

# 2017 Master Development Plan

December 2017

Prepared by:



# Preface

Snow King Mountain Resort (SKMR) has retained SE Group to evaluate the current existing ski resort and to update the accepted 2014 Master Development Plan (2014 MDP). This 2017 Master Development Plan (2017 MDP) addresses projects that have been implemented since the 2014 MDP was accepted, as well as provides more detail on the planned upgrades. These upgrades will provide expanded mountain operation and related services to meet the future needs of the guest at the resort. Planning efforts are focused on expansions and improvements to the resort to enhance and improve the guest experience.

The 2014 MDP was accepted by the Bridger-Teton National Forest (BTNF) in 2014 and includes a variety of on-mountain and base area improvement projects for winter and multi-season activities. Major elements of the 2014 MDP include a special use (SUP) boundary expansion to accommodate additional trail and lift development, a SUP boundary reduction to remove the area within the SUP on the backside of the ski area, new lifts and lift upgrades, guest service facilities, snowmaking and summer activities. Thus far, the only projects implemented from the 2014 MDP on National Forest System (NFS) lands are the replacement of the Rafferty Lift and associated ski runs, and the construction of the aerial adventure course. A variety of projects have been constructed on private lands.

As stated in the 2014 MDP, it is important to recognize that U.S. Forest Service (Forest Service) acceptance of this MDP and supplemental information does not convey "approval" of any projects contained within this document. The approval and implementation of any projects on NFS lands within the SUP of SKMR are contingent upon the National Environmental Policy Act (NEPA) review and approval process.

SKMR operates on approximately 35 acres of privately held land, as shown on the Winter Activities Existing Conditions plan (Figure 1); approximately 32 acres of land leased from the Town of Jackson; and on approximately 338 acres of NFS lands operated under a SUP.



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#### **Executive Summary**

This Master Development Plan (MDP) has been prepared to replace Snow King Mountain Resort's (SKMR) 1982 MDP. The document provides a comprehensive blueprint of ski area development plans for the next ten years and includes information on development of private land, the United States Forest Service (USFS) Special Use Permit (SUP), and Town of Jackson (TOJ) land parcels.

In 2014, SKMR celebrated its 75<sup>th</sup> anniversary as a ski area. SKMR was one of the original ski areas to be permitted on National Forest Land and has had a co-operative relationship with the USFS for more than seventy years. Currently, SKMR is one of the few remaining underdeveloped ski areas in North America with opportunity for commercial success. Sitting at the doorstep of Yellowstone and Grand Teton National Parks, where more than 3 million people visit annually, Jackson and SKMR have a tourist base unmatched in our country.

As a blend between a visitor-centric resort and a community service facility, SKMR is a place where local residents and visitors share space comfortably. An integral part of the Jackson community, SKMR serves as a bridge to nature for the town and offers a site for skiing, biking, hiking, concerts, and sporting events.

The underlying goal of SKMR, as documented in this MDP, is to create a vibrant, year-round, mixeduse complex contributing to the economy of Jackson and sustaining winter operations. Anchored on the existing development and uses, this MDP sets a vision and a framework for expansion. The MDP balances a variety of complementary uses, environmental considerations, and economic sustainability. The goal of this plan is to create an exemplary multi-use complex serving as a model for diverse user groups interacting effectively in a limited physical location.

Through the development of this MDP and the planning of future activities, SKMR has identified a number of opportunities to improve the financial viability of the ski area and the recreational experience of guests. The following options have been identified and serve as the foundation for the expansion plans presented in this MDP:

- Improve and increase beginner and intermediate ski terrain to serve as the primary "feeder/breeder" ski resort in Jackson Hole.
- Improve lifts and add magic carpets to better serve beginner and intermediate skiers.
- Expand snowmaking on the mountain to enable an early November opening for ski race training, provide coverage to the upper mountain, and aid in fire prevention.
- Introduce high-quality guest service facilities to attract and retain local and destination skiers, serve as an event venue, and provide an outdoor education center for Jackson residents and visitors.
- Add a wide range of year-round activities catering to a variety of visitors passing through the Town of Jackson.

Through the fulfillment of plans to address these opportunities, SKMR seeks to create a sustainable, stand-alone ski area, increase business for the Town, foster new employment, promote the cooperative relationship with the USFS, and transform Snow King into a world-class resort.

The plan set forth within this MDP is consistent with the 2000 Snow King Planned Resort District Master Plan, the principles guidelines set forth in the 2012 Jackson/Teton County Comprehensive Plan, the 1990 Bridger Teton National Forest (BTNF) Land and Resource Management Plan, and the



United States Forest Service Manual 2300 – "Recreation, Wilderness, and Related Resource Management."

It is important to recognize that USFS acceptance of this MDP does not convey "approval" of any projects contained within this document. The approval and implementation of any projects on USFS lands within the SUP of SKMR are contingent upon the National Environmental Policy Act (NEPA) review and approval process.



# 1. Introduction

# A. Location

Snow King Mountain Resort is located in Teton County, Wyoming, and is directly adjacent to the Southern border of the Town of Jackson. In 2010, Teton County had a year-round population of 21,294, and Jackson had a population of 9,577.<sup>1</sup> The number of temporary residents swells these population totals during the summer months by an additional 52,000 and during the winter months by an additional 5,000.<sup>2</sup> The ski area is situated on private land, as well as on land leased from the Town of Jackson. The upper three fourths of the ski area is on National Forest Land administered through the Jackson Ranger District of the BTNF. The physical address of SKMR is 330 E. Snow King Avenue.

SKMR sits within the Greater Yellowstone Ecosystem and is located approximately five miles south of Grand Teton National Park. The location of the mountain, within close proximity to Jackson's town square, the entrance to Grand Teton National Park, Yellowstone National Park, and the National Elk Refuge has the potential to attract hundreds of thousands of visitors to the mountain annually. In 2012 alone, over 5 million visitors passed through Yellowstone and Grand Teton National Parks together, with roughly 50 percent visiting Jackson en route.<sup>3</sup>

## **B. Resort Summary**

Snow King Mountain Resort LLC owns Snow King Mountain Resort (SKMR), Jackson's original ski hill, with a history dating back to 1936. *In 2014, SKMR celebrated its 75<sup>th</sup> anniversary as a ski area.* SKMR was one of the original ski areas to be permitted on National Forest Land and for more than seventy years has had a long-standing co-operative relationship with the USFS. The ski area is often referred to as the "Town Hill," a reference conveying the importance of SKMR as a recreational area for the residents of Jackson.

