

TAOS | 2021

MASTER DEVELOPMENT PLAN



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ACCEPTED BY: Refer to acceptance letter

James Duran
Forest Supervisor
Carson National Forest

DATE: October 21, 2021

PREPARED BY:  **SE GROUP**



United States
Department of
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Forest
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Southwestern Region 3 Carson National
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File Code: 2700
Date: October 21, 2021

John Kelly, Vice President-Operations
Taos Ski Valley Inc.
116 Sutton Place
Taos Ski Valley, NM 87525

Dear Mr. Kelly,

The purpose of this letter is to accept your 2021 Master Development Plan (MDP) for Taos Ski Valley Inc. (TSV). The 2021 MDP supersedes the 2010 MDP. As you are aware, an MDP is a requirement of your special use permit, which has been satisfied by your submission and my acceptance.

The Forest Service is required to review and coordinate with ski area permit holders to develop an MDP that encompasses the year-round resort activities envisioned for development, and to ensure that planned projects are consistent with applicable Land and Resource Management Plans (Forest Plans). We appreciate the work you and your staff have performed in preparing your comprehensive MDP, especially your commitment and efforts in working with key stakeholders and communities to develop the plan. The MDP does an excellent job identifying the existing and desired conditions for the ski area and the improvements proposed on National Forest System lands within your permit boundary.

Sincerely,

JAMES D. DURAN
Forest Supervisor

CC: Adam Ladell, Amy Simms





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PREFACE

This Mountain Resort Master Development Plan (MDP) is intended to be the guiding document for future development at Taos Ski Valley. Illustration 1 on the following page is a visual representation of the process on which this document is based.

First, an overall resort vision and guiding goals were determined based on public input, market needs, resort niche and long-term outlook. Taos Ski Valley hosted a series of public meetings that were used to shape the overall resort vision and guiding goals, while also vetting preliminary concepts of these overarching statements that were developed internally. These vision and goal statements help inform the entire process; that is, to help answer questions such as, “What’s important to our guests?”, “What makes our resort special?”, and “Where should we invest our time, money and resources?”

With a vision and goals established, the next step is to inventory existing conditions at the resort to identify existing strengths, weaknesses, opportunities, and constraints. This is critical information that goes into the resort planning phase. Details are collected such as the number of lifts and their conditions, the square footage of guest service spaces and how many parking spaces are available. Physical resources are also inventoried to help identify ideal locations to develop or areas to avoid due to environmental sensitivity.

The next phase of the MDP process is to analyze existing capacities of various facility components to determine imbalances within the operation. Collectively, this analysis leads to the identification of improvements that would bring existing facilities into better balance, help the resort prioritize projects and help the resort to operate more efficiently. Accomplishing these goals will result in a well-balanced resort, which provides an adequate array of services and experiences to satisfy guest expectations for a quality recreation experience. The results of this process are documented in this MDP.

This MDP is divided into five chapters, plus appendices:

Chapter 1—Introduction: provides an overview of the plan, summary of Taos Ski Valley’s location and market, statement of the plan vision and goals, and an overall summary of the MDP.

Chapter 2—Design Criteria: defines and describes key mountain planning concepts, assesses physical resources such as topography and slope gradients and discusses applicable Forest Service policy, direction and agreements.

Chapter 3—Existing Conditions: describes existing resort facilities for both winter and summer, and evaluates the current balance of resort operations, facilities, and infrastructure. This includes lifts, terrain, guest services, snowmaking and parking. This chapter also provides the baseline conditions which drive the Upgrade Plan.

Chapter 4—Previously Accepted Projects, Yet to Be Implemented: describes projects that have been previously accepted by the Forest Service but have not yet been implemented. It is anticipated that the majority of these projects will ultimately be implemented as capital decisions are made.

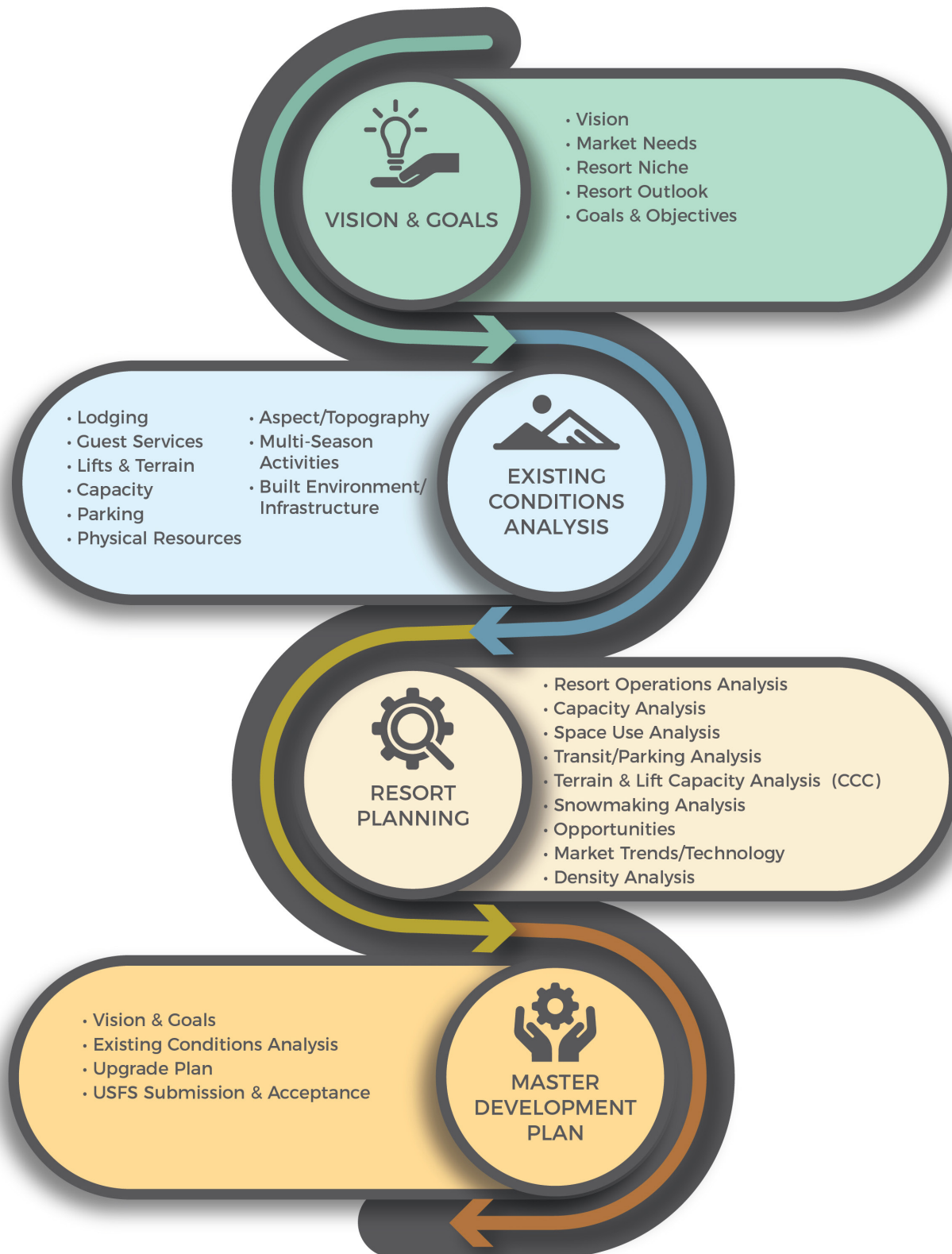
Chapter 5—Upgrade Plan: describes the proposed upgrades and improvements to the experience at Taos Ski Valley.

Appendix A: provides terrain specifications and additional space use details for existing conditions and the Upgrade Plan.





ILLUSTRATION 1. THE MDP PROCESS





CHAPTER ONE

INTRODUCTION



A. PURPOSE OF A MOUNTAIN RESORT MASTER DEVELOPMENT PLAN

Many mountain resorts across the country are partially or completely located on public lands. Each mountain resort on National Forest System (NFS) lands must obtain a U.S. Department of Agriculture Forest Service (USDA Forest Service or Forest Service) special use permit (SUP) to operate on public lands. Forest Service SUPs require the preparation of a Master Development Plan (MDP) that identifies the existing and desired conditions for the resort and the proposed improvements on the NFS lands within the permit boundary.

This MDP fulfills this requirement and provides direction for the future development and improvement of Taos Ski Valley (Taos), ensuring both a balance of facilities and a wide variety of amenities affording an exceptional recreational experience in a manner which is sustainable to the business, operations, and the surrounding environment. This MDP provides a thorough assessment of existing operations and facilities at Taos and identifies a comprehensive plan for future improvements to the resort. This MDP replaces the Taos Ski Valley 2010 Master Development Plan (2010 MDP) and is intended to be the guiding document for Taos over the next ten years.

This MDP was created using an iterative and collaborative process between Taos planners, Forest Service personnel who administer the SUP, stakeholders, and SE Group – the resort consultants. Forest Service “acceptance” of this MDP is consistent with the requirements of Taos’ SUP and replaces the 2010 MDP. Many of the projects in the 2010 MDP were analyzed and approved in the 2012 Environmental Impact Statement (EIS) and Record of Decision (ROD) and have been implemented or are expected to be implemented over the next few years. Therefore, these projects are part of the Existing Conditions at Taos (Chapter 3), or are included in the Previously Accepted Projects, Not Yet Implemented (Chapter 4).

Forest Service acceptance of this document as a planning tool for Taos does not imply authorization to proceed with implementation of any of the projects that are identified herein. Therefore, all projects identified within this MDP that have not been previously approved by a prior National Environmental Policy Act (NEPA) process will require site-specific environmental analysis and approval per the NEPA before they can be implemented. This MDP is intended to be a dynamic document, which may be amended periodically to reflect innovations in facilities and recreation.

PLANNING + DESIGN NOMENCLATURE

Throughout this document, text highlights (like this one) have been included to explain the various planning and design concepts that are utilized throughout the MDP process.



B. LOCATION

Taos is located primarily on lands under the jurisdiction of the Questa Ranger District of the Carson National Forest (CNF) in Taos County, New Mexico. With the exception of private lands at the main base area, and a small portion of private land at the base of Chair 4 owned by Taos, the entirety of Taos' existing lift, trail and infrastructural network is operated on public lands under Taos' SUP. This 40-year SUP, signed in 2014, encompasses approximately 1,290 acres and is administered by the Forest Service. An additional 200 acres of private land encompass the remainder of the resort and related operations.

The SUP area is contained within the following Public Lands Survey System areas: Township 27N, Range 14E, 23. Ski area infrastructure operates at elevations ranging from approximately 9,200 feet above mean sea level (amsl) in the base area to 12,480 feet amsl at the top of Kachina Chairlift.

Taos is approximately 70 miles northeast of Santa Fe, New Mexico and 125 miles northeast of Albuquerque, New Mexico, the largest metropolitan area in New Mexico, with a population of over 500,000 (refer to Figure 1). It is accessed by NM 150, which travels up a scenic valley to reach Taos, off of NM-522, a north-south highway that travels between Taos and Costilla, New Mexico. Taos provides a variety of high-altitude mountain adventures, which stand in stark contrast to the surrounding high desert areas of New Mexico, and this serves as an attraction during both the winter and summer seasons. The recreation opportunities available at Taos, from skiing steep treeless chutes in the winter to hiking the CNF in the summer, provide a steady stream of visitors seeking to explore the forest and recreate on public lands.





C. RESORT SUMMARY

Taos is New Mexico's most iconic ski area, offering an authentic New Mexico experience under the backdrop of Wheeler Peak, the highest peak in the state. The ski area's proximity to the historic Town of Taos and embrace of the region's rich and diverse culture provides an experience unlike many others in the country. Further, Taos is the first major ski resort to become a certified B Corporation. This certification helps ensure that Taos meets the highest standards of verified social and environmental performance, sustainability, public transparency and legal accountability.

Taos currently operates 14 lifts: one 6-person gondola, four quad chairlifts, four triple chairlifts, one double chairlift, and four surface lifts. Developed terrain includes 91 developed trails, totaling roughly 413 acres. An additional 331 acres of glades, steeps, and hiking terrain are available, but are not accounted for in Taos' developed terrain network. The resort is characterized by two distinct, but interconnected areas: the Backside, which includes terrain off Lifts 4, 7, 7a, and the Kachina Peak Lift as well as the Kachina Basin base area, and the Frontside, which includes Lifts 1, 2, 8, the beginner lifts, and the Frontside base area. Skier support facilities include one on-mountain restaurant—the Whistlestop Café—and associated facilities in the Frontside base area, including Tenderfoot Katie's Café, the Martini Tree Bar, and Rhoda's Restaurant. Day-skier parking is provided in the base area. Snowmaking covers approximately 200 acres of Taos' beginner and intermediate terrain and helps ensure quality snow conditions, primarily in early season periods. Summer activities include special events—like conferences and wedding—as well as via ferrata climbing and some mountain biking and hiking along mountain roads. Taos also runs Lift 4 in the summer for sightseeing, and uses this lift to support their recently constructed mountain biking trails as well as the via ferrata routes that were completed in the summer of 2020.

Ski areas in the regional vicinity of Taos include: Red River, Angel Fire, Sipapu, and Santa Fe. Taos' market is primarily composed of day skiers from the Taos area, and regional destination visitors. Additionally, Taos does receive destination visitors from the national scale, a market that is expanding with the Taos Air program. Lodging options for Taos' destination guests include hotels, condos, and single-family homes on private lands at Taos, as well as in nearby Taos. The U.S. Census Bureau reports that in 2018, the Town of Taos had a population of 5,971 and Taos County had a population of 32,835. Taos typically has 150 year-round positions, with an additional 900 seasonal full-time and part-time positions. Most of its employees live in Taos County.

In terms of the economic input that Taos represents to the Town and County, the business operation typically draws on the order of millions of dollars in gross sales. In general, in resort areas, economic modeling has shown that for every dollar that is directly spent at a ski area, two to three dollars (ancillary expenditures) are spent in the local community on other goods and services such as food and beverage, gas, hotels, and merchandise. Therefore, the millions of dollars spent at Taos translate into much more spent at the Town and County levels, including taxes that guests pay. Overall, Taos is a substantial economic driver in the community.



As demonstrated in Table 1, Taos' annual visitation has fluctuated over the past 10 seasons—from a winter high of 260,733 visits in the 2018/19 season, down to 158,892 in the 2017/18 season. In the eleven-year period between the 2009/10 and 2019/20 seasons, Taos averaged 227,791 annual winter visits. However, in the ten-year period in the 1990s (1990/91 through 1999/00 seasons) it averaged 296,000 annual visits, equating to a one-quarter drop in visitation between this time period and the past 10 seasons. Taos averages 130 operational days per season.

TABLE 1. TAOS SKI VALLEY SKI AREA ANNUAL VISITATION

Season	Winter	Summer	Total
2019/20	238,661	6,766	245,427
2018/19	260,733	5,942	266,675
2017/18	158,892	Closed	158,892
2016/17	229,987	8,474	238,461
2015/16	251,304	3,392	254,696
2014/15	241,182	4,656	245,838
2013/14	215,181	4,728	219,909
2012/13	219,789	4,964	224,753
2011/12	239,382	4,080	243,462
2010/11	193,716	5,205	198,921
2009/10	256,879	6,515	263,394
AVERAGE	227,791	4,975	232,766

Notes: Taos had an abbreviated 2019/20 winter season because of Covid-19 and visitation was reduced as a result.





D. PLAN VISION + GOALS

As a result of evolving expectations and demands in today's skier/rider market, resorts are increasingly focusing on raising service standards, improving the recreational experience, and addressing shortcomings in their terrain offerings and operations. In essence, Taos must strive to improve its offerings in order to remain viable in the competitive destination skier/rider market. Specifically, Taos is interested in improving the access to, and diversity of, their existing terrain and facilities. Therefore, this MDP focuses primarily on improving conditions on existing trails, enhancing access across the mountain, and expanding undeveloped terrain within the existing SUP area as well as upgrading various facilities to improve the guest experience.

This conceptual planning document essentially serves as a "road map" for future improvements at Taos. By identifying the type, size, capacity, and location of improvements that are appropriate to achieve the goals of the resort, this MDP establishes the direction and priorities for the physical improvement of mountain and base area facilities at Taos over roughly the next decade. Thus, this document provides a comprehensive portrayal of how Taos will function as a cohesive resort across both public and private lands. It is expected that additional site-specific design will be warranted and completed at the time of individual project proposal, analysis, and implementation on both NFS and private lands.

It is important to note that this is intended to be a dynamic document, which may be amended periodically in response to changes in Taos' market, the evolution of the ski/snowboard industry, and technological innovations.

Nationally, there were over 59 million skier visits in the 2018/19 winter, which is an increase of nearly 11 percent over the previous season. Over the past decade, annual visitation has ranged from a low of 51 million in 2011/12 to a high of 60.5 million in 2010/11. The large variance in visitation can be attributed to variable weather and economic conditions. Despite these variances, the Rocky Mountain region had its best season ever in terms of snow sports visits in 2018/19. The Rocky Mountain region includes Colorado, Utah, New Mexico, Wyoming, Idaho, and Montana.¹

To address the growth in the New Mexico skier market and, more importantly, to meet increasing guest expectations, Taos must continue to develop and improve its on-mountain and base area facilities. The development of additional on-mountain facilities, improved lifts, improved conditions on existing terrain and better access to gladed terrain at Taos is in direct response to evolving consumer demands and the competitive regional destination ski market. The improvements illustrated within this MDP were designed to enhance the recreation experience of current Taos guests.

Taos' niche in the ski industry (defined previously) and the clientele it serves helped cultivate the concepts found throughout this document. This MDP has identified numerous opportunities that, when capitalized on, will greatly improve the recreational experience and help ensure the resort's viability.

¹ National Ski Areas Association. 2019. Kottke National End of Season Survey 2018/19. July.



E. SUMMARY OF THE UPGRADE PLAN²

1. LIFTS

- New Base-to-Base gondola to connect the base area to Kachina Basin base adjacent the bottom terminal of Lift 4
- Lift 2 replacement with a detachable or fixed grip quad
- Lift 8 replacement with a detachable or fixed grip quad
- Lift 7 replacement with a fixed-grip quad
- Lift 7a replacement with a fixed-grip triple
- Lift 4 replacement with a detachable quad
- Pioneer Lift realignment and replacement with fixed-grip triple or quad
- Additional magic carpets in Pioneer area

2. TERRAIN NETWORK

- Trail improvements on existing terrain, such as widening and grading in various locations to improve skier flow
- Additional trail improvements (regrade) for racing
- A regrade of the existing *Rubezahl* ski trail
- Retaining walls to be installed on *White Feather*, *Powderhorn* and *Upper Powderhorn*, *Porcupine Upper*, and the top segment of *Honeysuckle*
- A variety of trail extension segments to enhance circulation and ski trail connectivity
- Glading in an approximately 85-acre area to create the Minnesota Glades
- Glading across approximately 25 acres of land in the area below Lift 8 for forest health, fire break, and ski access purposes
- Glading between *Al's Run* and *North American*, adjacent to Lift 1

² The Lifts 4 and 7 upgrades, a section of the Minnesota Glades, East guest drop off area and parking lot reconfiguration, and mountain biking trails are previously approved but are integral to the overall resort experience and are therefore included in this summary.





3. UPGRADED GUEST SERVICES FACILITIES

- Pioneer Base Area redesign to include the Base-to-Base gondola, teaching area improvements, and multi-season activities
- Multi-use building at the top of Lift 4 that includes support for multi-season recreation, food service space, warming room, ski patrol space and restrooms
- Multi-use building at the top of Lift 2 that includes food service space, warming room, ski patrol space and restrooms
- Restaurant near the top of Lift 7 to provide additional on-mountain food service space
- Replacement and potential relocation of Whistlestop Café to serve as mid-mountain warming hut, restaurant, and provide restrooms
- Ski School structures for children to ski through and new timber entrance gate for Maxie's terrain park

4. UPGRADED PARKING CAPACITY AND RESORT ACCESS

- Development of a new guest drop-off area along Thunderbird Road
- Reconfiguration of Taos' existing parking lots (i.e., Armadillo, Bison, and Bear) to improve traffic flow, construction of an additional parking lot, and regrade of certain sections of the parking lots to improve vehicular access to the new East Guest Drop-Off Area
- Additional upgrade of the existing parking lots, including grading and paving of certain sections, to improve the guest parking and arrival experience
- Additional RV parking and utility hookups in the existing Gila Lot



5. UPGRADED RESORT OPERATIONS

- Ski patrol upgrades, including space in the multi-use buildings at the top of Lift 2 and at the top of Lift 4
- Storage facility/warehouse near existing vehicle maintenance facility
- Various snowmaking upgrades including:
 - » New snowmaking pipe and coverage on *Al's Run*, on the Frontside
 - » New snowmaking pipe on *Lower Patton* and new snowmaking line and coverage from *Hunziker* down to *Ruby Gully*, in the Backside
 - » Reroute of snowmaking pipe on *White Feather*, *Powderhorn*, and *Porcupine*
 - » Snowmaking booster station, water storage tank, and associated snowmaking pipe installation and movements on Frontside near the base of Lift 2. These upgrades would also provide improved fire suppression for the Frontside of the mountain.
 - » Pumphouse near the Kachina Peak Lift in the Backside
- Snow fencing projects to support better snow retention in key areas
- Installation of remote avalanche control systems, including bomb trams along *Cabin Chute* and *K1*
- Installation of various winch cat anchor points on advanced groomed terrain across the mountain
- Variety of infrastructure and utility projects, including solar installation and power/water/wastewater line upgrades
- Development of a mountain road from bottom terminal of Lift 8 to the existing vehicle maintenance facility

6. MULTI-SEASON ACTIVITIES

This MDP takes the existing setting alongside the anticipated use of the area to establish value-oriented and strategic prescriptions, or “zones” to assist with planning opportunities for multi-season recreation at Taos. These multi-season zones, discussed in Chapter 5, Section H, identify appropriate activities for sections of Taos during multi-season use. While the zones provide strategic guidance for activities, Taos has identified the following activities as priorities for implementation:

- Additional hiking and mountain biking trails, including two trails (one hiking trail and one mountain biking trail) that will connect the top of Lift 4 to the base of Lift 1 and will traverse over the Frontside
- Installation of additional via ferrata routes to those that were approved in the 2019 Taos Via Ferrata Project
- Installation of a ropes course in Pioneer area







CHAPTER TWO

DESIGN CRITERIA + SITE INVENTORY



Establishing design criteria is an important component of mountain planning. Ski area development and improvements are influenced by design criteria in regard to how the various facilities are planned and implemented. Trail design, lift specifications, design capacity, skier services, mountain operations infrastructure, and architectural themes are important considerations in developing a quality ski experience at Taos.

The following is an overview of the basic design criteria upon which this MDP is based.

A. DESTINATION RESORTS

One common characteristic of destination resorts is that they cater to a significant vacation market and thus offer the types of services and amenities vacationers expect. At the same time, some components of the destination resort are designed specifically with the day-use guest in mind (e.g., day-use parking). Additionally, the employment, housing, and community services for both full-time and second-home residents created by destination resorts all encourage the development of a vital and balanced community. This interrelationship is helpful to the long-term success of the destination resort.

Destination mountain resorts can be broadly defined by the visitation they attract, which is, in most instances, either regional or national/international. Within these categories are resorts that are purpose-built and others that are within, or adjacent to, existing communities. Taos and the surrounding community is an example of such a resort that exists adjacent to an existing city that is rich in cultural history and provides a destination guest with a sense of the Mountain West and its mining and ski history. In addition, the proximity of Taos to the Taos Pueblo provides guests with a unique sense of the tribal history of the area. This combination of a desirable setting and history supplements the overall experience of a guest visiting Taos, which has become a regional, national, and international destination resort.

1. REGIONAL DESTINATION RESORTS

Destination resorts appeal and cater to a significant fly-in market, due to the remote location of the ski resort in relationship to large populated areas. The National Ski Area Association's National Demographic Studies indicate the Rocky Mountain region is by far the region where flights are most likely to be a part of the trip for overnight visitors (67 percent used flights). Together, Taos and the community both need to continue to provide reliable, consistent air service for destination travelers.

Destination guests expect opportunities in a variety of vacation experiences. This guest mindset stems from the expectation that their destination vacation will likely represent the highpoint of their skiing season, and hence the appetite for varied experiences will be great. In addition to a week-long visit, guests may also hope to participate in the resort and community on a more regular or permanent basis (through ownership of real estate and part-time residency).

There is a growing demand for mountain destination resorts to provide activities outside of snow sports. At some of the more mature mountain destinations, non-skiing and non-wintertime guests account for a significant percentage of overall guest population. As a result, most ski areas are operating summertime activities including hiking, mountain biking, aerial adventure courses, and canopy tours.



As a destination resort, the services are set up differently from a “drive market” resort. Although day skier parking is still needed for the regional drive market, the amount is less than what is needed for a predominantly “day-visit” ski resort. Much of the needed parking is provided by the lodging facilities that accommodate the destination travelers. The parking numbers reflected in this MDP take into account the fact that a large portion of the skier and summer visits come from destination travelers.

2. NATIONAL AND INTERNATIONAL DESTINATION RESORTS

National and international destination resorts appeal and cater to a significant “fly-in” market, due to a combination of the unique character and level of services offered by the mountain facilities and/or base village. Taos’ national/international guest expectations are higher than those of many of their regional destination guests. These guests expect abundant opportunities to participate in a variety of vacation experiences. This mindset stems from the expectation that their destination vacation will likely represent the apex of their skiing season, and hence their appetite for varied experiences will be great. Like regional destination guests, national and international guests may also desire to involve themselves in the resort and community on a more regular or permanent basis (through ownership of real estate and part-time residency).

There is a growing demand for mountain destination resorts to provide activities outside of snow sports. At some of the more mature mountain destinations, non-skiing wintertime guests account for a very substantial percentage of overall guest population. Furthermore, many of the guests who do ski will not use the mountain facilities every day of their visit. Thus, the ratio of total days skied to total room-nights can be as low as 1:2. Even for day-use guests at a destination resort, skiers are spending less of their day on the mountain. This is due to several factors, including: (1) shifting expectations of what a mountain vacation is about (participation in a variety of experiences, not just skiing); (2) the advent of high-speed lift technology (allows guests to satisfy their vertical demand in a shorter period of time); and (3) an aggregate population of guests, which is aging and requires lesser amounts of vertical demand. In the summer, many resorts and communities have very high summer utilization due to a dramatic increase in summer mountain vacations. All of these trends add up to a significant demand for attractions and amenities that complement a resort’s skiing facilities.

National and international destination resorts offer a wide variety of lodging types, including hostels, motels, hotels, inns, bed and breakfast inns, townhomes, condominiums, and single-family chalets. Visitor participation in the real estate market includes ownership—either whole or fractional—as well as “usage,” which comes in forms like timeshare and club participation. Amenities usually include a wide variety of restaurants, lounges, shops, conference facilities, and perhaps theatres or concert venues, recreation centers (e.g., swimming, fitness equipment, and indoor courts), etc. Aside from alpine skiing, recreational activities may include snow tubing, Nordic skiing, snowshoeing, sleigh rides, snowmobiling, mountain and road biking, walking, golf, tennis, horseback riding, angling, swimming, spa treatments, etc.

A mountain resort that evolves at the edge of an existing community—particularly one that has a tourism-based economy—typically benefits from the significant infrastructure already in place (i.e., there is less need for a resort to develop infrastructure and create services at the base of the mountain). Some mountain facilities have evolved immediately adjacent to the town and, hence, have developed virtually none of their own destination services.





B. BASE AREA DESIGN

The relationship between planning at a resort's base area developments and on-mountain lift and terrain network is critically important. This relationship affects the overall function and perception of a resort. Planners rely on resort layout as one tool to establish resort character. The manner in which resort elements are inter-organized, both inside the resort core and within the landscape setting, along with architectural style, help to create the desired character.

Design of the base lands at a mountain resort involves establishing appropriate sizes and locations for the various elements that make up the development program. The complexion and interrelationship of these elements varies considerably depending on the type of resort and its intended character. However, fundamental objectives of base area planning are to integrate the mountain with the base area for the creation of an attractive, cohesive, and functional recreational and social experience. This is essential to creating the feeling of a mountain community and can only be achieved by addressing base area components such as (but not limited to): guest service locations, skier/rider circulation, pedestrians, parking/access requirements, and mass-transit drop-offs.

Skier service facilities are located at base area and on-mountain buildings. Base area staging locations, or portals, are "gateway" facilities that have three main functions:

- Receiving arriving guests (from a parked car or a bus);
- Distributing the skiers onto the mountain's lift and trail systems; and
- Providing the necessary guest services (e.g., tickets and rentals, lodging, and food and retail).

C. MOUNTAIN DESIGN

1. TRAIL DESIGN

a) Slope Gradients and Terrain Breakdown

Terrain ability level designations are based on slope gradients and terrain features associated with the varying terrain unique to each mountain. Ability level designations are based on the maximum sustained gradient calculated for each trail, in combination with other factors present that may make a trail more difficult. While short sections of a trail can be more or less steep without affecting the overall run designation, a sustained steeper pitch may cause the trail to be classified with a higher difficulty rating. It is important to understand that slope gradient is not the only factor in assigning a trail ability designation to a specific trail. A variety of factors, such as trail width, terrain features, and the context of other trails on the mountain can cause a trail to be classified under a higher designation.



The following general gradients presented in Table 2, reflective of industry norms, are used as the basis to classify the skier difficulty level of the mountain terrain. As previously mentioned, additional considerations can compound with slope gradient and cause a trail to be classified under a higher designation.

TABLE 2. TERRAIN GRADIENTS

Skier Ability	Slope Gradient
Beginner	8 to 12%
Novice	to 25%
Low Intermediate	to 35%
Intermediate	to 45%
Advanced Intermediate	to 55%
Expert	over 55%

Source: SE Group, Mountain Planning Guidelines

The distribution of terrain by skier ability level and slope gradient is compared with the market demand for each ability level. It is desirable for the available ski terrain to be capable of accommodating the full range of ability levels reasonably consistent with market demand. The market breakdown for the Rocky Mountain skier market is shown in Table 3.

TABLE 3. SKIER ABILITY BREAKDOWN

Skier Ability	Percent of Skier Market
Beginner	5%
Novice	15%
Low Intermediate	25%
Intermediate	35%
Advanced Intermediate	15%
Expert	5%

Source: SE Group, Mountain Planning Guidelines





b) Trail System

A resort's trail system should be designed to provide a wide variety of terrain to meet the needs of the entire spectrum of ability levels, as well as the resort's particular market. Each trail should provide an interesting and challenging experience within the ability level for which the trail is designed. Optimum trail widths vary depending upon topographic conditions and the caliber of the skier/rider being served. The trail network should provide terrain for the full range of ability levels consistent with each level's respective market demand.

In terms of a resort's ability to retain guests, both for longer durations of visitation and for repeat business, one of the more important factors has proven to be terrain variety. This means providing developed runs for all ability levels—some groomed on a regular basis and some not (bowls, trees, and terrain parks and pipes).

In summary, a broad range of terrain satisfies skiers/riders from beginner through expert ability levels within the natural topographic characteristics of the ski area.

Taos operates one terrain park within its developed trail network (currently the Maxie's Terrain Park adjacent to Lift 7), which affects the trail system from an operational standpoint and may change the skier/rider ability classification of the trail. It is common at ski areas for the locations and/or configurations of terrain parks to vary from year to year. Terrain parks are not part of the trail system themselves but rather an operational combination of certain trails and uses within the trail system (e.g., moving snow, creating terrain features, additional fencing and signage).

