WATER QUALITY MANAGEMENT AND MONITORING PLAN

Stagecoach Mountain Ranch On-Mountain Project

Prepared for:

Steamboat Sponsor, LLC

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SECTION 1: INTRODUCTION

This water quality management and monitoring plan ("Plan") will be implemented at the proposed Stagecoach Mountain Ranch ("SMR") ski area project. The proposed SMR mountain project will be located in Routt County, Colorado, in the vicinity of Stagecoach Reservoir and approximately 14.5 miles south of Steamboat Springs and approximately 5.5 miles east of Oak Creek.

SMR will be created on two separate properties in the Stagecoach area. The ski mountain property, generally referred to as the Stagecoach Ski Area includes approximately 5,149 acres on the northwest end of Green Ridge and the Stetson Ranch property, 892 acres of ranching land, fronting County Route 14, and situated along 2.1 miles of the Yampa River.

This proposed Plan focuses on the ski mountain property. The ski project management plan provides direction regarding the protection of water quality both during construction and long-term operation of the project. The monitoring component the mountain project provides for the collection of pre-operational water quality data that will ultimately be used to compare with results from continuing long-term water quality monitoring. Results generated by the monitoring component of the Plan will be used to evaluate the effectiveness of water quality control measures implemented for the on-mountain projects. These two components of the Plan are discussed in more detail below.

LRE Water, Inc ("LRE Water") has designed and implemented numerous water quality monitoring plans for ski areas in Colorado. Specifically, LRE Water designed and implemented two water plans for Copper Mountain Resort: (1) an on-mountain plan required by the U.S. Forest Service and (2) a long-term water quality monitoring program in conformance with the Copper Mountain Planned Unit Development Designation. This Plan was designed using the Copper Mountain on-mountain plan as a template and using the current layout of the proposed ski area to date. The Plan will be modified in the future if changes are made to the proposed design of the ski area, or any additional projects are added to the proposed development, and it is deemed appropriate.

SECTION 2: ON-MOUNTAIN WATER QUALITY MONITIONING PLAN

The on-mountain water quality plan focuses on the stream water quality monitoring portion of the ski area development. A more detailed construction management plan will be required and developed to ensure the appropriate measures are implemented to maintain stream health and the condition of the watersheds as well as utilize BMPs to protect water quality once a final ski area plan is developed and prior to any construction beginning. The potential impacts associated with proposed snowmaking, tree removal and terrain grading in the on-mountain watersheds will need to be mitigated. The following is a list of the Project Design Criteria (PDC) to be implemented that will maintain the overall condition of the watersheds:

Project Design Criteria Common to all Ski Area Projects on U.S. Forest Service Lands

- Prior to construction, clearly flag tree removal and grading limits.
- Avoid soil disturbing activities during periods of heavy rain or excessively wet soils.
- Make cuts, fills, and road surfaces strongly resistant to erosion.
- For projects involving excavation and/or grading, stockpile topsoil so that it may be used for revegetation projects.
- Ground disturbances adjacent to streams/wetlands should occur during baseflow conditions to protect water quality and minimize impacts to wetland soils/vegetation, and with sufficient time to revegetate before the winter season.
- For ground-disturbing activities near perennial and intermittent streams and ephemeral draws, connected disturbed areas (CDA) should be minimized by draining roads, road ditches, and other disturbed areas to undisturbed soils rather than directly to streams and ephemeral draws. Drainage from disturbed areas should be modified as necessary using natural topography, rolling dips, waterbars, ditch relief culverts, etc., to disconnect disturbed areas from streams.
- Excavated material should not be stored in the water influence zone (WIZ). The WIZ includes the geomorphic floodplain (valley bottom), riparian ecosystem, and inner gorge. The minimum horizontal width (from top of each bank) is 100 feet or the mean height of mature dominant late-seral vegetation, whichever is most. [1]
- Trail design would endeavor to avoid tree removal from the WIZ.
- Construction practices and operations should not introduce soils, debris, or other pollutants into streams, channels, swales, lakes, or wetlands. BMPs adequate for erosion and sediment control should be installed before ground-disturbing activities begin. All non-natural and non-biodegradable materials should be removed at the end of construction; natural or biodegradable materials may be left onsite unless otherwise directed by the USFS.
- Keep construction equipment out of streams, except if specifically authorized or if protected by 1 foot packed snow minimum. If construction equipment is required to access the stream channel SMR will obtain all necessary local, State, and Federal permits.