Currently, SKMR is one of the few remaining underdeveloped ski areas in North America with vast opportunity for commercial development. Sitting at the doorstep of Yellowstone and Grand Teton National Parks, Jackson and SKMR have a tourist base unmatched for a mountainous region in North America. Furthermore, the ski hill's location, rising directly above the Town of Jackson, gives it a unique advantage over the more remote competition at Jackson Hole Mountain Resort (JHMR) and Grand Targhee Resort (GTR). Over the past few decades, however, SKMR has seen fairly few changes, while the local competition at JHMR and GTR have made significant capital improvements to their ski areas, such as the addition of 'magic carpets' for beginners at GT, high-speed detachable lifts, a gondola and after-hours on-mountain dining at JHMR, base area facilities, modern ticketing and POS hardware and software, improved children's learning center and day care facilities.

As a consequence, SKMR is currently positioned well behind the competition in terms of general perception within the marketplace. As the "Town Hill," SKMR has nevertheless remained a vital part of the Jackson community, faithfully serving a passionate group of local skiers, ski racers, hikers, bikers, horseback riders, and paragliders. This position within the community, and the existing market potential, mean that there is both significant room for growth in income-producing recreational activities on the mountain and for strong support from the local community in achieving these objectives.

<sup>&</sup>lt;sup>1</sup> Jackson Hole Chamber of Commerce website (2013).

<sup>&</sup>lt;sup>2</sup> Ibid.

<sup>&</sup>lt;sup>3</sup> Ibid.

<sup>&</sup>lt;sup>4</sup> Snow King Resort District Master Plan, 2000.



Furthermore, the success of JHMR in attracting visitors to the Teton Village has resulted in lower volumes of overnight visitors in the Town of Jackson. This situation demonstrates the value of renewed efforts to revitalize the Town Hill and in turn contribute to the overall success of Jackson as a tourist destination. SKMR is positioned to lead this revitalization through development of year-round recreational activities and events on the mountain.

# C. Values & Mission

As a well-balanced blend between a visitor-centric resort and a community service facility, SKMR is a place where local residents and visitors both share space comfortably. An integral part of the Jackson community, SKMR serves as a gateway to the National Forest for the town and offers a site for skiing, biking, hiking, concerts, and sporting events. Throughout the decades, SKMR has provided extremely affordable skiing to the local community, with season pass prices and ticket prices far lower than most successful ski areas. By providing a world class downhill ski racecourse on the mountain, SKMR serves as a ski race training ground for youth of the Jackson Hole Ski and Snowboard Club (JHSSC) and the Jackson High School. The "in town" services that SKMR provides to the community of Jackson are an essential part of what makes Jackson a unique location for the people who live in and visit the area.

The underlying goal of SKMR is to create a vibrant, year-round, mixed-use complex contributing to the economy of Jackson and sustaining winter operations. With this objective in mind, SKMR has developed the following mission statement as a guiding vision for the current and future development of the company:

Serving as a bridge to nature, Snow King Mountain Resort strives to be a world-class, year-round recreation and outdoor education center, delivering superior service to both the community of and visitors to the Town of Jackson.

SKMR holds the values of the community in the utmost regard and seeks to embrace these same values in the future development of the ski area. Development plans at SKMR fall directly in line with the 2000 Snow King Planned Resort District Master Plan (Resort District Plan)<sup>4</sup> and the guidelines set forth in the 2012 Jackson/Teton County Comprehensive Plan as quoted below:

This PRESERVATION Subarea will continue to serve its role as the "Town Hill", providing a variety of summer and winter recreational amenities to the community. In addition, the subarea has wildlife habitat and scenic values that will need to be balanced with recreational uses. Future development should be limited to recreational amenities and supporting structures allowed under the Snow King Master Plan, including but not limited to, multi-purpose pathways, terrain parks, up-hill transportation, ski terrain and amenities.<sup>5</sup>

In January of 2013, the Jackson Town Council amended the SKMR lease for land use at the base of SKMR to include "additional recreational uses related to ski areas such as zip lines, mountain bike trails and other outdoor amenities."<sup>6</sup> This amendment enables the opportunity to develop the activities outlined in this development plan for the two parcels

<sup>&</sup>lt;sup>4</sup> Snow King Resort District Master Plan, 2000.

<sup>&</sup>lt;sup>5</sup> Jackson/Teton County Comprehensive Plan.

<sup>&</sup>lt;sup>6</sup> Town of Jackson Meeting Agenda. Snow King Mountain Recreation Zip line. 1/22/13.



of Town Land that have been historically used for ski area operations. With these guiding principles, values, and mission in mind, SKMR seeks to expand existing operations and introduce new recreational activities on the ski hill. These activities have been selected specifically to align with the demands of the tourist driven economy of Jackson and the outdoor recreational pursuits embraced by the local community.

# **D. Historical Perspective**

From 1939 to 1946, the area consisted of a surface cable tow and a small base lodge, known as The Ski Shelter. In 1947, a single chairlift was constructed from a converted ore conductor previously used at a gold mine in Salida, Colorado. It was upgraded to a double chairlift in 1957. This chair was operated as a ski lift during the winter and as a scenic chairlift in the summer. Snow King was the only ski area in Jackson Hole until 1965 when the Jackson Hole Ski Area, now the Jackson Hole Mountain Resort, opened for operations.

During the 1940's, 50's and 60's, Snow King was well known throughout the Intermountain Region for hosting alpine ski races, Nordic ski jumping and recreational skiing. In 1978, a second double fixed grip chairlift was added for the new Alpine Slide in summer and for skiing during the winter. The Alpine Slide is situated completely on private land, just below the National Forest boundary. In 1979, the original bi-cable chairlift to the summit was decommissioned. The following year it was replaced with a fixed grip double chairlift. In 1994, a third chairlift, a triple fixed grip chairlift was installed. The area also has a beginner/ski school surface tow and a snow tubing park that is served by a surface tow.

Night lighting was introduced on the lower eastern section of the mountain in 1981 and then expanded to cover the lower two thirds of the mountain in 1994.

Snowmaking was introduced on private land on the lower mountain in 1988, expanded in 1992 and then again in 1994. Snowmaking currently covers approximately 110 acres of the ski area, half of which is on National Forest Land.