2. LIFT DESIGN

The goal for lift design is to serve the available terrain in an efficient manner (i.e., having the minimum number of lifts possible while fully accessing the terrain and providing sufficient uphill capacity to balance with the available downhill terrain capacity). In addition, the lift design has to take into consideration such factors as wind, round-trip utilization of the terrain pod, access needs, the ability to connect with other lift pods, the need for circulation space at the lower and upper terminal sites, access to residential development, and the presence of natural resources (e.g., visual impacts, wetlands, and riparian areas). The vertical rise, length, and ride time of lifts across a mountain are important measures of overall attractiveness and marketability of any resort.

3. ON-MOUNTAIN GUEST SERVICES

On-mountain guest service facilities are generally used to provide shelter, food service (cafeteria-style or table service), restrooms, and limited retail, as well as ski patrol/first aid and other guest services, in closer proximity to upper-mountain terrain. This eliminates the need for skiers and riders to descend to the base area for similar amenities.



D. CAPACITY ANALYSIS + DESIGN

In ski area planning, a “design capacity” is established, which represents a daily guest population to which all ski resort functions are balanced. The design capacity is a planning parameter that is used to establish the acceptable size of the primary facilities of a ski resort: ski lifts, ski terrain, guest services, restaurant seats, building space, utilities, parking, etc.

Design capacity is commonly expressed as “comfortable carrying capacity,” “skier carrying capacity,” “skiers-at-one-time,” “persons-at-one-time,” and other ski industry-specific terms. These terms refer to a level of utilization that provides a pleasant recreational experience, without overburdening the resort infrastructure. Accordingly, the design capacity does not indicate a maximum level of visitation, but rather the number of visitors that can be “comfortably” accommodated on a daily basis. Design capacity is typically equated to a resort’s 5th or 10th busiest day, and peak-day visitation at most resorts is around 25 percent higher than the design capacity.

This MDP will use the terms “comfortable carrying capacity” (CCC) when referring to Taos’ design capacity. The accurate estimation of the CCC of a mountain is a complex issue and is the single-most important planning criterion for the resort. Related skier service facilities, including base lodge seating, mountain restaurant requirements, restrooms, parking, and other guest services are planned around the proper identification of the mountain’s true capacity.

CCC is derived from the resort’s supply of vertical transport (the vertical feet served combined with the uphill hourly capacities of the lifts) and demand for vertical transport (the aggregate number of runs desired multiplied by the vertical rise associated with those runs). The CCC is calculated by dividing vertical supply (VTF/day) by vertical demand, and factors in the total amount of time spent in the lift waiting line, on the lift itself, and in the descent.





E. BALANCE OF FACILITIES

The mountain master planning process emphasizes the importance of balancing recreational facility development. The sizes of the various guest service functions are designed to match the CCC of the mountain. The future development of a resort should be designed and coordinated to maintain a balance between accommodating guest needs, resort capacity (lifts, trails, and other amenities such as tubing), and the supporting equipment and facilities (e.g., grooming machines, day lodge services and facilities, utility infrastructure, access, and parking). Note that it is also important to ensure that the resort's CCC balances with these other components, facilities, and services at the resort. Since CCC is primarily derived from the resort's lift network, it is possible to have a CCC that is effectively lower or higher than the capacities of other resort components.

F. MULTI-SEASON RECREATION ACTIVITIES

In light of the increasing challenges of operating a sustainable ski resort given the seasonal nature of the typical five-month operating season, there has recently been a great deal of interest within the industry in developing multi-season recreation facilities and activities for guests. To elongate the traditional five-month winter operating window, winter-oriented resorts are pursuing a more sustainable fiscal and economic outlook via the development of multi-season recreation activities. Therefore, in addition to maintaining existing summer opportunities, providing an increased diversity of opportunities to a spectrum of visitors is key to Taos' multi-season activity goals. Beyond just increasing visitation in the non-winter season, multi-season recreational activities also tend to attract a more diverse range of new guests than the traditional winter activities offered at resorts. This more diverse customer base (e.g., more balanced gender demographics, older median age, and more families) is essential to the continued success of Taos. This master planning process assesses the best approach and program for adding multi-season activities and facilities in order to showcase the unique characteristics that define Taos.

As a four-season recreation destination, Taos has the opportunity to both provide and promote interactive, educational, natural resource-based recreation activities for all ages and demographics. As a permittee on the CNF who can provide access to NFS lands, Taos can facilitate exciting, challenging, and appropriate use of NFS lands, and in the process, introduce new user groups to the range of recreational opportunities that exist within their National Forests.



A strategic approach must be taken to identify reasonable and realistic opportunities for multi-season recreational activities in order to maximize the guest experience at Taos and opportunities for introduction to NFS land. This approach involves assessing the characteristics of the areas of Taos (including access, remoteness, naturalness, and infrastructure) to develop zone designations that identify the setting, desired experiences, and compatible activities and facilities for each area. The zones approach combines these characteristics with an assessment of the existing ski area infrastructure (e.g., chairlifts and guest services facilities) and physical resources (topography, vegetation, etc.) as well as a review of the relevant Forest Service Policy guidance to develop key activities suitable for Taos.

As a regional recreation destination, Taos has the opportunity to both provide and promote interactive, educational, natural resource-based recreation activities for all ages and demographics. Increasingly, there is potential to reach a wide range of ages and demographics, including those not currently being reached, through multi-season recreation activities. In doing so, these activities will improve utilization of ski area infrastructure and ensure the long-term, year-round viability of Taos and the local economy, most evident in the summer months. Snow sports are, and will continue to be, the primary use of NFS lands within the Taos SUP area and are the primary economic driver for the greater region.

G. INVENTORY OF PHYSICAL RESOURCES

1. TOPOGRAPHY

Topography is the arrangement of natural and artificial physical features of an area and includes the general surface shapes and features within the project area of Taos. Topography, along with slope gradient, is important to a ski area because it partly defines terrain variety, which is consistently ranked as the second most important criterion in skier choice of a ski destination in Ski Magazine's Reader Resort Ratings, behind snow quality. Taos' terrain is located on north-east through north-west facing slopes, topping out at 12,481 feet amsl at the summit of Kachina Peak, which is the highest lift-served terrain at Taos. The Kachina Peak Lift provides access to this terrain. The base area sits in a valley at an elevation of approximately 9,200 feet amsl. Taos averages 305 inches of snowfall each season, with 300+ days of sunshine each year.

Taos has been divided into distinct areas represented by bowls, ridges, and faces. It is home to some of the most challenging and diverse ski terrain in New Mexico and the broader Rocky Mountain region. This terrain is located on the western edge of the ski area and includes sections like West Basin Ridge, Highline Ridge, and Kachina Peak. Because of the main aspects of these slopes, varied terrain features, and the roughly 3,000 feet total vertical relief, a wind or storm from any direction can result in an avalanche hazard. Many of the slopes at Taos have been classified as "low intermittent hazard" (indicates occasional exposure to avalanches or dangerous size) because of the protective measures that are routinely applied. Taos easily qualifies as a Class A Site: High Avalanche Hazard (the site has at least one high intermittent avalanche slide path of ten or more low intermittent avalanche areas). Taos' avalanche control operations are detailed in Chapter 4.





Taos is also home to a variety of other topography, ranging from steep treed slopes to easy groomer cruiser runs within the forests of the CNF. Slopes range from steep, technical sections like those discussed above to almost flat in the base area. This type of topography allows for a range of ski opportunities. Taos' infrastructure, parking lots, and lodges are currently found on the northeastern side of the ski area, at the lowest elevation. This is a good topographic scenario for a ski area, as it provides a variety of topographical terrain as well as efficient access and circulation from the base area to that terrain.

Except for West Basin Ridge and Highline Ridge, all terrain within the SUP area is lift-served, within the distinct Frontside and Backside areas as previously described. The entire range of ability levels, minus first-time beginners, can be accommodated on all of Taos' lifts. Teaching terrain for the beginner and novice guest is limited and is only found in the base area, which is relatively flat. It is also worth noting that it is possible to ski/ride directly to the base area (i.e., without riding multiple lifts) from any point on the mountain.

2. SOLAR ASPECT AT TAOS

Taos is ideally located with predominantly northern, eastern, and western exposures. It essentially has no south-facing slopes (portions of Walkyries Bowl are an exception), which is a desirable situation.

Slope aspect plays an important role in snow quality and retention. The variety of exposures present opportunities to provide a range of slope aspects that can respond to the changes in sun angle, temperature, wind direction, and shadows. Typical constraints in relation to the various angles of exposure are discussed below.

North-facing: ideal for snow retention, minimal wind scour, minimal sun exposure

Northeast-facing: ideal for snow retention, minimal wind scour, minimal sun exposure

East-facing: good for snow retention, some wind scour, morning sun exposure

Southeast facing: fair for snow retention, moderate wind scour, morning and early afternoon sun exposure

South-facing: at lower elevations, poor for snow retention, moderate wind scour, full sun exposure

Southwest-facing: poor for snow retention, high wind scour, full sun exposure

West-facing: fair for snow retention, high wind scour, late morning and afternoon sun exposure

Northwest-facing: good for snow retention, moderate wind scour, some afternoon sun

The solar aspects of Taos are depicted on Figure 3.



3. SLOPE GRADIENTS

Slope gradient defines the angle of the trail, relative to a completely flat surface. As mentioned above, slope gradient helps define terrain variety. In addition, slope gradient defines the difficulty of terrain and, therefore, what types of skiers (novice, intermediate, etc.) are able to ski that terrain. Slope gradient also dictates trail and infrastructure development, as both completely flat trails and cliff faces are un-skiable and steep slopes are more difficult to build structures on.

The most challenging and diverse slopes of Taos, which Taos is known for, are generally located on the western section of the ski area, adjacent the top of the operational boundary. This section features only steep, high-alpine terrain. The lower portion of the ski area contains a mixture of beginner and intermediate slopes with steeper gladed and traditional trails throughout the lower, forested section of the mountain. Taos also offers one terrain park. Terrain parks have their own set of topographic guidelines with north facing, 18 to 35 percent grade terrain generally considered to provide the best opportunities for terrain park building.

Terrain ability level designations are based on slope gradients and terrain features associated with the varying terrain unique to each mountain. Regardless of the slope gradient for a particular trail, if it feeds into a trail that is rated higher in difficulty, its ability level must be rated accordingly. Conversely, if a trail is fed only by trails of a higher ability level than the maximum slope of the trail would dictate, it also must be rated accordingly.

General slope gradients are defined as:

0 to 8% (0 to 5 degrees): too flat for skiing and riding, but ideal for base area accommodations, and other support facility development.

8 to 25% (5 to 15 degrees): ideal for beginners and novices, and typically can support some types of development.

25 to 45% (15 to 25 degrees): ideal for intermediates, and typically are too steep for development.

45 to 70% (25 to 35 degrees): ideal for advanced and expert skiers/riders and pose intermittent avalanche hazards.

>70% (>35 degrees): too steep for all but the highest level of skiing/riding. These areas are typically allocated as expert only and are closely managed by the resort operator for avalanche control.

The slope gradients at Taos are depicted on Figure 2.





4. SOILS AND GEOLOGY

The soils and geology within and around a ski area are an important factor to take into consideration because they influence the erosion potential of the area, the drainage capabilities, the vegetation that grows in the area, and other factors that influence ski area management. Taos is located in the Southern Rocky Mountains physiographic province. Specifically, it is located within the Taos Range of the Sangre de Cristo Mountains, directly east of the Taos Plateau. The Taos Plateau is generally flat except for some small hills as well as the gorge of the Rio Grande and is a stark contrast to the tall peaks of the Sangre de Cristo Mountains. The Rio Grande River flows through the natural low point of the Rio Grande Rift within the Taos Plateau. A variety of geologic faults exist in the area, with the Sangre de Cristo fault traveling adjacent the base of start of the mountains. Earthquakes can occur and chambers of molten rock exist at depth; however, the faults usually release their built-up stress as frequent imperceptible tremors rather than damaging earthquakes and the volcanoes in the area, seen as cones across the Taos Plateau, have been dormant for several million years.

The soils at Taos are typical of those found in other mountainous settings. They have low mean annual air temperatures and a short frost-free period (typically less than 60 days), meaning soil formulation is slow. There is a high depth to the water table and medium to high runoff potential. The soils are also characterized by high susceptibility to erosion. Slopes range from 15 percent to 80 percent over the area but are generally steep. On lower slopes, material is derived from either granite or gneiss or from igneous and metamorphic rock. On higher elevation slopes, material is typically alluvium derived from granite and gneiss.

5. HYDROLOGY

Hydrology influences the availability of water in the project area as well as the movement of snowmelt and groundwater. This can influence a ski area's ability to make snow as well as how snowmelt travels through and impacts the project area. Taos is within the Rio Grande Watershed and lies within the Upper Rio Grande sub-watershed. This sub-watershed is approximately 2,081 acres in size. The Upper Rio Grande watershed is within the declared Northern Rio Grande Underground Water Basin, which is an area of the state proclaimed by the State Engineer to have groundwater present. Therefore, the State Engineer has jurisdiction over groundwater in the area. In general, because of the complex distribution of volcanic rocks and alluvial deposits, as well as the complicated fault patterns present near Taos, groundwater flow paths are very complex. Most domestic water use relies on groundwater aquifers in the area because the Rio Grande, the largest river nearby, is located at the bottom of the deep Rio Grande gorge. However, groundwater in the igneous rocks is usually along fracture zones and can be hard to access with typical wells.

In the plains to the west of Taos, annual precipitation is low and ranges from 9 inches annually to around 15 inches. In the mountains adjacent Taos, annual precipitation ranges from 23 inches to more than 30 inches. A variety of streams flow through the watershed including the Rio Hondo, which is the stream that runs through the base of Taos. The Rio Hondo begins high in the Sangre de Cristo Mountains and flows for approximately 20 miles before entering the Rio Grande. The streams in the area, particularly in the mountains, are subject to high flow rates in the spring and lows in the fall as a result of snowmelt runoff. However, because approximately half of the annual precipitation in the area comes from snow while the other half comes during summer rains, many mapped streams in the watershed flow intermittently in summer months during periods of rain and thunderstorms.

Resource concerns related to the hydrology of the water include high sediment erosion and water runoff as a result of forest fires as well as availability and quality of groundwater.



6. FISH AND WILDLIFE

Fish and wildlife, as being federally monitored (in the case of the Endangered Species Act) as well as generally being in the public eye, are also an important consideration for ski area development. There are a variety of species present within the Taos SUP and the adjacent area, including elk, mule deer, golden eagles, mountain lions, black bears, big horn sheep, and many others. Of the variety of species that have habitat in the watershed, fourteen are listed as Threatened or Endangered and are tracked in the Upper Rio Grande River watershed. In addition, there are twenty-six species identified by the CNF as a potential species of conservation concern, which is a species that the CNF has substantial concern about their capability to persist over the long term in the CNF. Given the high variety of species potentially present, site-specific NEPA analyses will be conducted, as warranted, and will be based on current information provided by the CNF, U.S. Fish and Wildlife Service, and the State of New Mexico.

7. VEGETATION

The vegetative composition of a ski area, beyond influencing the wildlife discussed above, also influences the erosion potential of the land and its ability to retain water. It is therefore important to analyze vegetation within a ski area boundary. In northern New Mexico and the West in general, elevation has a strong influence on habitat and vegetation present. As elevation increases from around 7,000 feet amsl in the Taos Plateau to the summit of Taos at over 12,000 feet amsl, vegetation patterns change rapidly. On the Taos Plateau, sagebrush shrubland is predominant. Habitat shifts to ponderosa pine woodland and pinyon-juniper woodland in the valleys at the foothills of the mountains. In the Sangre De Cristo Mountains themselves, the majority of land cover is either deciduous forest or evergreen forest and is typical of New Mexico mountains at that elevation. Forest types include pinyon-juniper woodland, ponderosa pine woodland, and mixed conifer forest and woodland. Sections of Taos also include a variety of aspen forests. Higher elevations contain open meadowlands as well as alpine tundra and tough shrub grass near the mountain summits. Common species range from cottonwoods along the Rio Hondo to Bristlecone pines near the summit of Taos. Engelmann spruce and sub-alpine fir are also common. This MDP seeks to maintain as much of the natural vegetation onsite as possible. While some tree removal would be necessary, this MDP seeks to maintain forest cover and subsequent wildlife habitat to the extent possible.





H. APPLICABLE FOREST SERVICE POLICY, DIRECTION + AGREEMENTS

The Forest Service nationally supports the recreational opportunities that private ski areas provide. The Forest Service and National Ski Areas Association work in partnership to achieve common goals of managing and promoting active participation in alpine recreation and sports by all people.

Taos operates under 40-year Term SUP, which was re-issued by the Carson National Forest in October 2014 and covers approximately 1,290 acres³. It authorizes the following:

“Taos Ski Valley, Inc... of Taos Ski Valley, NM... is hereby authorized to use National Forest System lands, on the Carson National Forest, for the purposes of constructing, operating, and maintaining a winter sports resort including food service, retail sales, and other ancillary facilities, described herein, known as the Taos Ski Valley Area and subject to the provisions of this term permit.”

Taos’ SUP further states:

“...the holder agrees to prepare and submit changes in the Master Development Plan encompassing the entire winter sports resort presently envisioned for development in connection with the National Forest lands authorized by this permit, and in a form acceptable to the Forest Service. Planning should encompass all the area authorized for use by this permit. The accepted Master Development Plan shall become a part of this permit.”

The basis for determining the types of activities and facilities appropriate for permitted winter sports resorts operating on NFS lands are expressed in federal laws and Forest Service policy directives, such as the 1986 Carson National Forest Plan (Forest Plan). This guiding document provides the Forest Service with authority and direction pertaining to ski area management on NFS lands.

Taos and the Forest Service are connected through a committed long-term partnership to provide quality recreational opportunities on NFS lands. By satisfying its current and future visitors, Taos will grow as a healthy and competitive ski resort within its market niche. This, in turn, would help fulfill Forest Service policy, objectives, and direction for ski area management on the Carson National Forest and the vitality of the local economy.

³ The Term Special Use Permit is authorized under the Act of March 4, 1915 as amended July 28, 1956 (Ref. FSM 2710); Section 7 of Granger-Thye Act of April 24, 1950, 16 U.S.C § 580d.



1. LAWS AND POLICY DIRECTIVES

The following consists of the formative legal and policy mandates guiding the Forest Service administration of NFS lands and winter sports resorts:

- The Multiple-Use Sustained-Yield Act of 1960 mandates that the Forest Service manage National Forest System lands for “*outdoor recreation*, range, timber, watershed, and wildlife and fish purposes.” 16 U.S.C. § 528 (emphasis added)
- The National Forest Management Act (NFMA) requires the Forest Service to develop Forest Plans that provide for multiple uses of forests, including “*coordination of outdoor recreation*, range, timber, watershed, wildlife and fish, and wilderness.” 16 U.S.C. § 1604(e)(1) (emphasis added)
- The service-wide Memorandum of Understanding between the National Ski Areas Association and the Forest Service (FS Agreement No. 07-SU-11132424-246), recognizes “that ski areas can help meet increased demand for recreational opportunities in a managed setting.” The Forest Service stated its commitment to “evaluate four-season recreation at ski areas to improve economic stability and enhance outdoor recreation opportunities during policy formation, master development planning, and project plans.”

a) Carson National Forest Land and Resource Management Plan

The Forest Plan guides all-natural resource management activities and establishes management standards and guidelines for the National Forest. The Forest Plan provides for integrated multiple use and sustained yield of goods and services from the Forest in a way that maximizes long-term net public benefits in an environmentally sound manner. Therefore, Taos’ operations that are conducted on NFS lands within its SUP area must be consistent with the management direction provided in the 1986 Forest Plan—both Forest-wide standards and guidelines, as well as Management Area-specific standards and guidelines.

Forest-wide Standards and Guidelines

The Forest Plan provides a variety of Forest-wide standards and guidelines. Of specific relevance to this MDP are two separate standards that dictate timber harvest on slopes greater than 40%. The Forest Plan contains a Timber Sale Preparation and Administration Standard that states, “timber harvest activities are limited to slopes less than 40 percent gradient with very minor exceptions.” The Forest Plan also contains a Mexican Spotted Owl standard that states, “allow no timber harvest except for fire risk abatement in mixed conifer and pine-oak forests on slopes greater than 40% where timber harvest has not occurred in the last 20 years.” As described in Chapter 5, this MDP contains projects that would require tree clearing and therefore timber harvest on slopes greater than 40%. This MDP is developed to be in compliance with the 1986 Forest Plan; however, Taos acknowledges that tree clearing in areas with slopes greater than 40% would require a site-specific amendment to the Forest Plan. When projects from this MDP are brought forward into site-specific NEPA analyses, Taos would work with the Forest Service to minimize the environmental impacts that would occur from tree clearing.

Taos also recognizes that the CNF is in the process of revising its existing 1986 Forest Plan under the 2012 Forest Planning Rule, which directs the land use planning process for national forests and grasslands. This MDP will be updated as necessary when the final version of the Forest Plan is released.





Management Area-specific Standards and Guidelines

In the Forest Plan, ski areas are included within Management Area 16—Existing Recreational Sites. The Vision for MA 16 is: “All the developments are high quality and well maintained. They fill the needs of users.”⁴ NFS lands within MA 16 are areas of concentrated recreation use. The Forest Plan notes that people have and will continue to be attracted to these areas because, in part, they provide climatic relief and a high degree of scenic quality. In addition to Taos, MA 16 contains two other alpine ski areas—Red River Ski Area and Sipapu Ski Area. In all of these ski areas, the majority of the lifts and/or the ski trails are on NFS land and under special use permit.

Specifically, the Management Area requires the following Management Area Prescriptions:

- Administer the existing ski areas in accordance with the direction in the MDP for each area
- Plan and monitor watershed treatments and conditions
- Conduct administrative studies relating to watershed management

Regarding Visual Quality, MA 16 standards and guidelines include:

“Manage for the visual quality of retention or partial retention adjacent to developed sites. Use a definition of characteristic landscape which includes manmade features. Extend perimeter to five chains around developed recreation sites.”

As discussed previously, Taos recognizes that the CNF is in the process of revising the 1986 Forest Plan and this MDP will be updated as necessary to reflect the updated Management Area-specific direction when it is finalized.

b) Recreation Opportunity Spectrum

The Forest Service typically plans and manages for recreation experiences through the application of the Recreation Opportunity Spectrum (ROS). The ROS is a framework for inventorying, planning, and managing the recreational experience and utilizes seven classifications ranging from “Primitive” to “Urban.”

The Taos SUP area is designated with an ROS setting of “Rural.” This setting is described in the “1986 ROS Book” as:

“Predominantly a culturally modified setting where the natural environment has been substantially modified, i.e., structures are readily apparent, pastoral or agricultural or intensively managed, wildland landscapes predominate as viewed from visually sensitive roads and trails. Access is primarily via conventional motorized use on roads. Contact frequency with other users may be moderate to high in developed sites and moderate away from developed sites.”

4 USDA Forest Service. 1986. Carson National Forest Plan, Amend 7. October 1990. p. 16. Recreation Sites-1.



Under the Rural ROS classification, the 1986 Forest Plan includes the following Forest-wide standards and guidelines for the recreational experience:⁵

Setting: the natural environment may be substantially modified. Timber harvest and other resource practices should enhance the associated recreation uses. Sights and sounds of other users may be readily evident, and human interaction is high. Facilities should be provided for intensified motorized recreational use.

Experience and Activities: Group and individual interaction are emphasized, as are user conveniences, controls, regulations, and law enforcement are obvious. Associated activities are motorized and mechanical in nature. Developed recreation activities predominate.

I. SCENERY RESOURCES

The Forest Plan describes the scenery resources within the context of the older Visual Management System (VMS). This system was replaced by the Scenery Management System (SMS) in 1995 in the document *Landscape Aesthetics: A Handbook for Scenery Management*; however, the handbook notes the VMS remained in place until a Forest Plan is revised to fully implement the SMS.

1. VISUAL MANAGEMENT SYSTEM

The Forest Service VMS helps establish Visual Quality Objectives (VQOs) for various landscapes and helps define how the landscapes would be managed, the level of acceptable modification in the area, and under what circumstances modifications are allowed. The VMS and VQOs are outlined in the USDA Handbook 462 – National Forest Landscape Management, Vol 2.

Per the 1986 Forest Plan, the Carson National Forest is to manage visual resources on the Forest according to the VQOs listed on the inventory maps. The overall goal is to meet the planned objective; however, this objective may be reduced by one level to meet other resource goals on a case-by-case basis.⁶ As discussed previously under Management Area 16, standards and guidelines for the Taos SUP area include:

“Manage for the visual quality of retention or partial retention adjacent to developed sites. Use a definition of characteristic landscape which includes manmade features. Extend perimeter to five chains around developed recreation sites.”

Partial retention means that any activity must be visually subordinate to the natural characteristics of the landscape. Landscapes with this designation can be modified, but the resulting changes in patterns of vegetation, line, form, color and texture should not contrast strongly with the adjacent undisturbed landscape.

⁵ 1986 Carson National Forest Plan, Section C. – Forest-wide Prescriptions, Recreation-2.

⁶ 1986 Carson National Forest Plan, Section C – Forest-Wide Prescriptions, Visual Quality.





2. BUILT ENVIRONMENT IMAGE GUIDE

The Built Environment Image Guide (BEIG) has been designed to ensure thoughtful design and management of the built environment, which includes: administrative and recreation structures, landscape structures, site furnishing, structures on roads and trails, and signs installed or operated by the Forest Service, its cooperators, and its permittees.⁷ It focuses on the image, appearance, and structural character of facilities. Three core contexts are stressed throughout the BEIG: (1) environmental; (2) cultural; and (3) economic.

The BEIG provides general guidance regarding the image, aesthetics, and overall quality of recreational and administrative structures on NFS lands, but it does not contain enforceable “standards” pertaining to aesthetic quality as would be found in a typical Forest Plan. As indicated on pages 250–252 of the BEIG, specific direction for the design of administrative and recreational facilities is found in the Forest Service Manual (FSM) and Forest Service Handbooks (FSH).

The environmental, cultural, and economic contexts with which the BEIG is based are important considerations in development of structural facilities (not including lift terminals) within the Taos SUP area. Furthermore, there are some elements of the BEIG within the “Rocky Mountain Province” section (pp. 159–178) that will be taken into account when designing and constructing facilities on NFS lands.

⁷ USDA Forest Service. 2001. The Built Environment Image Guide for the National Forests and Grasslands.



J. ACCESSIBILITY TO PUBLIC LANDS

In June 2005 the Forest Service released the *Accessibility Guidebook for Ski Areas Operating on Public Lands, 2005 Update*. This guidebook provides information for ski areas authorized under a SUP to work with the Forest Service in providing equal opportunities for all people, including those with disabilities. Taos will maintain consistency with this guidebook for future development projects occurring on public lands.

Ski areas operating under special-use authorization from the Forest Service are required to comply with both the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973. The ADA applies because Taos would operate as a “public accommodation;” moreover, Taos is a business open to the public. Section 504 applies because Taos would operate under a SUP authorized by the Forest Service. Through the SUP, the ski area agrees to abide by these and all other laws, regulations, and policies of the federal government.

Significant legislation that preceded the ADA includes the Architectural Barriers Act (ABA) of 1968 and the Rehabilitation Act of 1973, as amended. ABA was the first measure passed by Congress to ensure access to facilities. The ABA requires that all facilities built, bought, or leased by or for a Federal agency be accessible. Section 504 of the Rehabilitation Act states: “No otherwise qualified individual with a disability in the United States shall, solely by reason of his disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance or under any program or activity conducted by any Executive Agency.”

Through future site-specific NEPA and design development reviews, Taos will work closely with the Forest Service to ensure accessibility measures are taken to provide equal opportunity to all users of public lands.

K. WINTER SPORTS GUIDEBOOK

In 1992 the Forest Service published the Winter Sports Guidebook to establish master planning guidelines for ski resort on Forest Service lands operating under a SUP. The Winter Sports Guidebook outlined details to include in the master planning process to inform the Forest Service and the public of potential changes that may result from development of public and private lands.







CHAPTER THREE

EXISTING CONDITIONS



A. SUMMARY OF THE EXISTING GUEST EXPERIENCE

Taos is known for its diverse terrain—ranging from long beginner runs to its iconic steep hike-to terrain—as well as its northern New Mexico culture. In recent years, the resort has undergone a number of renovations to modernize the guest experience, from the construction of The Blake, to a number of upgrades to the lift network and new beginner terrain, including the Rio Hondo Learning Center.

The resort has been consistently rated as one of the top ten best ski resorts in the west by Ski Magazine. There is a friendly atmosphere, the facilities are well maintained and spacious for the number of guests, and the skiing/riding is excellent. Taos attracts both locals from the adjacent towns of Taos, Questa, and Tres Piedras as well as visitors from the cities of Santa Fe and Albuquerque, which are only approximately two and three hours away respectively. In addition, Taos draws visitors from across the west and attracts national and international guests as well. In the winter, Taos provides excellent ski opportunities for its guests and in the summer, it provides a respite from the heat and access to high altitude mountain recreation not available elsewhere in New Mexico.

Taos is located in the CNF, adjacent to Wheeler Peak, the highest mountain in New Mexico. It is also adjacent to the Wheeler Peak Wilderness, an approximately 20,000-acre wilderness area in Northern New Mexico. Given Taos' location at the end of a valley as well as its proximity to the Wheeler Peak Wilderness, it has a secluded and pristine nature not offered at many other ski resorts. In the winter, guests can access a variety of ski terrain, including beginner and intermediate groomed runs, advanced gladed trails, and its intimidating and iconic steep terrain off Kachina Peak. On most weekdays and non-peak weekends, actual daily visitation levels at the resort are below the calculated CCC, meaning that long lift lines are uncommon, and most guest service facilities are not over-burdened. Taos typically receives abundant snowfall, and when snowfall is below average, a snowmaking system is in place to provide adequate snow coverage on critical terrain. In the summer, Taos serves as a starting point for a variety of activities within the CNF including hiking, mountain biking, fishing, climbing, and more. Northern New Mexico is also home to a variety of vibrant cultural resources, including the Taos Pueblo, which is a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site and National Historic Landmark.

Due to Taos' recent efforts to renovate and modernize the guest experience, facilities at Taos are relatively in balance. This chapter presents a detailed analysis of Taos' current strengths and weaknesses, followed by Chapters 4 and 5, which include Previously Approved Projects, Not Yet Implemented and the Upgrade Plan, respectively. The project presented in subsequent chapters will enhance the overall recreational experience at Taos and strengthen the resort's image in the regional market..



B. EXISTING LIFT NETWORK

Taos currently operates fourteen lifts: one 6-person gondola, four quad chairlifts, four triple chairlifts, one double chairlift, and four surface lifts. Taos' lifts are discussed below and are separated according to their location on the Frontside and Backside. The existing lift network is depicted on Figure 4.

The resort's total uphill design lift capacity has been calculated at 17,844 people-per-hour (pph). Table 4 summarizes the technical specifications for the existing lifts. A brief discussion of each lift at Taos is provided in the following text.

In the last five years, four new or replaced/upgraded lifts and a new carpet have been installed at Taos. These include Lift 1, Lift 12 Kachina Peak, Rueggli Lift, Gondolita and Zipper 3 Carpet. These lift upgrades and installations have modernized the lift network; however, circulation to the Kachina Basin base area remains challenging and a number of fixed-grip lifts still hinder the guest experience. Investments to the lift network to improve circulation and upgrade existing lifts with new lift technology will further enhance the lift network.