[1] Rocky Mountain Region (Region 2) Watershed Conservation Practices (WCP), Forest Service Handbook 2509.25 (2006).

- Where appropriate, revegetate disturbed terrain (including staging areas) immediately after completion of construction using approved, native seeds. Install temporary BMPs for sediment and erosion control until planted vegetation provides erosion control. Monitor and manage these areas for weeds.

- Where possible, utilize existing roads and trails to access construction sites.

- To the extent possible, avoid operating heavy equipment on slopes steeper than 30 percent.

Project Design Criteria for Design and Construction of Proposed New Roads

- Design and construct road(s) to avoid down-road flow and ponding by cross sloping road surface 2 to 4 percent. Out-slope or in-slope road surface according to USFS guidelines for the alignment gradient and type of use.

- Submit road grading and drainage plans for review and approval by the appropriate identity.

Project Design Criteria for Management of Snowmelt Runoff

- Evaluate construction of waterbars on new ski trails.

- Prepare, and regularly update, a mountain drainage management plan (DMP) to identify opportunities to disconnect CDAs and improve drainage conditions. Drainage improvements should include measures to:

    1. Improve/construct road ditches and cross drains to limit flow to ditch capacity and prevent erosion and failure. Install road-relief culverts or road waterbars at a spacing adequate for the road slope and ditch characteristics. Adhere to appropriate guidelines for recommended spacing between relief culverts.

    2. Drain roads, road ditches, and other disturbed areas to undisturbed soils rather than directly to streams and ephemeral channels. Drainage from disturbed areas should be modified as necessary using natural topography, rolling dips, waterbars, ditch relief culverts, etc. to achieve this goal.

    3. Design, implement, and maintain standard sediment control BMPs (e.g., sediment traps) at the discharge of road-side ditches and ski trail waterbars.

    4. Design, implement, and maintain standard erosion control BMPs (e.g., rock check dams, culvert outlet protection).

5. Prepare and implement a BMP inspection and maintenance program, to ensure BMPs are functioning as intended, determine if BMPs are to be repaired or replaced, remove accumulated sediment, etc.

2.1 WATER QUALITY MONITORING PLAN

The goal of the on-mountain water quality monitoring plan is to provide baseline and long-term water quality data for surface water conditions at the proposed ski area. Long-term monitoring results will be compared to baseline conditions to determine if mountain operations have had an impact on water quality of the streams in the vicinity of the mountain project.

2.1.1 SAMPLING METHODOLOGY

This section identifies the surface water sampling locations, selected parameters, frequency of tests, analytical techniques, the method of interpreting the results of the tests, and general program operation.

2.1.1.1 Sample Locations

Five sampling locations have been identified to evaluate pre-operational water quality and potential impacts to surface water. The monitoring station locations are shown in ***Figure 1***, attached.

2.1.1.2 Monitoring Frequency

The water quality monitoring plan has two time periods: Phase 1 consists of sample collection that will occur prior to the completion of the ski area and snowmaking occurs. Phase 2 will occur on an ongoing basis once the ski area is operational. Phase 1 data represents the baseline data and will be used to compare water quality results from the Phase 2 ski area operation.

1. Phase 1, Prior to the Operation of the Expanded Ski Area. SMR will initiate a pre-operational water quality sampling program. Water samples will be collected once or twice per month from January through December, with the goal of having 12 to 24 pre-operational samples.

2. Phase 2, Long Term Operation. The water quality monitoring schedule will be divided into two conditions: (1) monitoring during runoff conditions and (2) non-runoff conditions. The following is the water quality monitoring schedule:

    a. *Runoff Conditions (May-June):* a total of five samples will be collected within this 8-week period.

    b. *Non-runoff Conditions (July-April):* samples will be collected on a bi-monthly basis during this time period if there is sufficient flow to sample (i.e. a total of five samples).