In 1976, the 204 room Snow King Resort Hotel and Convention Center was opened. Since that time, over 130 condominiums have been added to the hotel. The complex is the largest year-round conference facility in Teton County and a center for community functions, meetings, and gatherings. The hotel is presently undergoing extensive renovations and is destined to once again be the flagship lodging and conference facility in Jackson.

In 1993, the Snow King Center, owned by the Town of Jackson, was completed. The Center includes two buildings, an ice rink and the ski shelter. In addition to ice-skating and hockey, the regulation ice rink facility is used for large meetings, trade shows, and events. The Lodge Room serves as the base lodge for the Ski Area during the winter and for meetings and other functions during the off-season. Bathrooms, the Season Pass Office, and the Ski Patrol Room are also located in the Snow King Center. The JHSSC, the Jackson Hole High School Ski Team, and the Girl Scouts of Jackson Hole also have their headquarters in the Snow King Center.

Since 1939, Snow King Mountain Recreation LLC and its predecessors, Snow King Inc., Western Standard Corporation, and Snow King Resort Inc. have continuously overseen the operations of the ski hill. Ownership has remained locally based since 1972, when Snow King Inc. became part of the



locally based Western Standard Corporation, which would eventually transform into Snow King Resort Inc.

In 2011, Snow King relinquished its lease of the ice rink back to the Town of Jackson and retained a lease for the ski shelter building. In 2012, the Snow King Hotel and Conference Center, formally associated with SKMR, was sold to an outside investor. Presently, the hotel and conference center are undergoing a \$20 million renovation that will significantly improve the face of the resort and the quality of the hotel/conference facilities. As a consequence of the hotel sale, SKMR is working to become financially sustainable as a stand-alone, year-round ski and recreation area.

## E. Present Market Environment

Within the mountain resort industry there are a number of crucial macro-level changes that are currently shaping trends and the future of the industry. These include shifting demographics, increased competition for recreation dollars, and climate change. Players within the industry are each reacting differently to this situation; however, there are stand out trends that set the tone for the future.

At the national level, demographic changes related to age will have one of the most significant impacts on the mountain resort industry. The 2012 National Ski Areas Association National Demographic Survey concluded that aging "boomers will increasingly need to be replaced with new participants to ensure the long-term health and future growth of the ski industry." This situation means that mountain resorts must learn to understand the next generation of outdoor recreationalists and recognize differences in product demand by "Gen X" and the "Millennial" generations. "Differing perceptions of loyalty and brand commitment pose a challenge" for mountain resorts as they attempt to capture a new generation of mountain recreation enthusiasts.

It has often been noted that the mountain resort industry's biggest competitor is not the neighboring hill, but rather alternative activities such as the soccer league, or the mall. While this trend is not new, ski areas, and the industry as a whole, have found it increasingly difficult to create loyal followers who come back year after year. This competitive marketplace forces the need for continuous improvements and necessitates significant capital investment for mountain resorts to remain viable and relevant.

Mountain resort owners and operators see the impact of climate change directly on their bottom lines, and clear trends are developing as to how the industry is dealing with this situation. Mountain resorts are modernizing their snowmaking systems to become more efficient, have higher capacity for cold spells, and to operate at warmer temperatures. Adapting to warmer temperatures comes at a very high cost. Ski areas are forced to spend millions on capital improvements to snowmaking and are often constrained by the amount of water available to make snow. Those resorts with limited or no ability to make snow are becoming financially unsustainable in an era of unpredictable weather. As a consequence, for most ski areas, it is simply a question of how much to invest in snowmaking, recognizing that it will not necessarily increase ticket sales but rather help to maintain existing skier visits.

Industry executives are embracing diversification as the key means of addressing these shifting market forces. They are leveraging their greatest asset, access to the natural beauty and recreational opportunity afforded by the mountains. They are utilizing these assets to create unique vacation experiences that are not necessarily defined by the amount of snow on the ground,



but rather by the multitude and variety of recreational experiences available to the guest. As a consequence, the majority of ski areas in the United States have now introduced new summer and year-round activities on the mountain. Industry wide surveys have demonstrated that diversifying ski area operations means "low capital, faster returns, increased asset utilization, and increased room nights for lodging properties. *These [non-ski/ride] activities are offered to 100% of the population vs. only 4% of the population for ski and ride.*"

The ski industry has taken note that it is necessary to "be more than a ski area to survive," and that as areas diversify with ski and non-ski winter activities, they build "insurance" or reassurance for guests considering booking winter vacations. The United States Congress has acknowledged industry changes by passing the Ski Area Recreational Opportunity Enhancement Act, which paves the way for more robust summer and year-round operations at ski areas operating on National Forest Lands.

In line with the global trends cited above, the strategic blueprint in this MDP details a comprehensive recreational expansion on SKMR over the next ten years. The plan seeks to transform SKMR into a world-class, year round mountain sports and outdoor education center, serving as a *bridge to nature* for the Town of Jackson and as a renowned mountain destination for visitors.

# F. Snow King Mountain Resort's Market Niche

The principle strengths of SKMR are its size, location and terrain characteristics. SKMR is fifteen minutes from Jackson International Airport and on the main thoroughfare for tourists visiting both Yellowstone and Teton National Parks. As a strikingly visible centerpiece of the Town of Jackson, SKMR is a virtual billboard for visitors passing through town.

For winter tourism in the Rocky Mountain Region, the terrain characteristics of SKMR make for an ideal ski race training, ski competition, and winter sports event venue. Presently, SKMR hosts ski races on a weekly basis during the course of the winter and attracts a significant number of local skiers to the mountain. Its proximity to town makes SKMR ideal for residents and winter visitors to quickly and conveniently participate in Nordic skiing, snowshoeing, snow biking, and tubing. All of this is accessible in a majestic setting just steps from home or lodging and on a scale that is friendly to young and old alike.

It is again the size, location and terrain of SKMR that make it an ideal summer activity center. Within walking distance of town, SKMR provides outdoor activities, nature education and a gateway to USFS multi-use trails. SKMR is additionally positioned to be the *primary trailhead* for the greater Snow King USFS trails system, serving hundreds of trail users on a daily basis. High quality guest facilities, efficient parking, transportation solutions, and appropriately graded new trails are required for this to happen. These additions will facilitate age appropriate access, ease trailhead congestion in neighborhoods around town, and allow for improved trails management in the region.