1. FRONTSIDE LIFTS

Taos' Frontside lifts (1, 2, and 8, as well as the teaching lifts—Pioneer, Gondolita, and Rueggli lifts and the beginner Zipper carpets) serve approximately 210 acres of developed terrain, and the entire spectrum of ability levels—from beginners through experts. Recently, Lift 1 was upgraded from a fixed-grip quad to a detachable quad. The beginner teaching areas were also revamped to provide a state-of-the-art beginner learning experience with a dedicated pulse gondola that connects the Rio Hondo Learning Center to the village and improved trails.

a) Lift 1

Lift 1 is the primary out-of-base lift at Taos. This detachable quad chairlift was installed in 2018 and is used by all skiers and riders for accessing the mountain. While some guests round-trip ski/ride the expert terrain served by Lift 1, it is also used for access to the upper portions of the mountain. Of people who do repeat-ski/ride Lift 1, about two-thirds use the intermediate route of *Porcupine* to *White Feather*, while the remainder are on the expert routes of *Al's Run*, *Inferno*, *Showdown*, and others.

With a capacity of 2,400 people-per-hour (pph) Lift 1 is the highest capacity lift at Taos and provides efficient access to terrain and to Lift 2 for skiers wishing to access the summit. However, there are still circulation challenges still present for skiers wishing to access Backside terrain, as most guests must start on the Frontside to access the Backside.





b) Lift 2

Lift 2 was installed in 1995, and serves a critical role in transporting skiers and riders to the mountain summit, as Lift 1 stops at mid-mountain. In order to reach the top of the mountain, and access Backside terrain served by Lifts 4 and 7, skiers and riders generally take *White Feather* from the top of Lift 1 and then ride Lift 2 to the summit. For round-trip skiing and riding, Lift 2 services primarily expert terrain (roughly 1,050 vertical feet), including portions of West Basin accessible off the *High Traverse*. The top terminal of Lift 2 serves as the starting point for skiers and riders accessing expert-only hike-to terrain off of Highline Ridge, West Basin Ridge and the *Main Street* area. This is the steep and challenging terrain for which Taos has become renowned. Both Lift 2 and Lift 8 (discussed below) are aging and in need of replacement to be more reliable and increase utilization of the terrain.

c) Lift 8

Lift 8 was installed in 1991 and is a fixed-grip quad that services approximately 1,200 vertical feet of primarily beginner and intermediate terrain on the western side of Taos' Frontside. It is also used extensively in conjunction with Lift 2 by skiers/riders repeat-skiing the expert terrain off West Basin Ridge and is used by ski racers to access the race venue and terrain.

d) Gondolita and Rueggli Lifts

Installed in 2017, the Gondolita (a six-person pulse gondola) caters to beginner and novice skiers/riders on Strawberry Hill, providing Ski School with a nice progression for first time and beginner skiers/riders who graduate from the adjacent Zipper conveyors. Likewise, the Rueggli Lift (a fixed-grip triple) provides the same function. The Gondolita and Rueggli lifts service 61 vertical feet and 123 vertical feet of teaching terrain, respectively.

e) Pioneer Lift

The Pioneer Lift (a fixed-grip triple) was built in 2012 and provides access to the beginner area just southwest of the main base area. The Pioneer Lift is used extensively for ski school programs in conjunction with the Zipper 3 carpet.

f) Zipper 1, 2, 3, and 4

The Zipper 1, 2, 3, and 4 carpets are used by Ski School for instructing children and first-time beginners to ski and snowboard. These lifts provide the critical foundation for first timers to progress onto teaching terrain serviced by the Gondolita Lift, the Rueggli Lift, and the Pioneer Lift.



2. BACKSIDE LIFTS

a) Lift 4

Lift 4 services approximately 1,200 vertical feet of beginner to expert terrain. This fixed-grip quad is the longest lift at Taos and has a ride time of just over 10 minutes, which is considered longer than desirable given modern lift design standards and guest expectations. Lift 4 is over 25 years old (installed in 1991). Nonetheless, it is a critical and very popular lift that serves a large portion of the Backside terrain. Given its length, importance in serving Backside terrain, age, and relatively low capacity (1,800 pph) Lift 4 was approved to be upgraded to a high-speed detachable quad chairlift in the 2012 ROD.

b) Lift 7

Lift 7 (a fixed-grip triple) accommodates repeat use of beginner to expert terrain in the Backside, as well as Maxie's Terrain Park. In addition, many of Taos' glades are accessed from this lift (in conjunction with Lift 7a) including, but not limited to: *Walkyries*, *Walkyries Chute*, and *Sir Arnold Lund*. It serves approximately 900 vertical feet of terrain, and also serves an important transportation function, when combined with Lift 7a, for skiers and riders wishing to return to the summit (and the base area) from the Backside terrain. The only other option for returning to the summit from the Lift 7 pod is to descend the *Rubezahl* traverse, which leads back to the main base area and Lift 1.

As with Lift 4, given its importance in terms of repeat skiing and riding on Backside terrain and age (installed in 1984), this lift was approved to be replaced with a high-speed quad in the 2012 ROD.

c) Lift 7a

Lift 7a is a short (840 feet) fixed-grip double chairlift that services a nominal amount (295 vertical feet) of terrain. While it does see some repeat ski and ride use, its primary purpose is to function in conjunction with Lift 7 to provide access back to the summit and base area for skiers and riders using Backside terrain. The existing lift has sufficient capacity and provides an adequate experience for this role given Lift 7's capacity and use; however, given the age of the lift, Lift 7a should be considered for replacement.

d) Kachina Peak Lift

The Kachina Peak Lift reaches the top of Kachina Peak, topping out at 12,481 feet amsl. Constructed in 2014, the fixed-grip triple chairlift serves some of the most difficult terrain at Taos—*Main Street*. The lift rises over 1,000 feet, accessing chutes, bowls, and rock faces. The chairlift is often used in conjunction with Lift 4 for longer descents. Lift 7 is also accessible from the Kachina Peak Lift, providing access back to the Frontside.





TABLE 4. LIFT SPECIFICATIONS—EXISTING CONDITIONS

Lift Name/Type	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Rise (ft.)	Slope Length (ft.)	Average Grade (%)	Actual Capacity (pph)	Rope Speed (fpm)	Carrier Spacing (ft.)		Lift Maker/ Year Installed
Lift 1/DC-4	11,110	9,433	1,678	4,288	44%	2,400	1,000	100		LPOA/2018
Lift 2/C-4	11,816	10,760	1,056	3,216	35%	1,800	450	60		Poma/1995
Lift 4/C-4	11,409	10,204	1,204	4,542	28%	1,800	450	60		Poma/1991
Lift 7/C-3	11,519	10,618	901	3,079	31%	1,800	470	47		Steadeli/1984
Lift 7a Seventh Heaven/ C-2	11,797	11,502	295	919	35%	1,044	440	51		Steadeli/1992
Lift 8 West Basin/C-4	11,260	10,054	1,205	4,417	29%	1,800	450	60		Poma 1991
Lift 12 Kachina Peak/ C-3	12,433	11,353	1,081	2,382	52%	1,500	500	40		SkyTrac/2014
Pioneer Lift/C-3	9,584	9,455	129	1,201	11%	1,200	400	60		Yan/2012
Rueggli/C-3	9,470	9,347	123	945	13%	1,500	400	32		SkyTrac/2017
Gondolita/G-6	9,410	9,348	61	834	7%	400	1,000	900		LPOA/2017
Zipper 1/C	9,352	9,343	9	81	12%	650	90	8		Sun Kid/2008
Zipper 2/C	9,368	9,358	10	141	7%	650	90	8		Sun Kid/1998
Zipper 3/C	9,441	9,432	9	130	7%	650	90	8		Sun Kid/2018
Zipper 4/C	9,460	9,444	15	232	7%	650	90	8		Sun Kid/2008

Source: SE Group

Notes:

C = Carpet / C-2 = fixed-grip double chairlift / C-3 = fixed-grip triple chairlift / C-4 = fixed-grip quad chairlift / DC4 = detachable four-passenger chairlift / G-6 = six-person gondola
 Lift 12 Kachina Peak has an approved capacity of 1,500 pph but is currently operated at 1,010 pph. For planning purposes, 1,500 pph is used within this document at Taos may operate at this capacity someday.



C. EXISTING TERRAIN NETWORK

Evaluation of the existing terrain network requires equal consideration of many factors, chief among them being terrain variety and the distribution of terrain by ability level. Assessment of either of these factors on their own will not provide a complete picture of the current state of terrain at the resort. For example, looking solely at the terrain distribution by ability level there appears to be a surplus of expert terrain and a deficit of beginner and advanced-intermediate terrain at Taos compared to the skier/rider market. Furthermore, Taos offers a vast amount of undeveloped terrain not counted in this calculation that provide a good variety of intermediate, advanced-intermediate terrain, and expert terrain when conditions are suitable.

The developed trail network accommodates beginner through expert-level guests on 90 lift-served, named trails spanning approximately 413 acres. Most developed terrain (approximately 200 acres) is groomed on a regular basis. For details of the existing conditions terrain specifications, refer to Appendix A.

1. TERRAIN VARIETY

Taos has a wide variety of terrain options—from developed terrain to undeveloped, off-piste terrain to terrain parks and features. This analysis accounts for three separate types of terrain at Taos.

- Developed terrain: lift-accessed, developed trails and bowls for beginner, intermediate, and expert skiers and riders (totaling about 413 acres)
- Undeveloped terrain: glades, natural terrain, and hike-to terrain within the ski area boundary that are routinely skied (totaling approximately 331 acres of terrain)
- Terrain parks: Taos maintains one terrain park, currently located adjacent to Lift 7

The developed ski terrain at Taos includes novice through expert trails found at both the higher and lower elevations. The majority of the beginner and intermediate terrain is located on the lower elevations of both the Frontside and Backside of Taos. The existing network is adequate for broad range of ability levels, from novice to expert skiers and riders, but is focused heavily on intermediate and higher ability levels.

Taos is also known for its undeveloped terrain. This includes steep, above-tree line terrain accessible from the Kachina Peak Lift as well as Lift 2. A variety of extremely technical chutes, cliffs, and glades are also available by hiking from both lifts.

Taos also offers one terrain park, the Maxie's Terrain Park.





TERRAIN TYPOLOGY AT TAOS

1. **DEVELOPED ALPINE TERRAIN**—The existing developed, or formalized alpine terrain network at Taos consists of the resort's named, defined, lift-serviced, maintained trails. Despite the importance of undeveloped, alternate-style terrain, formalized runs represent the baseline of the terrain at any resort, as they are where the majority of guests ski/ride. Additionally, developed terrain is usually the only place to ski/ride during the early season, periods of poor or undesirable snow conditions, avalanche closures, and in certain weather conditions. As such, the developed trail network represents an accurate picture of the acreage utilized by the average skier/ rider on a consistent basis, as well as that used by virtually all guests during the aforementioned conditions. Therefore, the full capacity of the resort must be accommodated by the total acreage of the developed terrain network, rather than relying on undeveloped terrain (which is not always available).

2. **UNDEVELOPED TERRAIN**—Undeveloped terrain consists of unnamed terrain that is routinely skied. There is a variety of gladed and undeveloped terrain at Taos; the topography within the SUP area includes steeps and glades intermingled within, and outside of, the developed and maintained terrain network. This terrain is primarily on the upper half of the mountain. This terrain is monitored by Taos ski patrol to control access in the early season, periods of poor or undesirable snow conditions, avalanche closures, and in certain weather conditions. There are also densely-treed and less accessible gladed areas. This consists primarily of the natural (non-thinned or maintained) forested areas between the defined skiing areas and ski runs, and also accounts for some of the less accessible treed areas at Taos.

3. **TERRAIN PARKS**—Terrain parks consist of various types of freestyle features including jibs, jumps and pipes. Features such as rails, tabletops, jumps, etc. are a very important part of Taos' operations and are located primarily within Maxie's Terrain Park. Common jib features are benches and tables, boxes, kink (box or rail with one or more changes in direction or elevation), tubes, pole jam (rail attached to a jump at an upward angle), C-rail (arched box or rail), rails, S-rail (S-shaped box or rail), and wall ride (wall-like feature with broad surface for gridding).

Common jumps are hip (jump with landing perpendicular to the takeoff), spine (jump with two landings perpendicular to the takeoff), step-up (jump with a higher landing than takeoff) and tabletop (jump with a flat top).



2. TERRAIN DISTRIBUTION BY ABILITY LEVEL

This terrain distribution analysis, as presented in Table 5, considers the 413 acres within the developed terrain network at Taos. The overall terrain distribution through the full range of ability levels is relatively close to the ideal breakdown for the Rocky Mountain market, with the exception of advanced and expert distributions (there is a surplus of expert terrain and a shortage of advanced terrain). However, this is simply a factor of the natural topography at Taos, which tends to provide more expert terrain. There is also a small shortage of first-time beginner terrain.

IMPORTANCE OF TERRAIN VARIETY

Terrain variety is the key factor in evaluating the quality of the actual skiing and riding guest experience (as opposed to lift quality, restaurant quality, or any other factor).

Terrain variety is consistently ranked as one of the most important criterion in skiers' choice of a ski destination, typically behind only snow quality, and ahead of such other considerations as lifts, value, accessibility, resort service, and others. This is a relatively recent industry trend, representing an evolution in skier/rider tastes and expectations. The implication of the importance of terrain variety is that a resort must have a diverse, interesting, and well-designed developed trail system, but also must have a wide variety of alternate-style terrain, such as mogul runs, bowls, gladed trees, open parks, in-bounds "backcountry-style" (i.e., hike-to) terrain, and terrain parks and pipes. At resorts across the nation, there is a growing trend favoring these more natural, unstructured types of terrain, since the availability of this style of terrain has become one of the more important factors in terms of a resort's ability to retain guests, both for longer durations of visitation and for repeat business.

To provide the highest quality guest experience, resorts should offer groomed runs of all ability levels and some level of each of the undeveloped terrain types. Undeveloped terrain is primarily used by advanced- and expert-level skiers/riders during desirable conditions (e.g., periods of fresh snow, spring corn, etc.). Even though some of these types of terrain only provide skiing/riding opportunities when conditions warrant, they represent the most intriguing terrain, and typically are the areas that skiers/riders strive to access. Terrain variety is increasingly becoming a crucial factor in guests' decisions on where to visit.



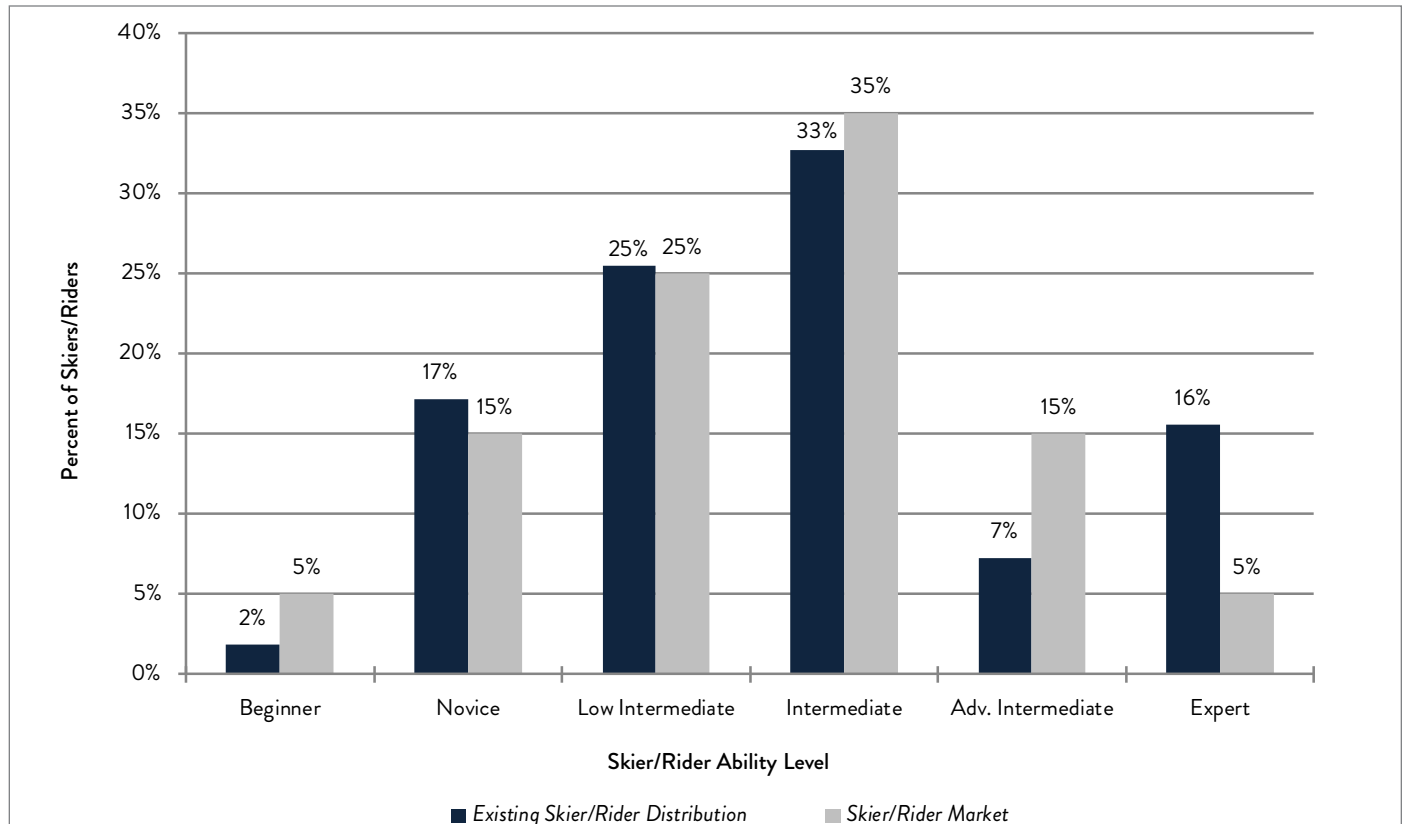


TABLE 5. TERRAIN DISTRIBUTION BY ABILITY LEVEL—EXISTING CONDITIONS

Skier/Rider Ability Level	Trail Area	Skier/Rider Capacity	Skier/Rider Distribution	Skier/Rider Market
	(acres)	(guests)	(%)	(%)
Beginner	2.0	61	2	5
Novice	32.0	576	17	15
Low Intermediate	61.0	854	25	25
Intermediate	109.6	1,096	33	35
Advanced Intermediate	34.7	243	7	15
Expert	174.0	522	16	5
TOTAL	413.3	3,352	100%	100%

Source: SE Group

CHART 1. TERRAIN DISTRIBUTION BY ABILITY LEVEL—EXISTING CONDITIONS





D. EXISTING CAPACITY ANALYSIS

1. COMFORTABLE CARRYING CAPACITY

Determining a resort's comfortable carrying capacity (CCC) is the first step in evaluating the overall guest experience because it enables planners to understand the overall balance of the recreational facility. CCC is a ski area modeling tool that considers the utilization of the ski lift and terrain network and skier use of other facilities across the resort during a given day; it is a daily skier population. A detailed calculation of the existing CCC for Taos was completed for this MDP, as shown in Table 6. As indicated, Taos' current CCC is 4,310.

WHAT IS COMFORTABLE CARRYING CAPACITY?

In ski area planning, a “comfortable carrying capacity” (CCC) is established, which represents an at-one-time guest population to which all ski resort functions are balanced. The design capacity is a planning parameter that is used to establish the acceptable size of the primary facilities of a ski resort: ski lifts, ski terrain, guest services, restaurant seats, building space, utilities, parking, etc.

Accordingly, the design capacity does not indicate a maximum level of visitation or a “cap” on visitation, but rather the number of visitors that can be “comfortably” accommodated on a daily basis. Industry-wide, resorts often see around 10 days (holidays and peak weekends) during the season that visitation levels exceed CCC levels, and the peak visitation level is often around 25% higher than CCC.

The accurate estimation of the CCC of a mountain is a complex issue and is the single-most important planning criterion for the resort. Related skier service facilities, including base lodge seating, mountain restaurant requirements, restrooms, parking, and other guest services are planned around the proper identification of the mountain's true capacity.

CCC is derived from the resort's supply of vertical transport and demand for vertical feet skied. CCC is calculated by dividing vertical supply (VTF/day) by vertical demand, and factors in the total amount of time spent in the lift waiting line, on the lift itself, and in the descent.





TABLE 6. COMFORTABLE CARRYING CAPACITY – EXISTING CONDITIONS

Lift Name/Type	Slope Length (ft.)	Vertical Rise (ft.)	Actual Capacity (pph)	Operating Hours (hrs.)	Up-Mountain Access Role (%)	Misload/Lift Stoppage (%)	Adjusted Hourly Capacity (pph)	VTF/Day (000)	Vertical Demand (ft.day)	CCC (guests)
Lift 1/DC-4	4,288	1,678	2,400	7.00	40	10	1,200	14,092	26,702	530
Lift 2/C-4	3,216	1,056	1,800	7.00	25	10	1,170	8,651	21,488	400
Lift 4/C-4	4,542	1,204	1,800	6.75	0	10	1,620	13,167	17,132	770
Lift 7/C-3	3,079	901	1,800	6.75	5	10	1,530	9,307	17,431	530
Lift 7a Seventh Heaven/C-2	919	295	1,044	7.00	30	10	626	1,294	18,255	70
Lift 8 West Basin/C-4	4,417	1,205	1,800	7.00	0	10	1,620	13,668	17,587	780
Lift 12 Kachina Peak/C-3	2,382	1,081	1,500	6.50	0	10	1,350	9,485	24,965	380
Pioneer Lift/C-3	1,201	129	1,200	7.00	0	15	1,020	924	3,303	280
Rueggli/C-3	945	123	1,500	7.00	10	15	1,125	970	3,777	260
Gondolita/G-6	834	61	400	7.00	100	0	--	0	2,488	--
Zipper 1/C	81	9	650	7.00	0	5	618	41	692	60
Zipper 2/C	141	10	650	7.00	0	5	618	42	553	80
Zipper 3/C	130	9	650	7.00	0	5	618	37	514	70
Zipper 4/C	232	15	650	7.00	0	5	618	66	653	100
TOTAL	26,407		17,844				13,731	71,744		4,310

Source: SE Group

Notes:

C = Carpet / C-2 = fixed-grip double chairlift / C-3 = fixed-grip triple chairlift / C-4 = fixed-grip quad chairlift / DC4 = detachable four-passenger chairlift / G-6 = six-person gondola
Lift 12 Kachina Peak has an approved capacity of 1,500 pph but is currently operated at 1,010 pph. For planning purposes, 1,500 pph is used within this document at Taos may operate at this capacity someday



2. DENSITY ANALYSIS

An important aspect of resort design is the balancing of uphill lift capacity with downhill trail capacity. Trail densities are derived by comparing the uphill, at-one-time capacity of each individual lift pod (CCC) with the trail acreage associated with that lift pod. At any one time, skiers and riders are dispersed throughout the resort, using guest facilities and milling areas, waiting in lift mazes, riding lifts, or descending on ski terrain. For the trail density analysis, 25 percent of each lift's CCC is presumed to be "inactive" (i.e., using guest service facilities or milling areas and otherwise not actively skiing or riding lifts).

Trail density is calculated for each lift pod by dividing the number of guests on the trails by the amount of trail area that is available within each lift pod. The trail density analysis compares the calculated trail density for each lift pod to the desired trail density for that pod (i.e., the product of the ideal trail density for each ability level and the lift's trail distribution by ability level).

The trail density analysis considers only the acreage associated with the developed trail network, as described above (see Figure 4). The density analysis for Taos is shown in Table 7. This table shows that the average trail density at Taos is 6 skiers-per-acre, a density that is below the target density of 10 skiers-per-acre. This situation is certainly desirable from the perspective of the recreational experience, as low skier/rider densities are a defining factor in the quality of the recreational experience. However, this also indicates an imbalance, as it shows that there is not enough lift capacity to efficiently serve the available terrain.

The density figures included in Table 7 show, for the majority of individual lift/trail systems at Taos, that the actual trail densities are lower than the target design criteria, meaning that trails are generally less crowded than at most resorts. Many lifts have large differences between the actual trail densities and the target design criteria, including Lifts 1, 4, 7, 8, and some of the beginner carpet lifts. Accordingly, opportunities should be investigated to increase uphill capacity to this terrain.

The low-density numbers also indicate under-utilization of the existing terrain, meaning that there could comfortably be more skiers/riders on the terrain at any one time than there are at current visitation levels. This situation indicates that the amount of effort required to properly maintain the quantity of terrain is disproportionately high when compared to the overall number of skiers/riders on the mountain.

BALANCING UPHILL + DOWNHILL CAPACITIES

An important aspect of resort design is the balancing of uphill lift capacity with downhill trail capacity. Trail densities are derived by comparing the uphill, at-one-time capacity of each individual lift pod (CCC) with the trail acreage associated with that lift pod. The trail density analysis considers only the acreage associated with the developed trail network. A high trail density can restrict skiing space, degrade snow conditions, and detract from the recreational experience. A low trail density can indicate under-utilization of the existing terrain and inefficient operations.





TABLE 7. DENSITY ANALYSIS—EXISTING CONDITIONS

Lift Name/Type	CCC	Guest Dispersement				Density Analysis				Density Index (%)
		Support Facility/ Milling	Lift Lines	On Lift	On Terrain	Terrain Area	Terrain Density	Target Terrain Density	Diff	
Lift 1/DC-4	530	133	40	86	271	80.6	3	9	-6	33
Lift 2/C-4	400	100	39	139	122	70.0	2	6	-4	33
Lift 4/C-4	770	193	54	272	251	76.3	3	9	-6	33
Lift 7/C-3	530	133	51	167	179	53.4	3	12	-9	25
Lift 7a /C-2	70	18	10	22	20	7.2	3	6	-3	50
Lift 8 /C-4	780	195	54	265	266	49.2	5	10	-5	50
Lift 12 Kachina Peak/C-3	380	95	113	107	65	66.0	1	3	-2	33
Pioneer Lift/C-3	280	112	34	51	83	4.9	17	17	0	100
Rueggli/C-3	260	104	38	44	74	3.9	19	19	0	100
Gondolita/G-6	0	0	0	0	0	0.0	--	--	--	--
Zipper 1/C	60	24	21	9	6	0.3	24	30	-6	80
Zipper 2/C	80	32	21	16	11	0.4	27	30	-3	90
Zipper 3/C	70	28	21	15	6	0.4	15	30	-15	50
Zipper 4/C	100	40	21	27	12	0.6	20	30	-10	67
TOTAL	4,310	1,207	517	1,220	1,366	413.3	6	12	-5	54

Source: SE Group

Notes:

C = Carpet / C-2 = fixed-grip double chairlift / C-3 = fixed-grip triple chairlift / C-4 = fixed-grip quad chairlift / DC4 = detachable four-passenger chairlift / G-6 = six-person gondola



3. LIFT AND TERRAIN NETWORK EFFICIENCY ANALYSIS

Overall resort efficiency is becoming an increasingly important factor in the ski industry. This refers not only to energy efficiency and operational efficiency, but also to efficiency of the design and layout of the resort. The idea behind ski area design efficiency is to have a well-balanced lift and trail network (i.e., the uphill lift capacity balances with the downhill trail capacity that it serves) that is served by the fewest number of lifts possible, while maintaining desired CCC rates, circulation routes, and service to the full spectrum of skier ability levels and types.

a) Lift Network Efficiency

Within the context of ski area design efficiency, the term “Lift Network Efficiency” refers to the amount of effort and cost required to operate and maintain the lift network, as compared to the number of guests served by the lift network. The energy and costs related to the lifts include, but are not limited to power use, operational labor, maintenance costs and labor, increased indirect administrative costs, and various direct and indirect costs associated with higher staff levels to perform these tasks. From this standpoint, the most efficient scenario is to have the fewest number of lifts possible that can comfortably and effectively serve the capacity and circulation requirements of the resort.

One way to analyze Lift Network Efficiency is to calculate the average CCC per lift at a given resort. While this calculation does not relate to the overall capacity of the resort, it can indicate if 1) the resort is not getting maximum utilization out of its lifts; or 2) if there are more lifts than necessary for the capacity levels of the resort. When calculating this average, conveyors used for teaching, as well as lifts that are used for access only, are not included. Optimally, and in general, the average CCC per lift would likely be close to 1,000 guests. Industry-wide, the average CCC per lift is approximately 650 guests. The average CCC per lift at Taos is 431, well below the industry-wide average. This low Lift Network Efficiency number indicates an inefficient lift network that likely results in higher lift cost, in terms of both energy use and financial/operational cost, per skier/rider than the target. Contributing factors to this include Lift 7a which is used primarily for circulation; Gondolita which is a transport lift; and the low hourly capacities of several of the lifts, which results in lower CCC rates.

b) Terrain Network Efficiency

An offshoot of the terrain density analysis is an analysis that provides an indication of the efficiency of the terrain network as compared to the lift network serving it. In this usage, the term “Terrain Network Efficiency” refers to the amount of effort required to properly maintain the terrain (e.g., costs related to snowmaking, grooming, energy, ski patrol, summer trail maintenance, administration, etc.). From this standpoint, the most efficient scenario is to have a quantity of terrain that closely meets the target density requirements. This can be easily achieved by reviewing the density analysis—a density index of 100 percent would imply that the resort had exactly the right amount of terrain to match target densities. Taos has an index of 56 percent, indicating the terrain network at Taos is inefficient. It is important to note that only the developed terrain network is used in these calculations, because it is largely the developed terrain that incurs the highest operational and maintenance costs.





E. EXISTING GUEST SERVICES FACILITIES, FOOD SERVICE SEATING + SPACE USE ANALYSIS

1. GUEST SERVICES

At Taos, guest services are provided in the base area at Taos-owned establishments as well as privately owned facilities. In addition, there is one on-mountain guest service facility run by Taos. Existing guest service facilities are identified on Figure 4 and described in the following section.

a) Base Area Guest Services

While there are numerous facilities at the base area not owned by Taos, which are important to the overall guest/recreational experience, only Taos-owned and operated facilities are included in the detailed discussions in this MDP of base area guest services and space use.

Non-Taos-owned and operated guest service facilities include the Edelweiss and the Snake Dance.

The following Taos-owned facilities are detailed in the following discussions.

Resort Center

This facility, built in 1989, is around 35,000 square feet in total and houses many of the skier service function of the resort, including three restaurants (Tenderfoot Katie's Café, Rhoda's, and the Martini Tree), lockers, and much of Taos' administration and employee space.

The Blake

The Blake, which opened in 2017, is an 80-room hotel in the heart of the Taos base area. The hotel space totals 98,212 square feet and features a spa and wellness center, a restaurant (192 at The Blake), retail, ski rentals, and on-site parking. The ski rental space accounts for 325 square feet (including storage/tuning on level 89), while retail space totals 4,318 square feet (including storage on level 89). Additionally, The Blake includes nine condos accounting for 31,971 square feet (including any maid, mechanical, etc. on the condo levels). The 18,264-square foot parking garage provides 50 total parking spaces, 3 of which are ADA.

The Pit House

This building was built in 2003 and includes 1,500 square feet of employee space and snowmaking facilities.



SPACE USE PLANNING

To provide a balanced resort experience, sufficient guest service space should be provided to accommodate the existing resort CCC. The distribution of the CCC is utilized to determine guest service capacities and space requirements at base area and on-mountain facilities. The CCC should be distributed between each guest service facility location according to the number of guests that would be utilizing the lifts and terrain associated with each facility.