2.1.1.3 Monitoring Parameters

SMR will conduct field and laboratory analysis on 24 different water quality parameters at each site. A list of the water quality parameters to be monitored is shown in ***Table 1***. All analysis of "non-field" measurements will be performed by a State of Colorado certified laboratory that follows accepted industry standards and quality assurance/quality control (QA/QC) procedures.

2.1.2 ANALYTICAL PROCEDURES

The analytical water quality results will be evaluated as follows: (1) The results will be compared to State water quality standards and (2) A comparison of the pre and post operational data collected at the sites.

2.1.2.1 Comparison to State Water Quality Standards

The analytical results will be compared to the regulatory limits established by the Colorado Water Quality Control Commission (WQCC), when applicable. These limits are published by the State in Regulation No. 33 – Classifications and Numeric Standards for Upper Colorado River Basin and North Platte River (Planning Region 12), which includes the Yampa River and tributaries within the project vicinity. Specifically, the water quality results will be compared to the following water quality standards tables:

- Segment COUCYA03 – All tributaries to the Yampa River, including all wetlands, from the source to above the confluence with the Elk River, except for specific listings in Segments 1 and 4-7.

If any of the water quality sampling results exceed the relevant water quality standard indicate that the elevated sample may be attributable to the ski area, the SMR will initiate a voluntary water quality mitigation plan, which is described in Section 3.

SECTION 3: MITIGATION PLAN

If any water quality sampling result exceeds the relevant water quality standard under the analytical protocol discussed above, SMR will implement the following mitigation procedures in an abundance of caution.

- Notify the Routt County Department of Environmental Health of the elevated sampling result within three days of receiving the analytical report from the laboratory.

- Implement supplemental water quality sampling. If elevated sampling results are detected, SMR will implement a voluntary supplemental monitoring program that will involve weekly sampling of the station(s) where the elevated sampling result was detected. Only parameter(s) which were above the regulatory limits will be analyzed weekly and will continue to be monitored until the parameter(s) drop below the allowable limit.

- Consult with the Routt County Department of Environmental Health to determine the appropriate mitigation action(s) that will decrease concentrations of the relevant parameter. Such action might include reducing or eliminating the use of the compound(s) in question.

A supplementary report will be filed with the County detailing the elevated sampling result, mitigation measures, and results.

SECTION 4: ANNUAL REPORT

A water quality summary report will be prepared annually and submitted to the necessary agencies by October 31st of each year. The report will present summaries of the data collected during the previous year (October – September) and will compare such data to State water quality standards and the baseline monitoring results.

