

HEAVENLY MOUNTAIN RESORT EPIC DISCOVERY PROJECT

Volume II Draft EIR/EIS/EIS Appendices

SCH # 2013112051



California Regional Water Quality Control Board, Lahontan Region

2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150

Tahoe Regional Planning Agency

128 Market Street
P.O. Box 5310
Stateline, NV 89449

USDA Forest Service LTBMU

35 College Drive
South Lake Tahoe, CA 96150

August 2014

prepared by
Hauge Brueck Associates
2233 Watt Avenue, Suite 300
Sacramento, CA 95825

TABLE OF CONTENTS

VOLUME II - APPENDICES

Appendix 1-A – Scoping Summary Report	
Appendix 2-A – Adventure Peak Plans	
Appendix 2-B – East Peak Lake Basin Plans	
Appendix 2-C – Sky Meadows Basin Plans	
Appendix 3.1-A	Water Quality Compliance Data
Appendix 3.1-B	Heavenly Valley Creek Bioassessment Monitoring Data
Appendix 3.1-C	BMP Effectiveness Monitoring
Appendix 3.1-D	Revised CWE Restoration Program
Appendix 3.1-E	Cumulative Watershed Effects Modeling
Appendix 3.1-F	Sky Basin (Watershed CA-1) Erosion Assessment
Appendix 3.1-G	Mott Canyon (Watershed NV-1) Erosion Assessment
Appendix 3.5-A	Air Quality Modeling Tables
Appendix 3.6-A	Noise Terminology and Modeling Tables
Appendix 3.7-A	Transportation Data/Modeling Tables
Appendix 3.13-A	Forest Service Ski Area Recreational Opportunity Enhancement Act (SAROE) Consistency Review

APPENDIX 1-A

SCOPING SUMMARY REPORT

Heavenly Mountain Resort Epic Discovery Project

Scoping Summary Report

Introduction

The U.S. Department of Agriculture (USDA) Forest Service/Lake Tahoe Basin Management Unit (LTBMU), Tahoe Regional Planning Agency (TRPA) and Lahontan Regional Water Quality Control Board sought input regarding a proposal to expand summer uses at Heavenly Mountain Resort as part of the Epic Discovery Project. An environmental impact statement (EIS) and environmental impact report (EIR) will be prepared and circulated for comment before a decision is made.

The scoping (request for comments) period began on November 19, 2013 and ran until December 20, 2013. Public scoping included notification to local media outlets, scoping letters mailed or emailed to interested parties, and two public meetings held on December 4, 2013 at the TRPA Advisory Planning Commission and December 18, 2013 at the LTBMU.

In response to the scoping request, formal input was received from the following organizations and individuals on the dates indicated.

Name	Date
Skip Canfield – Nevada State Clearinghouse, State Land Use Planning Agency	December 23, 2013
Ben Fish	December 20, 2013
Joyce Dillard	December 19, 2013
Pete Fink	December 19, 2013
Clay Grub	December 17, 2013
Clay Grub	December 18, 2013
Christine Dobrowski	December 19, 2013
Eric Gerkin	December 15, 2013
Danso Gaymerah	December 17, 2013
Meghan Kelly	December 12, 2013
James McCray	December 12, 2013
Ed Stimach	December 12, 2013
Adam Anderson	December 13, 2013
Jeff Glass	December 5, 2013
Ellie Waller	December 4, 2013
Shari Malone	December 2, 2013
Cathy and Bob Cliff	December 2, 2013
Corine Noble	December 2, 2013
Kevin Joell	December 19, 2013
Elizabeth Harrison – Nevada State Lands	December 20, 2013
Bob Ward	December 20, 2013
Dave McClure	December 18, 2013
Peter Mauer, TRPA Advisory Planning Commission Member	December 18, 2013
Charlie Donahue, TRPA Advisory Planning Commission Member	December 18, 2013
Ellie Waller	December 18, 2013

Summary of Comments

Definitions

Comments related to National Forest System Lands were grouped into two groups: **1. Non-Significant Issues** and **2. Significant Issues**. A Description of each group is outlined below. Responses reflect how comments were incorporated and addressed in the decision document.

- **Non-Significant Issues** do not meet the Purpose and Need for the project; are outside the scope of the proposed action; are already decided by law, regulation, or Forest Plan; are not supported by scientific evidence; are addressed by project design features; or are addressed by additional information or clarification of the proposed action. Non-Relevant issues also represent opinions and statements which do not present problems or alternatives and include those comments that meet the Purpose and Need for the project but were considered in alternatives already studied and eliminated, or additional project design features were developed which reduced or eliminated the effects.
- **Significant Issues** meet the Purpose and Need for the project and are relevant because of the extent of the geographic distribution, the duration of effects, or the intensity of interest or resource conflict and therefore merit consideration for the development of an alternative to the proposed action.

As stated in the Notice of Preparation/Notice of Intent, the purpose and need of the Proposed Action is as follows:

As provided for in the Ski Area Recreational Opportunity Enhancement Act of 2011, Heavenly proposes to improve year-round recreation opportunities within the developed portions of the ski area on National Forest System lands using existing facilities and infrastructure to meet the expanding needs and expectations of visitors to Lake Tahoe, better support the year-round local economy in South Lake Tahoe area, connect a diverse group of visitors to our national forest with recreation and educational opportunities to further inspire passion and excitement for the outdoors.

Comments

Comments received are categorized based on their relevance to the Project (see definitions above) and organized based on issue areas, including issues surrounding recreational uses, scenic quality, biological resources, air quality and transportation. A number of fully supportive comments were received, many emphasizing the value of expanding summer uses at Heavenly Mountain Resort, specifically the mountain bike park and trail system.

1. Non-Significant Issues

Support for the Proposed Action

“The community will benefit with better connected non-motorized trails, I especially like the Panorama Bike Trail connecting the Van Sickle Trail from the urban core at Heavenly Village into the back side of the Tahoe Rim Trail near Mott Canyon.” (Ben Fish)

“The reroute of the Tahoe Rim Trail near Mott Canyon will be a huge benefit by getting the trail off the old steep dirt road in that section. This needs to happen to upgrade the character of the Tahoe Rim Trail in that small stretch. I encourage close coordination and working partnership with the Tahoe Rim Trail Association on this reroute and the Panorama Trail.” (Ben Fish)

“The varied recreation opportunities offer residents and visitors more opportunities to experience the outdoors. The new activities suit a wide range of ages and ability levels getting more people outside year round. I like the different types of activities proposed and encourage Heavenly to allow for modifications depending on future trends in outdoor recreation.” (Ben Fish)

“The infrastructure is already in place at Heavenly in this area and adding more year round activities makes sense by concentrating recreation activities in all seasons. A summer time connection between the Gondola, Tamarack Lodge, East Peak Lodge and eventually California Base Lodge would make summer recreation offerings on par with winter activities. Summer recreation in Tahoe and in the mountains and forests at Heavenly should be just as accessible to people as it is in the winter.” (Ben Fish)

“Excellent range of activities for both locals and tourists alike. I think this is a great move in the right direction for South Lake Tahoe. I am very pleased to see Vail Resorts investing in year round recreation.” (Pete Fink)

“I am an avid mountain biker living in Reno. I think it would be awesome to add some mountain biking trails in the Heavenly Resort area. I would love to see lift-accessible trails.” (Eric Gerken)

“I generally support the development of the project for two reasons: 1) As outdoor summer recreation continues to expand in the Lake Tahoe region our experience shows that if we don't provide environmentally sustainable facilities (especially backcountry trails), users will create unsustainable ones which often will impact the most sensitive areas, and 2) the economic health of the SLT area is becoming increasingly dependent on outdoor recreation, requiring more planning and outdoor opportunity to remain viable.” (Clay Grub)

“Just a note to let you know i strongly support a bike park at heavenly! “ (Danso Gaymerah)

“I'm writing in support the Heavenly Epic Discovery Project and the associated mountain bike park. The construction of a mountain biking park would vastly increase the recreation potential of the South Shore. The summer tourism boost would bring much needed economic stimulation to our economy and help revitalize the businesses at the Stateline and elsewhere. It would help South Lake Tahoe become a world renown recreation destination like Whistler or Park City. It will help the overall health of our community, physically, socially, and economically, while providing people with outdoor experiences that create lifelong environmental advocates.” (Meghan Kelly)

“Since I cannot attend the meeting on December 18th, I wanted to email you to share my excitement and support of this project! I'm a local and mountain bike regularly, but I often have friends and family visit who do not have the stamina at this altitude to access some of the beautiful vistas in Tahoe. This park sounds like it would open one more area, and provide one more great reason, for friends, family and tourists to visit Tahoe. This town could use all the business it can get and the drive to Tahoe is not short for most people, so one more motivating factor like this sounds great! I hope this project comes to fruition!” (James McCray)

“Hello I am in favor of this project and my tax dollars going towards as much summer and winter fun as possible. My friend and his family and me and my family spend a lot of time using the winter and

summer sporting areas in and around Lake Tahoe from skiing at Heavenly and mounting biking the Flume trail to even riding and taking part in Centuries in and around the lake. The addition of mountain biking at Heavenly would be great for our family's as well as creating new jobs and additional income would be good for the area.” (Ed Stimach)

“I am writing in support of Heavenly's plan for a mountain bike park and connector trails to Van Sickle and the Rim trail. This is long overdue as we need more summertime recreation options at Heavenly. This will benefit locals as well as the tourist. Please approve this plan. “ (Adam Anderson)

“I’ve heard rumors about a new trail – believe called “Panorama Trail “ from the Heavenly Gondola Mid Station to the Van Sickle Trail. As a resident of South Lake Tahoe and avid hiker I’m quite excited. “ (Shari Malone)

“We are pleased to hear that a new trail from mid-gondola to Van Sickle is being planned. We frequently hike from Keller/Saddle roads near the tram, across the mountain side, under the gondola and thru the burn giving stunning views of our beautiful lake. An additional trail will give hikers and bikers more ways to enjoy this incredibly beautiful area.” (Cathy and Bob Cliff)

“I have to say that I am all in favor of the intention to expand the summer activities at Heavenly Valley Resort. While I currently live in Santa Fe, New Mexico I am retiring in two years and we will be moving to South Lake Tahoe where we have a home. Although I am getting up there in years, I am an avid mountain biker and love to see new opportunities and places to ride. I have been very pleased with the recent expansion of trails in the south lake area and this was one of the considerations in our buying a home there. I also like the positive economic impact that new trails brings to a region. We have certainly been experiencing that in Santa Fe. Since hosting the IMBA World Summit and greatly expanding the local trail networks, the visitor and convention bureau has seen an onslaught of mountain bike tourists. Santa Fe was even named in USA Today and a couple other publications as one of the top ten mountain bike towns in the country. South Tahoe could be on that list with the help of this Heavenly Project.” (Bob Ward)

“TAMBA supports the Epic Discovery Project, specifically inclusion of the bike park trail network, bike skills area and new multi-use connector trails towards social and economic benefit to Tahoe. “(Kevin Joell)

“We are pleased to see the rerouting of the Tahoe Rim Trail off of the existing fire road to singletrack near Mott Canyon. The Tahoe Rim Trail is a model trail and the wide and steep road section does not provide the trail experience that most users desire. We encourage Heavenly to work with the Tahoe Rim Trail Association on the TRT reroute and Van Sickle Connectors as they are instrumental in the management of the existing trails in those areas.” (Kevin Joell)

Forest Service Response: Thank you for your support and involvement in the public scoping process. We look forward to continuing to work with citizens and agencies throughout this Project.