In addition to distributing the CCC amongst the base area and on-mountain facilities, guest service capacity needs and the resulting spatial recommendations are determined through a process of reviewing and analyzing the current operations to determine specific guest service requirements that are unique to the resort.

Service functions include:

- **Restaurant Seating:** All areas designated for food service seating, including restaurants, cafeterias, and brown bag areas. Major circulation aisles through seating areas are designated as circulation/waste, not seating space.
- **Kitchen/Scramble:** Includes all food preparation, food service, and food storage.
- **Bar/Lounge:** All serving and seating areas designated as restricted use for the serving and consumption of alcoholic beverages. If used for food service, seats are included in seat counts.
- **Restrooms:** All space associated with restroom facilities (separate women, men, and employees).
- **Guest Services:** Services including resort information desks, kiosks, and lost and found.
- **Adult Ski School:** Includes ski school booking area and any indoor staging areas. Storage directly associated with ski school is included in this total.
- **Kid's Ski School:** Includes all daycare/nursery facilities, including booking areas and lunch rooms associated with ski school functions. Storage and employee lockers directly associated with ski school are included.
- **Rentals/Repair:** All rental shop, repair services, and associated storage areas.
- **Retail Sales:** All retail shops and associated storage areas.
- **Ticket Sales:** All ticketing and season pass sales areas and associated office space.
- **Public Lockers:** All public locker rooms. Any public lockers located along the walls of circulation space are included, as well as the 2 feet directly in front of the locker doors.
- **Ski Patrol/First Aid:** All first aid facilities, including clinic space. Storage and employee lockers directly associated with ski patrol are included in this total.
- **Administration/Employee Lockers & Lounge/Storage:** All administration/ employee/storage space not included in any of the above functions..





Hotel St. Bernard

Hotel St. Bernard was founded in 1960 and provides hotel rooms as well as food service space. It was privately-owned until 2021, when Taos acquired the business. The St. Bernard provides 50 indoor seats and 100 outdoor seats.

Lakefork Building

The Lakefork building was recently built by Taos in 2021 and is a total of 2,500 square feet over two floors. Taos is intending for it to be the main ticket and season pass building and the top floor will provide conference and event space.

Rio Hondo Learning Center

The Rio Hondo Learning Center, built in 1994, houses 24,000 square feet of space dedicated to ticket sales, rental, food service for the children's programs, and ski school space, plus storage.

Mogul Medical

This is a full-service medical facility, built in 1989, and is located in the base area near Strawberry Hill. The facility is open seven days a week during the ski season, and is staffed by an emergency physician.

b) Kachina Basin Base Area Guest Services

The Phoenix Grill and Bavarian

Due to their proximity to one another, and similar function in terms of base area guest services, the Phoenix Grill and Bavarian are discussed together.

Located at the base of Lift 4 in the Kachina Basin base area, the Phoenix Grill and Bavarian are ideally situated for skiers and riders using Backside terrain to rest, enjoy lunch, or use a restroom without the need for descending to the base area. The Phoenix Grill was constructed in 1982 and remodeled numerous times since, this 11,550-square foot facility is in very good condition, is properly located, and is well used by Taos' guests. The Bavarian is a full-service lodge and restaurant that opened in 1996. The facility includes European-themed suites and food service. This facility was purchased by Taos in 2014 and is a fixture of the Taos experience for many visitors.

c) On-Mountain Guest Services

As shown in Appendix A, Taos has an existing deficit of on-mountain guest services. On-mountain restaurants are typically in high demand at mountain resorts, and Taos is no exception.

The Whistlestop Cafe

Located close to Lift 2, the Whistlestop Café is a 1,900-square foot building that is a common on-mountain location to meet friends, purchase a snack, use a restroom, or relax. This facility was constructed in 1986 and



is outdated and in need of replacement. Because of its role as the only Frontside on-mountain guest services facility, the Whistlestop Café is underutilized due to its aging infrastructure. Water is supplied by a well.⁸

2. SPACE USE ANALYSIS

Sufficient guest service space should be provided to accommodate the existing resort CCC of 4,310 guests per day. A distribution of the CCC to each facility location is utilized to determine guest service capacities and space requirements at base area and on-mountain facilities. The CCC is distributed between each guest service facility location according to the number of guests that would be utilizing the lifts and terrain associated with each facility. There is one on-mountain facility at Taos; therefore, the majority of skiers return to the base area for food service and restrooms. This does not indicate a lack of demand for on-mountain facilities, but rather that there are limited options currently. This is an identified constraint for Taos, as guests expect on-mountain food service and restrooms.

In addition to distributing the CCC amongst the base area and on-mountain facilities, guest service capacity needs and the resulting spatial recommendations are determined through a process of reviewing and analyzing the current operations to determine specific guest service requirements that are unique to the resort.

Based upon a CCC of 4,310 skiers, Table 8 compares the current space use allocations of the guest service functions to industry norms for a resort of similar market orientation and regional context as Taos. High and low square footage ranges contained in this table are provided to illustrate how Taos compares to industry averages, and should not be considered an absolute requirement.

As shown in Table 8, Taos is above the recommended range of overall guest service space resort wide. While certain areas are showing deficiencies, the overall conditions are reflective of a relatively well-balanced resort with an uncrowded experience. Public lockers, adult ski school, kitchen/scramble, storage, and circulation/waste are among the areas that may need to be up sized should visitation and associated use increase substantially.

Additional space use tables in Appendix A, show a breakdown of service function in the Frontside base area, Kachina Basin base area, and on-mountain facilities. These tables show a deficit of on-mountain guest service space. This is reflected in the fact that most guests descend to the base areas for guest services. Providing more on-mountain guest services would reduce the time needed for guests to descend to the base areas for services and improve the overall resort experience.

⁸ State of New Mexico, State Engineer Office file #RG44134.



**TABLE 8. SPACE USE RECOMMENDATIONS—RESORT TOTAL
(EXISTING CONDITIONS)**

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	3,900	970	1,190
Public Lockers	2,400	2,910	3,560
Rentals/Repair	9,325	6,900	7,760
Retail Sales	6,993	2,040	2,490
Bar/lounge	6,000	3,050	3,730
Adult Ski School	667	1,550	1,900
Kid's Ski School	5,500	3,100	3,790
Restaurant Seating	24,700	18,330	22,410
Kitchen/Scramble	9,500	14,260	17,420
Rest rooms	5,946	4,070	4,980
Ski Patrol	2,070	1,630	2,000
Administration	4,750	2,040	2,490
Employee Lockers/Lounge	2,200	810	1,000
Storage	1,520	1,660	2,460
Mechanical	4,270	2,770	4,100
Circulation/Waste	6,317	6,660	9,870
TOTAL SQUARE FEET	96,058	72,750	91,150

Source: SE Group

3. FOOD SERVICE SEATING

Food service seating at Taos is provided at several locations in the base areas: Tenderfoot Katie's Café, Rhoda's, St. Bernard, Martini Tree, Phoenix Grill, and the Bavarian; and on-mountain at the Whistlestop Café.

A key factor in evaluating restaurant capacity is the turnover rate of the seats. A turnover rate of 2 to 5 times is the standard range utilized in determining restaurant capacity. Sit-down dining at resorts typically results in a lower turnover rate, while "fast food" cafeteria style dining is characterized by a higher turnover rate. Furthermore, weather has an influence on turnover rates at resorts, as on snowy days guests will spend more time indoors than on sunny days. Based on observed operating characteristics at Taos, a turnover rate ranging from 1.5 to 3.5 was used for the various facilities in this MDP, as shown in Table 9 which summarizes the seating requirements at Taos.



As shown in Table 9, Taos has a deficiency in restaurant seating by 189 seats. It is important to note that this calculation does not account for non-Taos owned restaurants in the Frontside Base Area or outdoor seats across the resort. Most of the restaurant seating deficit can be attributed to lack of on-mountain seating (approximately 150 seats). Taos could benefit from additional restaurant seating, particularly on-mountain seating, as the seating deficiency in the Frontside Base Area is likely made up by other, non-Taos owned establishments. Non-Taos owned establishments provide approximately 80 indoor seats, as well as additional outdoor seating options. On good weather days, which are frequent throughout the ski season in New Mexico, the guest experience is likely not hindered at all.

TABLE 9. RESTAURANT SEATS—EXISTING CONDITIONS

	Base Area					Kachina Basin Base Area	On- Mountain	Total Resort
	Tenderfoot Katie's	Rhoda's	Martini Tree	St. Bernard	192			
Lunchtime Capacity (CCC)	1,097	219	483	88	285	1,535	797	4,504
Average Seat Turnover	3.5	2	3	1.5	3	3.5	3.5	
Existing Indoor Seats	300	80	130	50	120	460	75	1,215
Required Seats	313	110	161	58	95	439	228	1,404
<i>Difference</i>	-13	-30	-31	-8	25	21	-153	-189
Existing seating capacity	1,050	160	390	75	360	1,610	263	3,908
Existing Outdoor Seats	125	--	--	100	--	100	25	350
Average Outdoor Seat Turnover	2.5	--	--	2.5	--	2.5	2.5	
Seating capacity including Outdoor Seats	1,363	160	390	325	360	1,860	325	4,783

Source: SE Group





F. EXISTING PARKING CAPACITY + RESORT ACCESS

1. PARKING

Parking for Taos day skiers and overnight guests is available across multiple lots located in the base area adjacent to Lift 1; the majority of these parking lots are on NFS lands. The total area of parking lots operated by Taos is roughly 15 acres. An industry average of 120 cars per acre is typically used for calculating parking capacity. This accounts for parking efficiencies and snow storage. As specified in Table 10 of this MDP, the existing parking lots can hold a total of 1,740 cars, which is roughly equivalent to 116 cars per acre. This slightly below-average cars per acre calculation can be attributed to many factors, including (but not limited to): parking lot configuration, parking strategy during days with lower skier visits versus the strategy on “peak days,” snow removal and storage, and parking attendants’ ability to direct guests while they are parking.⁹

It is acknowledged that guest parking and parking area capacities are dynamic situations which are dependent on many factors. This analysis addresses the physical capacities of the parking areas and applies anticipated vehicle occupancies to arrive at an understanding of what the parking infrastructure should be capable of accommodating. Being dependent on so many factors, it is expected that there will naturally be days on which the parking situation varies widely. As an example, on days with new snowfall there will inevitably be a decrease in available parking spaces which may require one or more additional days of snow management until all parking spaces are recovered and are available for guests. These conditions occasionally have the effect of creating deficit parking even on days with moderate visitation.

Existing parking areas are identified on Figure 4. Table 10 analyzes Taos’ existing skier parking capacity. To calculate Taos parking capacity based on the existing CCC, an average vehicle occupancy (AVO) of 2.3 people per car was used, a typical AVO for ski resorts. As shown in Table 10, there is a deficit of 87 parking spaces under current parking conditions at Taos. This deficit is confirmed by the fact that Taos’ parking lots reach capacity during the busier days of the year.

In addition to Taos-operated day lots, there are designated parking spaces at accommodations within walking distance of the base area (e.g., The Blake, Edelweiss, Sierra del Sol, and Twining Condos). The Blake for example, includes 50 total parking spaces in its parking garage located directly adjacent the base area. At any given time throughout the ski season, it can be assumed that 775 of Taos’ guests (per day) are staying at hotels, condos, and single-family homes in the Valley. It is estimated that 200 guests come from off-site shuttle services, and up to eight charter buses (peak day) are parked in Taos lots.

Taos is responsible for the direction, supervision, and control of parking lots on NFS lands and of pedestrian traffic and all access to permitted facilities. Taos works with all private businesses in the Village of Taos Ski Valley (VTSV) area to ensure that employee use of the parking lot is minimized. A special drop-off zone is provided for the local shuttle service from the Town of Taos, including a waiting shelter for passengers, placed on skids near the guard shack.

⁹ Management of snow storage is an operational issue, and as such will be addressed within Taos’ annual Winter Operating Plan.



TABLE 10. RECOMMENDED PARKING—EXISTING CONDITIONS

	Totals
CCC + other guests (+5%)	4,526
Guests staying in lodging/parking off-site	775
Guests arriving by shuttle	200
Number of guests parking at portal	3,551
Number of guests arriving by car (92%)	3,266
Number of guests arriving by charter bus (8%)	285
Required car parking spaces (based on 2.3 AVO)	1,420
Required charter bus parking spaces (40 guests per bus)	7
Equivalent car spaces (1 bus=4.5 car)	32
Cars parking in Taos lots from Overnight Accommodations	200
Required employee car parking spaces	175
Total required spaces	1,827
Existing parking spaces	1,740
Surplus/deficit	-87
Existing Guest Supply Capacity	4,115

Source: SE Group

2. GUEST DROP-OFF AREAS

The majority of Taos day skiers and riders ride shuttles to the base area from parking lots; the vehicle drop-off area/turnaround is located at the entrance to Thunderbird Road. A small percentage of guests either walk to the base area after parking their cars, or are dropped off near the guard house. From that point, all guests are directed through the village to access ticketing/guest services and Lift 1. The existing drop-off area does not provide any sense of arrival for guests accessing the mountain, which is something that ski area managers would like to address.

Regardless of whether they are dropped off by shuttle/car, or walk from the parking lots, all guests must ascend an approximate 30-foot grade change between the drop-off at Thunderbird Road and Lift 1. Because this is an inconvenience that affects the recreational experience from the initial point of entry to the resort, Taos considers this a high-priority planning issue.





G. EXISTING RESORT OPERATIONS

1. SKI PATROL/FIRST AID

Taos' ski patrol headquarters is located on-mountain at the top of Lift 2. This stand-alone facility is approximately 1,600 square feet in size and is open to the public as needed. However, it offers no restrooms or guest services/amenities other than picnic tables. There is also a roughly 1,400-square foot ski patrol clinic (the Mogul Medical Clinic) at the base area in the Mogul Medical building. This is used to treat on-mountain medical emergencies.

Other than these two facilities, properly equipped rescue toboggans are stored throughout the resort, in accordance with the New Mexico Ski Safety Act. A.L.S. equipment is stored at the top of Lift 4, and all first aid gear and rigid avalanche probe poles are stored at the top of Lift 4, which provide the best access to any in-bounds emergency needs. A resuscitation pack and physician's equipment are stored at top terminal building that is located at the previous location of Lift 6 and in the Mogul Medical clinic.

In bounds search and rescue is the responsibility of Taos. Out-of-bounds (i.e., outside the SUP area) search and rescue may be conducted by Taos staff in coordination with state police search and rescue or other appropriate agencies.

Taos' Avalanche Rescue Plan is modeled after the three-stage plan outlined and detailed in the Forest Service's Snow Safety Guide #1.

2. AVALANCHE CONTROL

Snow, weather and avalanche observations are the responsibility of Taos ski patrol. Because of the severe weather encountered at high altitude recreation areas such as Taos, some degree of hazard will always be present. In addition to severe weather, numerous avalanche paths of medium size or larger exist within the Taos SUP area that require constant monitoring and control work throughout the season. Therefore, Taos has prepared an Avalanche Control Safety Plan (reviewed and approved by the CNF) that provides for safety, control and rescue measures within the SUP area.

Taos has been divided into distinct areas represented by bowls, ridges or faces. Because of the main aspects of these slopes, varied terrain features, and the roughly 3,000 feet total vertical relief, a wind or storm from any direction can result in an avalanche hazard buildup. Slope hazard at Taos is classified according to the Forest Service Handbook No. 194, Snow Avalanches. Four degrees of hazard are recognized.

- **Minimum Hazard:** Indicates practical absence of hazard.
- **Low Intermittent Hazard:** Indicates occasional exposure to avalanches of dangerous size.
- **High Intermittent Hazard:** Indicates areas frequently subject to avalanches of dangerous size.
- **High Intermittent Hazard, Not Controlled:** Indicates highly hazardous areas which are not feasible to control.



Many of the slopes at Taos have been classified as low intermittent hazard because of the protective measures that are routinely applied. Taos easily qualifies as a Class A Site: High Avalanche Hazard, meaning that the site has at least one high intermittent avalanche slide path or ten or more low intermittent avalanche areas.

The CNF employs a qualified Snow Ranger who is responsible for monitoring the compliance with and effectiveness of the Taos Avalanche Control Safety Plan. Taos provides a trained avalanche technician acceptable to the Forest Service who carries out avalanche control measures in consultation with the Snow Ranger and patrol leader.

Taos uses multiple methods of conducting avalanche control work. Two Avalaunchers provide extremely effective avalanche control for certain weather and terrain conditions for inaccessible areas. They also expedite control work done on skis. Hand blasting may be used in conjunction with the Avalaunchers to control avalanche paths. Lastly, a Gazex Avalanche Mitigation System—including five 3-meter exploders and one shelter—was installed in the Kachina Peak area of Taos in 2019. Test/protective skiing of terrain is conducted by ski patrol staff.¹⁰

Emphasis is given to opening the lower Frontside trails first, then the upper Frontside, and, finally, the *Honeysuckle* area and the Lift 4 area. Control work is planned to open the entire mountain as close to the normal opening time as possible.

Any employee who conducts avalanche control operations must have general training in use, storage and transportation of explosives, as well as special training in avalanche blasting techniques. Field caches for explosives and detonators consist of substantial locked boxes that are plainly marked and are in isolated locations.

Taos enacts a closure of terrain if extremely hazardous avalanche conditions exist, consisting of highly visible signs with specific references to “closed” or “avalanche danger.” Overall, Taos has a variety of procedures and equipment to mitigate avalanche danger as the natural topography and snowpack of the area warrant multi-pronged approach to safely and efficiently address snow safety.

10 “Test skiing” is a method of artificially releasing avalanches on selected small slopes by skiing; it serves as a field test of snow stability to check the conclusions. “Protective skiing” is the deliberate, day-to-day disturbance of snow on avalanche slopes in order to encourage stabilization





3. GROOMING OPERATIONS

Taos presently runs four to five grooming vehicles nightly to groom up to 200 acres of terrain. This acreage includes all beginner through intermediate terrain, as well as some upper level trails, which is accomplished with a winch cat. Grooming typically occurs on all terrain on which snow is made.

4. MAINTENANCE FACILITIES

Taos' maintenance operations are housed in four separate buildings. The buildings are sized adequately to meet the current needs of the resort. Table 11 details the various buildings and their uses.

TABLE 11. EXISTING MAINTENANCE FACILITIES

Building/Location	Year Built	Total Square Footage	Number of Bays	Attributes	General Condition
Vehicle Maintenance Shop	1987	14,000	8	Administration Employee Lockers Restrooms Mechanical Storage Welding Shop Lift Operations	Very Good
Little Maintenance Facility (LMF)	2006	3,000	3	Employee Lockers Restrooms Storage Carpentry Shop Electrical Shop	Very Good
Snowmaking Pit House	2001/02	3,000	-	Mechanical	Very Good
KMF Basin Snowmaking	1990	2,000	1	Mechanical	Fair

Source: SE Group



5. SNOWMAKING

Analysis conducted for this MDP indicates that Taos' snowmaking system is capable of providing coverage on approximately 200 acres of the developed terrain across the SUP area. Snow is made on the majority of beginner through intermediate level trails.

The typical 11-week snowmaking season usually starts in late October and is finished by mid-January. An average depth of 18 to 24 inches of snow is required to open critical terrain in the teaching area, as well as *Powderhorn* and upper and lower *White Feather*. The snowmaking system draws water from the Rio Hondo, and has a total capacity of 3,000 gallons-per-minute. Taos holds a diversionary right of 200 acre-feet, or 65.2 million gallons, from the Rio Hondo annually. Water meters are located at each of the three stations where Taos diverts water from the Rio Hondo. The amount of water that is diverted is reported to the State of New Mexico on a quarterly basis. Taos' snowmaking system is an air/water system that consists of 30 air/water guns, 115 tower guns, and 25 ground guns. These guns are run off of 475 manual hydrants.

The snowmaking system has a major positive effect on Taos' operations, assuring that adequate snow coverage is present throughout the resort, especially during the early part of the season. While providing for early season skiing, snowmaking also extends the spring season by creating a good base for subsequent snow to build upon. In summary, snowmaking has allowed the resort to be open more days, and ensures snow quality throughout the resort, thereby achieving greater continuity of operation and a resultant increase in resort utilization.

However, given the increasing unpredictability of precipitation and weather patterns in New Mexico, additional snowmaking and pump capacity is needed. There are existing trails that receive high use, and in years with low natural snow, experience poor conditions and minimal snow cover.

6. MOUNTAIN ROADS

Approximately 20 miles of mountain access roads exist between the private, base area lands and the SUP area. Overall, the mountain road network is adequate for Taos' needs; however, on-mountain access to the existing maintenance facility north of Lift 8 is currently limited. Snowmobiles and snowcats, coming from the Lift 8 area, must drive west along a route overlapping *White Feather Lower* ski trail and then back east towards the maintenance facility. This requires operational vehicles to traverse trails and/or public roads alongside Taos guests, which presents the potential for conflict.





7. INFRASTRUCTURE

Utilities and infrastructure are discussed individually in this section.

a) Power and Communications

All electricity at Taos is supplied by Kit Carson Electrical Co-op to approximately 25 transformers at 20 locations across private lands and the SUP area, using a mix of primary and secondary metering, and single and three phase power.

The main service is primary metered including most of the on-mountain lifts, the Resort Center, and snowmaking. Peak demand is about 2,300 KW. Lift 4 and the Phoenix Grill are also primary metered. Peak demand is about 800 KW. The remaining accounts are secondary metered, with peak demand less than 300 KW.

Power supply is adequate but will improve with a switch to higher primary voltage planned in the near future.

Taos currently has a small building that houses radio equipment located on Highline ridge. This building provides communications abilities to Taos and within broader Taos County; however, it is currently old and dilapidated.

b) Water

The VTSV's water supply at the Phoenix Spring provides excellent water quality, in excess of 1 million gallons per day. All Taos facilities, with the exception of the Whistlestop Café, use VTSV water and sewer. Chlorination is currently applied at the storage tanks.

Water rights owned by the VTSV allow for the diversion of up to 418 AF/year. The VTSV has two above-ground storage tanks, each with a 250,000-gallon capacity located just off Kachina Road.

In the future, the water distribution system will require updating to ensure system reliability and adequate fire protection flows.

c) Wastewater

Wastewater treatment is currently provided by VTSV's community water treatment plant. The treatment plant was upgraded in 2019 and is considered adequate and will accommodate the needs of the ski area for the foreseeable future. The VTSV has upgraded and improved the treatment plant and will continue to do so as needed to meet the needs of the community.

d) Fuel Storage

Taos has seven above-ground fuel storage tanks located across the resort. Currently, a partial fuel tanker load can be accommodated. A larger pad and more fuel storage are identified needs for the future; however, individual fuel storage tanks are adequate for current needs.

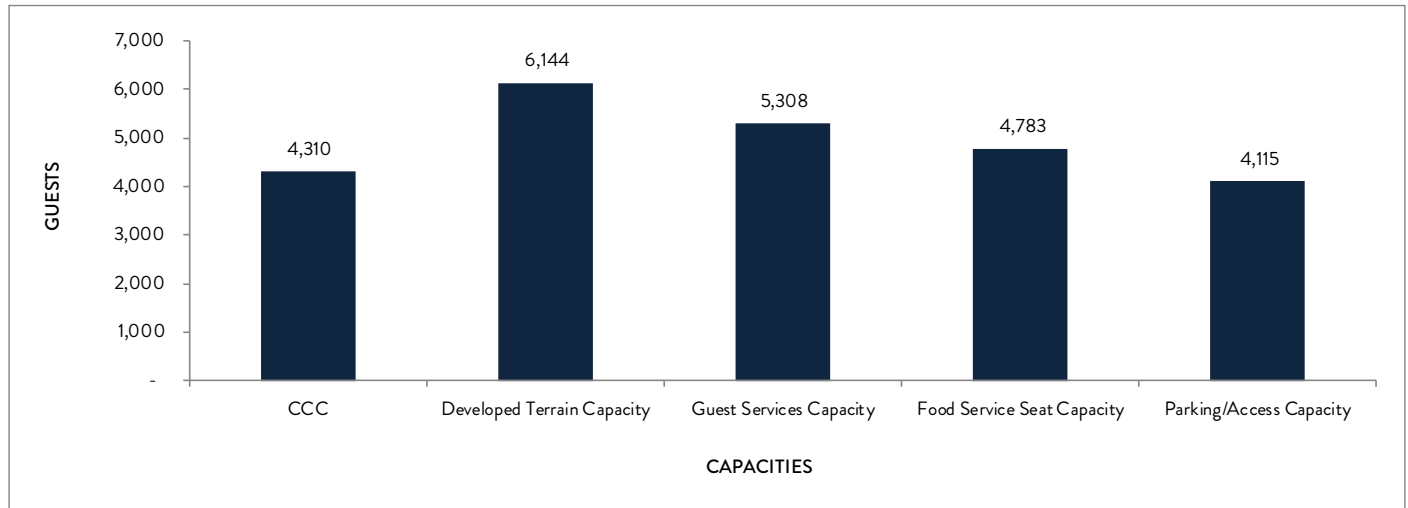


H. RESORT CAPACITY BALANCE + LIMITING FACTORS

The overall balance of the existing resort is evaluated by calculating the capacities of the resort's various facilities and comparing those facilities to the resort's CCC. The capacities discussed above are shown in the following Chart 2. Ideally, a resort's capacities would be in balance with each other and provide similar or the same capacities across resort facilities. In this scenario the various resort facilities would not be underutilized or overutilized.

In the case of Taos, as shown in Chart 2, the resort capacities are fairly balanced with the CCC of 4,310 guests. The difference between the developed terrain capacity and the CCC indicates underutilization in this area but is not problematic. Rather this is indicative of the optimal, uncrowded guest experience that visitors of Taos currently enjoy. Across all areas, the current balance of the resort indicates that there is room for the CCC to increase, with only minor modifications to certain facilities being necessary to provide a similar, desirable guest experience. Parking capacity is slightly below CCC indicating a need for additional parking spaces, increasing efficiency of parking or AVO or access to the resort on busy days. In addition to parking and terrain capacities, guest service and food service seating capacities as shown in Chart 2 are slightly above CCC. The guest service capacity shows a need for space on-mountain. Food service seating includes outdoor seating. It is recommended additional indoor on-mountain seating be considered to reduce the need for guests to descend the mountain for guest services.

CHART 2. RESORT CAPACITY—EXISTING CONDITIONS





I. MULTI-SEASON ACTIVITIES

In addition to skiing and riding in the winter season, Taos offers a variety of summer recreation activities. These expand the recreation experience at Taos by offering enjoyable opportunities to those who want to experience the CNF in a non-winter setting. Many guests simply come to take in the views and explore all that northern New Mexico has to offer. Activities include scenic chairlift rides, hiking and mountain biking, rock climbing through use of via ferratas, and various events over the course of the summer. Refer to Figure 8 for existing non-winter conditions at Taos.

These offerings provide a variety of activities for guests to choose from. However, with the nearby large population center of Albuquerque, there is significant demand for recreation opportunities in the CNF during the summer and shoulder seasons. When compared to other resorts of similar size across the Rocky Mountain region, Taos offers fewer opportunities for multi-season recreation. However, with the recent approval and construction of the via ferratas and additional mountain biking trails (discussed in Chapter 3), Taos is in the process of expanding their summer recreation opportunities. Overall, while there are opportunities that exist at Taos for summer recreation, continued expansion of these opportunities will only draw more guests.

1. WINTER

a) Sunrise Tracks

Taos offers the Sunrise Tracks program, which is an approximately 90-minute program starting at 8:00 a.m. where participants pay to ski the mountain early.

b) Uphill Access

Taos permits uphill access during and after the ski season. During the ski season, skiers must check in with Guest Service staff starting at 7:00 a.m., follow a designated uphill route, and be going downhill by 9:00 a.m. Access can be cancelled at any time for avalanche control work. Following the end of the operating season at Taos, uphill skiing is also permitted but users must avoid all ski area infrastructure, vehicles, and machinery.

c) Snowshoeing and Cross-Country Skiing

The Williams Lake Trail is popular for Nordic skiing and snowshoeing. This trail begins adjacent the Phoenix Grill and travels to the scenic Williams Lake on a realigned route (2019) that is largely outside and adjacent to the SUP area. Northside, a private business located across the valley from Taos offers guided snowshoe tours at various times throughout the season, and the Enchanted Forest Cross Country Ski Area (located about 45 minutes away) offers 33 kilometers of groomed trails. Taos recognizes that there is demand for both of these activities on the CNF.



d) Sledding

Taos offers a free sledding hill located adjacent the base area for guests to use. This sledding hill is popular with families with children as an alternative activity to skiing during the day.

e) Speaker Series at Taos

Taos offers a series of speakers over the course of the summer and winter that highlights the organizations, individuals, and projects that make Taos “Taos.” Speakers have included the trainers of Avalanche Dogs, The Nature Conservancy, and the Taos School of Music.

2. SUMMER

a) Scenic Chairlift Rides

Taos operates Lift 4 for scenic chairlift rides daily 9:00 a.m. to 4:00 p.m. from late June through Labor Day, and weekends only Labor Day through Mid-October. There are a variety of picnic tables at the top of the lift for guests to have a picnic lunch. After riding the chairlift up, guests can descend on the existing mountain roads back to the base area.

b) Via Ferratas

The 2019 Taos Via Ferrata Project CE approved a series of routes on three different rock formations within the Kachina Bowl area, as well as a series of access trails totaling approximately 0.7 mile in length. Two routes have currently been constructed, with the remaining route to be finished the summer of 2021. The via ferratas provide a variety of routes with varying difficulties, as well as trip durations ranging from three to five hours. Via ferratas like the one at Taos are popular in areas like Jackson Hole and Telluride and it is anticipated that these will be similarly popular.

c) Hiking and Mountain Biking

In the 2018 Taos Ski Valley Trails Project CE, approximately 15 miles of mountain biking trails were approved by the Forest Service. These approved trails are incorporated into this MDP and are considered a priority for buildout. Approximately 5 miles of trails have been built, with the rest planned to be constructed in the 2021 construction season.

Guests can also mountain bike and/or hike the existing mountain roads. The Williams Lake Trail, which is largely outside and adjacent to the SUP area (discussed previously) is a popular hiking trail in the summer.





d) Special Events and Programs

Special events, such as running races and other competitions, are held on NFS and private lands periodically throughout the summer season, contingent upon necessary approvals. In addition, Taos is able to host on-mountain weddings, corporate picnics, business retreats, conferences and educational camps periodically throughout the summer season.

3. ZONE DESIGNATIONS CONCEPT

As discussed in Chapter 2, summer activity zones approximate desired experiences as well as compatible activities and facilities, based on the existing setting and level of development, in mapped areas throughout the ski area's SUP and private lands owned by Taos. Through this planning process, five distinct zones were considered, four of which have been identified within the Taos SUP area and on private lands. Zone designations are based several characteristics including:

- **Access** – the number and function of roads within the area
- **Remoteness** – how far removed an individual feels from human activity
- **Naturalness** – the extent and intensity of development and disturbance within the area
- **Infrastructure** – the amount of and proximity to the built environment

Zone designations were developed utilizing these four characteristics to define the setting and guest experience within different landscapes across the SUP area and private ski area lands. Zones designations at Taos are illustrated in Figure 8, and Tables 12 and 13 provide additional details regarding zone characteristics. The first step in the zone designation process was a careful consideration of the setting and the proximity to infrastructure to support snow sports and other multi-season recreation activities. Features such as watersheds, topography, vegetation structure, level of existing disturbance, and existing infrastructure were considered in establishing zone boundaries across the entire ski area. The second step in the zone-designation process was applying a score for each characteristic on a scale of 1 to 3, with 1 being the most disturbed setting and 3 being the least disturbed.