The development of SKMR has the potential to significantly increase tourism in the State, business in Town, and vibrancy in the community of Jackson.



### **G.** Abstract of Proposed SKMR Improvements

The primary purpose for the following proposed ski area improvements is to expand guest services, increase beginner/intermediate ski terrain, enhance multi-purpose trails, and better cater to both locals and visitors on Snow King Mountain. These improvements are necessary in order to create an economically viable ski area with future sustainability.

### i) I. Projects on USFS Land

### Terrain

- Expand the SUP boundary to add new skiable terrain, principally on the NE & NW sides of the permit.
- Glade trees within the expanded SUP in order to improve skiing conditions and promote fire suppression measures.
- Add teaching/beginner terrain for proposed "magic carpets" or lifts at the summit of the mountain.
- Create new/improved access road up the north side to the summit of Snow King Mountain.
- Add new access roads to east and west expansion areas of the SUP.
- Undertake grading to improve beginner terrain at the summit of the mountain and near the top of the Rafferty Lift.

### Snowmaking

- Expand snowmaking infrastructure to areas of the SUP and proposed expansion areas without existing snowmaking coverage.
- Install additional new fixed tower snowmaking guns on the mountain.

### Lighting

- Replace all existing lights for night skiing with energy efficient lights.
- Install new lighting on the lower third of the mountain to increase night training space and enhance safety for the JHSSC and eventually take night lighting to the summit via the Elk ski run.

### Lift Replacements/Upgrades/Installations

- Replace the Summit Lift with a gondola.
- Add a fixed grip lift within the existing SUP to the South.
- Install new teaching carpets or a beginner lift at the summit of the mountain adjacent to the top of the new gondola.

### **Guest Services**

- Construct two new guest service buildings on USFS lands, one at the summit of Snow King Mountain, and one at the Rafferty Mid-Mountain area.
- Construct an observatory for educational purposes at the summit of the mountain and a planetarium within the guest service building on the summit.

### Zip lines

• Add two new zip line experiences within the existing SUP on USFS Land. One zip line will originate from the summit of the mountain and terminate at the top of the Rafferty Lift area. A second will originate from the top of the mountain and



terminate at the base of the mountain. An alternate zip-line tour is presented for the South SUP area.

### **Multi-Season Recreational Trails**

• Establish three new multi-season recreational trails in the western portion of the expanded SUP. One trail will be designed as the principal hike/uphill ski trail for the public. A second trail will be constructed parallel to the existing Summit Lift to provide a direct vertical access route to the summit.

### Lift Accessed Bike Trails

• Establish a new network of downhill specific, lift-accessed bike trails on the mountain. The first stage of the bike park development will occur on the lower two thirds of the mountain. A second stage of trail development will coincide with the installation of the new lift on the South SUP area. A third phase of expansion will include trails from the summit of the mountain.

### Grading

• Undertake earthwork for the improvement of ski runs in order to minimize snowmaking requirements and create locations for terrain parks as needed.

### ii) II. Projects on Private Land

### Zip Lines

• Add one zip line on private land to make a comprehensive zip line tour joining with zip lines constructed on USFS land.

### Bike Skills Park/Downhill Bike Park

• Construct an extensive downhill bike trail network and a free public use bike skills park on private land, near the base of the mountain and connecting to lift accessed bike trails on USFS lands.

### **Guest Services**

• Construct a new guest service facility at the base of the mountain. This building will incorporate the new summit gondola and offer food and beverage, ticketing, restrooms, and will serve as a terminus for zip lines descending the mountain.

### Lighting

• Replace all night skiing lighting on private land with energy efficient lights and add additional lights to improve safety for ski race training and the general public.

### H. Goals of this MDP

Over the next ten years, SKMR seeks to build a world-class, year-round mountain sports and outdoor education center, encompassing an age appropriate spectrum of activities for local residents and visitors from around the world. Through the fulfillment of plans to address this objective, SKMR will generate sustainable revenue for the company, increase business within the Town and foster new employment.



The goal of this MDP is to provide the context, vision, detailed blueprint and timeline for achieving the stated objective. Individual projects are identified and priorities are set for the development of both private and public lands within the resort district. SKMR believes that when completed, the mountain sports and outdoor education center will serve as a model for multiple user groups effectively interacting within a limited geographic site. Due to the ever-changing nature of the mountain resort industry, it is important to recognize that this document may be amended periodically in response to market conditions, the evolution of the ski/snowboard industry, and technological innovations.



# 2. Forest Service Direction

Snow King Mountain Resort operates on BTNF Land under a SUP overseen by the Jackson Ranger District of the BTNF. The upper two-thirds of SKMR sits on BTNF Land, and as such, the following information provides reference to the interaction between the ski area permittee, SKM, and the Federal Land Management Agency, BTNF. The two principal documents that guide the direction of this master plan include the *United States Forest Service Manual 2300 - Recreation, Wilderness, and Related Resource Management* and the 1990 *BTNF Land and Resource Management Plan.* Together these documents provide guidance for the future development of the Snow King Mountain SUP.

SKMR sits within Zone 9B as described in the 1990 Land and Resource Management Plan and is designated as a "Special Use Recreation Area."<sup>7</sup> The BTNF 9B zone is to be managed primarily "for permitted, private recreation homes, permittees, and others offering services to the public, including related roads and sites."<sup>8</sup> The experience that the BTNF seeks to foster within this zone is as follows:

"Overall you will find many signs of people, but you see little or no evidence of resource development other than recreation. Cabins and buildings used by permittees are visible, but blend into surroundings. Roads are generally graveled, but may be paved in high-use areas. Off-highway vehicle (OHV) use is limited to entry and departure routes. In some locations you see extensive developments associated with ski areas such as hotels, buildings, ski lifts, gondolas, and snowcat equipment. In winter, such areas are often quite crowded with roads clogged and many pedestrians in the area."<sup>9</sup>

The relevant prescriptions for SKMR related to the BTNF 9B Special Use Recreation Area include the "Privately Owned Facility Standard," and the "Visual Quality Prescription."<sup>10</sup> The Privately Owned Facility Standard states, "a similar architectural standard will be followed for all structures within a development."<sup>11</sup> Under the Visual Quality Prescription "facilities are often dominant, but harmonize and blend with the natural setting."<sup>12</sup> Together, these prescriptions encourage the development of ski area facilities on National Forest Lands that blend in with the natural environment.