Project Description Clarifications

“The highest concentration of activities should be at the top of the gondola and utilizing the Tamarack Lodge.” (Ben Fish)

“Kids and Family areas should be a large component of the project. Creating trails and activities for all abilities will be a better use of the area than catering to a small audience. That said there should be some “expert” terrain in the bike park, similar to the winter ski slopes.” (Ben Fish)

“You want to make sure trails are built to be fun downhill trails, not cross-country. You don’t want people saying they’d rather shuttle Corral-connector than pay to ride at Heavenly. Features are key. Advanced trails would be nice.” (Christine Dobrowski)

“This statement sounds like bikes will not be allowed to leave the bike park and will have to download via the Gondola and not allowed for example to access the Tahoe Rim Trail (TRT) *“Bike park users will be allowed to load their own bikes on the gondola but will not be allowed to ride them within the Tahoe Region except to return to the top of the gondola for downloading or to access the bike park using existing summer maintenance road segments on Von Schmidt’s Trail, Crossover Trail and Steve’s Road.”* But looking at the trail map (http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5442586.pdf), it appears new trails will be built connecting the bike park to the TRT near Mott Canyon and the bottom of the Van Sickle trail via the Van Sickle Connector trail/Panorama Trail/TRT connector trail. Can you please clarify if bikes will be able to leave the park and access these new trails that pass through the new bike park? If not what will prevent them, or for that matter will anything block riders riding the TRT or Van Sickle from passing through the park on these new trails?” (Jeff Glass)

Response: Bike riders will be permitted to leave the mountain bike park on the proposed connector trails once they are implemented. An interim policy may be needed if the new connector trail segments are implemented in a time frame after the bike park trails are completed. The intent behind the Project Description was to clarify that the mountain bike park at Heavenly is primarily located on lands located outside of the Lake Tahoe Basin. Only minor trail connections to and from the mountain bike park will be located inside the Lake Tahoe Basin to minimize adverse effects to soil and watershed resources.

“Explain why water activities are necessary at East Peak Lake. Lake Tahoe provides kayaking, boating, etc. This amenity will take away from “local” businesses sustainability.” (Ellie Waller)

Response: East Peak Lake activities offer a unique visitor experience and are intended to enhance summer activities in response to the USDA Forest Service Ski Area Recreational Opportunity Enhancement Act of 2011.

“It would be nice if hikers could have access to this new trail.” (Corine Noble)

Response: Hikers will have access to the panorama trail. We have clarified this point in the project description.

“For the Mountain Bike Trail Connectors which are discussed on page 11, what is meant by this statement, *“The trail will (be) 2-3 feet wide and be designed to incorporate project design features that will help minimize erosion and sedimentation and help to make it self-sustaining?”*” (Elizabeth Harrison)

Response: Hiking and mountain bike trails will be constructed with best management practices (e.g., waterbars, soil armoring) designed to reduce the potential for erosion and reduce the need for ongoing maintenance activities.

“Tell me about the concept of widening use on Forest Service and is it allowed? I am glad you mentioned CWE and its relationship with State Parks and Van Sickle Trail.” (Charlie Donohue)

Response: The Epic Discovery Projects offer a unique visitor experience and are intended to enhance summer activities in response to the USDA Forest Service Ski Area Recreational Opportunity Enhancement Act of 2011.

“Identify and execute a hiring policy that includes a percentage of locals before outside basin/country help is enlisted.” (Ellie Waller)

Forest Service Response: Heavenly intends to hold a spring job fair each season to recruit and hire summer season employees. Existing Heavenly winter season employees will be encouraged to attend the fair. The job fair will also be open to the public. Hiring existing employees already familiar with Heavenly training, culture, service standards and related employee programs and policies can provide a number of benefits to the employee, the employer, the guests and the local community.

Consideration of Design Features

“A bike park and skills zone should be included similar to terrain parks in the winter.” (Ben Fish)

“Family friendly trails need jumps. North Star’s most popular trail is Live Wire – a jump trail” (Christine Dobrowski)

Forest Service Response: A bike skills course is provided near the top of the Gondola. Mountain bike parks trails will offer different ability levels from beginner to expert.

“We would like consideration given to keeping the multi-use Van Sickle Connector trail from turning into a return route for bike park traffic. This can be easily accomplished through proper trail design of the Panorama connector and appropriate signage.” (Kevin Joell)

Forest Service Response: Suggestions for project design features may be taken into consideration during conceptual design of specific components if they meet the purpose and need of the Project.

“Need a signage plan to ensure Bike Park Users clearly know when they are entering the multi-use trail system and the right-of-way etiquette rules.” (Clay Grub)

“Need signage on Van Sickle to let users know ‘End of bike park multi-use trail’. Lots of summer use (bikers) on Van Sickle.” (Christine Dobrowski)

“A great number of hikers currently use the Van Sickle Connector Trail. How will the project minimize conflicts between downhill bike riders who likely will be traveling at high speed and the hiking community?” (Elizabeth Harrison)

“We hope you are currently considering alternate hiking & biking days for our safety, similar to the way the FLUME trail is run.” (Cathy and Bob Cliff)

Forest Service Response: Trail usage will be analyzed in the EIS and if necessary, these suggestions will be taken into consideration as project design features or project modifications to maintain safety for all trail users.

Purpose and Need of Proposed Action

“Agenda item 3: A Notice of Preparation (NOP) for Heavenly's proposed Epic Discovery Project and subsequent EIR/EIS along with the Northstar Master Plan EIR recently released, will usher in Disneyland-like amusements in our Outstanding National Resource Water. The basin residents will see increased traffic, air quality issues, irreversible environmental impacts. Vail Corporation says it is responding to a need to improve summer-time visitation. Is this really needed in the Basin?” (Ellie Waller)

“I'll close with one of my favorite comments from the Breckenridge Peak 6 EIR that also incorporated a Forest Flyer. *“Our national forest is not an amusement park. The unique features of ‘nature’ should be preserved and promoted and the ‘man-made’ impact mitigated. I support many of the proposed resort expansions, but cannot support zipline tours or elevated rail flyers that exist primarily to provide an adrenaline rush (speed, height, etc.) to amuse or entertain visitors. These types of ‘rides’ are mechanical, commercial, amusement activities and do not further the goals of natural appreciation or environmental sensitivity. Neither are they location-dependent — they can be found anywhere in the U.S. Save our national forests. And promote the ‘inherent’ beauty and values that exists in nature and the ‘human-powered’ recreational activities that will nurture our next generation earth stewards.”* (Ellie Waller)

“Lake Tahoe is a Summer Peak Destination, we already have a magnet and do not need an amusement park. We have an outstanding national resource.” (Dave McClure)

Forest Service Response: The recently enacted Ski Area Recreational Opportunity Enhancement Act of 2011 provides authority for mountain resorts operating on National Forest System (NFS) lands to offer an expanded range of outdoor recreation activities in order to further recreational opportunities for the public, allow year-round utilization of existing resort facilities, and stimulate job creation and economic growth within local communities. The Project proposes to implement such activities at Heavenly to better utilize infrastructure within the existing ski area boundary.

Potential Resource Impacts

“There is concern that the proposed activities/development will generate new parking needs. The document should sufficiently evaluate how and where the various visitors will access these improvements by different means and how that may impact surrounding land and land uses.” (Elizabeth Harrison)

Forest Service Response: The transportation and circulation analysis will include evaluation of parking demand and supply and the various modes that visitors will use to access the mountain.

“We are concerned about the platforms proposed as part of the zipline routes. Large trees generally provide good nesting habitat for a variety of songbirds, raptors, bats, and small mammals, and the artificial platforms along with constant human presence around such trees could potentially compromise nest site availability for a number of wildlife species. We would like this to be considered in the upcoming EIS.” (Elizabeth Harrison)

Forest Service Response: The biological resources analysis will include analysis of increased human presence on habitat, including potential nesting habitat.

“Are special events anticipated at some point that will utilize these new improvements? If so, the impacts associated with special events (parking, noise, water quality, etc.) should also be included in the analysis.” (Elizabeth Harrison)

Forest Service Response: No special events are specifically planned as part of this proposal. Any future special events that may be proposed within the permit area on National Forest lands will undergo additional review and analysis by the Forest Service. Other agencies with jurisdiction will be included if necessary.

“Will the new activities associated with the Heavenly Epic Discovery Project be operated at night? If so, the impacts associated should be included in the analysis.” (Elizabeth Harrison)

Forest Service Response: The Epic Discovery project activities will not be operated at night.

“What are the effects on Significant Ecological Areas for this watershed and any other watersheds that share plants, birds, animals and wildlife in the ecosystem. What water funding, federal, state and local, has been spent in the region. How does this fit into the State Integrated Regional Water Management Plan for the area. What Conservation Districts are involved and what are the effects. What Water Quality and Water Supply effects will be on this region and dependent regions. Where is the Economic and Fiscal Analysis.” (Joyce Dillard)

“Provide an economic analysis of one zip line versus three (four with the kids zip).” (Ellie Waller)

Forest Service Response: The EIS will analyze the Project’s effects to biological resources. The project does not result in changes to water use. The EIS will analyze the Project’s effects on water quality and hydrology from construction of the proposed activities. An economic and fiscal analysis is not required to make an informed decision on the Project under NEPA, TRPA and CEQA regulations. Providing multiple activities, including more than one zip line, provides the user with a diversity of recreational choices, each offering a unique experience.

“Provide an air quality analysis for the tour excursion vehicle operations. How many vehicles will be in operation daily? Provide info on proposed operating hours. Provide analysis of the dirt maintenance road usage for the tour excursion vehicles. (Ellie Waller)

Forest Service Response: The air quality analysis will include analysis of construction and operational emissions, including both on mountain (e.g., tour excursion vehicles) and off mountain (e.g., visitor trips) sources. “Scenic issues are not only related to road and lake, in this project’s case the nationally recognized Tahoe Rim Trail within scenic corridor of amusements must be analyzed the potential to disrupt the hiking experience is great.” (Ellie Waller)

Forest Service Response: These scenic and recreational quality resource considerations will be included in the analysis of environmental consequences when required by the National Environmental Policy Act (NEPA) or TRPA environmental process.

“Provide detailed VMT analysis for the newly proposed summertime crowds that these amusements will draw to the Vail property and surrounding South Shore community properties.” (Ellie Waller)

Forest Service Response: The transportation and circulation and air quality analysis will include evaluation of VMT from increased visitation to Heavenly during summer operations.

“Will the Master Plan amendments be a separate process or combined with the EIS/EIS/EIR process and approval cycle? Are any Area Plan amendments required and will those amendments be a separate process or combined with the EIS/EIS/EIR process and approval cycle. If any separate plan amendments are proposed, ensure public noticing of these meetings. These amendments are controversial and so amendments should be fully vetted in public meetings and not held at the Hearings Officer Level or as Consent Calendar items.” (Ellie Waller)

Forest Service Response: The EIS will analyze the Project and the proposed amendment to the Heavenly Ski Area Master Plan. There are no requirements for amendments to the Forest Plan, TRPA Plan Areas or TRPA Area Plans.