Because summer and multi-season uses are continually being developed and activities that do not currently exist may be popular within the next several years, a list of compatible activities is provided for each zone. The intent of the list of compatible activities is to allow for a certain amount of flexibility, since it is impossible to foresee exactly what new activities will be developed over this time. Taos will continue to work with the Forest Service to ensure that proposed summer and multi-season activities are suitable for the setting and desired experience within each zone.



a) Zone 1

Setting

The existing setting of Zone 1 is highly developed and disturbed. Within Zone 1 the built environment dominates the landscape. Within the context of the overall SUP area, the following summarizes the setting in Zone 1:

- Road access and roads are prevalent;
- Considerable human activity (people recreating and/or resort operations) occurs within and proximate to this setting—there is little to no feeling of remoteness;
- Terrain modifications (ground disturbance and vegetation removal) dominate the area; and
- Infrastructure, including chairlifts and buildings, are present.

At Taos, these areas occur on both private and NFS lands and include the base area and the top and bottom terminals of Lift 2 and Lift 4 due to the existing development and guest facilities.

Desired Experiences

Within Zone 1, guests are expected to encounter a high concentration of other guests. The level of development will reflect the current setting and function of these areas as hubs of activity and portals to other activities across the ski area. These areas are typically where guests will access the majority of the guest services—including bathrooms, rental facilities, food service, and more. Within Zone 1's, the concepts in the BEIG discussed in Chapter 2, Section I will be followed to ensure appropriate design guidelines for both landscape architecture and built architecture are followed. Zone 1 abuts Zone 2 on the fringes of developed on-mountain areas. This allows guests to experience a gradual transition between the built environment (Zone 1) and more-natural areas that still contain activities and facilities blending with the area's natural setting (Zones 2 and 3). Zone 1 will offer interpretive opportunities in a developed setting, with goals of enhancing guests' understanding of the natural environment as they prepare to venture into less-developed areas.

Compatible Activities and Facilities

Services and activities in Zone 1 include food and beverage operations, shelter and emergency services, restroom facilities, landscaped areas, and other activities. At Taos, Zone 1 primarily includes the base area and additional on-mountain hubs, where guests will access surrounding activities and refuel between activities.

Activities on NFS lands within Zone 1's may include an alpine coaster, challenge and ropes courses, canopy tours, zip lines, single-track, flow, and larger, more developed mountain biking trails, a mountain biking skills park, hiking trails, zip lines, climbing walls, more developed pathway systems, equestrian trails and facilities, and other natural resource-based recreation activities. In summary, activities appropriate in Zone 1 would rely more heavily on lift-service and guest services, and they would be activities that concentrate people resulting in a diminished sense of remoteness. The activities will not compromise the existing skiing which occurs in Zone 1 during winter months.





b) Zone 2

Setting

The existing setting of Zone 2 is less disturbed when compared with Zone 1, and provides more naturalness due to a lesser degree of disturbance from the surrounding ski area. Constructed features should blend with the natural surroundings, but may be more visually dominant. The following summarizes the setting in Zone 2:

- Road access and roads are present;
- Human activity (people recreating) occurs within and proximate to this setting—there is little feeling of remoteness;
- Terrain modifications (ground disturbance and vegetation removal) are evident in the area, but past disturbance blends with the landscape; and
- Infrastructure, including chairlifts and buildings, are present.

At Taos, these zones occur on both private and NFS lands adjacent to the base area (Zone 1) as well as in areas where lift infrastructure, developed trails, and other ski area infrastructure is readily present including the areas around Lifts 1, 2, 8, 4, 7, 7a, and the existing *Rubezahl* ski trail. These areas also incorporate the majority of Taos' approved and existing mountain biking trails.

Desired Experiences

Zone 2 will offer a wider variety of experiences in a more controlled and concentrated setting, as compared to Zones 3, 4, and 5. The experience within Zone 2 would continue to feel relatively developed with activities and facilities that surround guests at the core of Zone 2. In moving between zones characterized as 1 and 2, guests will transition from the built environment to a setting characterized by both developed and passive activities proximate to existing infrastructure and facilities, but still offering a more natural feel. For many guests of Taos, this may be their first real experience in the mountains, and providing a safe, comfortable environment for exploration is critical to the success of Zone 2 and the overall program of activities and experiences. Zone 2 provides the initial opportunity for guests to learn about and engage in their natural surroundings through hands-on recreational, interpretive, and educational offerings. Zone 2 serves as a buffer between higher levels of development within Zone 1 and on private lands, and the more natural settings of Zones 3 and 4.

Compatible Activities and Facilities

Zone 2 utilizes existing and proposed lift infrastructure and guest service facilities. Services and activities could include food and beverage operations, shelter and emergency services, restroom facilities, group functions, satellite ticketing, and staging for activities such as zip line and ropes courses. Passive activities could include educational/interpretive opportunities, sightseeing and light hiking, or simply visiting with friends and family. Zone 2 will provide enhanced sightseeing opportunities compared to Zone 1. Active offerings include access to zip lines and canopy tours, extended hiking trails, mountain biking trails, challenge courses, climbing walls, and other yet-to-be defined natural resource-based activities.

The goal of Zone 2 is to provide satellite facilities in a less developed setting than Zone 1. These satellite facilities will provide an outpost for natural resource-based activities and be the second portal to the National Forest. These locations occur around existing/proposed lifts and terrain pods with facilities and the visual experience being similar to what a guests experience at these locations in the winter season.



c) Zone 3

Setting

The existing setting of Zone 3 contains disturbance from ski trail and lift development, but guests can find a greater degree of remoteness and naturalness depending on the location of the area. Generally speaking, Zone 3 includes areas where existing lifts are present; however, this was not the determining factor for the designation. Within the context of the overall SUP area, the following summarizes the setting in Zone 3:

- Road access and roads are present, but limited to certain areas;
- Human activity (people recreating) can be seen at a distance or is out of site from within this setting—a stronger feeling of remoteness is present as compared to Zones 1 and 2;
- The area is moderately disturbed by ski area activity, including vegetation removal from ski trail development and some ground disturbance; and
- Infrastructure, including chairlifts and buildings, are present.

Zone 3 areas are only located on NFS land and are primarily located in areas with a sense of remoteness but with defined trails and ski infrastructure present or visible in the zone. This includes the area around Kachina Peak as well as the area west of Kachina Road, beyond the identified Zone 2.

Desired Experiences

The desired experience will be achieved through the activities and facilities. Guests will enjoy nature hiking and biking trails through forested and open settings. The majority of guests will access Zone 3 via hiking or biking trails leading out of a Zone 2. This will allow guests to tier their NFS lands experience and exposure as they increase their relation to the four zoning characteristics going from a Zone 1 or 2 and into a Zone 3. Once in Zone 3, guests will have a variety of opportunities to engage in their surroundings in a more natural and remote environment as their seclusion and distance from resort infrastructure increases. Visitors in Zone 3 may encounter small groups of other users including hikers, mountain bikers, and the overhead passing of guests on lifts, zip lines, or canopy tours. Although users will experience more solitude than in Zone 2, the sights and sounds of people will be greater than Zones 4 and 5.

These experiences will promote the CNF as a recreationally, biologically, and geographically diverse landscape.

Compatible Activities and Facilities

Activities could include developed and maintained mountain biking trails, scenic chairlift rides, hiking trails, multi-use trails, overlook/viewing structures, zip lines, canopy tours, off-highway vehicle tours, tubing, and other similar natural resource-based activities. Select activities such as canopy tours and zip lines may be utilized on a year-round basis. Via ferratas as well as hiking and mountain biking trails are popular in this zone because they provide great opportunities for sightseeing and exploration in a natural environment while still providing relatively close access to base area facilities. Activities within Zone 3 will not require substantial modifications to the natural topography to facilitate construction of activities. Zone 3 will utilize existing lift infrastructure for additional chairlift rides to expose guests to unique areas of the SUP area and to provide amazing sightseeing opportunities. Existing ski area development (ski trails and lifts) exist to varying degrees within Zone 3, and potential seasonal and year-round facilities and activities will be consistent with the level of existing development for the ski area operation.





d) Zone 4

Setting

The setting of Zone 4 is more remote and provides a great degree of naturalness. Ski area development is limited and larger tree islands are prevalent when ski trails are present. Within the context of the overall SUP area, the following summarizes the setting in Zone 4:

- Little to no road access occurs;
- Human activity (people recreating and/or resort operations) is distant or out of site, facilitating a high degree of remoteness;
- The area is completely natural or has limited disturbance; and
- Infrastructure, including chairlifts and small buildings, are present but removed from most viewpoints.

The areas at Taos that are classified as Zone 4 are located only on NFS lands primarily on the outskirts of the SUP boundary, with one section in the middle of the SUP boundary that does not have any trail or lift development and is closed to skiers in the winter.

Desired Experiences

In Zone 4, guests will connect with the more natural setting in a relatively undisturbed environment. Dispersed hiking and mountain biking opportunities will allow guests to experience and interpret areas of the National Forest where natural processes are more evident, allowing for educational opportunities that are not available in more developed zones. The setting in Zone 4 will directly affect the guest experience, and maintaining a more remote setting with opportunities for solitude will meet the guests' expectations.

Compatible Activities and Facilities

Activities will promote the surroundings and inform guests of similar environments throughout the National Forest. Activities include slower-moving actions to match the setting and character, which provide an even greater degree of environmental education and exposure to unique environments. These activities include hiking trails with signage and interpretation, equestrian trails, and single-track mountain biking trails. Activities within Zone 4 will require minimal site modification to maintain the current level of naturalness. In this zone, the low density of guests is expected to maintain the feeling of remoteness.



e) Zone 5

Setting

The setting of Zone 5 is that which is undisturbed by ski area activities and is the least developed of all the zones. No ski area roads or infrastructure are present in Zone 5. The following summarizes the setting one would experience within Zone 5:

- No ski area roads are present;
- Human activity (people recreating and/or resort operations) is predominantly out of sight, so one would feel completely remote;
- Area is undisturbed by ski area activity; and
- Ski area infrastructure is only visible at a distance.

Given the layout of Taos' existing lift and trail development, as well as the presence of mountain roads and visible base area, no areas in the Taos SUP are currently classified as Zone 5.





4. EXISTING SUMMER ZONE DESIGNATIONS

The summer zones at Taos were scored and mapped according to the characteristics and scores defined in the previous paragraphs and in Table 12. The existing zones for each area are identified in Table 13.

TABLE 12. ZONE CHARACTERISTICS

Zone Characteristics	Scores
Access	
Road Access within Area	1
Limited Road Access/Trails	2
No Road Access	3
Remoteness	
Proximate to Human Activity	1
Distant Sight of Human Activity within SUP	2
Out of Sight of Human Activity within SUP	3
Naturalness	
Heavily Disturbed by Ski Area Activity	1
Moderately Disturbed by Ski Area Activity	2
Undisturbed by Ski Area Activity	3
Infrastructure	
Adjacent to Two or More Ski Area Infrastructure	1
Ski Area Infrastructure in Area	2
Out of Sight of Ski Area Infrastructure	3
<i>Minimum Score Possible</i>	4
<i>Maximum Score Possible</i>	12
Zones	Score Range
1	4
2	5 to 6
3	7 to 9
4	10 to 11
5	12



TABLE 13. AREA BOUNDARIES AND ZONE DESIGNATION

Zone Characteristics	Score	Zone
Area A1		
Access	1	Zone 1
Remoteness	1	
Naturalness	1	
Infrastructure	1	
Total Score	4	
Area A2		
Access	3	Zone 4
Remoteness	2	
Naturalness	3	
Infrastructure	2	
Total Score	10	
Area A3		
Access	1	Zone 2
Remoteness	1	
Naturalness	2	
Infrastructure	1	
Total Score	5	
Area A4		
Access	2	Zone 3
Remoteness	2	
Naturalness	2	
Infrastructure	2	
Total Score	8	
Area A5		
Access	1	Zone 1
Remoteness	1	
Naturalness	1	
Infrastructure	1	
Total Score	4	
Area A6		
Access	3	Zone 4
Remoteness	2	
Naturalness	3	
Infrastructure	3	
Total Score	11	
Area A7		
Access	1	Zone 1
Remoteness	1	
Naturalness	1	
Infrastructure	1	
Total Score	4	

Zone Characteristics		Score	Zone
Area A8			
Access	3	Zone 4	
Remoteness	2		
Naturalness	3		
Infrastructure	2		
Total Score	10		
Area A9			
Access	2	Zone 3	
Remoteness	1		
Naturalness	2		
Infrastructure	2		
Total Score	7		
Area A10			
Access	1	Zone 1	
Remoteness	1		
Naturalness	1		
Infrastructure	1		
Total Score	4		
Area A11			
Access	1	Zone 2	
Remoteness	1		
Naturalness	2		
Infrastructure	1		
Total Score	5		
Area A12			
Access	1	Zone 2	
Remoteness	1		
Naturalness	2		
Infrastructure	2		
Total Score	6		
Area A13			
Access	1	Zone 2	
Remoteness	2		
Naturalness	2		
Infrastructure	1		
Total Score	6		
Area A14			
Access	1	Zone 1	
Remoteness	1		
Naturalness	1		
Infrastructure	1		
Total Score	4		







CHAPTER FOUR

PREVIOUSLY APPROVED PROJECTS, NOT YET IMPLEMENTED



The projects detailed in this section have been previously approved through prior NEPA analysis, and have not yet been implemented. It is anticipated that the majority of these projects will ultimately be implemented as capital decisions are made. Prior to project implementation, the Forest Service will determine if additional analysis is warranted due to new or changed conditions.

Applicable approvals are contained in the *Record of Decision (2012 ROD)* for the *Taos Ski Valley's 2010 Master Development Plan – Phase 1 Projects Environmental Impact Statement* (signed in 2012). The ROD approved the development of the Minnesota Glades, the replacement of Lift 4 and Lift 7, the redesign of the entry way and drop-off area of the ski area, and the reconfiguration of Taos' parking lots.

The via ferratas and mountain biking trails are previously-approved; however, because construction is underway for both the via ferratas and mountain biking trails, they are discussed in Chapter 3.

A. LIFTS

1. LIFT 4 REPLACEMENT

Lift 4 (fixed-grip quad) was approved to be replaced with a detachable quad in Taos' 2012 ROD. Approximately 0.7 acre of ground would be graded to accommodate the larger top and bottom terminals. The uphill capacity of the chairlift would increase from 1,800 pph to 2,400 pph, and lift ride time would decrease from 10 minutes to 4.5 minutes.

2. LIFT 7 REPLACEMENT

Lift 7 (fixed-grip triple) was approved to be replaced with a fixed-grip quad in Taos' 2012 ROD. While the uphill capacity of the chairlift would not increase, the new lift would utilize improved technology and address wear that has occurred on the existing lift, which is nearing the end of its functional life. Approximately 0.9 acre of grading would occur to accommodate the larger top and bottom terminals.

B. TERRAIN

1. MINNESOTA GLADES

Approximately 40.3 acres of spruce and fir trees were approved to be thinned in Taos' 2012 ROD (varying from 10 percent to 50 percent removal of existing trees) in order to create skiable lines in the Minnesota Glades. This project is intended to create new areas of expert-level gladed skiing. Taos has currently begun implementing this project but has not yet completed the project. As with previously implemented glading projects, Taos has been and would continue to work with the CNF during future glading projects to address elements such as



species and size selection, tree mortality, percent removal, and habitat characteristics. As discussed in Chapter 5, Section B, additional glading in the area is planned.

C. PARKING CAPACITY

1. EAST GUEST DROP OFF AREA

The 2012 ROD included development of a new guest drop-off area along Thunderbird Road and the realignment of the existing footbridge to provide better access from the approved East Guest Drop-Off Area to Alpine Village.

2. PARKING LOT RECONFIGURATION

The 2012 ROD included a variety of parking lot reconfigurations to improve parking efficiency and traffic flow. Specifically, it approved:

- The reconfiguration of the eastern portion of Taos' day parking lots (i.e., Armadillo, Bison, and Bear) to allow Bison to become a thoroughfare primarily for residents of the area driving to Twining Road, and access to the East Guest Drop-Off Area.
- The construction of an extra parking area north of Armadillo to alleviate the loss of parking on Bison.
- The removal of 1.4 acres of trees and grading of 3 acres of land to accommodate additional parking and improvements to the entry road (i.e., where Highway 150 meets the parking lots).
- The re-grade of 9.9 acres of the existing parking lot to improve vehicular access to the new East Guest Drop-Off Area and circulation through the parking lots.

D. ALTERNATIVE RECREATION

The 2012 ROD approved an Adventure Center for snowshoeing opportunities to begin near the LMF in the northeast portion of the existing SUP area. It approved a designated and marked interpretive trail system (one main loop trail with interconnecting segments) for snowshoeing to further supplement winter activities at Taos. Trails were approved to be created over the snow once sufficient snow coverage is available. Clearing of some downfall and specific trees measuring less than four inches diameter was also approved. The trails will be designed to accommodate up to 75 guests at-one-time. Interpretive signage was approved to be installed/removed seasonally to provide Taos with flexibility to modify the trail as needed. Visitors who want to snowshoe will walk to the trailhead. The snowshoe trails would occur within the Snowshoe and Nordic Trail area discussed in Chapter 5 and depicted on Figure 9.







CHAPTER FIVE

UPGRADE PLAN



The proposed Upgrade Plan has been specifically assembled to improve the quality of the recreational experience, and increase recreational opportunities, at Taos. It is important to note that, with the exception of planned projects on private, base area lands (e.g., portions of the Base-to-Base Gondola), all planned improvements in this Upgrade Plan are within Taos' existing SUP area. No expansion of the Permit Area is requested.

Addressing deficiencies in Taos' lift network and base connectivity is an important component in this Upgrade Plan. The Upgrade Plan addresses this in two ways: increased out-of-base lift capacity; and strategic lift replacements. By addressing both of these areas, access to terrain and circulation throughout the resort will be improved.

Out-of-base lift capacity and guest dispersal across the mountain will be improved with the Base-to-Base connector gondola, which will connect the main base area to the Kachina Basin and provide access to a beginner ski trail. Lifts 2 and 8 will be replaced with detachable or fixed grip quads, which will improve access to the Frontside of the mountain as well as the hike-to West Basin Ridge and Highline Ridge terrain. Lift 7a would be upgraded to a fixed-grip triple and will provide better access to hike-to terrain. In conjunction with the previously-approved Lift 4 and 7 upgrades, the planned lift upgrades will enhance access to terrain and circulation across the entire mountain. The upgraded Pioneer area including the upgraded and realigned Pioneer lift and the variety of magic carpets will better serve the existing beginner terrain in the area, while interfacing with the planned Base-to-Base connector gondola.

Planned terrain improvements include miscellaneous trail widening and grading, trail extensions, and the installation of retaining walls across Taos to improve skier access and flow across the mountain. In addition, two new sections of gladed terrain are planned: the Minnesota Glades, which will be developed to the west and upslope of the existing *Rubezahl* trail, and an area of glades beneath Lift 8. These planned projects would increase developed lift-served terrain by approximately 15 acres. Additionally, undeveloped and gladed terrain would increase from approximately 331 acres to approximately 431 acres under the Upgrade Plan.

A variety of on-mountain guest service upgrades are also planned, including multi-use buildings at the top of Lifts 2 and 4 and a larger restaurant near the top of Lift 7 that would also provide some multi-use functions. These facilities will dramatically improve Taos' ability to cater to its guests' needs without requiring them to descend to the base area. Additionally, replacement and potential relocation of the Whistlestop Café will further improve the on-mountain amenities and address the current deficiency of indoor on-mountain restaurant seating.

Other components of the Upgrade Plan include increases in snowmaking capacity and water storage on-mountain, and a variety of storage and operational facilities both on-mountain and in the base area.



A. UPGRADED LIFT NETWORK

The Upgrade Plan includes new lift installations and replacements of existing infrastructure that will enhance the learning progression and make better use of the available terrain at Taos. It specifically includes the installation of the Base-to-Base gondola, replacement of Lifts 2 and 8 with fixed grip or detachable quads, replacement of Lift 7a with a fixed-grip triple, and the realignment and replacement of the Pioneer Lift with a fixed-grip triple or quad. It also includes the installation of magic carpets in the Pioneer area. Lifts 4 and 7 are also planned to be replaced. These replacements were previously approved in the 2012 ROD. Refer to Chapter 4 for additional details about previously approved projects.

Overall, the Upgrade Plan would enhance guest experience, by improving travel between the Frontside and Backside of Taos and the overall circulation of the lift network. The addition of the Base-to-Base gondola and replacement of fixed-grip technology throughout much of the existing lift network will be responsible for this change in experience, which is believed to be consistent with guest demands and industry wide trends. Additionally, the planned upgrades to the lift network are anticipated to reduce the presence of bottlenecks or chokepoints within the ski area as planned lift upgrades would create a similar lift capacity across each main lift. Effectively, this would mean that each lift would move skiers up the slopes at a similar rate and no lift would hinder uphill access.

1. NEW LIFT INSTALLATIONS

a) Base-to-Base Gondola

A lift is planned to connect the Frontside base area to the Kachina Basin base area at the bottom of Lift 4. This lift will improve general connectivity between the Frontside and Kachina Basin base areas, and will also improve skier circulation to Backside terrain. Pressure on Lift 1 will be reduced as guests will not have to use this lift to access Backside terrain. Additionally, guests will be able to more directly access beginner and intermediate terrain accessed by Lift 4 without first traveling to the summit. This lift will also provide access to Backside when conditions restrict the Frontside from being opened. The lift will also provide direct repeat-skiing on the realigned *Rubezahl* trail, which will be able to be used by the ski school for teaching—particularly kids groups. This lift would be used extensively in the evenings to connect the two base areas, for lodging and restaurants, and in the summer, to improve access to summer activities from the main base area. The planned Base-to-Base gondola would be located within the existing SUP area or adjacent private lands.¹¹

¹¹ Note: Figure 9 currently displays the planned base-to-base gondola as entirely within the existing SUP area; however, this alignment may shift to include private lands based on detailed engineering and/or private party agreements.





b) Pioneer Area Lift and Magic Carpets

To enhance the Pioneer beginner area, the existing Pioneer lift is planned to be realigned and upgraded (discussed in the following section) and a variety of magic carpets are planned. The additional magic carpets and new Pioneer lift would create a natural learning progression for beginners to transition from a magic carpet to the Pioneer Lift.

2. EXISTING LIFT REPLACEMENTS

a) Lift 2 Replacement

Lift 2 serves some of Taos' most popular expert-only hike-to terrain and provides access to Backside terrain served by Lifts 4 and 7. In conjunction with Lift 8, it provides access to the mountain summit. The lift is currently a fixed-grip lift and would be upgraded to either a detachable or fixed grip lift that would provide quicker and more efficient access to the mid-mountain of Taos.

b) Lift 8 Replacement

In conjunction with the Lift 2 replacement described above, the replacement of Lift 8 would enhance access to Taos' beginner and intermediate terrain, improve return access to the summit for expert skiers skiing the West Basin Ridge, and improve ski racer access to the ski racing terrain. The existing fixed-grip lift would be replaced with a detachable or fixed grip quad to improve loading for beginner and intermediate skiers and reduce lift time and lift lines.

c) Lift 7a Replacement

In conjunction with the previously approved Lift 7 upgrade (refer to Chapter 4), Lift 7a is planned to be replaced to improve access to the summit from the Backside terrain. Because Lift 7 and 7a are integral in providing round trip skiing on the Backside terrain, Lift 7a is planned to be upgraded to a more modern fixed-grip triple to match the updated experience that will be provided by Lift 7.

d) Pioneer Lift Redesign and Replacement

The Pioneer Lift is planned to be redesigned, realigned, and replaced with a fixed-grip lift (either triple or quad), running at 1,800 pph. The lift alignment is planned to be shifted to avoid conflict with the planned Base-to-Base gondola discussed in the previous paragraphs. In addition, because of the lifts heavy use by beginner skiers and the ski school, the lift is planned to be upgraded to a fixed-grip quad to increase its capacity.

3. COMPLETE UPGRADED LIFT NETWORK SPECIFICATIONS

The specifications of the complete upgraded lift network are depicted in Table 14.



TABLE 14. LIFT SPECIFICATIONS—UPGRADE PLAN

Lift Name/Type	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Rise (ft.)	Slope Length (ft.)	Average Grade (%)	Actual Capacity (pph)	Rope Speed (fpm)	Carrier Spacing (ft.)	Lift Maker/ Year Installed
Lift 1/DC-4	11,110	9,433	1,678	4,288	44%	2,400	1,000	100	LPOA/2018
Lift 2/DC-4	11,816	10,760	1,056	3,216	35%	2,400	1,000	100	Planned Upgrade
Lift 4/DC-4	11,409	10,204	1,204	4,542	28%	2,400	1,000	100	Planned Upgrade
Lift 7/C-4	11,519	10,618	901	3,079	31%	1,800	500	67	Planned Upgrade
Lift 7a /C-3	11,797	11,502	295	919	35%	1,200	440	66	Planned Upgrade
Lift 8 /DC-4	11,260	10,054	1,205	4,417	29%	2,400	1,000	100	Planned Upgrade
Lift 12 Kachina Peak/C-3	12,433	11,353	1,081	2,382	52%	1,500	500	40	SkyTrac/2014
Pioneer Lift/C-4	9,584	9,455	129	1,201	11%	1,800	400	40	Planned Upgrade
Rueggli/C-3	9,470	9,347	123	945	13%	1,500	400	32	SkyTrac/2017
Gondolita/G-6	9,410	9,348	61	834	7%	400	1,000	900	LPOA/2017
Zipper 1/C	9,352	9,343	9	81	12%	650	90	8	Sun Kid/2008
Zipper 2/C	9,368	9,358	10	141	7%	650	90	8	Sun Kid/1998
Zipper 3/C	9,441	9,432	9	130	7%	650	90	8	Sun Kid/2018
Zipper 4/C	9,460	9,444	15	232	7%	650	90	8	Sun Kid/2008
Base-to-base Gondola/G-8	10,200	9,422	778	7,297	11%	1,800	1,000	267	Planned Lift

Source: SE Group

Notes: For the purpose of this document, the proposed lift type described (i.e., fixed-grip vs. detachable) for lifts 2 and 8 represents the highest potential capacity of each lift; however, actual lift type pursued for implementation may be different based on specific site criteria or needs identified by Taos.

C = Carpet / C-2 = fixed-grip double chairlift / C-3 = fixed-grip triple chairlift / C-4 = fixed-grip quad chairlift / DC-4 = detachable four-passenger chairlift / G-6 = six-person gondola / G-8 = eight-person gondola



B. UPGRADED TERRAIN NETWORK

As discussed in Chapter 3, terrain variety is the key factor in evaluating the quality of the actual skiing and riding guest experience (as opposed to lift quality, restaurant quality, or any other factor). The implication of the importance of terrain variety is that a resort must have a diverse, interesting, and well-designed developed trail system, but also have a wide variety of alternate style terrain, such as mogul runs, bowls, trees, open parks, in-bounds “backcountry style” (i.e., hike-to) terrain, and terrain parks and pipes.

To provide the highest quality guest experience, resorts should offer groomed runs of all ability levels and some level of all the undeveloped terrain types to the extent practical. Undeveloped terrain is primarily used by advanced- and expert-level skiers/riders during desirable conditions (e.g., periods of fresh snow, spring corn etc.). Even though some of these types of terrain are only usable when conditions warrant, they represent the most intriguing terrain, and typically are the areas that skiers/riders strive to access. This is particularly true at Taos, which is well known for its quantity and quality of alternate/undeveloped terrain. As a result of this deserved reputation, Taos attracts skiers and riders from around the country who seek this style of terrain. This concept is addressed in the Upgrade Plan with the addition and expansion of the Minnesota Glades, discussed in the following section.

As discussed previously, the developed trail network is critical to the recreation experience at any resort. Several locations throughout Taos have been identified as needing widening, grading, retaining walls or snowmaking to more effectively use this terrain. In addition, a variety of trail extensions are also planned. Overall, the developed alpine trail network would increase from approximately 413 to 428.5 acres. More information about the importance of developed terrain is included in the *Existing Terrain Network* discussion of Chapter 3.

1. DEVELOPED ALPINE TRAILS

a) Planned Trail Improvement Projects on Existing Terrain

As this Upgrade Plan is implemented, Taos plans to undertake strategic grading, trail widening, and trail lengthening projects on select trails on Frontside and Backside terrain. These projects are designed to, among other things, improve skier/rider circulation; eliminate steep, abrupt pitches; improve access to trails; and aid in early season snowmaking operations. Grading and trail widening projects are depicted on Figure 9, as well as detailed in Table 15 and Chart 3.

Grading

A variety of grading projects are planned across the mountain. In the Backside terrain, the following trails have been identified as needing grading in certain sections:

- Hunziker Bowl, Ruby Gully, Papa Bear, Street Car, Honeysuckle, and Upper and Lower Totemoff.



Within the Frontside terrain, a variety of trails are also planned to be graded, including:

- *Lower Stauffenberg* and *Firelanz* for racing purposes
- The intersection of *Powderhorn*, *White Feather*, and *Powderhorn Gully* (known as the “Mixing Bowl” area)
- The existing *Rubezahl* ski trail, which is also planned to be relocated in certain sections
- *Bambi*, *High Five*, *Porcupine Upper*, and the intersection of *White Feather Lower* and *Lower Inferno*

Various trail widening is also planned on cat tracks and cut banks. Refer to Figure 9 for a depiction of all planned trail improvements.

Retaining Walls

In addition to planned widening and grading projects, a variety of retaining walls are planned along identified narrow segments of existing trails. This will enable these trails segments to be widened. Trail segments planned to have retaining walls installed and/or upgraded include:

- *White Feather Lower*
- *Powderhorn* and *Upper Powderhorn*
- *Porcupine Upper*
- The top segment of *Honeysuckle*

Refer to Figure 9 for a depiction of all planned retaining wall improvements.

Planned Trail Segments

A variety of trail segments and extensions are also planned in order to improve circulation and trail connectivity across the mountain, including:

- Segment 4-18, connecting *Hunziker Bowl* to *Lower Patton*
- Segment 4-19, connecting *Lower Shalako* and *Baby Bear*
- Segment 8-9, connecting *White Feather Upper* and *Firelanz*

Refer to Figure 9 for a depiction of all planned trail segments.