*The United States Forest Service Manual 2300 – Recreation, Wilderness, and Related Resource Management* offers guidance for ski area operations on National Forest Lands. This document "encourages summertime use of ski area facilities where that use is compatible with or enhances natural resource-based recreation opportunities and does not require additional specialized facilities."<sup>13</sup> Furthermore, it is stated that ski areas should "plan for development of new winter recreation sites or expansion of existing sites in such a way that the location of ski runs, trails, lifts, and other facilities avoids terrain inherently prone to frequent and extensive or severe avalanche

<sup>10</sup> Ibid.

<sup>12</sup> Ibid.

<sup>&</sup>lt;sup>7</sup> 1990 Bridger-Teton National Forest, Land & Resource Management Plan.

<sup>&</sup>lt;sup>8</sup> Ibid.

<sup>&</sup>lt;sup>9</sup> Ibid.

<sup>&</sup>lt;sup>11</sup> Ibid.

<sup>&</sup>lt;sup>13</sup> United States Forest Service Manual 2300 - Recreation, Wilderness, and Related Resource Management, May 13, 2013.



activity."<sup>14</sup> Finally, the policy direction of this document explicitly encourages the development of privately operated Nordic ski touring centers on National Forest Lands and allows "holders to charge for the use of permitted trails when they make capital investments or incur expense directly for trail maintenance, grooming, and patrolling."<sup>15</sup>

As a partner in the oversight, protection, and development of a unique resource, SKMR must adhere to the guidelines set forth for this special recreation zone at local and national levels. This master plan has been developed based upon insight from other ski areas and national forests across the country in conjunction with exhaustive research on current and future trends within the mountain resort industry. As such, this master plan seeks to harmonize the guidance of federal land management agencies and the development needs of SKMR as a mountain resort. In doing so, this master plan will capitalize on opportunities for SKMR to assist the BTNF in providing the public a wide range of recreational activities on forest lands while overseeing safety and the environmental protection of the SUP. Through mutual interest and obligation, SKM and the BTNF will work closely to implement the plans set forth in this master plan following the National Environmental Policy Act (NEPA). As these plans are developed, SKM will continue to visibly promote through its marketing efforts, the close partnership with BTNF in operating the resort.

<sup>&</sup>lt;sup>14</sup> Ibid.

<sup>15</sup> Ibid.



# 3. Public Involvement

The 2014 MDP was developed over a two-year period with public input through a series of public meetings, focus groups, and special interest outreach to key stakeholders in the Town of Jackson. As a community ski area that is used year-round by local residents, and has a large influx of tourists during the summer months, SKMR must find a balance between tourist related revenue generation and the community interests in a recreation venue.

While seeking approval for a State grant for snowmaking expansion and for the development of a zip line on Town land leased to SKMR, additional extensive feedback was received from local residents, the Town of Jackson, and the State of Wyoming on the activities proposed in this master plan.

# A. Wyoming Business Council Grant

In 2013 SKMR embarked upon an application process with the Wyoming Business Council (WBC) for \$1.5 million in grant/loan funding for snowmaking expansion. As part of that process, a comprehensive business plan for all of the activities proposed in this MDP was presented by SKMR to the Town of Jackson and the State of Wyoming. This business plan was vetted by multiple independent consultants and the grant/loan application was ultimately approved by the Wyoming State Loan Investment Board (SLIB) comprised of the Governor, Secretary of State, Treasurer, Auditor, and Superintendent of Public Instruction. Through this governmental process, the SLIB formally recognized the importance of Snow King within the State of Wyoming as an important recreational venue, potential source of tourism revenue, and key conference facility.

# B. Town of Jackson Zip Line Approval

In seeking Town of Jackson approval for a zip line on Town owned property leased to SKMR in 2013, the Jackson Town Council and the general public scrutinized the activities proposed in this MDP. Ultimately, the council moved to approve the construction of the zip line and alter the Town lease to SKMR in order to accommodate some of the additional recreational activities proposed in this MDP. Through this public process, the Town of Jackson formally recognized the importance of SKMR as a ski area, source of revenue generation to the Town, and as a community recreational space. Ultimately, based on additional public feedback, Snow King decided not to proceed forth with this particular style of zip-line.

# **C. Focus Groups**

Starting in January 2013, a series of focus group meetings were held with the Snow King Mountain Initiative (SKMI). SKMI consists of SKMR stakeholders, adjacent property owners, community leaders, downtown businesses, user groups, and multi-generational supporters. At these meetings the activities in this MDP were presented and input was solicited on the proposal. Suggestions on trail design, parking, ski lift development, and services were incorporated into the MDP as a result of the focus group process.

# **D. Special Interest Outreach**

Separate key stakeholder meetings were conducted with the Jackson Hole Conservation Alliance, Jackson Friends of Pathways, the USFS, the Snow King Resort Hotel, Grandview Condominium homeowners, the JHSSC, and the Town of Jackson.

# **E. Public Meetings**

In May 2012, SKMR presented the improvements proposed in this MDP to the Jackson Town Council through the Town planning pre-application conference process. At this public meeting,



stakeholders and the general public were given the opportunity to comment on the proposed plans associated with this MDP. Multiple additional public meetings were then held wherein the SKMR recreation expansion plans were presented to the public in connection with the WBC grant application and zip line development process. These meetings produced valuable input and insightful questions that have helped shaped the MDP process and product.

# F. Public Comment

In connection with the activities proposed in this MDP, SKMR and the Town of Jackson received numerous letters. This public comment has been incorporated into the design and planning process for the activities proposed in this MDP.

## **G. MDP Development Milestones**

The following timeline is representative of the activities and presentations associated with SKMR recreation expansion development detailed in the MDP. The events listed are a fraction of the informational meetings held in order to develop expansion plans and receive input from State and Town officials, key stakeholders and the general public.