“Please include an analysis of the forest fuel load within the areas of the planned improvements as part of this document preparation. This area is very steep and has significant fuel available for a forest fire.” (Elizabeth Harrison)

Forest Service Response: The EIS will analyze the potential for wildland/forest fires as a result of implementation and operation of Project activities.

“We would like to see the document evaluate human-bear conflicts very carefully. Since bears are highly active in the summer, the proposed increase in visitation during that time period will increase the risk of human-bear conflicts in the project area.” (Elizabeth Harrison)

Forest Service Response: These suggestions along with other resource considerations will be included in the analysis of environmental consequences when required by the National Environmental Policy Act (NEPA) or TRPA environmental process.

2. Significant Issues

Suggestions for Analysis

A number of suggestions for analysis of the proposed action were submitted, more specifically recreation, land use, scenic, biological, air quality, and transportation resources. These include:

“We encourage data gathering on the TRT in the Monument pass area both before and after the project begins operation to factually judge the level of increased use and determine if the bike park operation should subsidize trail maintenance on the trails thought to see increased use. Based on our knowledge of trail use in the area, we do not foresee this to be a major problem, however baseline data before the monument connector trail opens would provide clarity to the situation.” (Kevin Joell)

Forest Service Response: The use of proposed trails will be evaluated to determine whether increased visitation to the TRT will require greater maintenance. If effects are identified, project design features or alternatives will be defined and studied in the EIS.

“We would like to see the document analyze how visitors will be accessing the trail into Van Sickle State Park. What is projected to be the number of the visitors who will be accessing the new trails via the Van Sickle Connector Trail (going uphill) versus the number of visitors that will be using the new trail system as a downhill route (accessed from Heavenly facilities)? This evaluation is necessary to account for expected visitors through Van Sickle and also to understand whether this trail will be serving mostly

visitors paying to use Heavenly Valley facilities versus those that are just utilizing an enhanced trail system.” (Elizabeth Harrison)

“To develop a new trail on State property, proper land use authorizations will be required. As a condition of the land use authorizations, it may be required that some maintenance/operation expenses are covered by the project if it is found that the new development causes increased visitors to Van Sickle State Park.” (Elizabeth Harrison)

“In terms of the new trail that will be within Van Sickle State Park, how will the project ensure that bike riders don't try to utilize old legacy roads and trails rather than staying on constructed trails? There is a great chance that many of these old trails will get utilized if they are not restored or blocked which could be a water quality impact. Please consider the concern during the preparation of the document.” (Elizabeth Harrison)

Forest Service Response: Trail usage will be analyzed in the EIS and if necessary, project design features or project modifications will be added to maintain safety for all trail users and minimize potential impacts to water quality.

“Please consider the cumulative visual impacts from development activities (temporary and permanent). Some notable activities include proliferation of new roads, poorly-sited and designed structures, lack of co-location of infrastructure and improper lighting, to name a few.” (Skip Canfield)

“Provide scenic analysis for Skycycle. Provide scenic analysis of all amenities that could impact Van Sickle State Park.” (Ellie Waller)

“What is the visual impact to and from Freel Peak?” (Peter Maurer)

Forest Service Response: Scenic resources will be evaluated in the EIS and if necessary, project design features or alternatives will be defined and studied in the EIS.

Will maintenance roads need to be widened? If so, provide tree removal and vegetation removal counts and analysis. Provide wildlife disruption analysis.” (Ellie Waller)

“Provide environmental analysis of the trail widening as noted in NOP for the mountain bike park (e.g., 9-10 miles of trails). Provide analysis of any trail widening required for any of the proposed amenities which must include vegetation and tree removal counts.” (Ellie Waller)

“Provide SEZ and stream analysis.” (Ellie Waller)

Forest Service Response: Some new road construction (both permanent and temporary) is proposed along with trails for hiking and mountain bikes. Road and trail construction will be analyzed in the EIS and if necessary, project design features or project modifications will be added to minimize potential impacts to biological resources and/or SEZs/streams.

“I commented extensively on the Vail Northstar proposed Forest Flyer. A 20-25 ft path must be cleared and is necessary for installation and operation of tracks and must be analyzed. Provide analysis of snow removal operations and snow clearing for operational affectivity. Provide a safety analysis of the Forest Flyer. Restrict operating hours to no later than 5:00 pm and not sundown as requested for Northstar. No night time operations (e.g, after 5:00 pm) should be allowed.” (Ellie Waller)

Forest Service Response: The tree removal and ground disturbance required for construction of Project activities will be analyzed in the EIS. The Forest Flyer will not be operated in winter or at night and will therefore not require snow removal or lighting for nighttime operations. Hours of operation will be analyzed to determine whether there are potential impacts that would require restrictions or design measures to limit duration.

Recommended Mitigation Measures

“Utilize consistent lighting mitigation measures that follow “Dark Sky” lighting practices. Effective lighting should have screens that do not allow the bulb to shine up or out. All proposed lighting shall be located to avoid light pollution onto any adjacent lands as viewed from a distance. All lighting fixtures shall be hooded and shielded, face downward, located within soffits and directed on to the pertinent site only, and away from adjacent parcels or areas. A lighting plan should be submitted indicating the types of lighting and fixtures, the locations of fixtures, lumens of lighting, and the areas illuminated by the lighting plan. Any required FAA lighting should be consolidated and minimized wherever possible.” (Skip Canfield)

“Utilize building materials, colors and site placement that are compatible with the natural environment: Utilize consistent mitigation measures that address logical placement of improvements and use of appropriate screening and structure colors. Existing utility corridors, roads and areas of disturbed land should be utilized wherever possible. Proliferation of new roads should be avoided. For example, the use of compatible paint colors on structures reduces the visual impacts of the built environment. Using screening, careful site placement, and cognitive use of earth-tone colors/materials that match the environment improve the user experience for others who might have different values than what is fostered by built environment activities. Federal agencies should require these mitigation measures as conditions of approval for all permanent and temporary applications.” (Skip Canfield)

Forest Service Response: Scenic resources will be evaluated in the EIS and if necessary, project design features (such as the measures recommended above) or alternatives will be defined and studied in the EIS.

“Tree removal appears to be a major disturbance component of this project, including a 20-25 foot path for the Forest Flyer Alpine Coaster and several other cleared pathways for ziplines and emergency evacuation. Large-sized trees and standing dead are very important for wildlife habitat. We would suggest that any trees with visible nests or nesting structures (i.e., witches' brooms, cavities) remain untouched whenever possible. We ask that you consider these concerns during the document preparation.” (Elizabeth Harrison)

“Mitigation measures such as bear resistant trash containers and education at trailheads should be considered to reduce the likelihood of human-bear conflicts in the proposed project area.” (Elizabeth Harrison)

Forest Service Response: The suggested mitigation measures will be considered during analysis of environmental consequences. If required by TRPA ordinance or the Basin plan, such measures will be incorporated as project design features. If potential effects to resources are determined to be adverse, appropriate mitigation measures will be recommended to avoid, reduce or minimize potential effects.

Alternatives to the Project Action

“Consideration could be made into connecting the California Base Area to the Panorama Bike Trail; this could alleviate some use off the Van Sickle Trail which will become even more popular with this expansion. Even a connection to Roundabout would be nice.” (Ben Fish)

“Need connection from Mid Station to Panorama Trail.” (Christine Dobrowski)

“We recommend that the document include an alternative that will utilize already disturbed paths/roads and ski trails to limit the amount of potential new disturbance associated with the planned development/use. These areas could be further treated to act as enhanced fuel breaks.” (Elizabeth Harrison)

“However, there is one area in which the plan of action both misses an opportunity and is inconsistent with both the project purpose and need statement and overview language in the proposed action. The subject in question is listed in the NOP/NOI as "Mountain Bike Trail Connectors", giving the impression that these are relatively minor "bike only" trails. In reality, however, this description is being applied to over five miles of long discussed trail colloquially referred to within both the LTBMU and the local community as the "Panorama Trail". Even though LTBMU personnel state that this would be a "multi-user, non-motorized trail", the details of the proposed action would serve to restrict many users through a trail system layout impeding their access to the most appealing parts of the trail. The Panorama Trail was proposed in 2004 during the Daggett Summit Trail System Project planning process as a hiking and biking connection between the Heavenly Gondola (mid-station) and the now completed Van Sickle to Tahoe Rim Connector Trail. Because the 2005 Heavenly Master Plan was in the final stages of approval, a decision was made to wait until the next Heavenly planning cycle. Additional field work has since been done to prepare for input to that cycle. Hike and bike users and workers on the Van Sickle Trail and the Daggett sections of the TRT have remained enthusiastic since the Panorama Trail was first discussed. A different Panorama Trail concept has been included in this 2013 NOP/NOI with both a significant improvement and a serious omission. The good: Instead of only connecting the gondola with the Van Sickle Trail, the trail corridor was extended to include both a lengthening of the scenic sweep across the western face overlooking Lake Tahoe, and a wrap around crossing the north side of Heavenly to connect with the Tahoe Rim Trail near Mott Canyon. The bad: Unfortunately, all direct trail connection to the Gondola/Adventure Peak area was discarded, essentially removing the opportunity for users to make one way trail trips using the Gondola. The current proposed trail routing seems planned to support bikers using the Heavenly Bike Park while discouraging other users by requiring a long and tedious access route from the Gondola area.” (Clay Grub)

Forest Service Response: The suggested alternatives will be considered to determine whether they will meet the purpose and need for the action and reduce or avoid potential environmental consequences.

Approvals

I have reviewed the public scoping input and this summary report. I appreciate the questions and comments provided by the public.

Nancy J. Gibson

Forest Supervisor

Lake Tahoe Basin Management Unit

Date

Lahontan is not required to follow the NEPA scoping process, but has reviewed the responses provided to comments regarding CEQA jurisdiction and concur with this report.