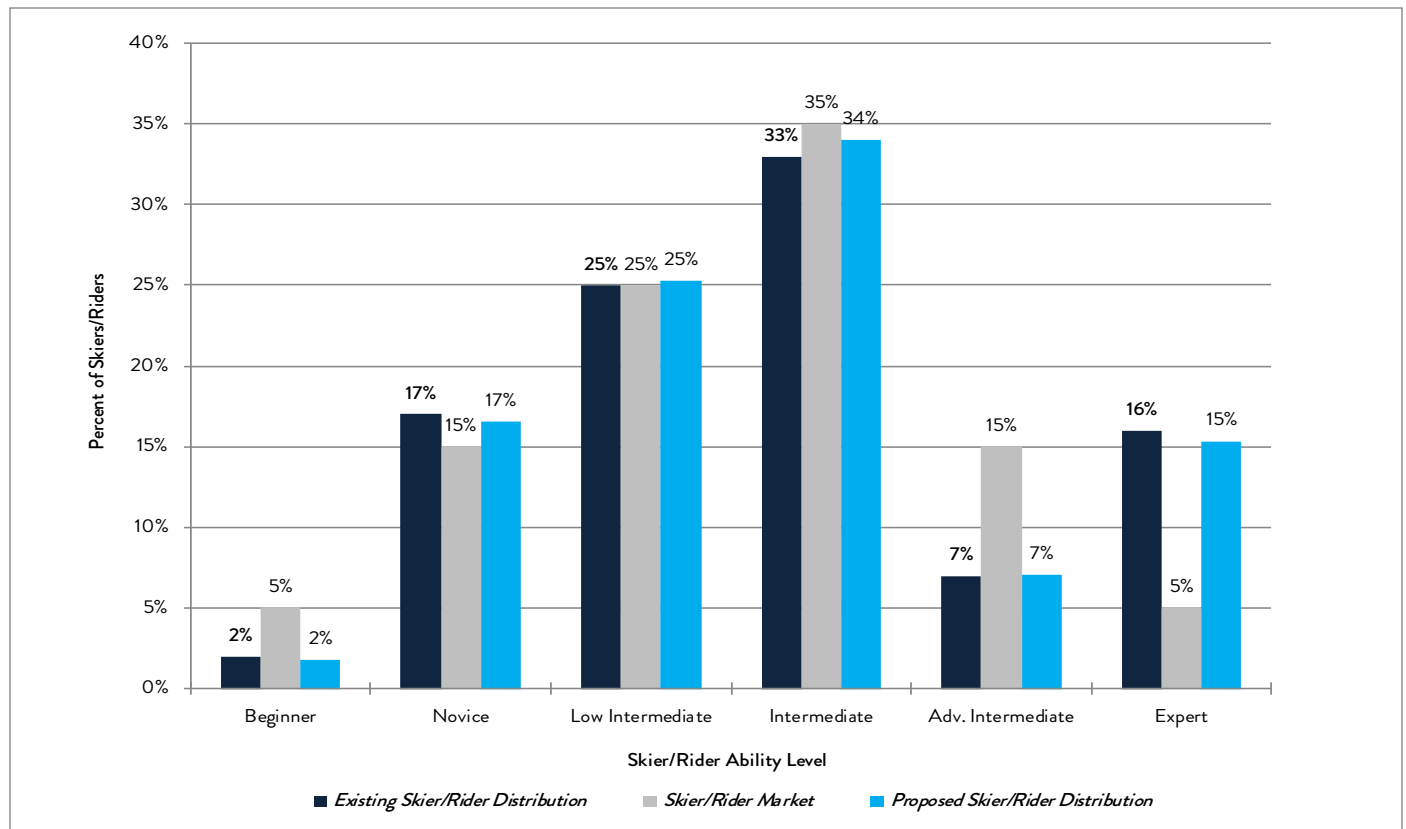


TABLE 15. TERRAIN DISTRIBUTION BY ABILITY LEVEL—UPGRADE PLAN

Skier/Rider Ability Level	Trail Area	Skier/Rider Capacity	Skier/Rider Distribution	Skier/Rider Market
	(acres)	(guests)	(%)	(%)
Beginner	2.0	61	2	5
Novice	32.0	576	17	15
Low Intermediate	62.9	880	25	25
Intermediate	118.4	1,185	34	35
Advanced Intermediate	35.1	245	7	15
Expert	178.1	534	15	5
TOTAL	428.5	3,481	100%	100%

Source: SE Group

CHART 3. TERRAIN DISTRIBUTION BY ABILITY LEVEL—UPGRADE PLAN





2. UNDEVELOPED AND GLADED TERRAIN

The Upgrade Plan includes additional expert glades to be incorporated within Taos' lift-served trail network. Under the Upgrade Plan, these undeveloped areas will increase from roughly 331 acres under the existing conditions to approximately 441 acres, due to the creation of two new gladed areas—The Minnesota Glades and the Lift 8 glades. Additionally, 40.3 acres of glading in the Minnesota Glades area has been previously approved, which would result in a total of 481 acres of gladed terrain at Taos should this project be implemented alongside the Upgrade Plan. Once a formal proposal is submitted to the CNF to begin site-specific analysis of individual projects, Taos will work with its Forest Service counterparts to assemble a glading plan that is both responsive to the resort's operational/recreational needs as well as the CNF's forest health objectives. The glading plan will address elements such as, but not limited to: species and size selection, tree mortality (i.e., targeting dead/dying trees), percent removal, and habitat characteristics.

a) Minnesota Glades

The Minnesota Glades will be constructed with varying degrees (i.e., percentages) of tree removal across a roughly 85-acre area to support expert skiing and riding. The percent of tree removal throughout the Minnesota Glades will be dependent on the density of vegetation in relation to the recreational experience that Taos is striving for, but will likely range from 10 to 25 percent. This area will be accessible from the summit or from the Lifts 7 and 7a.

As previously discussed, approximately 40.3 acres of glading was previously approved in the 2012 ROD. Since that MDP, the need for additional expert glades has been identified and additional glading is therefore planned in this MDP.

b) Lift 8 Glades

Additional gladed terrain is planned beneath the top terminal of Lift 8 and *White Feather Lower* ski trail. Glading in this area is intended to promote forest health and add a fire break to the area and will be designed in coordination with Forest Service specialists. In addition to promoting forest health, these glades would provide ski access for guests traveling to the base area/parking lots as well as staff access to the planned mountain road. Glading is planned to occur across an approximately 25-acre area.

c) Glading between *Al's Run* and *North American*

Gladed terrain is also planned in between *Al's Run* and *North American*, adjacent Lift 1. Similar to the Minnesota Glades, the percent of tree removal will be dependent on the density of vegetation and desired recreation experience but would likely range from 10 to 25 percent. Approximately half of this glading would occur on NFS lands and half would occur on private land.





C. UPGRADED CAPACITY ANALYSIS

1. COMFORTABLE CARRYING CAPACITY

As discussed in Chapter 2, ski area planning involves the establishment of a “design capacity,” which represents the daily, at-one-time guest population to which all ski resort functions are balanced. The design capacity is a planning parameter that is used to establish the acceptable size of the primary facilities of a ski resort: ski lifts, ski terrain, guest services, restaurant seats, building space, utilities, parking, etc. As discussed previously, CCC does not represent a maximum capacity and is instead an estimation of the number of visitors that can be accommodated comfortably on a daily basis.

Taos’ existing CCC has been calculated at 4,310 guests. The lift and terrain projects described in this chapter will add an additional 320 guests to the CCC for a total of 4,630 guests, as detailed in Table 16. This increase is a result of the upgraded lifts and Base-to-Base gondola previously described in this chapter. As many of the lifts in this Upgrade Plan are proposed to be upgraded from fixed-grip to detachable lifts with similar seating configurations, the result is a relatively minor increase in CCC. Effectively, these improvements increase the speed at which people are transported up the mountain but do not actually increase the capacity of the lift to hold/transport people. In addition, the Base-to-Base gondola only results in a small increase in CCC because of the limited skiing it provides access to. Therefore, while the lift upgrades would enhance the guest experience by reducing the lift ride time and increase ease of transportation between base areas and different terrain pods, they would only minimally increase the CCC of Taos.



TABLE 16. COMFORTABLE CARRYING CAPACITY – UPGRADE PLAN

Lift Name/Type	Slope Length (ft.)	Vertical Rise (ft.)	Actual Capacity (pph)	Operating Hours (hrs.)	Up-Mountain Access Role (%)	Misload/Lift Stoppage (%)	Adjusted Hourly Capacity (pph)	VTF/Day (000)	Vertical Demand (ft.day)	CCC (guests)
Lift 1/DC-4	4,288	1,678	2,400	7.00	40	10	1,200	14,092	26,702	530
Lift 2/DC-4	3,216	1,056	2,400	7.00	25	10	1,560	11,534	28,360	410
Lift 4/DC-4	4,542	1,204	2,400	6.75	0	10	2,160	17,557	22,522	780
Lift 7/C-4	3,079	901	1,800	6.75	5	10	1,530	9,307	17,842	520
Lift 7a Seventh Heaven/C-3	919	295	1,200	7.00	30	10	720	1,487	18,255	80
Lift 8 West Basin/DC-4	4,417	1,205	2,400	7.00	0	10	2,160	18,224	23,103	790
Lift 12 Kachina Peak/C-3	2,382	1,081	1,500	6.50	0	10	1,350	9,485	24,965	380
Pioneer Lift/C-4	1,201	129	1,800	7.00	0	15	1,530	1,386	3,303	420
Rueggli/C-3	945	123	1,500	7.00	10	15	1,125	970	3,777	260
Gondolita/G-6	834	61	400	7.00	100	0	-	0	2,488	-
Zipper 1/C	81	9	650	7.00	0	5	618	41	692	60
Zipper 2/C	141	10	650	7.00	0	5	618	42	553	80
Zipper 3/C	130	9	650	7.00	0	5	618	37	514	70
Zipper 4/C	232	15	650	7.00	0	5	618	66	653	100
Base to Base Gondola/G8	7,297	778	1,800	7.00	80	10	180	981	6,728	150
TOTAL	33,705		22,200				15,985	85,209		4,630

Source: SE Group

Notes: For the purpose of this document, the proposed lift type described (i.e., fixed-grip vs. detachable) for lifts 2 and 8 represents the highest potential capacity of each lift; however, actual lift type pursued for implementation may be different based on specific site criteria or needs identified by Taos.

C = Carpet / C-2 = fixed-grip double chairlift / C-3 = fixed-grip triple chairlift / C-4 = fixed-grip quad chairlift / DC-4 = detachable four-passenger chairlift / G-6 = six-person gondola / G-8 = eight-person gondola



2. DENSITY ANALYSIS

As discussed in Chapter 3, an important aspect of resort design is the balancing of uphill lift capacity with downhill trail capacity. Trail densities are derived by contrasting the uphill, at-one-time capacity of each lift system (CCC) with the trail acreage associated with each lift pod. The trail density analysis considers only the acreage associated with the developed trail network. The density analysis for the Upgrade Plan is illustrated in the following Table 17.

Table 17 shows an increase to the overall density from 6 skiers-per-acre to 8 skiers-per-acre, closing the gap on target density, which is estimated at 11 skiers-per-acre and was previously 10 skiers-per-acre under existing conditions. While this could mean that the existing uncrowded feel of the resort is shifting planned conditions, this also shows that the resort is more efficiently serving the available terrain. The planned upgrades would primarily increase the density balance in areas that have very low existing densities (below 40 percent) and in beginner areas like the Pioneer area, which are typically more densely used and expected to be so. The densities in areas around Lifts 1, 4, 7, and 8 would increase as a result of the lift upgrades; however, because all of these lifts access terrain that is currently underutilized, it is anticipated that this increase in density would improve the efficiency of Taos without decreasing the guest experience. The density of the beginner area including by the Pioneer Lift and the beginner carpets would also increase but would be within a normal range of what guests expect for a beginner area.



TABLE 17. DENSITY ANALYSIS—UPGRADE PLAN

Lift Name/Type	CCC	Guest Dispersement				Density Analysis				Density Index (%)
		Support Facility/ Milling	Lift Lines	On Lift	On Terrain	Terrain Area	Terrain Density	Target Terrain Density	Diff	
		(guests)	(guests)	(guests)	(guests)	(acres)	(guests/ac.)	(guests/ac.)	(+/-)	
Lift 1/DC-4	530	133	40	86	271	81.2	3	9	-6	33
Lift 2/DC-4	410	103	52	84	171	72.3	2	6	-4	33
Lift 4/DC-4	780	195	72	163	350	79.7	4	8	-4	50
Lift 7/C-4	520	130	51	157	182	54.2	3	11	-8	27
Lift 7a Seventh Heaven/C-3	80	20	12	25	23	7.3	3	6	-3	50
Lift 8 West Basin/DC-4	790	198	72	159	361	51.1	7	9	-2	78
Lift 12 Kachina Peak/C-3	380	95	113	107	65	66.0	1	3	-2	33
Pioneer Lift/C-4	420	168	51	77	124	4.9	25	17	8	147
Rueggli/C-3	260	104	38	44	74	3.9	19	19	0	100
Gondolita/G-6	0	0	0	0	0	0.0	-	-	-	-
Zipper 1/C	60	24	21	9	6	0.3	24	30	-6	80
Zipper 2/C	80	32	21	16	11	0.4	27	30	-3	90
Zipper 3/C	70	28	21	15	6	0.4	15	30	-15	50
Zipper 4/C	100	40	21	27	12	0.6	20	30	-10	67
Base to Base Gondola/G8	150	38	3	22	87	6.2	14	14	0	100
TOTAL	4,630	1,308	588	991	1,743	428.5	8	11	-3	76

Source: SE Group

Notes:

C = Carpet / C-2 = fixed-grip double chairlift / C-3 = fixed-grip triple chairlift / C-4 = fixed-grip quad chairlift / DC-4 = detachable four-passenger chairlift / G-6 = six-person gondola / G-8 = eight-person gondola



3. LIFT AND TERRAIN NETWORK EFFICIENCY ANALYSIS

As discussed in Chapter 3, overall resort efficiency is becoming an increasingly important factor in the industry, relating not only to energy/operational efficiency, but also to efficiency of the design and layout of the resort. The idea behind resort design efficiency is to have a well-balanced lift and trail network (i.e., the uphill lift capacity balances with the downhill trail capacity that it serves) that is efficiently served by the fewest number of lifts possible, while maintaining desired CCC rates, circulation routes, and service to the full spectrum of ability levels and types.

a) Lift Network Efficiency

As discussed in Chapter 3, Section D, this MDP analyzes Lift Network Efficiency by calculating the average CCC per lift. Optimally, and in general, the average CCC per lift would likely be close to 1,000 guests. Industry-wide, the average CCC per lift is approximately 650 guests. The existing average CCC per lift at Taos, at 431, is well below average. The planned lift improvements and addition of the Base-to-Base gondola would result in a slight decrease of the average CCC per lift to 420. This is primarily attributable to the minimal increase in CCC from the upgraded lifts combined with the addition of the Base-to-Base gondola. Although the Base-to-Base gondola would add an additional lift to Taos, it would only minimally increase the CCC of Taos because it is primarily a transport lift.

b) Terrain Network Efficiency

Network efficiency refers to the amount of effort required to properly maintain a resort's terrain. From this standpoint, the most efficient scenario is to have a quantity of terrain that closely meets the target density requirements. As discussed in Chapter 4, an effective way to review terrain efficiency is to interpret the density analysis. The overall density analysis would increase under the Upgrade Plan from 56 percent to 76 percent, therefore enhancing the terrain network efficiency. Because skier access to Taos' terrain would be improved (through decreased lift ride times and improved access between base areas), the number of skiers on any given part of terrain would be increased, thus improving the efficiency of the terrain network. As discussed previously, current densities are so low, the increase in density that would result from planned conditions is not anticipated to negatively impact the guest experience.



D. UPGRADED GUEST SERVICES FACILITIES, FOOD SERVICE SEATING + SPACE USE ANALYSIS

1. GUEST SERVICE LOCATIONS

Taos would continue to function with a single base area staging portal under the Upgrade Plan. However, this base area staging portal will undergo a variety of upgrades, including an entry way and drop off redesign, a teaching area redesign, and parking lot improvements. In addition, the Upgrade Plan calls for three on-mountain guest service buildings and a replacement and potential relocation of the Whistlestop Café.

a) Base Area Guest Services

Pioneer Base Area Redesign

The Pioneer base area will be redesigned to include a variety of teaching area improvements and multi-season activities. While no specific guest area facilities are planned, the area will be designed to be a hub for beginners and multi-season activities. Refer to Chapter 5, Section H for a discussion of potential multi-season activities for this area.

Entryway and Drop Off Redesign

The entry portal for the primary base area, adjacent to the bottom terminal of Lift 1, is planned to be re-designed to improve entry, circulation, and the drop off experience. This planned improvement would go along with the planned parking lot improvements discussed in the following sections and is in addition to the previously approved parking and drop-off capacity projects discussed in Chapter 4.

b) Kachina Basin Base Area Guest Services

No changes are planned for the Kachina Basin base area facilities. Taos is currently developing a Kachina Basin Landscape Master Plan, which would retain the unique character of the area while improving the functionality, aesthetics, and wayfinding throughout the area. No specific projects are currently proposed, and any potential future projects would occur on private land.





c) On-Mountain Guest Services

Multi-use Building at the Top of Lift 2

On-mountain guest services will be greatly improved with the removal of the existing ski patrol headquarters facility and construction of a new facility that will accommodate guest services as well as a new ski patrol headquarters. The new facility will be constructed in the same location as the existing facility, with a 4,500 to 5,500 square foot building envelope (see Figure 9), as it allows for the best skier/rider circulation at the summit area. The new building will also include space for lift maintenance, storage, and restrooms. This building will include space to provide on-mountain snacks and drinks.

Multi-use Building at the Top of Lift 4

The removal of the existing ski patrol building at the top of Lift 4 and the construction of a new multi-use facility in its place is also planned. The new building would include more space for ski patrol operations, bathrooms, and would provide a space for summer activities like the via ferrata and mountain biking. This building would also include space to provide on-mountain food and beverage service, as well as restrooms.

Replacement and Potential Relocation of Whistlestop Café

Existing on-mountain guest service facilities are limited to the Whistlestop Café, which is undersized and interrupts skier flow in its current location. The replacement and potential relocation of the Whistlestop Café would increase its size and restaurant offerings and provide additional bathrooms.

Restaurant Near the Top of Lift 7

A restaurant near the top of Lift 7 is planned to provide additional on-mountain food service space. Given its centralized location within Taos, the restaurant would serve as a main mid-mountain facility for guests to purchase food and use restrooms. The facility would be designed to provide additional on-mountain restaurant functions and seating compared to the other three food service facilities discussed previously that offer primarily grab-and-go services. The restaurant, in conjunction with these upgraded facilities, would offer enhanced on-mountain food service to guests at Taos.

Ski School and Terrain Park Structure

A variety of on-mountain ski-through structures are planned to be constructed as part of the children's ski school. These structures will provide an entertaining experience for children to practice their ski control by skiing through a structure while they are participating in a ski lesson. These features would include interactive and educational signage.

In addition, a new entrance gate is planned at Maxie's terrain park. The planned gate is a timber structure that would identify the area as a terrain park.

2. SPACE USE ANALYSIS

A distribution of CCC is utilized to determine guest service capacities and space requirements for guest services at base area portals and on-mountain facilities. The CCC should be distributed between each guest service facility location according to the number of guests that would be utilizing the lifts and terrain associated with



each facility. Sufficient guest service space should be provided to accommodate Taos' planned CCC of 4,630 guests per day.

The following tables and text address the Upgrade Plan space use needs at Taos' planned base area and on-mountain facilities. The space recommendations are directly related to the distribution of the resort's capacity to various guest service facilities located in the base area and on-mountain. Table 18 shows planned size ranges for the facilities, based on industry averages for space use by service function.

Overall, planned resort guest service space conditions do not differ greatly from existing conditions. Recommended ranges increase by around 6,500 square feet – almost entirely in on-mountain facilities. Taos plans to increase the existing total space use square footage with three potential on-mountain facilities. The planned on-mountain upgrades (Whistlestop replacement and potential relocation, the multi-use buildings at the top of Lifts 2 and 4, and the restaurant near the top of Lift 7) would likely improve space use conditions for ski patrol, storage, and restaurant seating and food services. Additional space use recommended ranges for the Frontside base area, Kachina Basin base area, and on-mountain facilities are detailed in Appendix A.

TABLE 18. SPACE USE ANALYSIS—RESORT TOTAL (UPGRADE PLAN)

Service Function	Recommended Range	
	Low	High
Ticket Sales/Guest Services	1,040	1,270
Public Lockers	3,130	3,820
Rentals/Repair	7,410	8,330
Retail Sales	2,190	2,670
Bar/lounge	3,280	4,010
Adult Ski School	1,670	2,040
Kid's Ski School	3,330	4,070
Restaurant Seating	19,690	24,060
Kitchen/Scramble	15,310	18,720
Rest rooms	4,370	5,340
Ski Patrol	1,750	2,130
Administration	2,190	2,670
Employee Lockers/Lounge	880	1,070
Storage	1,780	2,640
Mechanical	2,990	4,410
Circulation/Waste	7,150	10,590
TOTAL SQUARE FEET	78,160	97,840

Source: SE Group





3. FOOD SERVICE SEATING

Under the Upgrade conditions, additional on-mountain food service seating is planned. The new multi-use buildings at the top of Lifts 2 and 4, the replacement and potential relocation of the Whistlestop Café, and the restaurant near the top of Lift 7 would all contribute to the needed on-mountain seats. Table 19 summarizes the seating requirements of Taos, based on a logical distribution of the planned CCC to each service building/location. As mentioned in Chapter 3, additional food service seats in the Village Base Area are provided by non-Taos operated vendors and were not included in Table 19.

TABLE 19. RECOMMENDED RESTAURANT SEATING

	Base Area					Kachina	On-Mountain	Total Resort
	Tenderfoot Katie's	Rhoda's	Martini Tree	St. Bernard	192			
Lunchtime Capacity (CCC)	1,219	244	536	97	317	1,620	805	4,837
Average Seat Turnover	4	2	3	2	3	4	4	
Existing Indoor Seats	300	80	130	50	120	460	75	1,215
Required Seats	348	122	179	65	106	463	230	1,512
<i>Difference</i>	-48	-42	-49	-15	14	-3	-155	-297
Existing seating capacity	1,050	160	390	75	360	1,610	263	3,908
Existing Outdoor Seats	125	--	--	100	--	100	25	350
Average Outdoor Seat Turnover	3	--	--	3	--	3	3	
Seating capacity including Outdoor Seats	1,363	160	390	325	360	1,860	325	4,783

Source: SE Group

Seating and restaurant space recommendations are directly related to the lunchtime capacity. The lunchtime capacity is determined by the distribution of each lift pod's CCC. It is assumed that guests will prefer to dine at the facility closest to the area they are using. To allow for this convenience, it is important to provide restaurant seating to accommodate the lunchtime capacity requirement of the area. Restaurant seating should be supplied per the recommendations in the previous table. As shown, there would be a 297-seat deficit under the Upgrade Plan. Note that Table 19 does not include the additional restaurant seats from planned facilities. Therefore, the seating deficit would be addressed by the addition of the on-mountain multi-use buildings, the replacement and potential relocation of the Whistlestop Café, and the new restaurant near the top of Lift 7. Both multi-use buildings would include space for food services and seating for guests proximate to the Lift 2 and Lift 4 terrain pods. The replacement and potential relocation of the Whistlestop Café would improve the design of the building and increase guest capacity, and is anticipated to provide a better guest experience. The restaurant would provide full restaurant services to the Frontside area.



E. UPGRADED PARKING CAPACITY + RESORT ACCESS

Table 20 analyzes Taos' day skier parking capacity and needs under the Upgrade Plan. The parking lots are planned to be upgraded, including grading and paving of certain sections, in order to improve the arrival sequence for guests to access the mountain. As discussed in Chapter 3, Section F, Taos currently has a deficit of 87 spaces. While parking improvements are included in the Upgrade Plan, these improvements are not necessarily related to increasing the number of parking spaces, but rather improving the guest parking and arrival experience. These improvements will reduce the existing parking by 175 spaces, for a new total of 1,565 spaces. With the additional capacity increase, this will relate to a deficit of 400 spaces, at existing lodging, transit, and AVO rates. Over the lifespan of this plan, lodging is anticipated to increase, and additional parking strategies, such as utilizing parking attendants to maximize parking spaces, further incentivizing carpooling to improve the AVO, and increased shuttle and bus options may need to be implemented as Taos completes Upgrade Plan projects. This will ensure Taos maintains a quality experience for guests arriving through the Frontside base area to access the mountain.

TABLE 20. RECOMMENDED PARKING AT STAGING PORTALS—UPGRADE PLAN

	Totals
CCC + other guests (+5%)	4,862
Guests staying in lodging/parking off-site	775
Guests arriving by shuttle	200
Number of guests parking at portal	3,887
Number of guests arriving by car (92%)	3,576
Number of guests arriving by charter bus (8%)	311
Required car parking spaces (based on 2.3 AVO)	1,555
Required charter bus parking spaces (40 guests per bus)	8
Equivalent car spaces (1 bus=4.5 car)	35
Cars parking in Taos lots from Overnight Accommodations	200
Required employee car parking spaces	175
Total required spaces	1,965
Planned parking spaces	1,565
Surplus/Deficit	-400

Source: SE Group





1. UPGRADE OF PARKING LOTS

To enhance visitor access to the base area and improve the parking process at Taos, a variety of parking lot upgrades are planned in conjunction with the previously approved entryway and drop off location redesign. The current parking lot design requires visitors to drive through the parking lots to reach the shuttle and visitor drop off portal. The upgraded parking lot area would provide a separate primary access route to both the drop-off and shuttle location for Taos as well as the community of VTSV. Similar to the previously approved projects, the goal of the parking lot upgrades is to enhance the arrival experience to the resort and community as well as enhance the drop off portal's connection to the Rio Hondo Learning Center. Site-specific design would be developed prior to implementation but the project could include the development of a separate road through the parking lot as well as a variety of grading, widening, paving, and other construction practices.

2. RV PARKING

To provide improved access for guests with trailers and/or RVs, Taos is planning to add additional RV parking and utility (sewer/electricity) hookups in the existing Gila Lot. Restroom facilities would also be constructed in this area.

F. UPGRADED RESORT OPERATIONS

1. SKI PATROL/FIRST AID

As discussed in Chapter 5, Section D, two multi-use buildings are planned at the tops of Lift 2 and Lift 4, respectively, and will include expanded ski patrol and first aid space.

The location of the multi-use building adjacent to Lift 2 is proximate to the existing ski patrol headquarters facility located at the summit of the mountain and the planned multi-use building at the top terminal of lift 4 would expand Taos' ski patrol capabilities in the Backside. Both projects would expand Taos' ski patrol capabilities and allow better service to the public.

2. SNOW RETENTION AND AVALANCHE CONTROL

Snowmaking fences are planned on Kachina Peak and Highline Ridge to retain snow, as both of these areas are prone to wind scouring. The snowmaking fences would block the existing snowpack from being blown away and corral snow into certain areas based on wind patterns. In addition to these wind fences, a variety of snow retaining fences are planned in areas where skier patterns and/or slope of the trail can result in snow being pushed or naturally sliding to one side of the trail. This results in decreased snow coverage in these areas. The



snow retaining fences would prevent snow from sliding or being pushed. Trails with planned snow retaining fences include *Honeysuckle*, *Bambi*, and *Loralei*.

Remote avalanche control systems are planned be field selected and installed, requiring minor ground disturbance at these locations. These remote avalanche control systems are planned on *Cabin Chute* and *K1*, to the northwest of the existing Kachina Peak Lift.

3. GROOMING OPERATIONS

To provide additional grooming capacity on steeper terrain, Taos is planning to install winch cat anchors on advanced groomed terrain across the mountain. Specific locations of these winch cat anchors would be identified during site-specific NEPA.

4. MAINTENANCE FACILITIES

To provide additional storage space at the base of Taos, a storage facility and warehouse is proposed near the existing vehicle maintenance facility located adjacent the existing parking areas. In addition, as discussed below, a maintenance bay would be developed adjacent the planned booster station around the base of Lift 2.

5. SNOWMAKING

To improve the speed and efficiency of snowmaking operations across the resort, a variety of snowmaking infrastructure upgrades are planned alongside one additional section of snowmaking coverage in *Hunziker Bowl*.

a) Frontside Snowmaking Infrastructure

To improve snowmaking operations on the Frontside of the mountain and around Lift 2 in particular, a new booster station and additional snowmaking pipe to connect the planned booster station to the existing snowmaking pipeline network are planned.

The new booster station is planned to be installed adjacent to the base of Lift 2. A water storage tank of approximately 5 million gallons and maintenance bay are planned to be constructed adjacent the planned booster station. The maintenance bay would provide space to support the snowmaking operations as well as other mountain maintenance operations. Together, these planned upgrades will increase water availability for snowmaking, as well as the ability to pump water up the Frontside of the mountain. The water storage tank would also provide enhanced fire suppression capabilities on the Frontside of the mountain. Until the planned booster is installed, minor upgrades to the two existing booster stations (Booster and BooHoo) may be necessary to provide adequate water to the area.

Additionally, a variety of reroutes of the existing snowmaking pipelines on *White Feather Gully*, *White Feather Lower*, *Powderhorn Bowl*, *Powderhorn*, and *Porcupine Upper* are also planned.

New snowmaking pipe would also be installed, and additional snowmaking coverage would be provided on *Al's Run*.





b) Backside Snowmaking Infrastructure

A variety of projects are planned to improve the Backside snowmaking infrastructure. This includes three segments of new snowmaking lines including a segment down *Hunziker Bowl* to *Lower Patton*, a segment down *Lower Patton*, and a segment from *Hunziker Bowl* across to *Upper Shalako*, as well as a new pumphouse near the base of the Kachina Peak Lift to increase pump pressure to the existing snowmaking lines in the Backside. Additional snowmaking coverage, totaling approximately 10 acres, is planned down *Hunziker Bowl*.

6. MOUNTAIN ROADS

a) Maintenance Access Road to Vehicle Maintenance Shop

A mountain access road is planned in the area below Lift 8 to provide access to the vehicle maintenance shop in this area. The road is planned to run from an existing mountain access road on the *White Feather Lower* ski trail to the vehicle maintenance facility.

7. INFRASTRUCTURE AND UTILITIES

a) Power and Communication

As existing infrastructure is improved as discussed in the Upgrade Plan, new power and communication lines may be needed. Power and communication line alignments will be identified during site-specific analysis. Existing power lines are planned to be upgraded as necessary in the future. Additionally, as new technology and power/communication needs become pertinent, additional utilities may be installed in previously disturbed areas. These projects will occur on an as-needed basis and are not specifically identified in this MDP.

Taos would continue to evaluate the use of renewable energy sources (i.e., solar and wind) to provide electricity for their operation. This could include use of solar panels, passive solar, and/or construction of wind turbines on mountain as well as choosing to purchase renewable energy from the electricity grid. Because the feasibility considerations of generating renewable energy on-site are dependent on available technology, market conditions, and more, specific projects are not identified in this MDP and would be identified as conditions and technology provide.

b) Water

Improvements to snowmaking infrastructure is discussed in the previous section. In addition, a variety of water lines for non-snowmaking purposes are planned to be upgraded as necessary. These projects will occur on an as-needed basis and are not specifically identified in this MDP.

c) Wastewater

Similar to the other utilities, sewer lines are planned to be upgraded as necessary. These projects will occur on an as-needed basis and are not specifically identified in this MDP.



