by field staff.
7. The report shall also include an analysis of the data and discussion of findings.