Bud Amorfini

Lahontan Regional Water Quality Control Board

Date

APPENDIX 2-A

ADVENTURE PEAK PLANS

ADVENTURE PEAK EPIC DISCOVERY ACTIVITIES

HEAVENLY MOUNTAIN RESORT
EL DORADO COUNTY, CALIFORNIA

APN 030-030-01

DOUGLAS COUNTY, NEVADA

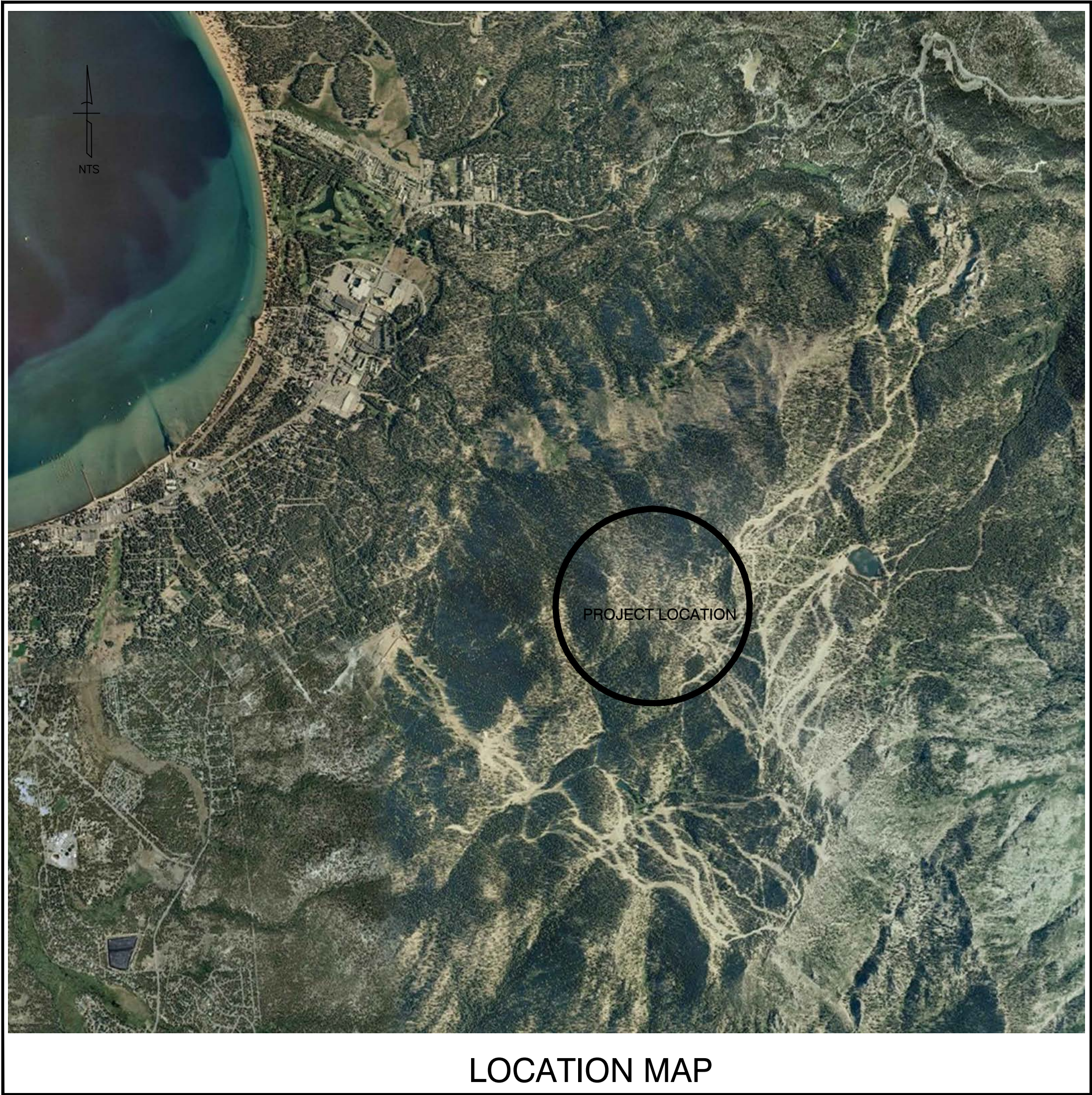
APN 1318-00-002-010

STANDARD ABBREVIATIONS

A.C.	ASPHALTIC CONCRETE	I.E.	INVERT ELEVATION
@	AT	IMPROV.	IMPROVEMENT
AGG.	AGGREGATE	L.F.	LINEAR FEET
APPROX.	APPROXIMATE	M.H.	MANHOLE
BLDG.	BUILDING	MAX.	MAXIMUM
BLVD	BOULEVARD	MIN.	MINIMUM
BM	BENCH MARK	MON.	MONUMENT
C.B.	CATCH BASIN	NTS	NOT TO SCALE
C & G	CURB AND GUTTER	O.G.	ORIGINAL GROUND
CL	CENTERLINE	P.C.C.	PORTLAND CONCRETE CEMENT
CMP	CORRUGATED METAL PIPE	PE	POLYETHYLENE
CO	CLEAN OUT	PL	PROPERTY LINE
CONC.	CONCRETE	PP	POWER POLE
CULV.	CULVERT	RCP	REINFORCED CONCRETE PIPE
C.Y.	CUBIC YARDS	S.F.	SQUARE FEET
D.I.	DROP INLET	SD	STORM DRAIN
DIA.	DIAMETER	SDMH	STORM DRAIN MANHOLE
DR	DRIVE	SHT.	SHEET
E	ELECTRIC	SS	SANITARY SEWER
EL. ELEV.	ELEVATION	SSCO	SANITARY SEWER CLEANOUT
EXIST. EX.	EXISTING	SSMH	SANITARY SEWER MANHOLE
FG	FINISH GRADE	STD.	STANDARD
F.H.	FIRE HYDRANT	TELE.	TELEPHONE
FL	FLOWLINE	TYP.	TYPICAL
FND.	FOUND	UTIL.	UTILITY
G	GAS	W	WATER

Project Coverage Table (Rev. 2014-2-27)			
New Coverage	Existing (a)	Proposed (b)	Net Change
Adventure Peak Epic Discoveries			
Alpine Coaster Forest Flyer			
Buildings (Terminal, bull wheels, attendant's shed)		3,140	3,140
Coaster		1,254	1,254
Paths		610	610
Parking		432	432
Sky Cycle			
Structures		1,511	1,511
Paths and Queueing Areas		13,339	13,339
Maintenance Road		4,898	4,898
Mid Station Canopy Tour			
Paths and Queueing Areas		11,528	11,528
Structures		30	30
Infill Activities			
Paths		3,933	3,933
Mountain Lake Skids Park		15,102	15,102
Concrete Path for Bike Rental Area		2,000	2,000
Total Adventure Peak Epic Discoveries		58,154	58,154
Coverage Summary Table			
Maximum Allowable Coverage (per Master Plan)	(a)	(b)	Total
Maximum Allowable Coverage per Master Plan			2,053,854
Balance Remaining of Coverage (and Banked Coverage per Table 3.4.4 of the Final EIR) (a+b)	434,580	4,464	439,044
Project Subtotals			
Northwest Olympic Express Lifts Project Balances	590	393	1,346
Gondola Liking Trails	54,501	0	54,501
Mid Station Road	50,469	0	50,469
Northwest Olympic Express Lifts - Plan Revision	216	0	216
World Cup Last Bowl Greenwashing - Plan Revision	263	0	263
Call Trees Surface Lift Replacement	1,562	0	1,562
Skyline Trail Crossing and Greenwashing	1,154	0	1,154
Iron of the Gondola Lining	42,384	0	42,384
Adjusted Gondola Project Coverage	27,519	0	27,519
Unfinished Site Redevelopment	151	0	151
Greatest Gondola Lift and Greenwashing	10,020	0	10,020
California Lake Trail Widening	0	0	0
Adventure Peak Improvements	6,207	0	6,207
Zipline Adventure Ride	4,916	0	4,916
Verizon Amphibious Boat Lift Tower and Back up Bldg	584	0	584
Upper Race Gondola Electrical	0	0	0
Summer Activities	22,213	0	22,213
Laramie Lodge Modifications	557	0	557
Adventure Peak Epic Discoveries	58,154	0	58,154
Removal of Gondola Liking Trails	54,501	0	54,501
Lost Peak Basin Epic Discoveries	1,210	0	1,210
Sky Meadows Basin Epic Discoveries	26,316	777	27,325
Subtotals	200,829	1,168	201,997
Balance Remaining Upon Project Completion	233,751	3,296	237,047

1. Includes 10,000 Express Lifts and canopy coverage attributed to Sky Cycle.



OWNER

HEAVENLY MOUNTAIN RESORT
P.O. BOX 2180
STATELINE, NV 89449
(775) 586-7000

SHEET INDEX

SHEET 1	TITLE SHEET
SHEET 2	SITE PLAN AND SHEET INDEX
SHEET 3	FOREST FLYER ALPINE COASTER
SHEET 4	MID STATION CANOPY TOUR - NORTH
SHEET 5	MID STATION CANOPY TOUR - SOUTH
SHEET 6	SKY CYCLE CANOPY TOUR
SHEET 7	ADVENTURE PEAK INFILL ACTIVITIES
SHEET 8	SNOW CAT EVACUATION ROUTE
SHEET 9	DETAIL SHEET

FOREST FLYER

SHEET B3	BASE TERMINAL PLAN
SHEET B3.1	ELEVATIONS BASE TERMINAL AND BULL WHEEL
SHEET B3.2	ELEVATIONS BASE TERMINAL AND BULL WHEEL
SHEET B4	TOP TERMINAL PLAN

MID STATION CANOPY TOUR

SHEET .A0	COVER SHEET
SHEET A2.1.1	10' PLATFORM - COMPONENT DETAILS
SHEET A2.2.1	10' X 12' PLATFORM - COMPONENT DETAILS
SHEET A3	LADDER DETAILS
SHEET A6	ZIPLINE IMAGES
SHEET A7	PLATFORM IMAGES
SHEET A8	BRIDGE AND LADDER IMAGES
SHEET C1	SITE
SHEET C2	CATENARY ANALYSIS