August 2009	Meeting with Zip Tour representative discussing potential for zip line tours on SKMR. Feasibility study conducted.
September 2010	Downhill bike park and bike skills park feasibility study conducted by
1	Hoots, bike park consultants, Vancouver B.C., Canada.
Jan. – Dec. 2011	Meetings with Roger Bower, regional representative of the WBC, Bob
	Jensen, Executive Director of the WBC, Town Council Members, and Town
	Staff discussing SKMR recreation expansion plans.
October 2011	Presentation of recreation expansion plans to USFS.
October 2011	Ski Area Recreational Opportunity Enhancement Act is passed by congress
	paving the way for more robust summer operations of ski areas operating
	on USFS lands.
December 6, 2011	Meeting with Town Council members, Mayor, and Roger Bower of the WBC,
	presenting pro-forma financials for SKMR recreation expansion plans.
February 2012	SKMR recreation expansion presentation to the Wyoming Business Council
	staff, Roger Bower, Mayor Barron, and Bob McLaurin in Cheyenne.
March 2012	Informal presentation of SKMR recreation expansion plans to Wyoming
	Governor Matt Mead.
April 2012	Presentation of SKMR recreation expansion plans to Jackson School System
	Recreation Board.
May 7, 2012	Joint information meeting with Jackson Town Council and County
	Commissioners presenting SKMR recreation expansion plans.
May 2012	Pre-application conference with Jackson Planning Department and Town
	Council.
July 2012	Feasibility study and design layout conducted by Zip-Tour Zip lines.
October 29, 2012	First draft of the WBC Business Committed Grant Application presented to
N. 1. 2242	the Jackson Town Council.
November 2012	Feasibility study and track layout carried out by Wiegand Sports, mountain
D 1 0 0010	coaster designers.
December 9, 2012	Downhill bike park feasibility study conducted by Gravity Logic, bike park
Lan August 2012	consultants, whistler, B.C., Canada.
Jan – August, 2013	stakeholder meetings with downtown business owners/operators and
January 22, 2012	Interesteu parties.
January 22, 2013	to include additional recreational activities such as zin lines, mountain bike
	trails etc



February 4, 2013	Jackson Town Council discusses revised WBC Business Committed Grant Application. Council members voice support for initiative and request additional information.
February 19, 2013	WBC Snowmaking Grant approved by Jackson Town Council.
May 23, 2013	WBC Board approves \$1M grant and \$500,000 loan to SKMR for
5	snowmaking and infrastructure project.
June 20, 2013	Wyoming State Loan Investment Board awards \$1M loan and \$500,000
	grant to SKM for snowmaking and infrastructure development.
June 24, 2013	West Portal planning meeting with Design Workshop consultant Bill Kane
	and SKM stakeholders for the redevelopment of the West Portal of Snow
	King Mountain.
August 6, 2013	2 <sup>nd</sup> West Portal planning meeting with Town stakeholders.
August 15, 2013	SKM trails stakeholder meeting with BTNF, Friends of Pathways, Wyoming
	Pathways, and JH Conservation Alliance.
February 19, 2014	2014 USFS Master Plan Accepted
February 20, 2014	Public Presentation of MDP in Grand View Lodge
March 6, 2014	Chamber of Commerce Business Over Breakfast MDP Presentation
November 5, 2014	MDP Presentation and discussion with Conservation Alliance Executive
	Director
November 17, 2014	Phase 1 Town Council Minor Development Plan Presentation
February 5, 2015	Chamber of Commerce Business Over Breakfast MDP Presentation
October 6, 2015	Chamber of Commerce Luncheon Presentation of MDP
November 15, 2015	Central Reservations Board MDP Presentation
December 3, 2015	JH Air Board Presentation of MDP
December 9, 2015	Teton Pines Lunch Club Presentation of MDP
December 11, 2015	Phase 2 Public Presentation at Snow King Hotel Grand View Lodge
December 15, 2015	Rotary Dinner Club MDP Phase 2 Presentation
February 1, 2016	Jackson Hole Masons Club Phase 2 Presentation
February 5, 2016	Jackson Hole Conservation Alliance Phase 2 discussion with Executive Director
March 9, 2016	Center for the Arts Staff Presentation of Phase 2
March 10, 2016	Jackson Hole Rotary Club Breakfast Group Phase 2 Presentation
May 27, 2016	Jackson Hole Real Estate Associates Phase 2 Presentation
July 30, 2016	First Western Trust Staff Presentation on Phase 2
July 20, 2016	Young Professionals Network Phase 2 Presentation
Sept 1, 2016	Kiwanis Club Phase 2 Presentation
Sept 22, 2016	Phase 2 Open House at Kings Grill
October 12, 2016	Phase 2 Open House at Kings Grill

In addition to public presentations where public was invited to provide feedback on propose projects Snow King developed an informational website on the master plan <u>www.snowkingmountain.com/mountain/master-plan</u>, undertook a neighborhood door-to-door

informational campaign, and created a support petition for proposed projects.

This public outreach and interaction with the community has resulted in changes to a number of proposed projects within the accepted 2014 USFS Master Plan, based upon a desire to better accommodate community concerns. These changes are presented in this supplemental information document.



# 4. Site Inventory & Existing Facilities

# Design Criteria

The upgrading and expansion of a ski area is influenced by a variety of ski facility design criteria that help to create a quality ski experience.<sup>16</sup> This section will briefly discuss these factors as they apply to SKMR. Since this information was not presented in the 2014 MDP, it is presented here, as it pertains to the development to the upgrade plan.

### **Trail Design**

### **Slope Gradients and Terrain Breakdown**

Terrain ability level designations are based on the maximum sustained gradient of each trail. Short sections of the trail can exceed the maximum slope without effecting the run designation. For example, novice skiers typically are not intimidated by short pitches of slope over 25%, but a sustained pitch exceeding that grade would force the trail to be rated as Low Intermediate. The following gradients are used to determine the skier ability level of the mountain terrain:

Skier Ability	Slope Gradient
Beginner	8 to 12%
Novice	to 25%
Low Intermediate	to 35%
Intermediate	to 45%
Advanced Intermediate	to 55%
Expert	over 50%

Table	1. Accer	ntable	Terrain	Gradients
Table	I. MUUU	plable	ICIIam	uraurents

Source: SE Group

The distribution of terrain by skier ability level and slope gradient is then compared with the market demand for each ability level. The available ski terrain should be capable of accommodating the full range of ability levels consistent with market demand. The ideal breakdown of terrain for the North American skier market is shown below, illustrating that intermediate skiers comprise the bulk of market demand.