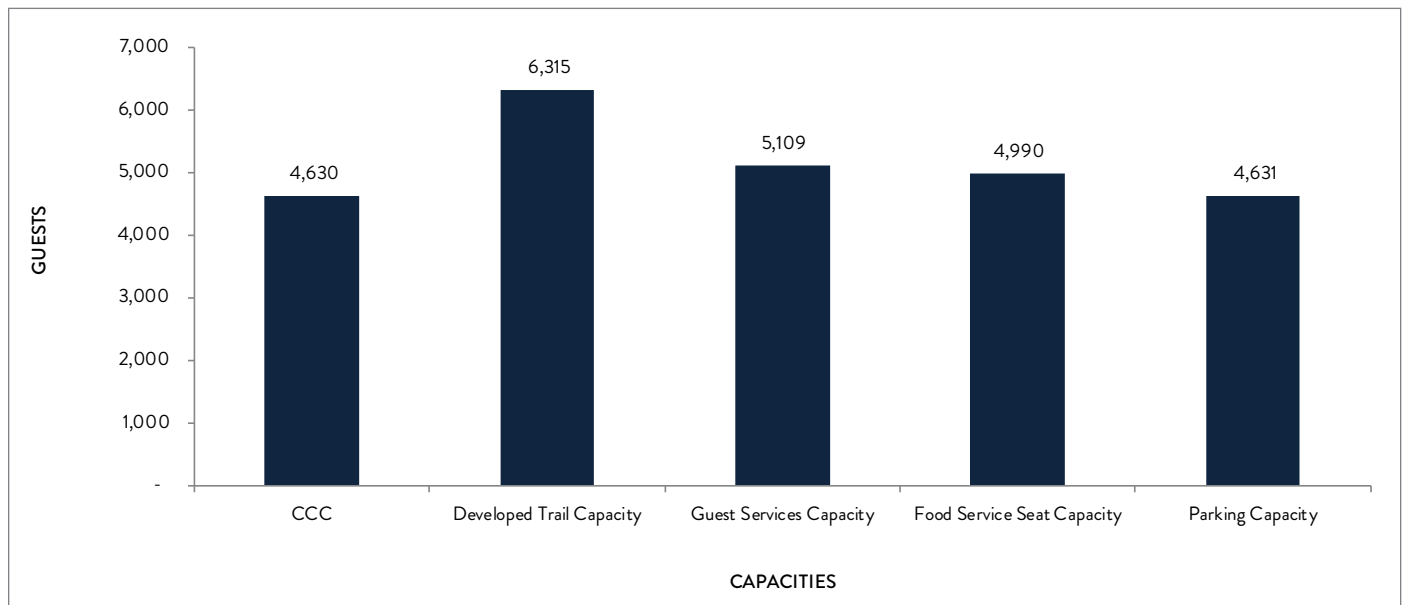
G. RESORT CAPACITY BALANCE + LIMITING FACTORS

The overall balance of the Upgrade Plan is evaluated by calculating the capacities of the resort's various facilities and comparing those facilities to the resort's CCC. The above discussed capacities are shown in Chart 4.

The mountain master planning process emphasizes the importance of balancing recreational facility development. The sizes of the various skier service functions are designed to match the CCC of the mountain. Projects described in this Upgrade Plan for improvements to Taos have been configured to match the capacities of key resort operations, including lifts, terrain, guest services, food service seating, and parking with the resort CCC of 4,630 skiers.

As Chart 4 indicates, the lift network capacity (CCC) would increase to 4,630 from 4,310 guests. The resort capacities are fairly balanced with the Upgrade CCC. The difference between the developed terrain capacity and the CCC continues to be the largest difference, but as previously mentioned, this is indicative of a positive guest experience. Compared to existing conditions, the planned upgrades would reduce underutilization in this area and increase operational efficiencies. Overall guest service and food service seating capacities would increase with the two on-mountain multi-use buildings, the replacement and potential relocation of the Whistlestop Café and the new restaurant near the top of Lift 7. The expansion of on-mountain restaurant facilities would be a significant addition to the guest experience. Lastly, Taos' parking capacity would largely remain unchanged from existing conditions, but guests would experience enhanced circulation and drop-off access, as well as an overall better parking experience from the previously approved and planned parking projects. These improvements will improve the arrival and departure sequence and all more guests to access the resort using shuttle or bus services.

CHART 4. RESORT CAPACITY—UPGRADE PLAN





H. UPGRADED MULTI-SEASON ACTIVITIES

1. SUMMER AND MULTI-SEASON ACTIVITIES

Summer activities at ski resorts have expanded and evolved over the last decade. Taos is actively working to follow this trend. Additionally, Taos recognizes that it must cater to a slightly different demographic than in the winter. Summer activities provided by Taos are designed to be a combination of activities that can be enjoyed by all ages and ability levels.

In line with this diverse recreation experience, Taos has identified three projects that are prioritized for buildout. This includes additional hiking and mountain biking trails, the installation of additional via ferrata routes, and a ropes course in the Pioneer area.

a) Via Ferratas

As discussed previously, the 2019 Taos Via Ferrata Project CE approved a series of via ferratas, two of which are now open for use. Taos would like to construct additional via ferratas to further capitalize on their high alpine, steep terrain.

b) Mountain Biking and Hiking Trails

Taos is planning on expanding their trail network with additional hiking and biking trails, including two trails (one hiking trail and one mountain biking trail) that will connect the top of Lift 4 to the base of Lift 1 and will traverse over the Frontside. During the planning process, professional mountain biking and hiking trail designers would be consulted to route these trails.

c) Pioneer Ropes Course

Concurrent with their Pioneer area redesign, Taos would like to install a ropes course in the Pioneer area. With the Pioneer area being developed as the family-friendly beginner area, a ropes course is an ideal family-friendly activity because it is appropriate for all ages and ability levels.

d) Nordic Trail Area

Taos is planning to develop a Nordic trail area in the northern section of their SUP area. This area would largely overlap the area of previously approved snowshoe trails identified in Chapter 4 and would include the development of Nordic trails in addition to the previously approved snowshoe trails. These trails would offer a more diverse recreation experience for guests who want to participate in winter recreation beyond Alpine skiing.



2. RECREATION ZONES AMENDED BY THE UPGRADE PLAN

Although the Upgrade Plan requires approvals prior to implementation, this section discusses the changes to summer recreation zones based on the Upgrade Plan features. Only one zone would change—with the construction of the mountain road in Zone A2, the zone characteristic would change from a Zone 4 to a Zone 3.

Table 13 in Chapter 3 describes the characteristics of each area. Table 21 summarizes the zone designations pending the approval and implementation of the Upgrade Plan. It is important to note that while Taos has identified the previous projects as a priority for buildout, the summer zones designation provides flexibility in





TABLE 21. UPGRADE PLAN AREA BOUNDARIES AND ZONE DESIGNATION

Zone Characteristics	Score	Zone
Area A1		
Access	1	Zone 1
Remoteness	1	
Naturalness	1	
Infrastructure	1	
Total Score	4	
Area A2		
Access	2	Zone 3
Remoteness	2	
Naturalness	3	
Infrastructure	2	
Total Score	9	
Area A3		
Access	1	Zone 2
Remoteness	1	
Naturalness	2	
Infrastructure	1	
Total Score	5	
Area A4		
Access	2	Zone 3
Remoteness	2	
Naturalness	2	
Infrastructure	2	
Total Score	8	
Area A5		
Access	1	Zone 1
Remoteness	1	
Naturalness	1	
Infrastructure	1	
Total Score	4	
Area A6		
Access	3	Zone 4
Remoteness	2	
Naturalness	3	
Infrastructure	3	
Total Score	11	
Area A7		
Access	1	Zone 1
Remoteness	1	
Naturalness	1	
Infrastructure	1	
Total Score	4	

Zone Characteristics	Score	Zone
Area A8		
Access	3	Zone 4
Remoteness	2	
Naturalness	3	
Infrastructure	2	
Total Score	10	
Area A9		
Access	2	Zone 3
Remoteness	1	
Naturalness	2	
Infrastructure	2	
Total Score	7	
Area A10		
Access	1	Zone 1
Remoteness	1	
Naturalness	1	
Infrastructure	1	
Total Score	4	
Area A11		
Access	1	Zone 2
Remoteness	1	
Naturalness	2	
Infrastructure	1	
Total Score	5	
Area A12		
Access	1	Zone 2
Remoteness	1	
Naturalness	2	
Infrastructure	2	
Total Score	6	
Area A13		
Access	1	Zone 2
Remoteness	1	
Naturalness	2	
Infrastructure	1	
Total Score	5	
Area A14		
Access	1	Zone 1
Remoteness	1	
Naturalness	1	
Infrastructure	1	
Total Score	4	



APPENDIX A

ADDITIONAL TABLES



TABLE A-1. TERRAIN SPECIFICATIONS—EXISTING CONDITIONS

Trail/Area Name	Top Elevation	Bottom Elevation	Vertical Drop	Slope Length	Average Width	Slope Area	Average Grade	Max Grade	Skier/Rider Ability Level
	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(fpm)	(%)	(%)	
White Feather	11,073	9,440	1,633	11,656	85	22.8	14%	24%	Novice
Psycho Path	10,981	10,720	261	654	80	1.2	44%	55%	Expert
Powderhorn Bowl	10,913	10,725	188	642	149	2.2	31%	52%	Advanced Intermediate
Powderhorn Upper	10,868	10,737	132	470	145	1.6	29%	33%	Low Intermediate
Powderhorn Lower	10,615	10,230	385	1,339	135	4.2	30%	41%	Intermediate
Al's Run	11,065	9,553	1,512	3,299	132	10.0	52%	76%	Expert
Inferno	10,744	10,163	581	1,594	103	3.8	40%	56%	Expert
Spencer's	10,843	10,285	558	1,263	105	3.0	49%	56%	Expert
Porcupine	11,055	10,247	808	2,974	166	11.4	28%	43%	Intermediate
Wayne Abbey	10,090	9,790	300	622	75	1.1	56%	71%	Expert
Snakedance	10,163	10,008	156	457	94	1.0	37%	53%	Expert
Showdown	10,008	9,582	426	852	163	3.2	58%	70%	Expert
Maidenform	9,570	9,503	66	193	287	1.3	37%	38%	Intermediate
Edelweiss	10,164	9,653	510	1,086	118	2.9	54%	69%	Expert
Lower Inferno	10,206	9,783	423	1,233	131	3.7	37%	62%	Expert
Raspberry (Pitch 1)	9,639	9,601	38	60	136	0.2	82%	82%	Expert
Raspberry (Pitch 2)	9,605	9,550	55	96	165	0.4	70%	70%	Expert
Raspberry (Pitch 3)	9,526	9,492	34	87	122	0.2	42%	42%	Intermediate
Raspberry Hill Traverse	9,607	9,486	121	767	26	0.4	16%	24%	Intermediate
Raspberry Hill	9,677	9,495	182	372	288	2.5	56%	64%	Expert



TABLE A-1. TERRAIN SPECIFICATIONS—EXISTING CONDITIONS (CONT.)

Trail/Area Name	Top Elevation	Bottom Elevation	Vertical Drop	Slope Length	Average Width	Slope Area	Average Grade	Max Grade	Skier/Rider Ability Level
	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(fpm)	(%)	(%)	
White Feather (Middle Pitch)	10,548	10,391	157	467	348	3.7	36%	42%	Intermediate
Bambi Glade	10,372	10,282	90	370	61	0.5	26%	33%	Intermediate
White Feather Gully	10,336	10,119	217	676	119	1.8	34%	42%	Intermediate
Powderhorn Gully	10,161	9,983	178	590	247	3.3	32%	42%	Intermediate
Top of Lifts 2 and 6	11,815	11,796	19	241	58	0.3	8%	9%	Intermediate
Bambi	11,800	11,294	506	2,396	136	7.5	22%	34%	Intermediate
Castor	11,542	11,123	419	922	152	3.2	52%	76%	Expert
Pollux	11,536	11,201	335	603	96	1.3	67%	77%	Expert
Winston	11,503	11,211	291	549	86	1.1	63%	73%	Expert
Reforma	11,811	11,214	597	1,290	110	3.3	53%	74%	Expert
Blitz	11,830	11,248	581	1,280	144	4.2	52%	75%	Expert
West Basin	11,407	11,223	184	741	379	6.4	26%	50%	Advanced Intermediate
Longhorn	11,294	9,766	1,528	3,957	120	10.9	43%	81%	Expert
Zagava	11,294	11,132	162	352	154	1.2	52%	58%	Expert
Upper Powderhorn	11,291	11,033	258	1,430	89	2.9	19%	40%	Intermediate
Lorelei	11,471	10,804	667	1,767	171	6.9	42%	74%	Expert
Lorelei Trees	11,545	10,795	750	2,038	256	12.0	40%	66%	Expert
Lorelei Egress	10,841	10,626	215	1,372	61	1.9	16%	29%	Expert
Easy Trip	11,406	11,033	373	3,489	36	2.8	11%	26%	Low Intermediate
Shalako (Upper)	11,390	11,058	332	1,276	337	9.9	27%	44%	Intermediate





TABLE A-1. TERRAIN SPECIFICATIONS—EXISTING CONDITIONS (CONT.)

Trail/Area Name	Top Elevation	Bottom Elevation	Vertical Drop	Slope Length	Average Width	Slope Area	Average Grade	Max Grade	Skier/Rider Ability Level
	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(fpm)	(%)	(%)	
Shalako (Lower)	11,052	10,819	233	1,287	162	4.8	19%	33%	Low Intermediate
Topa Papa	10,970	10,950	20	365	34	0.3	5%	11%	Intermediate
Upper Patton	11,011	10,862	149	878	70	1.4	17%	24%	Low Intermediate
Japanese flag	11,026	10,919	106	886	38	0.8	12%	18%	Low Intermediate
Lower Patton	10,917	10,231	686	4,476	81	8.3	16%	35%	Low Intermediate
Ruby Gully	10,645	10,431	214	620	156	2.2	37%	53%	Advanced Intermediate
Baby Bear	10,804	10,426	378	1,200	284	7.8	33%	41%	Intermediate
Papa Bear	10,862	10,580	282	875	195	3.9	34%	51%	Advanced Intermediate
Winkelreid	10,619	10,204	415	2,213	119	6.0	19%	30%	Low Intermediate
Rubezahl	10,260	9,463	797	7,845	41	7.3	10%	25%	Low Intermediate
Street Car	10,419	10,222	198	711	163	2.7	29%	39%	Intermediate
Hunziker Bowl	11,342	10,868	473	1,517	388	13.5	34%	64%	Expert
Hunziker Egress	10,868	10,836	32	345	53	0.4	9%	18%	Expert
High Noon	10,965	10,755	210	744	302	5.2	30%	49%	Expert
El Funko	10,789	10,300	489	1,642	200	7.5	32%	79%	Expert
High Five	11,120	10,908	211	1,373	97	3.1	16%	30%	Low Intermediate
High Five Pitch	11,120	11,023	96	424	189	1.8	23%	25%	Novice
Lift 6 Lifeline	11,793	11,502	291	623	67	1.0	53%	68%	Expert
Avy Road	11,800	11,477	322	1,860	58	2.5	18%	30%	Low Intermediate
Walkyries Bowl	11,707	11,502	205	670	415	6.4	33%	69%	Expert



TABLE A-1. TERRAIN SPECIFICATIONS—EXISTING CONDITIONS (CONT.)

Trail/Area Name	Top Elevation	Bottom Elevation	Vertical Drop	Slope Length	Average Width	Slope Area	Average Grade	Max Grade	Skier/Rider Ability Level
	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(fpm)	(%)	(%)	
Honeysuckle	11,504	10,618	886	4,279	142	13.9	21%	35%	Low Intermediate
Lone Star	11,143	10,680	463	1,814	157	6.5	27%	43%	Intermediate
Lower Totemoff	11,163	10,620	544	2,415	154	8.5	23%	35%	Low Intermediate
Upper Totemoff	11,384	11,101	283	1,121	137	3.5	26%	39%	Intermediate
Maxie's	11,175	10,616	558	2,501	213	12.2	23%	43%	Intermediate
Moe's	11,453	11,289	163	447	130	1.3	40%	51%	Advanced Intermediate
Bob's	11,505	11,173	332	947	141	3.1	38%	59%	Expert
Bonanza	11,261	10,859	402	1,926	128	5.7	22%	38%	Intermediate
Mucho Gusto	11,240	10,892	349	1,454	146	4.9	25%	49%	Advanced Intermediate
Lower Stauffenberg	11,261	10,052	1,209	5,049	145	16.8	25%	46%	Intermediate
Jess's (Lower)	10,987	10,884	104	533	76	0.9	20%	25%	Intermediate
Poco Gusto	10,882	10,761	122	642	84	1.2	19%	39%	Intermediate
Firlefanz	10,892	10,475	417	1,621	111	4.1	27%	40%	Intermediate
Tell Glade	10,511	10,092	419	1,359	181	5.6	33%	47%	Advanced Intermediate
Jess's (Upper)	11,090	11,055	35	221	61	0.3	16%	22%	Intermediate
Strawberry Hill 1	9,470	9,348	122	938	99	2.1	13%	25%	Novice
Strawberry Hill 2	9,471	9,377	93	742	83	1.4	13%	16%	Novice
Strawberry Hill 3	9,409	9,370	38	615	27	0.4	6%	9%	Beginner
Zipper 1	9,352	9,343	9	91	121	0.3	12%	12%	Beginner
Zipper 2	9,368	9,358	10	156	112	0.4	11%	12%	Beginner



TABLE A-1. TERRAIN SPECIFICATIONS—EXISTING CONDITIONS (CONT.)

Trail/Area Name	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Drop (ft.)	Slope Length (ft.)	Average Width (ft.)	Slope Area (fpm)	Average Grade (%)	Max Grade (%)	Skier/Rider Ability Level
Zipper 3	9,441	9,432	9	145	122	0.4	9%	10%	Beginner
Zipper 4	9,460	9,444	15	253	104	0.6	10%	11%	Beginner
Cabin Chute	11,808	11,419	389	679	403	6.3	70%	89%	Expert
Hunziker Bowl Upper	12,208	11,400	808	1,629	59	2.2	58%	82%	Expert
Highline Ridge	12,439	11,790	648	2,782	126	8.1	24%	54%	Advanced Intermediate
Main Street	12,439	11,382	1,058	2,378	905	49.4	50%	73%	Expert
Pioneer	9,590	9,453	137	1,297	129	3.8	11%	20%	Novice
TOTAL				124,112		413.3			



TABLE A-2. TERRAIN SPECIFICATIONS—UPGRADE PLAN

Trail/Area Name	Top Elevation	Bottom Elevation	Vertical Drop	Slope Length	Average Width	Slope Area	Average Grade	Max Grade	Skier/Rider Ability Level
	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(fpm)	(%)	(%)	
White Feather	11,073	9,440	1,633	11,656	85	22.8	14%	24%	Novice
Psycho Path	10,981	10,720	261	654	80	1.2	44%	55%	Expert
Powderhorn Bowl	10,913	10,725	188	642	149	2.2	31%	52%	Advanced Intermediate
Powderhorn Upper	10,868	10,737	132	470	174	1.9	29%	33%	Low Intermediate
Powderhorn Lower	10,615	10,230	385	1,339	181	5.6	30%	41%	Intermediate
Al's Run	11,065	9,553	1,512	3,299	132	10.0	52%	76%	Expert
Inferno	10,744	10,163	581	1,594	103	3.8	40%	56%	Expert
Spencer's	10,843	10,285	558	1,263	105	3.0	49%	56%	Expert
Porcupine	11,055	10,247	808	2,974	166	11.4	28%	43%	Intermediate
Wayne Abbey	10,090	9,790	300	622	75	1.1	56%	71%	Expert
Snakedance	10,163	10,008	156	457	94	1.0	37%	53%	Expert
Showdown	10,008	9,582	426	852	163	3.2	58%	70%	Expert
Maidenform	9,570	9,503	66	193	287	1.3	37%	38%	Intermediate
Edelweiss	10,164	9,653	510	1,086	118	2.9	54%	69%	Expert
Lower Inferno	10,206	9,783	423	1,233	131	3.7	37%	62%	Expert
Raspberry (Pitch 1)	9,639	9,601	38	60	136	0.2	82%	82%	Expert
Raspberry (Pitch 2)	9,605	9,550	55	96	165	0.4	70%	70%	Expert
Raspberry (Pitch 3)	9,526	9,492	34	87	122	0.2	42%	42%	Intermediate
Raspberry Hill Traverse	9,607	9,486	121	767	26	0.4	16%	24%	Intermediate
Raspberry Hill	9,677	9,495	182	372	288	2.5	56%	64%	Expert





TABLE A-2. TERRAIN SPECIFICATIONS—UPGRADE PLAN (CONT.)

Trail/Area Name	Top Elevation	Bottom Elevation	Vertical Drop	Slope Length	Average Width	Slope Area	Average Grade	Max Grade	Skier/Rider Ability Level
	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(fpm)	(%)	(%)	
White Feather (Middle Pitch)	10,548	10,391	157	467	348	3.7	36%	42%	Intermediate
Bambi Glade	10,372	10,282	90	370	99	0.8	26%	33%	Intermediate
White Feather Gully	10,336	10,119	217	676	119	1.8	34%	42%	Intermediate
Powderhorn Gully	10,161	9,983	178	590	247	3.3	32%	42%	Intermediate
Top of Lifts 2 and 6	11,815	11,796	19	241	58	0.3	8%	9%	Intermediate
Bambi	11,800	11,294	506	2,396	146	8.1	22%	34%	Intermediate
Castor	11,542	11,123	419	922	152	3.2	52%	76%	Expert
Pollux	11,536	11,201	335	603	96	1.3	67%	77%	Expert
Winston	11,503	11,211	291	549	86	1.1	63%	73%	Expert
Reforma	11,811	11,214	597	1,290	110	3.3	53%	74%	Expert
Blitz	11,830	11,248	581	1,280	144	4.2	52%	75%	Expert
West Basin	11,407	11,223	184	741	379	6.4	26%	50%	Advanced Intermediate
Longhorn	11,294	9,766	1,528	3,957	120	10.9	43%	81%	Expert
Zagava	11,294	11,132	162	352	154	1.2	52%	58%	Expert
Upper Powderhorn	11,291	11,033	258	1,430	89	2.9	19%	40%	Intermediate
Lorelei	11,471	10,804	667	1,767	171	6.9	42%	74%	Expert
Lorelei Trees	11,545	10,795	750	2,038	256	12.0	40%	66%	Expert
Lorelei Egress	10,841	10,626	215	1,372	61	1.9	16%	29%	Expert
Easy Trip	11,406	11,033	373	3,489	36	2.8	11%	26%	Low Intermediate
Shalako (Upper)	11,390	11,058	332	1,276	337	9.9	27%	44%	Intermediate



TABLE A-2. TERRAIN SPECIFICATIONS—UPGRADE PLAN (CONT.)

Trail/Area Name	Top Elevation	Bottom Elevation	Vertical Drop	Slope Length	Average Width	Slope Area	Average Grade	Max Grade	Skier/Rider Ability Level
	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(fpm)	(%)	(%)	
Shalako (Lower)	11,052	10,819	233	1,287	177	5.2	19%	33%	Low Intermediate
Topa Papa	10,970	10,950	20	365	34	0.3	5%	11%	Intermediate
Upper Patton	11,011	10,862	149	878	102	2.1	17%	24%	Low Intermediate
Japanese flag	11,026	10,919	106	886	38	0.8	12%	18%	Low Intermediate
Lower Patton	10,917	10,231	686	4,476	81	8.3	16%	35%	Low Intermediate
Ruby Gully	10,645	10,431	214	620	184	2.6	37%	53%	Advanced Intermediate
Baby Bear	10,804	10,426	378	1,200	291	8.0	33%	41%	Intermediate
Papa Bear	10,862	10,580	282	875	195	3.9	34%	51%	Advanced Intermediate
Winkelreid	10,619	10,204	415	2,213	124	6.3	19%	30%	Low Intermediate
Rubezahl	10,260	9,463	797	7,845	41	7.3	10%	25%	Low Intermediate
Street Car	10,419	10,222	198	711	163	2.7	29%	39%	Intermediate
Hunziker Bowl	11,342	10,868	473	1,517	395	13.8	34%	64%	Expert
Hunziker Egress	10,868	10,836	32	345	70	0.6	9%	18%	Expert
High Noon	10,965	10,755	210	744	302	5.2	30%	49%	Expert
El Funko	10,789	10,300	489	1,642	200	7.5	32%	79%	Expert
High Five	11,120	10,908	211	1,373	97	3.1	16%	30%	Low Intermediate
High Five Pitch	11,120	11,023	96	424	189	1.8	23%	25%	Novice
Lift 6 Lifeline	11,793	11,502	291	623	67	1.0	53%	68%	Expert
Avy Road	11,800	11,477	322	1,860	58	2.5	18%	30%	Low Intermediate
Walkyries Bowl	11,707	11,502	205	670	415	6.4	33%	69%	Expert





TABLE A-2. TERRAIN SPECIFICATIONS—UPGRADE PLAN (CONT.)

Trail/Area Name	Top Elevation	Bottom Elevation	Vertical Drop	Slope Length	Average Width	Slope Area	Average Grade	Max Grade	Skier/Rider Ability Level
	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(fpm)	(%)	(%)	
Honeysuckle	11,504	10,618	886	4,279	142	13.9	21%	35%	Low Intermediate
Lone Star	11,143	10,680	463	1,814	157	6.5	27%	43%	Intermediate
Lower Totemoff	11,163	10,620	544	2,415	158	8.7	23%	35%	Low Intermediate
Upper Totemoff	11,384	11,101	283	1,121	144	3.7	26%	39%	Intermediate
Maxie's	11,175	10,616	558	2,501	213	12.2	23%	43%	Intermediate
Moe's	11,453	11,289	163	447	130	1.3	40%	51%	Advanced Intermediate
Bob's	11,505	11,173	332	947	141	3.1	38%	59%	Expert
Bonanza	11,261	10,859	402	1,926	128	5.7	22%	38%	Intermediate
Mucho Gusto	11,240	10,892	349	1,454	146	4.9	25%	49%	Advanced Intermediate
Lower Stauffenberg	11,261	10,052	1,209	5,049	145	16.8	25%	46%	Intermediate
Jess's (Lower)	10,987	10,884	104	533	76	0.9	20%	25%	Intermediate
Poco Gusto	10,882	10,761	122	642	84	1.2	19%	39%	Intermediate
Firlefanz	10,892	10,475	417	1,621	111	4.1	27%	40%	Intermediate
Tell Glade	10,511	10,092	419	1,359	181	5.6	33%	47%	Advanced Intermediate
Jess's (Upper)	11,090	11,055	35	221	61	0.3	16%	22%	Intermediate
Strawberry Hill 1	9,470	9,348	122	938	99	2.1	13%	25%	Novice
Strawberry Hill 2	9,471	9,377	93	742	83	1.4	13%	16%	Novice
Strawberry Hill 3	9,409	9,370	38	615	27	0.4	6%	9%	Beginner
Zipper 1	9,352	9,343	9	91	121	0.3	12%	12%	Beginner
Zipper 2	9,368	9,358	10	156	112	0.4	11%	12%	Beginner



TABLE A-2. TERRAIN SPECIFICATIONS—UPGRADE PLAN (CONT.)

Trail/Area Name	Top Elevation	Bottom Elevation	Vertical Drop	Slope Length	Average Width	Slope Area	Average Grade	Max Grade	Skier/Rider Ability Level
	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(fpm)	(%)	(%)	
Zipper 3	9,441	9,432	9	145	122	0.4	9%	10%	Beginner
Zipper 4	9,460	9,444	15	253	104	0.6	10%	11%	Beginner
Cabin Chute	11,808	11,419	389	679	403	6.3	70%	89%	Expert
Hunziker Bowl Upper	12,208	11,400	808	1,629	59	2.2	58%	82%	Expert
Highline Ridge	12,439	11,790	648	2,782	126	8.1	24%	54%	Advanced Intermediate
Main Street	12,439	11,382	1,058	2,378	905	49.4	50%	73%	Expert
Pioneer	9,590	9,453	137	1,297	129	3.8	11%	20%	Novice
Proposed High Noon II	10,925	10,862	63	300	56	0.4	21%	26%	Expert
Proposed Trail Adjacent to Upper Patton	10,956	10,820	137	606	91	1.3	23%	37%	Intermediate
Proposed Minnesotas Catwalk	10,604	10,026	578	3,694	58	4.9	16%	44%	Intermediate
Proposed In-fill Trail	10,903	10,627	277	1,027	143	3.4	29%	63%	Expert
TOTAL				124,112		428.5			





TABLE A-3. SPACE USE RECOMMENDATIONS—VILLAGE BASE AREA—EXISTING CONDITIONS

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	3,900	970	1,190
Public Lockers	2,400	2,910	3,560
Rentals/Repair	9,325	6,900	7,760
Retail Sales	6,993	2,040	2,490
Bar/lounge	6,000	3,050	3,730
Adult Ski School	667	1,550	1,900
Kid's Ski School	5,500	3,100	3,790
Restaurant Seating	14,700	8,880	10,860
Kitchen/Scramble	6,500	6,910	8,440
Rest rooms	4,046	1,970	2,410
Ski Patrol	2,070	790	970
Administration	4,500	2,040	2,490
Employee Lockers/Lounge	2,200	810	1,000
Mechanical	1,220	1,130	1,670
Storage	3,000	1,890	2,780
Circulation/Waste	5,567	4,530	6,680
TOTAL SQUARE FEET	78,588	49,470	61,720



**TABLE A-4. SPACE USE RECOMMENDATIONS—VILLAGE BASE AREA—
UPGRADE PLAN**

Service Function	Recommended Range	
	Low	High
Ticket Sales/Guest Services	1,040	1,270
Public Lockers	3,130	3,820
Rentals/Repair	7,410	8,330
Retail Sales	2,190	2,670
Bar/lounge	3,280	4,010
Adult Ski School	1,670	2,040
Kid's Ski School	3,330	4,070
Restaurant Seating	9,870	12,060
Kitchen/Scramble	7,680	9,380
Rest rooms	2,190	2,680
Ski Patrol	880	1,070
Administration	2,190	2,670
Employee Lockers/Lounge	880	1,070
Mechanical	1,230	1,820
Storage	2,060	3,030
Circulation/Waste	4,940	7,280
TOTAL SQUARE FEET	53,970	67,270



TABLE A-5. SPACE USE RECOMMENDATIONS—KACHINA BASIN BASE AREA
EXISTING CONDITIONS

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	--	--	--
Public Lockers	--	--	--
Rentals/Repair	--	--	--
Retail Sales	--	--	--
Bar/lounge	--	--	--
Adult Ski School	--	--	--
Kid's Ski School	--	--	--
Restaurant Seating	9,300	6,220	7,600
Kitchen/Scramble	2,700	4,840	5,910
Rest rooms	1,550	1,380	1,690
Ski Patrol	--	550	680
Administration	150	--	--
Employee Lockers/Lounge	--	--	--
Mechanical	250	350	520
Storage	1,120	580	870
Circulation/Waste	500	1,400	2,100
TOTAL SQUARE FEET	15,570	15,320	19,370



**TABLE A-6. SPACE USE RECOMMENDATIONS—KACHINA BASIN BASE AREA
UPGRADE PLAN**

ServiceFunction	RecommendedRange	
	Low	High
Ticket Sales/Guest Services	--	--
Public Lockers	--	--
Rentals/Repair	--	--
Retail Sales	--	--
Bar/lounge	--	--
Adult Ski School	--	--
Kid's Ski School	--	--
Restaurant Seating	6,560	8,020
Kitchen/Scramble	5,100	6,240
Rest rooms	1,460	1,780
Ski Patrol	580	710
Administration	--	--
Employee Lockers/Lounge	--	--
Mechanical	370	550
Storage	620	920
Circulation/Waste	1,480	2,210
TOTAL SQUARE FEET	16,170	20,430



TABLE A-7. SPACE USE RECOMMENDATIONS—ON-MOUNTAIN
(EXISTING CONDITIONS)

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	--	--	--
Public Lockers	--	--	--
Rentals/Repair	--	--	--
Retail Sales	--	--	--
Bar/lounge	--	--	--
Adult Ski School	--	--	--
Kid's Ski School	--	--	--
Restaurant Seating	700	3,230	3,950
Kitchen/Scramble	300	2,510	3,070
Rest rooms	350	720	880
Ski Patrol	--	290	350
Administration	100	--	--
Employee Lockers/Lounge	--	--	--
Mechanical	50	180	270
Storage	150	300	450
Circulation/Waste	250	730	1,090
TOTAL SQUARE FEET	1,900	7,960	10,060