SKY CYCLE CANOPY TOUR

SHEET B1	SKY CYCLE BASE TERMINAL PLAN
SHEET B2	OBSERVATION DECK PLAN

KIDDIE ZIP

SHEET .A0	COVER SHEET
SHEET .C1	SITE PLAN
SHEET A1	ISOMETRIC VIEW
SHEET A2	ELEVATIONS
SHEET A3	3D VIEWS

REVIEW SET
NOT FOR CONSTRUCTION



Engineering • Surveying • Water Rights
Resources & Environmental Services



REVISION	DATE

HEAVENLY MOUNTAIN RESORT
Adventure Peak Epic Discovery Activities

TITLE SHEET

JOB NO.:	12-602.7
DATE:	02-27-14
DESIGNED:	MMG
DRAWN :	MLM/FRB
CHECKED:	MMG

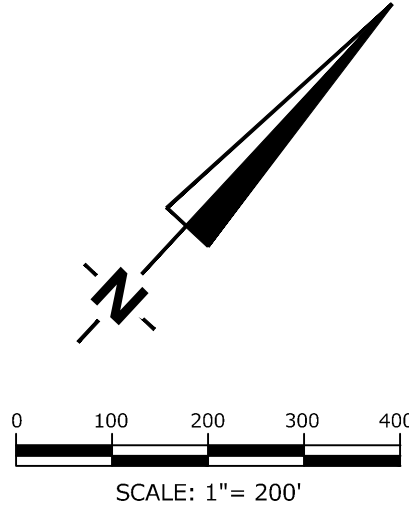
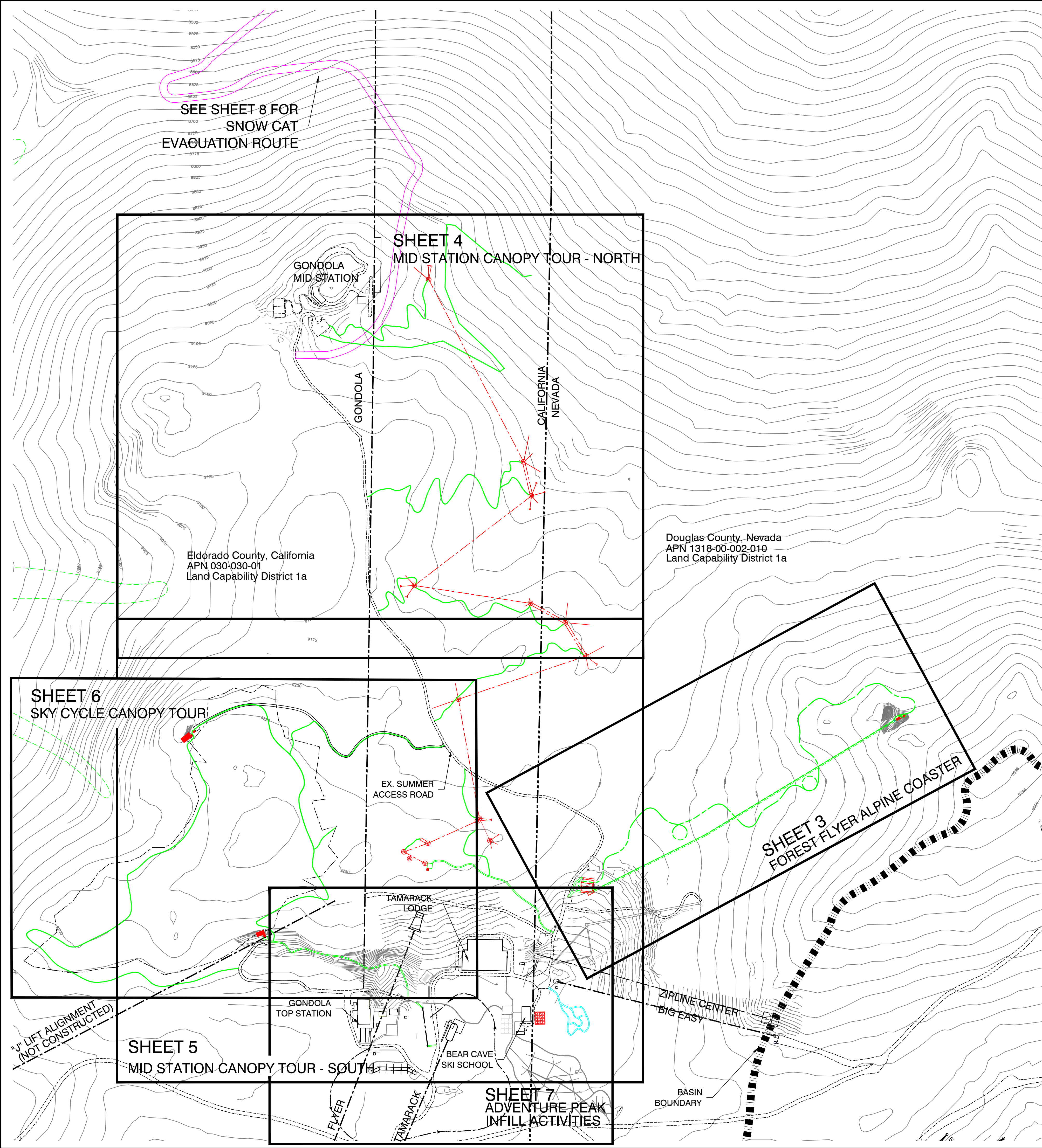
SHEET 1

Carson City
340 N. Minnesota St.
Carson City, NV 89703-4152
775-883-1600

Carson City
212 Elks Point Rd., Ste. 443
Zephyr Cove, NV 89448-8020
775-586-7500

www.rci-nv.com

Zephyr Cove



REVIEW SET
NOT FOR CONSTRUCTION

Avoid cutting underground utility lines. It's costly.

Call before you Dig

1-800-642-2444

UNDERGROUND SERVICE ALERT (USA)

Engineering • Surveying • Water Rights
Resources & Environmental Services

Resource Concepts Inc

Carson City
340 N. Minnesota St.
Carson City, NV 89703-4152
775-883-1600

•

Zephyr Cove
212 Elks Point Rd., Ste. 443
Zephyr Cove, NV 89448-8020
775-588-7500

www.rci-nv.com

REVISION	DATE

HEAVENLY MOUNTAIN RESORT
Adventure Peak Epic Discovery Activities

SITE PLAN AND SHEET INDEX

JOB NO.: 12-602.7

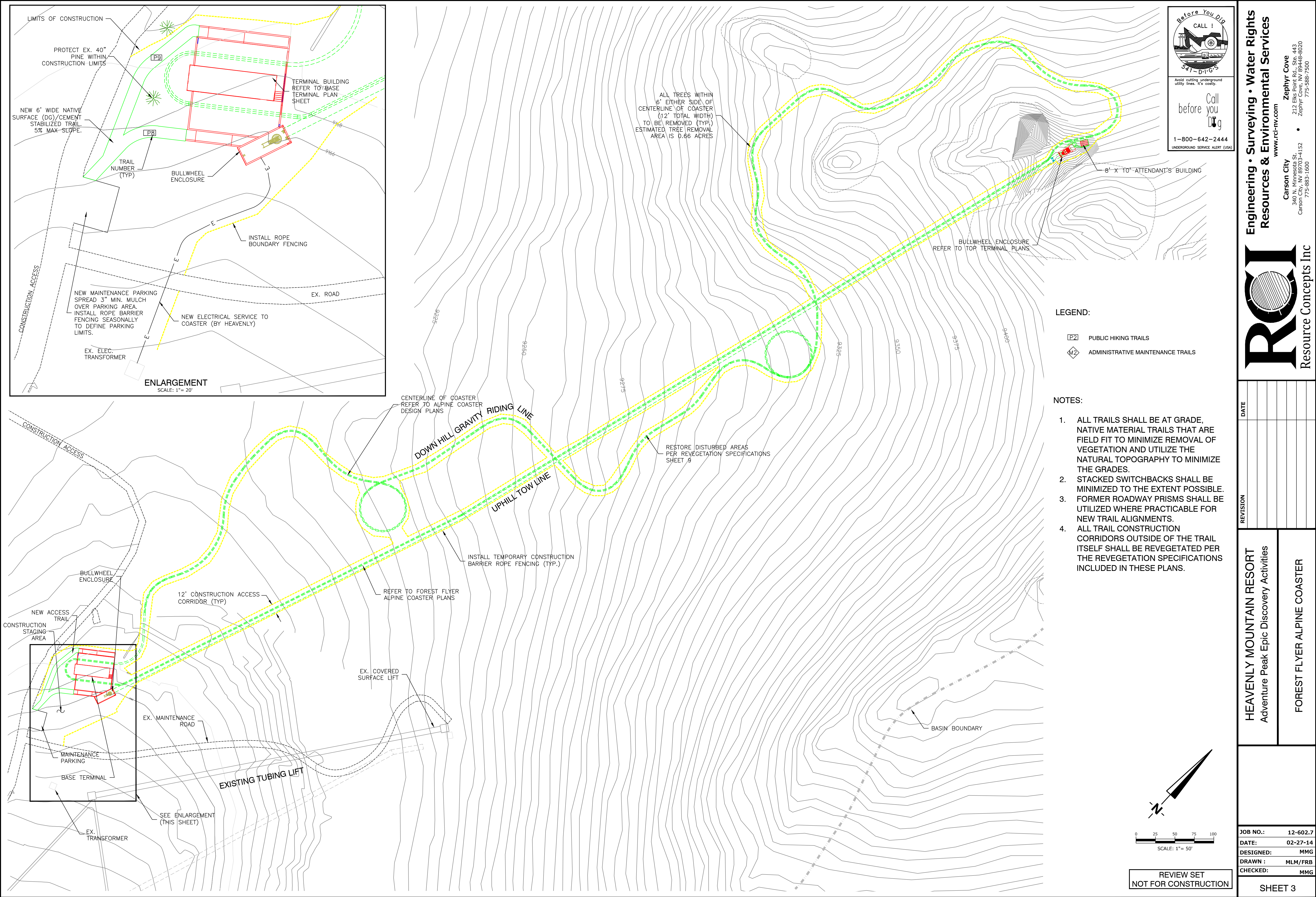
DATE: 02-27-14

DESIGNED: MMG

DRAWN : MLM/FRB

CHECKED: MMG

SHEET 2



Before You Dig
CALL !

Avoid cutting underground utility lines. It's costly.

Call you
before
Dig

1-800-642-2444

UNDERGROUND SERVICE ALERT (USA)

Engineering • Surveying • Water Rights
Resources & Environmental Services

HEAVENLY MOUNTAIN RESORT
Adventure Peak Epic Discovery Activities

FOREST FLYER ALPINE COASTER

JOB NO.: 12-602.7

DATE: 02-27-14

DESIGNED: MMG

DRAWN : MLM/FRB

CHECKED: MMG

Carson City
340 N. Minnesota St.
Carson City, NV 89703-4152
775-883-1600

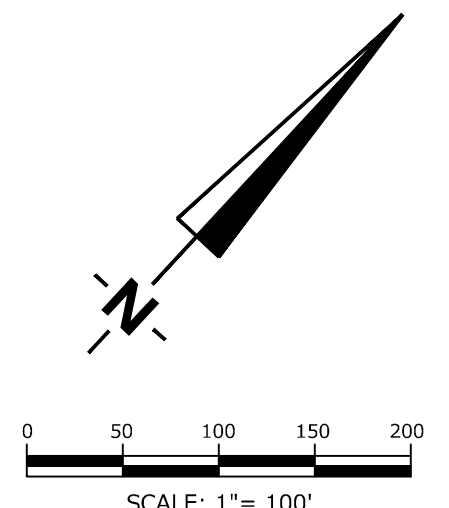
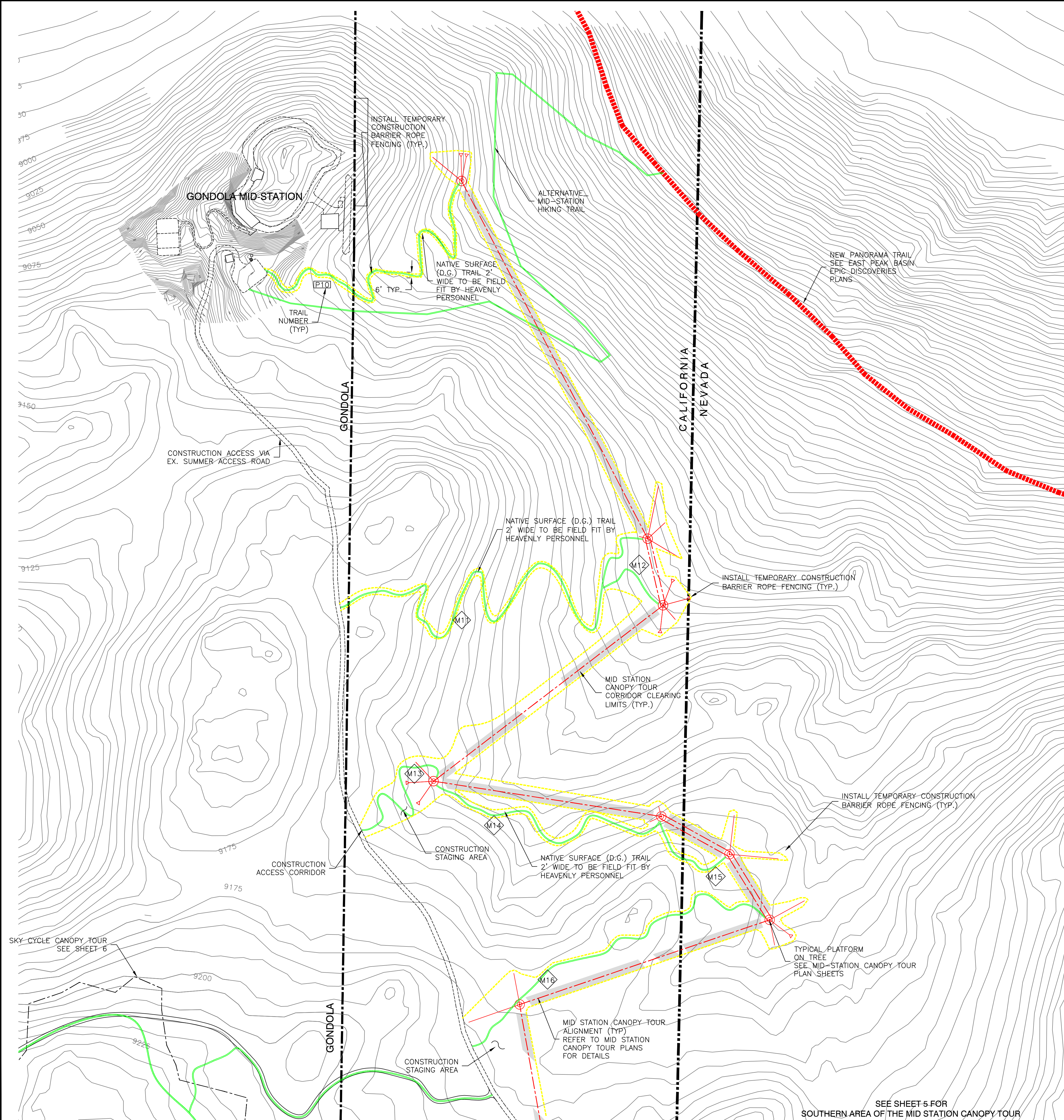
•