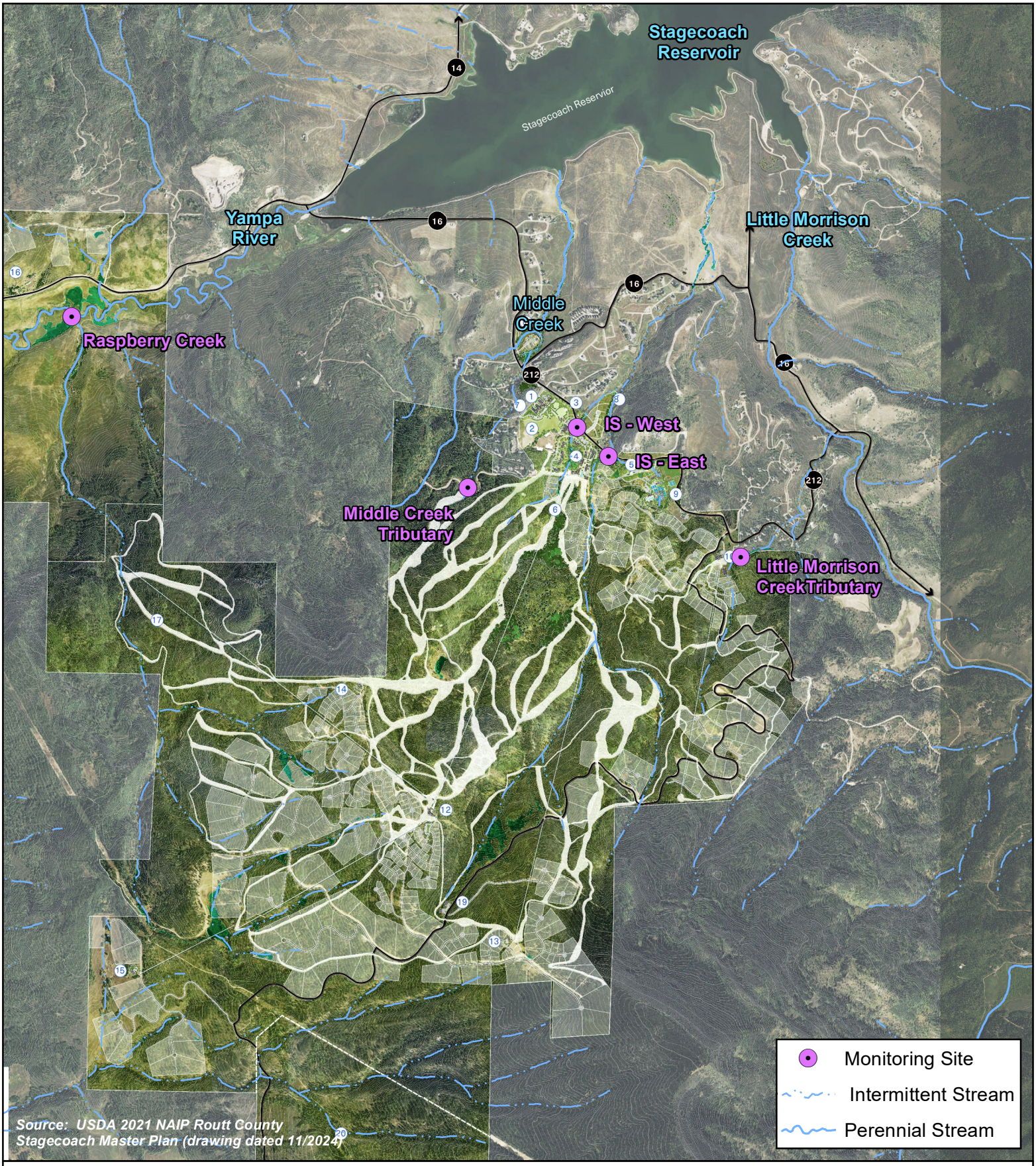

Figure 1

Surface Water Monitoring Site Locations
Stagecoach Mountain Ranch Proposed On-Mountain Project

LRE WATER

Feet

0 1,700 3,400 6,800

Date: 2024-11-20
File: 21679
Drawn: ABS
Approved: ABS

Table 1
Baseline and Operational Water Quality Parameters
SMR Mountain Project

	Analyte	Phase	Units
	Trace Metals		
1	Copper	Diss. & Total	mg/l
2	Iron	Diss. & Total	mg/l
3	Lead	Diss. & Total	mg/l
4	Cadmium	Diss. & Total	mg/l
5	Manganese	Diss. & Total	mg/l
6	Zinc	Diss. & Total	mg/l
7	Arsenic	Diss. & Total	mg/l
8	Calcium	Diss. & Total	mg/l
	Inorganic and General Parameters		
9	Alkalinity	Dissolved	mg/l
10	Chloride	Dissolved	mg/l
11	Hardness	Dissolved	mg/l
12	Nitrogen, Ammonia	Dissolved	mg/l
13	Nitrogen, Nitrate	Dissolved	mg/l
14	Nitrogen, Nitrite	Dissolved	mg/l
15	pH	field & Lab	Units
16	Phosphorus, Ortho	Dissolved	mg/l
17	Phosphorus	Total	mg/l
18	Total Dissolved Solids	Filterable	mg/l
19	Total Suspended Solids	Nonfilterable	mg/l
20	Sulfate	Dissolved	mg/l
21	Conductivity	field	mmhos/cm
22	Temperature	field	ºC
23	Turbidity	field	NTU
24	Dissolved Oxygen	field	mg/l