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

### **Table 2. Skier Ability Breakdown**

Source: SE Group

### **Trail Density**

The calculation of capacity for a ski area is based in part on the acceptable number of skiers that can be accommodated on each acre of ski terrain at any one given time. The widely accepted criteria for

<sup>&</sup>lt;sup>16</sup> In this document, the term "skier" represents all snowsports participants, including, but not limited to, traditional skiers, snowboarders, disabled skiers, telemark skiers, and skiboarders.



the range of trail densities for North American ski areas are listed below in Table 3. Specific density criteria within this range were developed for SKMR, taking into account such factors as regional preferences and ski area demographics and are used for comparison with actual skier densities at SKMR.

Skier Ability	Trail Density
Beginner	25 to 35 skiers/acre
Novice	12 to 25 skiers/acre
Low Intermediate	8 to 20 skiers/acre
Intermediate	6 to 15 skiers/acre
Advanced Intermediate	4 to 10 skiers/acre
Expert	2 to 5 skiers/acre

### Table 3. Skier Density per Acre

Source: SE Group

These density figures account for the skiers that are actually populating the ski trails and do not account for other guests, who are either waiting in lift lines, riding the lifts, or using the milling areas or other support facilities. These criteria assume that on an average day approximately a third of the total number of skiers in the area will be on the trails at any one time. The densities listed above have been used in the analysis of Snow King's trail densities.

A current trend in trail density design criteria is to provide for less crowded skiing experiences. There is a market preference for more natural, unstructured, semi-backcountry types of terrain. Open bowls, glades, and other similar types of terrain are increasing in popularity as skiers seek more diverse skiing experiences. Skier density per acre numbers are not necessarily applicable to these types of terrain, particularly as there often is not a defined edge to these areas, as there is on a traditional ski run. However, skiers are attracted to these areas for the uncrowded feel, and the experience and challenge that it affords. These areas should be provided if possible. Examples range from glading between existing runs to providing guided out-of-bounds tours.

#### **Trail System**

A primary goal of trail system design is to provide a wide variety of ski terrain. Each trail must have generally consistent grades to provide an interesting and challenging experience for skiers with the ability level the trail is designed for. Optimum trail widths should vary depending upon topographic conditions and the caliber of the skier being served. The trail network must minimize cross-traffic and should provide the full range of ability levels consistent with market demand. The trails must be designed and constructed to minimize off fall-line conditions and to avoid bottlenecks and convergence zones that might produce skier congestion.

In terms of a resort's ability to retain guests at that resort, both for longer durations of visitation and for repeat business, one of the more important factors has proven to be variation in terrain. This means having developed runs of all ability levels, some groomed on a regular basis and some not, mogul runs, bowl skiing, tree skiing, back-country style skiing, and terrain parks and pipes.

### Lift Design

Ski lifts should be placed to serve the available ski terrain in the most efficient manner. A myriad of factors should be considered including wind conditions, round-trip skiing and access needs, interconnectability between other lifts and trails, and the need for circulatory space at the lower and upper terminal sites. The vertical rise and length of ski lifts for a particular mountain are the primary measures of overall attractiveness and marketability of a ski area.



### **Capacity Analysis and Design**

Comfortable Carrying Capacity (CCC) is defined as an optimal level of utilization for the ski area (the number of visitors that can be accommodated at any given time) that guarantees a pleasant recreational experience, without overburdening the resort infrastructure. It is typical for resorts to experience peak day visitations of up to 25% over their 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 can be planned, including base lodge seating, mountain restaurant requirements, sanitary facilities, parking, and other skier services with proper identification of the mountain's true capacity. The CCC figure is based on a combination of the uphill hourly capacity of the lift system, the downhill capacity of the trail system, and the total amount of time spent in the lift waiting line, on the lift itself, and in the downhill descent.

### **Balance of Facilities**

The mountain master planning process emphasizes the importance of balancing recreational facility development. The size of the skier service functions are designed to match the CCC of the mountain. The future development of a ski area should be designed and coordinated to maintain a balance between accommodating skier needs, ski area capacity (lifts and trails), and the supporting equipment and facilities (e.g., grooming machines, day lodge services and facilities, utility infrastructure, access, and parking).

### A. Snow King Topography & Solar Aspect

Among small to mid sized ski areas, SKMR offers some of the steepest lift served ski terrain in the United States. Lift served ski terrain is provided on the north side of Snow King Mountain with one lift extending to the northwest peak of the summit (7,810 ft) and hiking access available to the northeast peak (8,005 ft). The base area of the mountain is situated at 6,245 ft. Lift accessed vertical descent on the mountain is approximately 1,565 ft.

The Aspen Hill Cemetery sits at the base of the mountain, creating a split in the lift serviced ski terrain. As a result, ski area users are presently unable to efficiently circulate around the cemetery. The terrain is such that circulation around the cemetery can be improved in the future. The area within the Snow King SUP to the south of Snow King Mountain offers a wide range of potential ski terrain; however, lifts do not presently serve this area. The ridge upon which SKMR is located runs east to west and backcountry skiers frequently venture outside the SUP along this ridge.

Skiable lift access terrain on SKMR is predominately located on north facing slopes. Due to limited sun exposure, this solar aspect orientation provides good snow retention. The southern side of SKMR within the SUP offers a greater range of solar aspect slopes; however, this area is not lift accessed and majority of this terrain has a southern aspect that tends to offer poor snow retention. The north facing aspect of Snow King Mountain allows the ski area to function with very limited amount of snow cover due to the lesser amount of sunlight it receives. This situation tends to restrict snow play and time spent on the mountain due to the lack of sunlight and colder temperature in the early months of winter.

An updated Winter Activities Existing Conditions map is presented in Figure 1. This map has been updated from what was presented in the 2014 MDP to show the current existing conditions.

## **B.** Snow King Mountain Slope Gradients

The Slope Analysis for the study area is shown in Figure 3.

The full range of skiable gradients has been color coded, in order to depict the primary skill classifications for skiers. The color designations are described below.



- White Slope gradients between 0 and 8% (0 to 5 degrees) are too flat for skiing, but ideal for base area accommodations, and other support facility development.
- **Green** Slope gradients between 8 and 25% (5 to 15 degrees) are ideal for beginner to novice skiers, and typically can support some types of development.
- **Blue** Slope gradients between 25 and 45% (15 to 25 degrees) are ideal for intermediate skiers, and typically are too steep for development.
- **Black** Slope gradients between 45 and 70% (25 to 35 degrees) are ideal for expert skiers, and pose intermittent avalanche hazards.
- **Red** Slope gradients greater than 70% (35 degrees and over) are gradients too steep for all but the highest level of skiing. Areas of this high slope are typically avoided for ski development, as the vast majority of the skier market does not desire terrain this steep. These slopes typically pose the highest avalanche hazards.