Zephyr Cove
212 Elks Point Rd., Ste. 443
Zephyr Cove, NV 89448-8020
775-588-7500

www.rci-nv.com

12-602.7

SHEET 3



LEGEND:

- PUBLIC HIKING TRAILS
- ADMINISTRATIVE MAINTENANCE TRAILS
- MID STATION CANOPY TOUR CORRIDOR CLEARING LIMITS (TYP.)
TOTAL ESTIMATED CLEARING: 1.4 ACRES

NOTES:

1. ALL TRAILS SHALL BE AT GRADE, NATIVE MATERIAL TRAILS THAT ARE FIELD FIT TO MINIMIZE REMOVAL OF VEGETATION AND UTILIZE THE NATURAL TOPOGRAPHY TO MINIMIZE THE GRADES.
2. STACKED SWITCHBACKS SHALL BE MINIMIZED TO THE EXTENT POSSIBLE. FORMER ROADWAY PRISMS SHALL BE UTILIZED WHERE PRACTICABLE FOR NEW TRAIL ALIGNMENTS.
3. ALL TRAIL CONSTRUCTION CORRIDORS OUTSIDE OF THE TRAIL ITSELF SHALL BE REVEGETATED PER THE REVEGETATION SPECIFICATIONS INCLUDED IN THESE PLANS.

REVIEW SET
NOT FOR CONSTRUCTION

541-DIG-5

Avoid cutting underground utility lines. It's costly.

before you Dig

1-800-642-2444
UNDERGROUND SERVICE ALERT (USA)

Engineering • Surveying • Water Rights
Resources & Environmental Services

RCI
Resource Concepts Inc

Carson City
340 N. Minnesota St.
Carson City, NV 89703-4152
775-883-1600

•

Zephyr Cove
212 Elks Point Rd., Ste. 443
Zephyr Cove, NV 89448-8020
775-588-7500

www.rci-nv.com

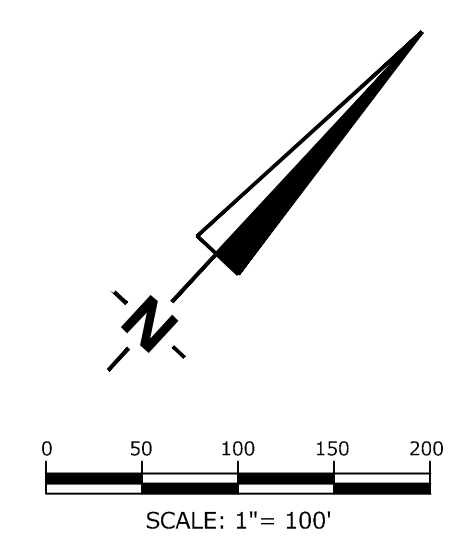
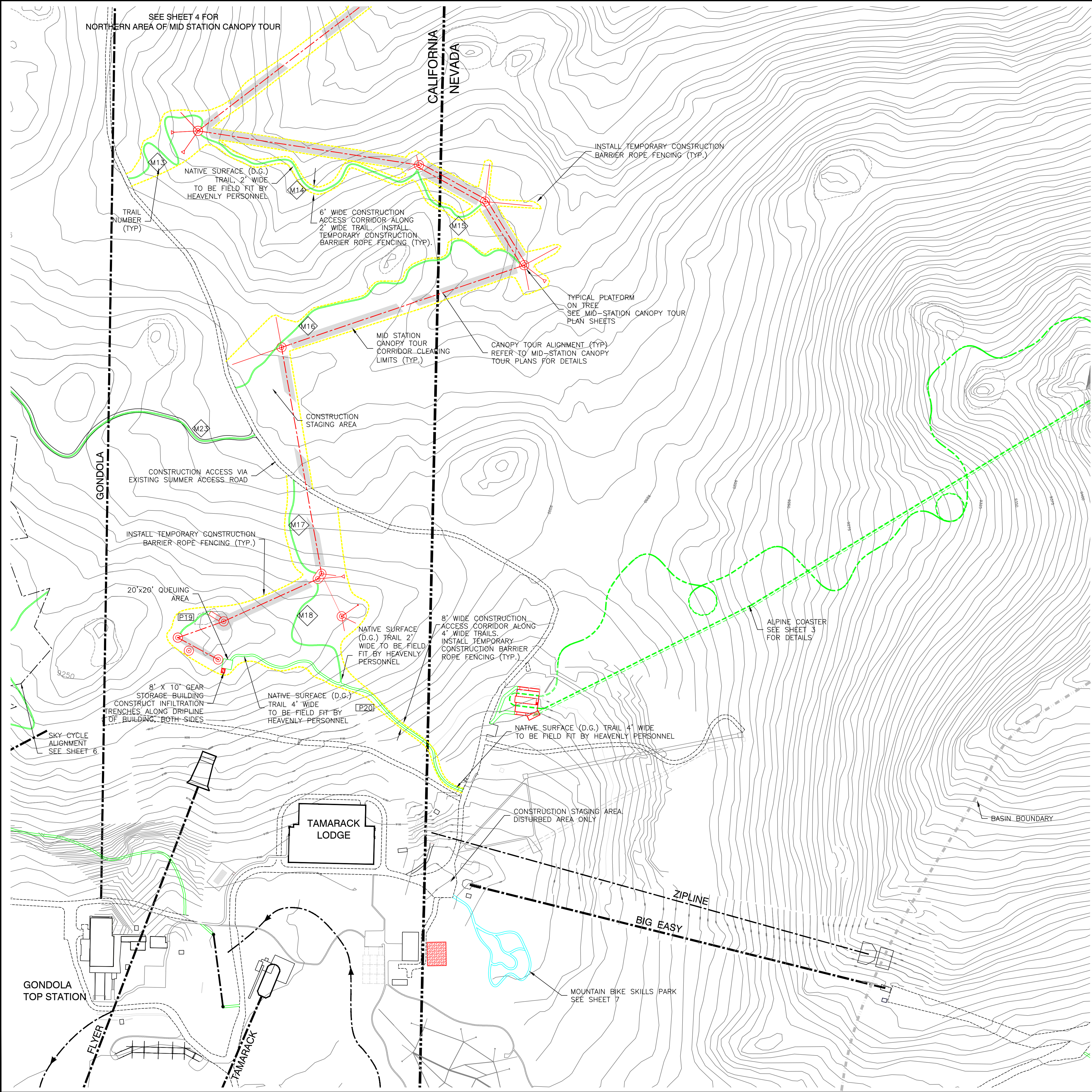
REVISION	DATE

HEAVENLY MOUNTAIN RESORT
Adventure Peak Epic Discovery Activities

MID STATION CANOPY TOUR - NORTH

JOB NO.: 12-602.7
DATE: 02-17-14
DESIGNED: MMG
DRAWN: MLM/FRB
CHECKED: MMG

SHEET 4



LEGEND:

- PUBLIC HIKING TRAILS
- ADMINISTRATIVE MAINTENANCE TRAILS
- MID STATION CANOPY TOUR CORRIDOR
CLEARING LIMITS (TYP)
TOTAL ESTIMATED CLEARING: 1.4 ACRES

NOTES:

1. ALL TRAILS SHALL BE AT GRADE, NATIVE MATERIAL TRAILS THAT ARE FIELD FIT TO MINIMIZE REMOVAL OF VEGETATION AND UTILIZE THE NATURAL TOPOGRAPHY TO MINIMIZE THE GRADES.
2. STACKED SWITCHBACKS SHALL BE MINIMIZED TO THE EXTENT POSSIBLE.
3. FORMER ROADWAY PRISMS SHALL BE UTILIZED WHERE PRACTICABLE FOR NEW TRAIL ALIGNMENTS.
4. ALL TRAIL CONSTRUCTION CORRIDORS OUTSIDE OF THE TRAIL ITSELF SHALL BE REVEGETATED PER THE REVEGETATION SPECIFICATIONS INCLUDED IN THESE PLANS.

REVIEW SET
NOT FOR CONSTRUCTION

Avoid cutting underground utility lines. It's costly.

Call before you Dig

1-800-642-2444

UNDERGROUND SERVICE ALERT (USA)