**TABLE A-8. SPACE USE RECOMMENDATIONS—ON-MOUNTAIN
(UPGRADE PLAN)**

Service Function	Recommended Range	
	Low	High
Ticket Sales/Guest Services	--	--
Public Lockers	--	--
Rentals/Repair	--	--
Retail Sales	--	--
Bar/lounge	--	--
Adult Ski School	--	--
Kid's Ski School	--	--
Restaurant Seating	3,260	3,980
Kitchen/Scramble	2,530	3,100
Rest rooms	720	880
Ski Patrol	290	350
Administration	--	--
Employee Lockers/Lounge	--	--
Mechanical	180	270
Storage	310	460
Circulation/Waste	730	1,100
TOTAL SQUARE FEET	8,020	10,140





FIGURES

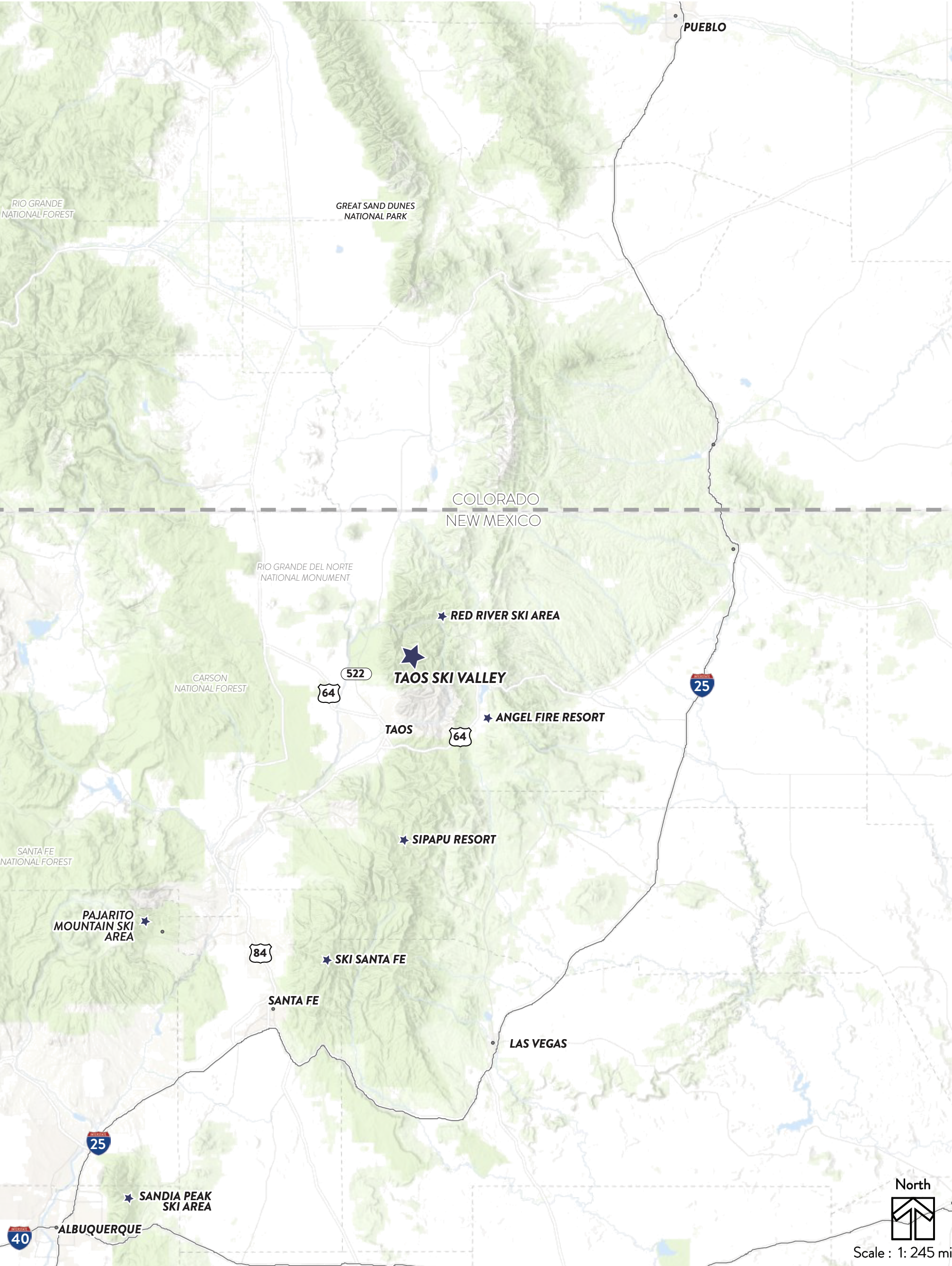


FIGURE 1
VICINITY MAP

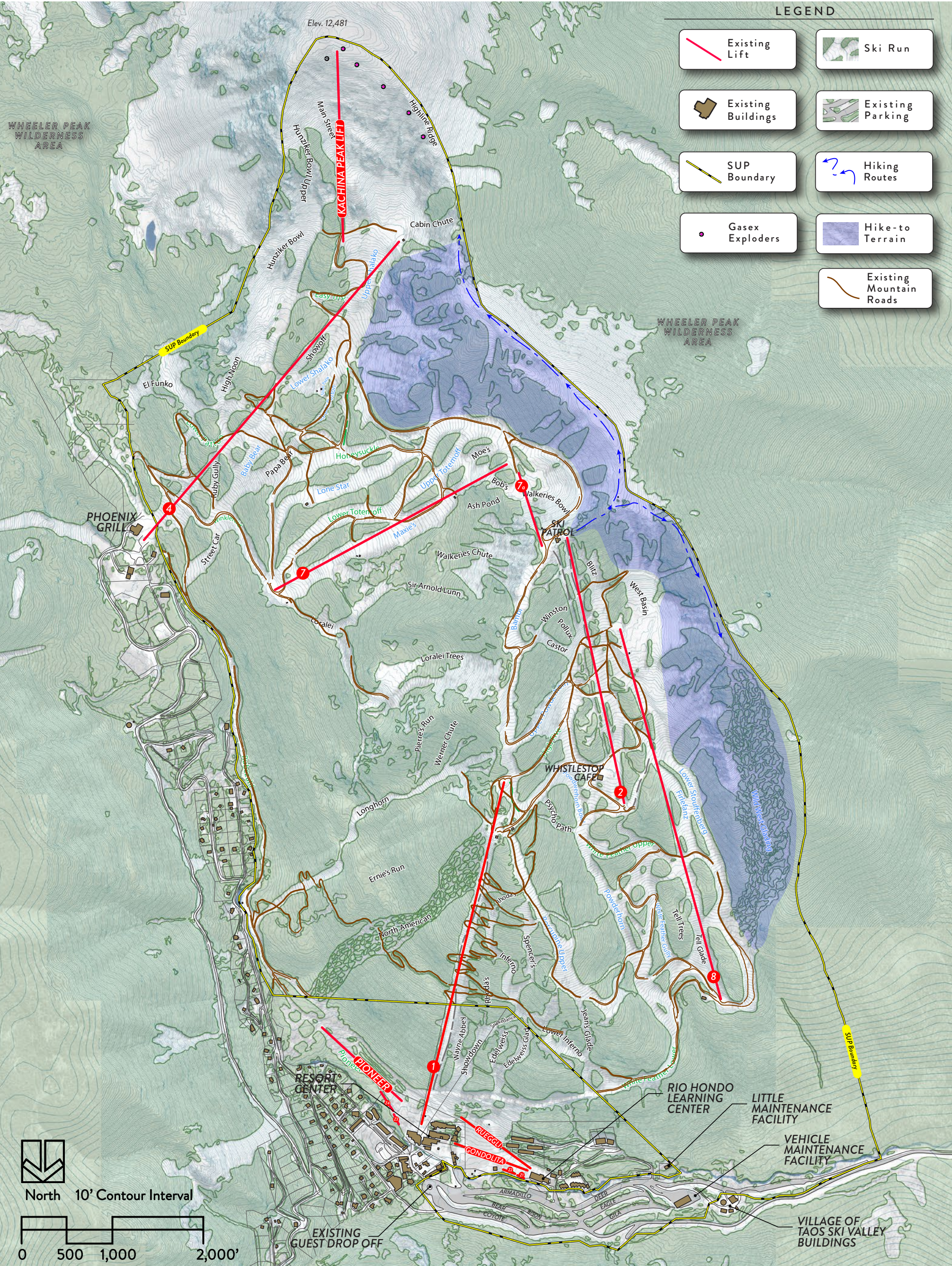


FIGURE 5
EXISTING MOUNTAIN ROADS

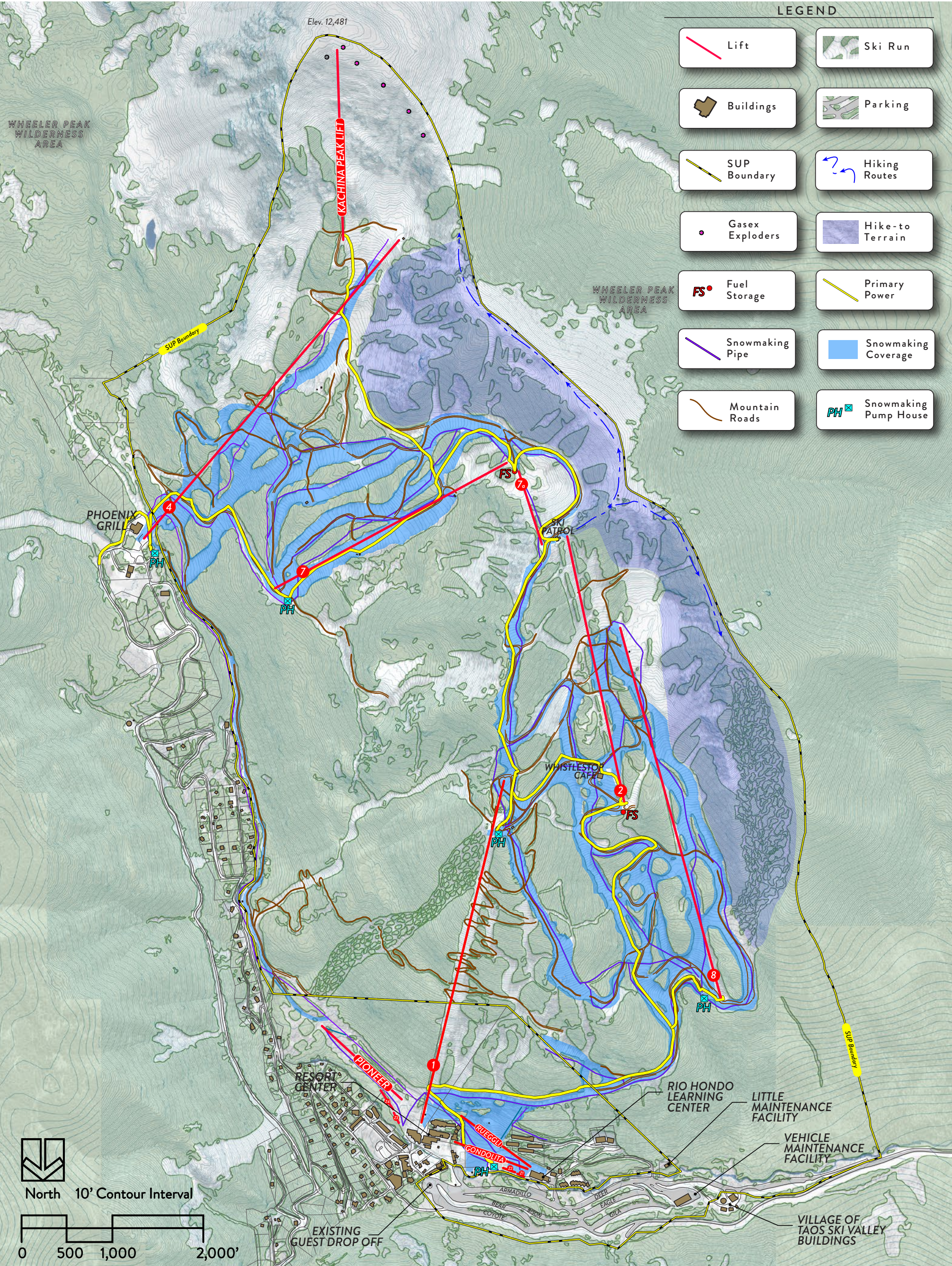


FIGURE 6
EXISTING UTILITIES

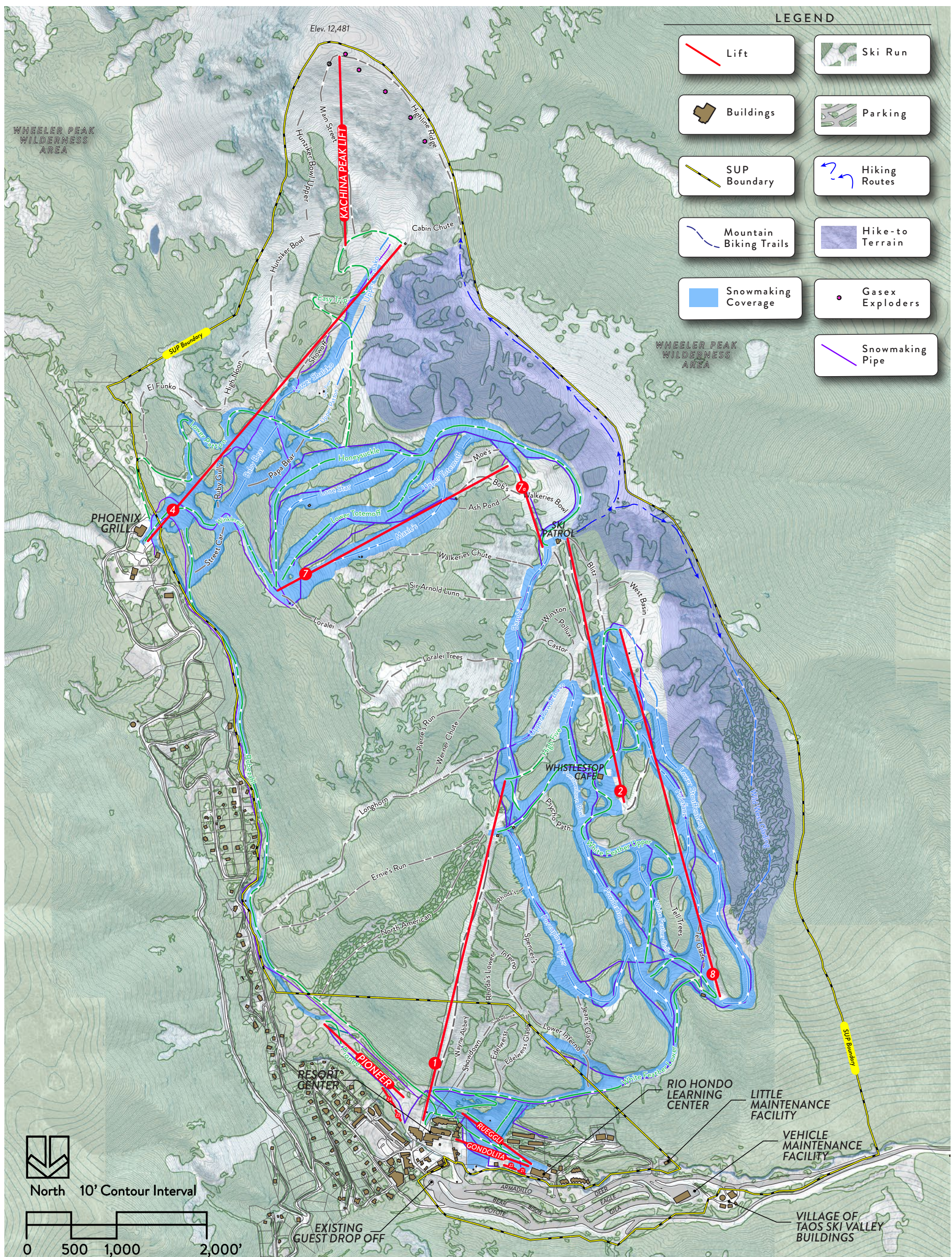


FIGURE 7 EXISTING SNOWMAKING

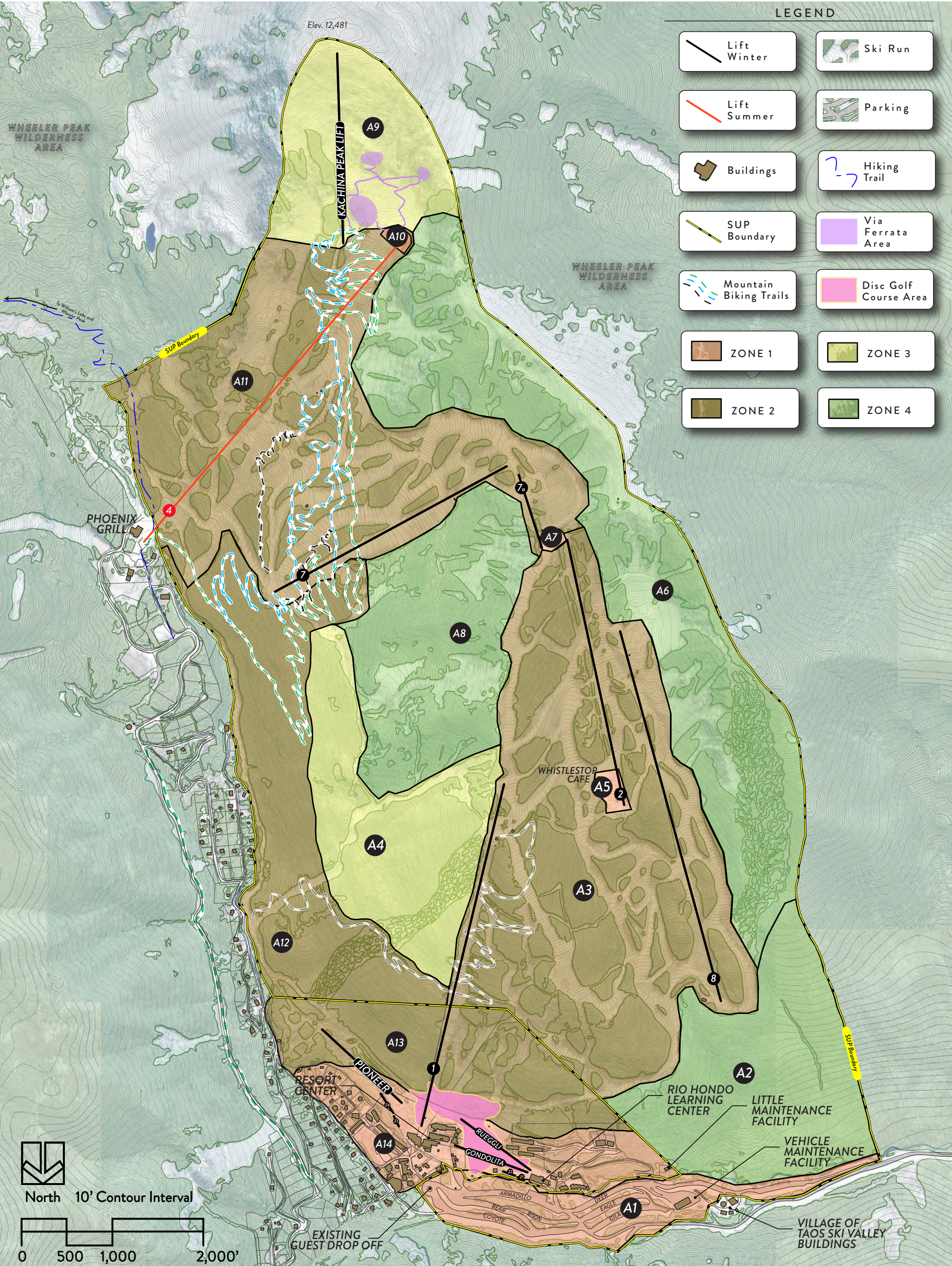


FIGURE 8
EXISTING SUMMER ZONES

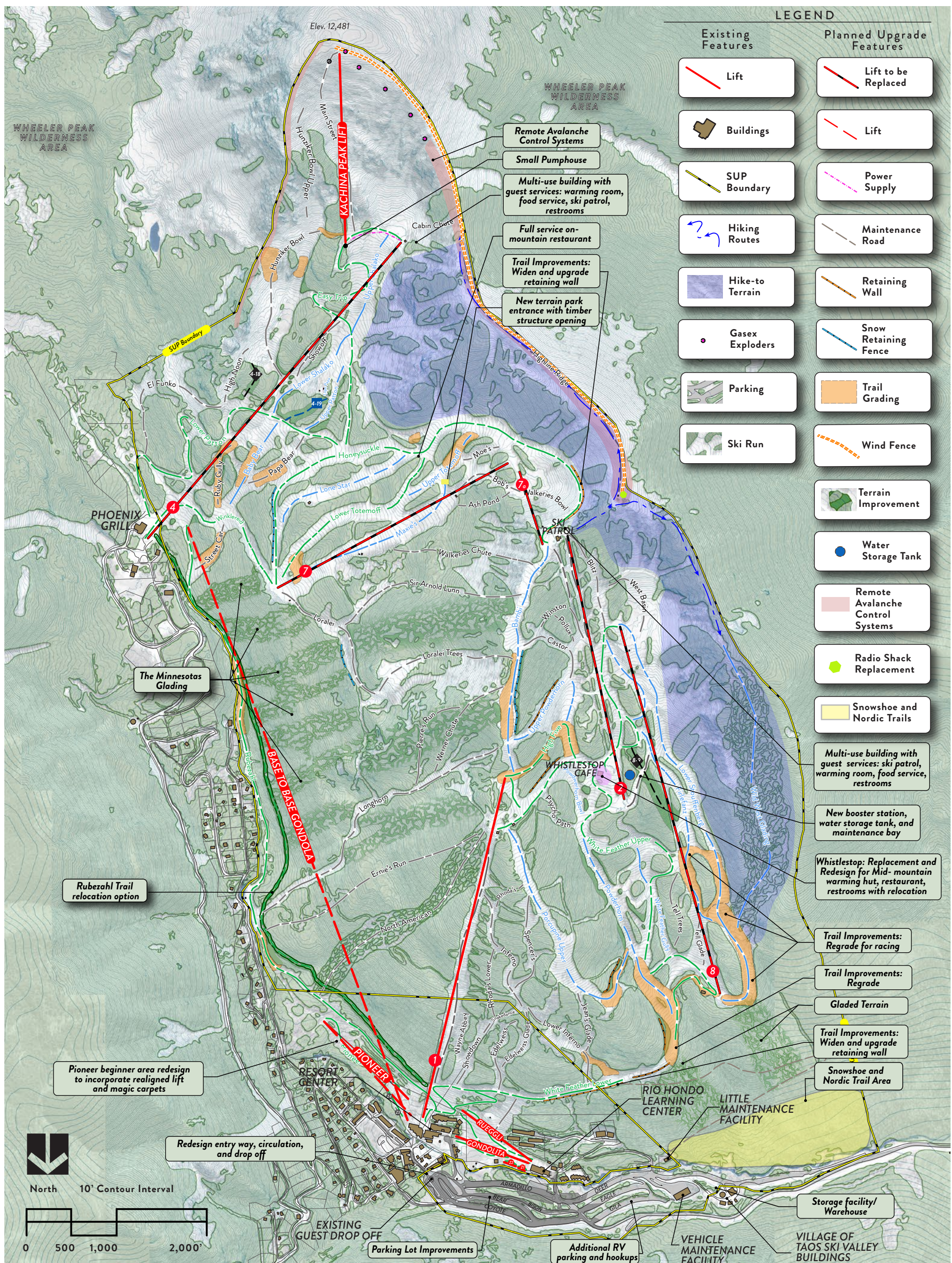


FIGURE 9 UPGRADE PLAN

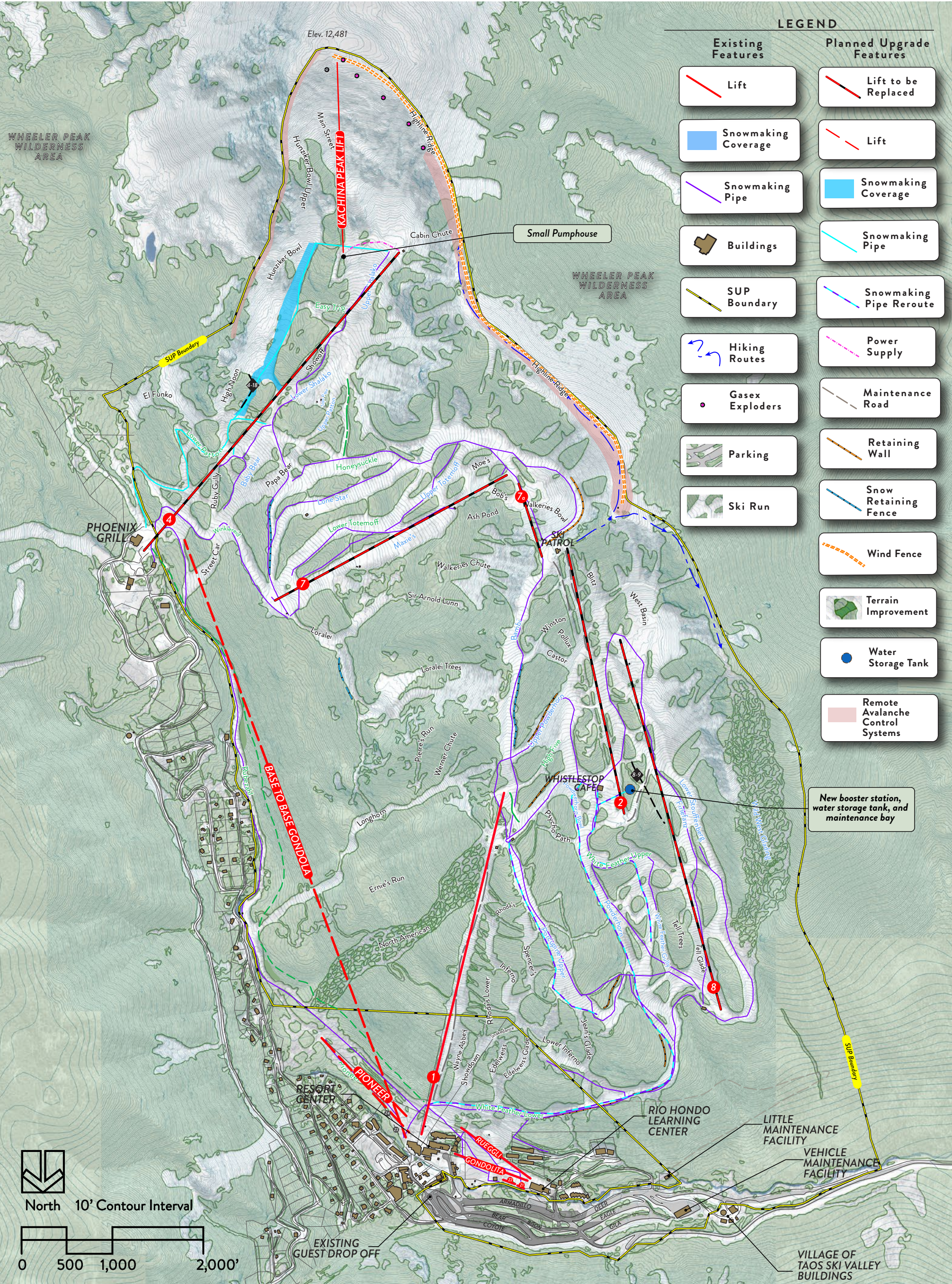


FIGURE 10
UPGRADE PLAN SNOWMAKING

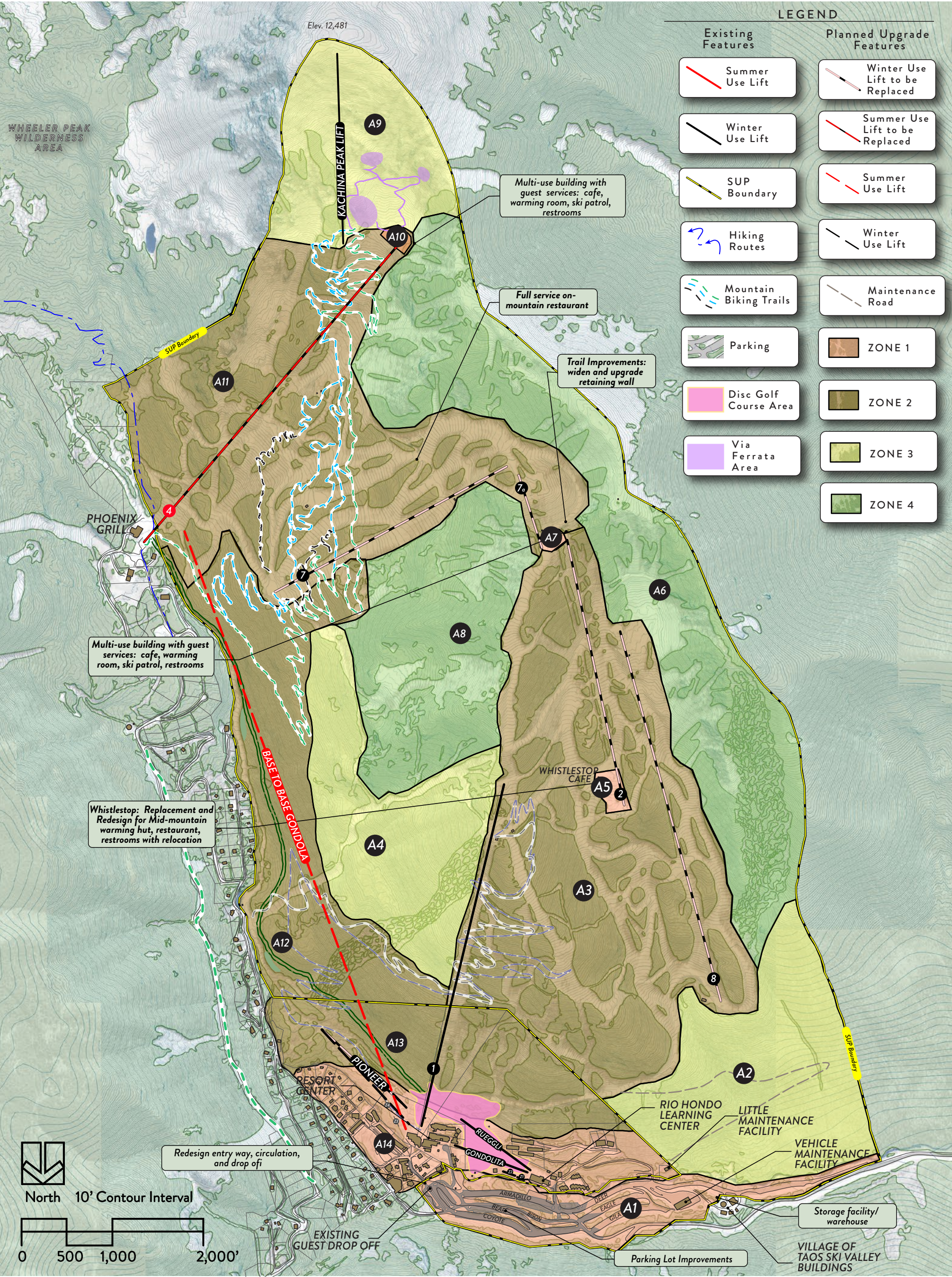


FIGURE 11
UPGRADE PLAN SUMMER ZONES