Engineering • Surveying • Water Rights
Resources & Environmental Services

Resource Concepts Inc

Carson City
340 N. Minnesota St.
Carson City, NV 89703-4152
775-883-1600

Zephyr Cove
212 Elks Point Rd., Ste. 443
Zephyr Cove, NV 89448-8020
775-588-7500

www.rci-nv.com

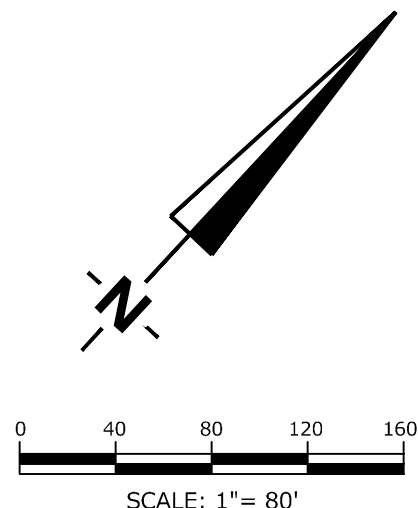
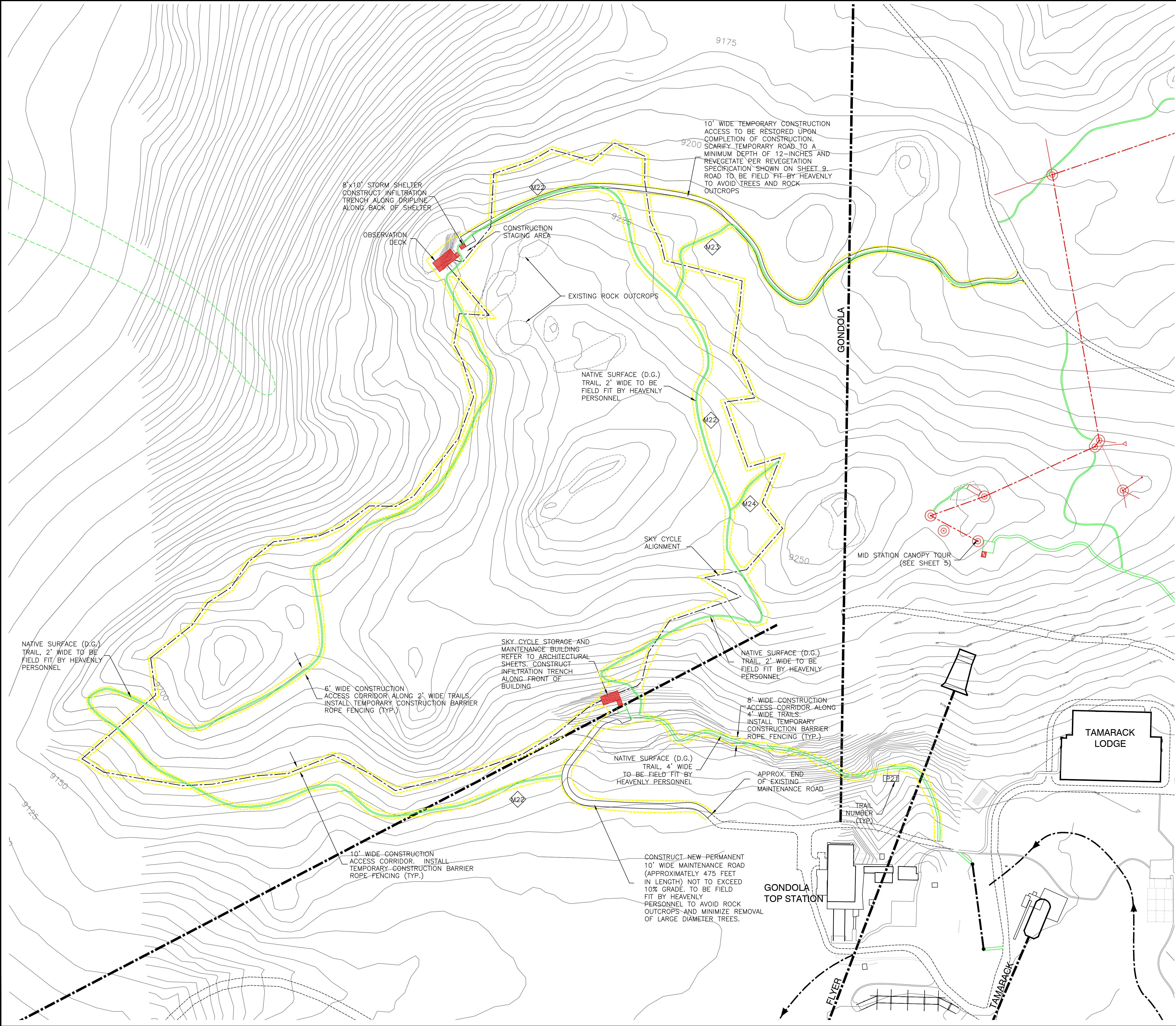
REVISION	DATE

HEAVENLY MOUNTAIN RESORT
Adventure Peak Epic Discovery Activities

MID STATION ZIPLINE TOUR

JOB NO.:	12-602.7
DATE:	02-27-14
DESIGNED:	MMG
DRAWN :	MLM/FRB
CHECKED:	MMG

SHEET 5



LEGEND:

- PUBLIC HIKING TRAILS
- ADMINISTRATIVE MAINTENANCE TRAILS

NOTES:

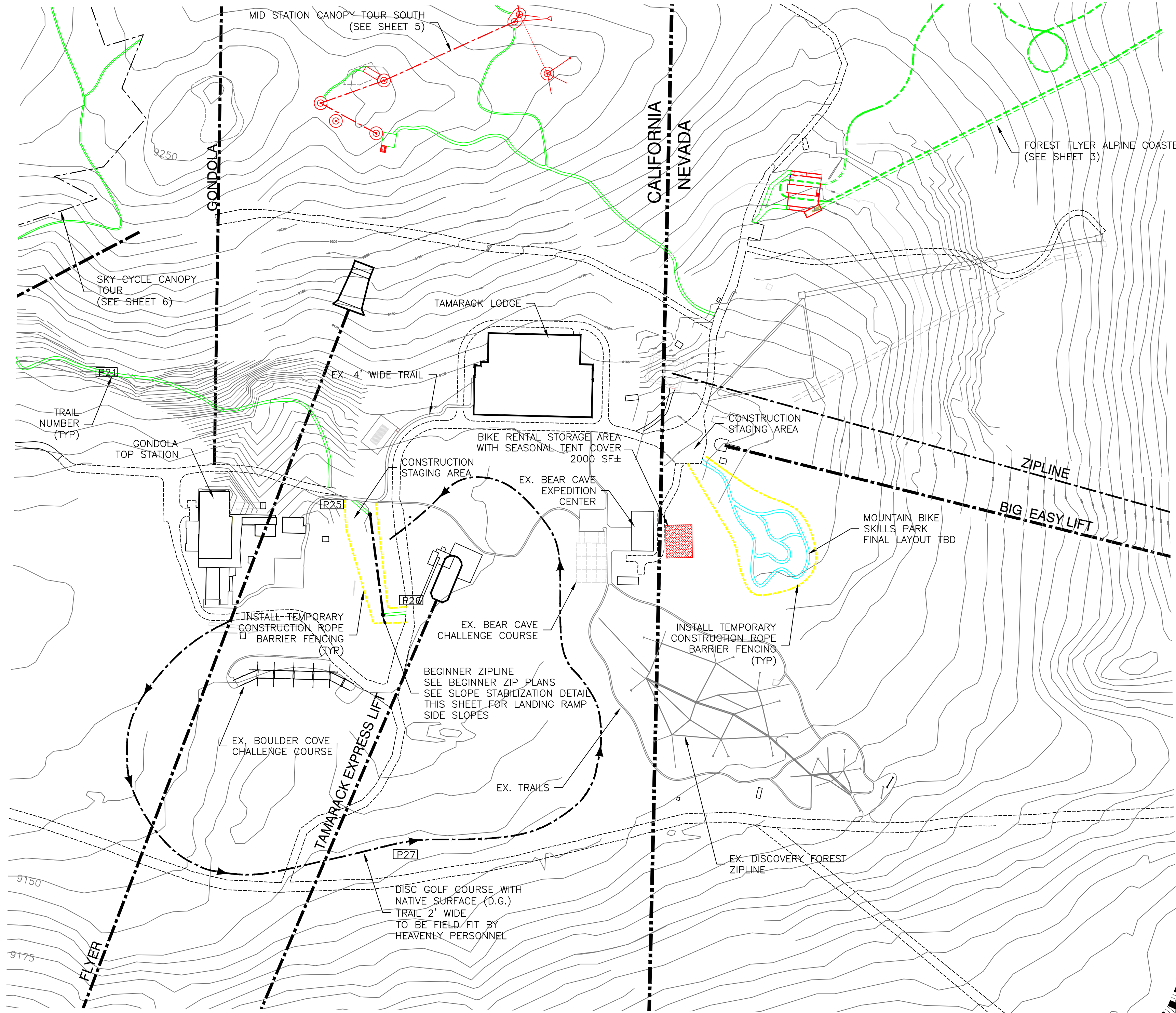
- ALL TRAILS SHALL BE AT GRADE. NATIVE MATERIAL TRAILS THAT ARE FIELD FIT TO MINIMIZE REMOVAL OF VEGETATION AND UTILIZE THE NATURAL TOPOGRAPHY TO MINIMIZE THE GRADES.
- STACKED SWITCHBACKS SHALL BE MINIMIZED TO THE EXTENT POSSIBLE.
- FORMER ROADWAY PRISMS SHALL BE UTILIZED WHERE PRACTICABLE FOR NEW TRAIL ALIGNMENTS.
- ALL TRAIL CONSTRUCTION CORRIDORS OUTSIDE OF THE TRAIL ITSELF SHALL BE REVEGETATED PER THE REVEGETATION SPECIFICATIONS INCLUDED IN THESE PLANS.

REVIEW SET
NOT FOR CONSTRUCTION

Call before you Dig

1-800-642-2444

UNDERGROUND SERVICE ALERT (USA)

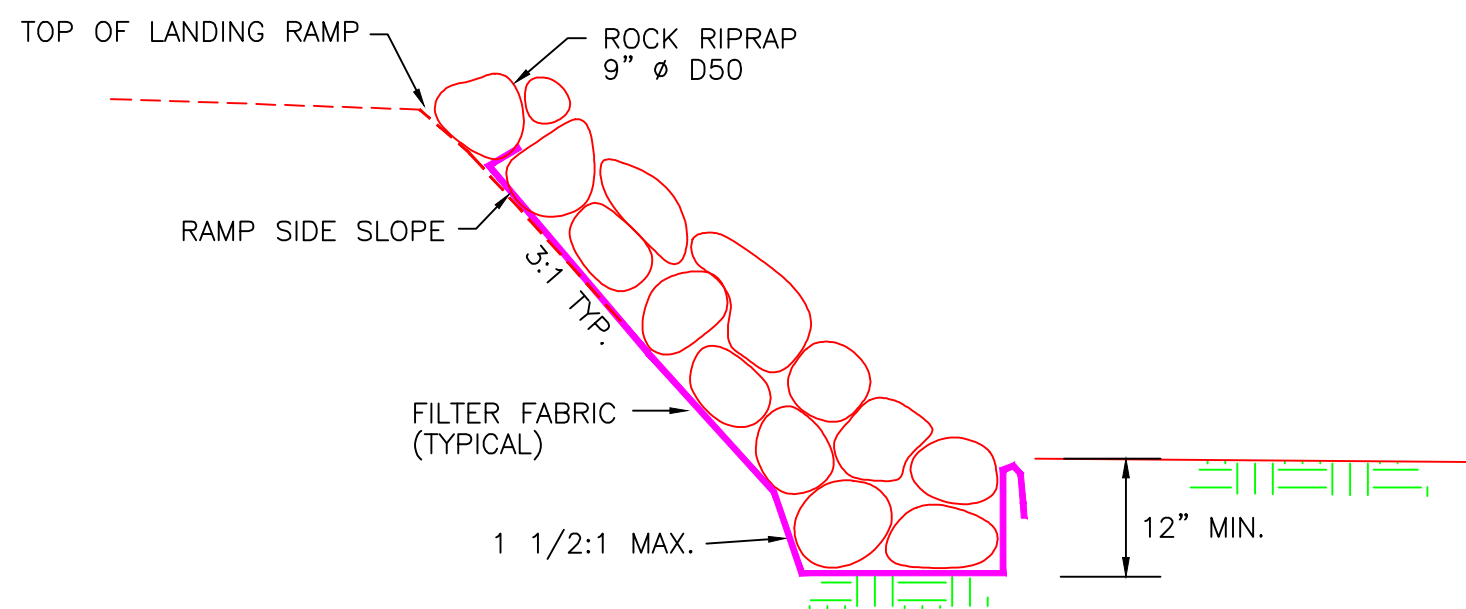


LEGEND:

- [P2] PUBLIC HIKING TRAILS
[M2] ADMINISTRATIVE MAINTENANCE TRAILS

NOTES:

1. ALL TRAILS SHALL BE AT GRADE, NATIVE MATERIAL TRAILS THAT ARE FIELD FIT TO MINIMIZE REMOVAL OF VEGETATION AND UTILIZE THE NATURAL TOPOGRAPHY TO MINIMIZE GRADES.
2. STACKED SWITCHBACKS SHALL BE MINIMIZED TO THE EXTENT POSSIBLE.
3. FORMER ROADWAY PRISMS SHALL BE UTILIZED WHERE PRACTICABLE FOR NEW TRAIL ALIGNMENTS.
4. ALL TRAIL CONSTRUCTION CORRIDORS OUTSIDE OF THE TRAIL ITSELF SHALL BE REVEGETATED PER THE REVEGETATION SPECIFICATIONS INCLUDED IN THESE PLANS.



SLOPE STABILIZATION
KIDDIE ZIP LANDING RAMP SIDE SLOPES
NOT TO SCALE

REVIEW SET
NOT FOR CONSTRUCTION

Before You Dig
CALL !
541-DIG-5
Avoid cutting underground utility lines. It's costly.
before you Dig
1-800-642-2444
UNDERGROUND SERVICE ALERT (USA)

HEAVENLY MOUNTAIN RESORT
Adventure Peak Epic Discovery Activities

ADVENTURE PEAK INFILL ACTIVITIES

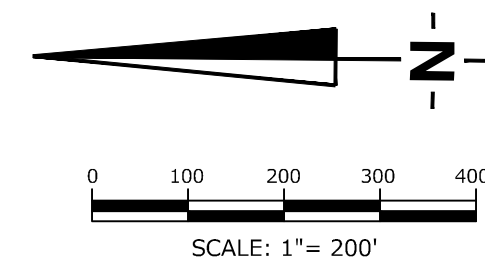
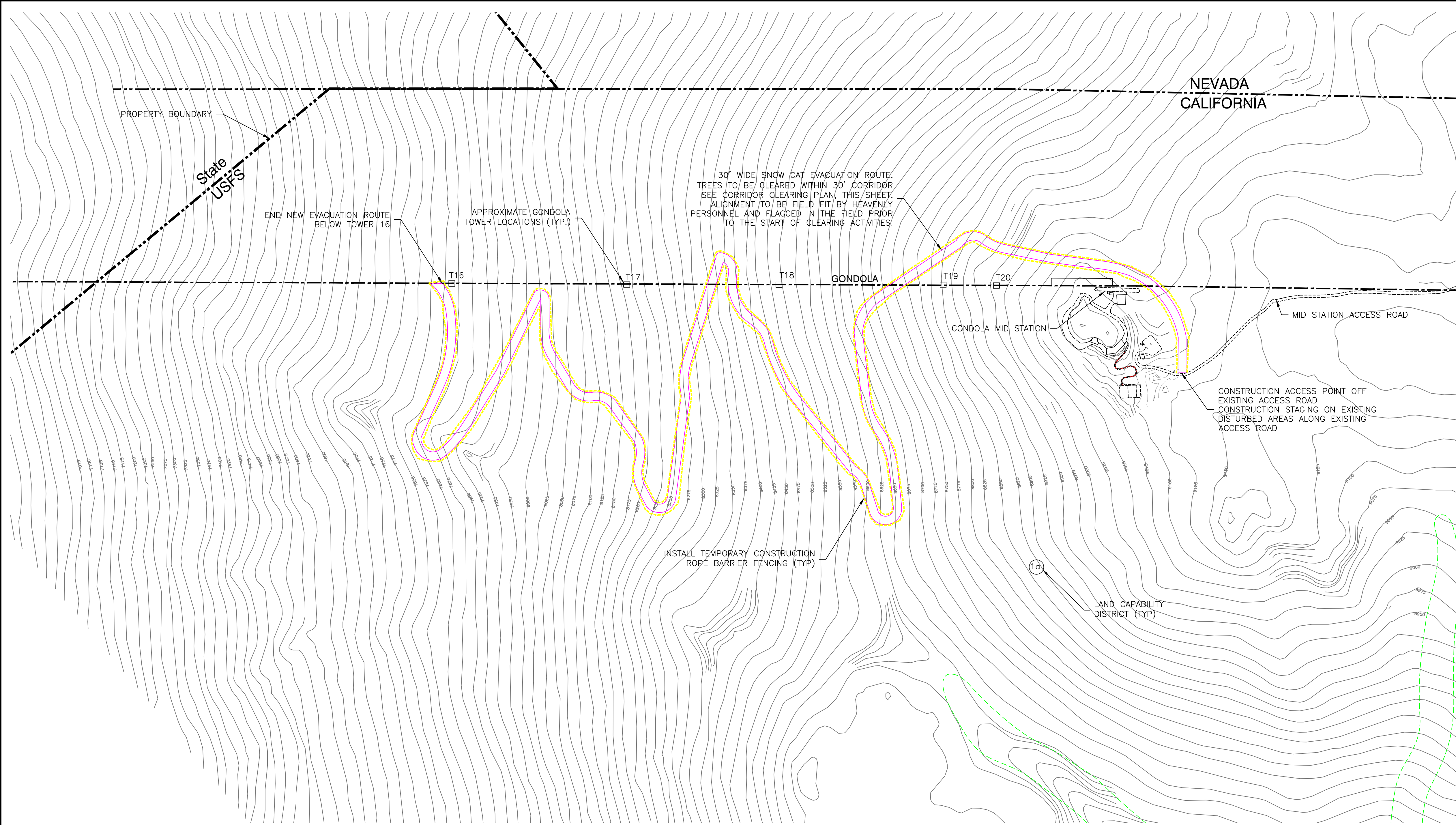
Engineering • Surveying • Water Rights
Resources & Environmental Services
www.rci-nv.com
Carson City
340 N. Minnesota St.
Carson City, NV 89703-4152
775-883-1600
Zephyr Cove
212 Elks Point Rd., Ste. 443
Zephyr Cove, NV 89448-8020
775-588-7500



REVISION	DATE

JOB NO.:	12-602.7
DATE:	02-27-14
DESIGNED:	MMG
DRAWN :	MLM/FRB
CHECKED:	MMG

SHEET 7



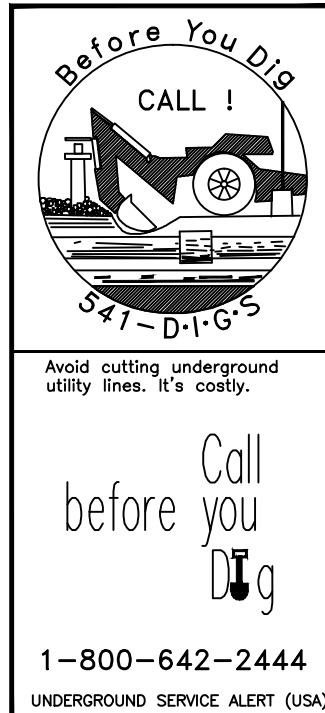
CORRIDOR CLEARING PLAN

- PROJECT PRESCRIPTIONS**
The following prescriptions will be implemented. A combination of prescriptions, outlined below, will be field-verified by Heavenly representatives and those of other agencies.
 - Prescription 1: Protect Native Plants and Revegetate**
 - Existing native shrubs along the proposed evacuation route will be field identified and avoided to the greatest extent possible.
 - Prescription 2: Remove Noxious Weeds**
 - Noxious weeds shall be flagged by a qualified Heavenly representative or consultant, isolated from project activity, and reported to the Lake Tahoe Basin Management Unit's (LTBMU) Ecosystem Conservation Department for formal taxonomic identification and removal activity scheduling.
 - Prescription 3: Construction Techniques**
 - The optimum pieces of equipment given the site conditions shall be used to minimize unwanted environmental effects. Typically, the work will be completed using hand tools and/or a spider hoe.
 - All mechanical construction equipment used shall be limited to the 30-foot wide evacuation route corridor.
 - All areas disturbed due to equipment movement shall be scarified and mulched with with a pine needle mulch incorporated into the top two inches of soil.
 - Prescription 3: Chip Existing Felled Trees and Large Woody Debris (less than 10 inches)**
 - All existing limbs shall be either chipped and spread evenly or scattered where the maximum height does not exceed 12 to 18 inches.
 - Existing felled trees shall be chipped and the resulting mulch evenly distributed to an average depth of three inches.
 - Prescription 4: Treat Existing Large Diameter Logs (greater than 10 inches)**
Large diameter logs cannot be mechanically chipped and will be treated separately as described below:
 - Existing large diameter logs shall be removed from the corridor.
 - Logs shall be placed in adjacent forested areas off the designated corridor to mimic natural surroundings.
 - Logs along steeper sections will be mechanically placed perpendicular to the slope where needed to reduce soil erosion hazards.
 - Prescription 5: Grind Existing Tree Stumps**
 - Stumps shall not be removed and soil disturbance will not occur.
 - Stumps shall be cut or ground to less than 6 inches in height from the soil surface whenever safety possible.
 - Existing rounds shall be removed in order to provide a more natural appearing condition.
 - Prescription 6: Reduce Height of Boulders**
 - Boulders shall be capped (blasted with explosives) to a height between 12 to 18 inches.
 - Boulders will be moved by hand whenever possible, but the equipment onsite may also be utilized.
 - Fragments shall be placed as to maximize contact with the soil surface with efforts to mimic the natural surroundings.

- IMPROVING SOIL RESOURCES**
 - Rather than simply spreading the wood chips or other organic material on top of the soil, use the aged organic material from the Heavenly stockpile to blend into the onsite soil when possible based on site constraints.

- WILDLIFE HABITAT**
 - Leave all shrubs and groundcover that are 18" in height or less in the corridor.
 - Leave some areas of bare soil in order to serve as seed caches for rodents and birds.
 - When placing rock on the slope, create pockets within groups of rock and create rock ledges with overhangs in order to provide refuge for rodents and small mammals.
 - Rocks that are capped should have any removed pieces that are intact left in the corridor and arranged in such a manner that leaves overhangs and other spaces for wildlife shelter.
 - Provide variety of higher heights of rock, not simply the minimum height of 12 inches (this technique will also provide visual quality benefits).
 - Logs equal to or less than 18" diameter will be trimmed of branches so that all branches that are lower in height than the diameter of the log remain in order to provide micro-scale habitat for rodents and small mammals.
 - Logs between 12" and 18" diameter should be present in densities at or greater than the surrounding forest, or not less than 10 logs per acre, whichever is greater.
 - Logs should be aligned across the slope on the ground surface.
 - Logs greater than 18" in diameter shall be moved to the edge of the corridor.
- VISUAL QUALITY**
 - Randomly feather logs across the slope from the cleared corridor into the edges of the adjacent forested areas in order to add visual variety and avoid uniform log placement.
 - Do not create longitudinal depressions or troughs that can serve as conduits for surface water runoff removing large volumes of soil or rock which result in a significant alteration of the slope shape.

REVIEW SET
NOT FOR CONSTRUCTION



REVISION	DATE

JOB NO.:	12-602.7
DATE:	02-27-14
DESIGNED:	MMG
DRAWN :	MLM/FRB
CHECKED:	MMG