Overall, the slope analysis shows the gradation of slope from very steep terrain at the top to gentle slopes at the bottom.

# C. Existing Facilities

The following section contains an examination and analysis of existing ski facilities at SKMR. The resort inventory is the first step in the evaluation process and involves the collection of data pertaining to Snow King's existing facilities. This inventory includes ski lifts, ski trails, base area structures, skier services, and day-use parking/shuttle services. The analysis of the inventory data involves the application of ski industry standards to Snow King's existing conditions. This process allows for the comparison of Snow King's existing ski facilities to those facilities commonly found at other North American ski resorts of similar size and composition.

The overall balance of the existing ski area is evaluated by calculating the skier capacities of Snow King's various facility components and then comparing these capacities to the ski area's CCC (Snow King's existing CCC is detailed later in this section). This examination of capacities helps to identify the ski resort's strengths and weaknesses. The next step is to identify improvements that would help bring the existing ski area into better equilibrium, and would help the resort meet the ever-changing needs of their skier marketplace. Accomplishing both of these objectives should ultimately enhance Snow King's financial performance by providing an expanded and better balanced recreation product.

Snow King's existing facilities are shown in Figure 1.

### i) Existing Lift Network

Current lift specifications differ from the 2014 MDP, due to the replacement of the Rafferty lift in the summer of 2015.

Specifications for the existing lifts are set forth in Table 4.

Lift Name and Type	Top Elevatio n (ft.)	Bottom Elevation (ft.)	Vertica l Rise (ft.)	Slope Length (ft.)	Avg. Grad e (%)	Hourly Capacity (persons/hr .)	Rope Spee d (fpm )	Carrier Spacin g (ft.)	Lift Maker/ Year Installed
Rafferty/C4	7,178	6,325	853	3,051	29%	1,800	450	60	Doppelmayr/2015
Cougar/C3	7,083	6,254	829	2,581	34%	960	500	94	CTEC/1994
Summit/C2	7,800	6,263	1,537	3,701	46%	870	460	63	CTEC/1981

Table 4. Ski Lift Specifications – Existing Conditions



	Conveyor	6,315	6,285	30	360	23%	600	120	10	Magic Carpet
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Snow King's existing lifts service the terrain efficiently. The lifts have been well maintained and are generally in good working order, although the Summit lift is outdated and does not meet market expectations for a lift of this configuration. The Rafferty lift is new, having been installed in 2015, and serves much of the lower end ability level terrain at the resort, as well as accessing summer activities such as the Alpine slide and ropes course. The Cougar lift is largely dedicated to race training and serves this function well. It is not operated in the summer.

### ii) Existing Terrain Network

The existing developed trail network at SKMR accounts for a total of about 135 acres of developed ski runs. In addition to the developed trail network, another 265 acres of natural openings and tree skiing areas, between and around the developed runs, are open and skied from the existing lift network when snow conditions are favorable. These total the 400 acres that the resort has open for skiing.

Current ski terrain specifications differ from the 2014 MDP due to the construction of two new ski runs in the summer of 2015, and the reduction in skiable terrain due to the installation of the mountain coaster in the summer of 2015.

The developed ski trail network accommodates the range of skier ability levels, from beginner to expert. Table 5 outlines the terrain that constitutes Snow King's formal ski trail network.

Trail Name	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Drop (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max. Grade (%)	Skier/Rider Ability Level	
Flying Squirrel	7,174	6,850	324	1,163	169	4.5	29%	42%	Intermediate	
Moose	7,179	6,880	299	915	196	4.1	35%	55%	Advanced	
East S Chute	7,935	7,482	453	949	79	1.7	55%	72%	Expert	
West S Chute	7,755	7,533	222	407	56	0.5	65%	73%	Expert	
Cut Off	7,360	7,173	187	424	102	1.0	49%	57%	Expert	
Grizzly Upper	7,516	6,999	517	1,224	241	6.8	47%	59%	Expert	
Upper Kelly's	6,973	6,781	192	541	478	3.4	38%	40%	Intermediate	
Grizzly Lower	6,935	6,826	110	395	218	2.0	29%	33%	Low Intermediate	
Old Man's Flats	6,820	6,515	305	1,212	325	9.0	26%	35%	Intermediate	
Upper Elk	7,703	7,052	651	1,639	273	10.3	44%	57%	Expert	
Lower Elk	7,034	6,833	201	511	419	4.9	43%	45%	Advanced	
Bison	7,089	6,741	348	1,000	141	3.2	37%	61%	Expert	
Bighorn	7,084	6,885	199	451	120	1.2	49%	58%	Expert	
Cougar	7,102	6,567	535	1,532	334	11.7	38%	59%	Expert	
Belly Roll	7,713	7,108	605	1,359	123	3.8	50%	67%	Expert	
Upper Exhibition	7,777	6,951	826	1,762	160	6.5	54%	73%	Expert	
Exhibition	6,936	6,501	435	1,107	324	8.2	43%	49%	Advanced	
Holy Land	6,529	6,259	271	941	564	12.2	30%	41%	Intermediate	
Bearcat	7,800	7,167	633	1,453	117	3.9	49%	73%	Expert	
Bearcat Glades	7,164	6,675	490	1,177	284	7.7	46%	63%	Expert	
Cats	6,868	6,324	544	2,265	183	9.5	25%	33%	Low Intermediate	

**Table 5. Terrain Specifications - Existing Conditions** 



Trail Name	Top Elevation (ft.)	Bottom Elevation (ft.)	Vertical Drop (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max. Grade (%)	Skier/Rider Ability Level
Towers	6,836	6,548	287	880	122	2.5	35%	41%	Intermediate
Snake River Run	6,724	6,517	207	614	199	2.8	36%	38%	Intermediate
Kelly's Alley	6,755	6,345	410	1,529	222	7.8	28%	45%	Intermediate
Turnpike	6,703	6,594	108	480	272	3.0	23%	25%	Novice
Re-Turn Trail	6,617	6,520	97	692	133	2.1	14%	21%	Novice
Karen's Way	6,778	6,741	37	520	57	0.7	7%	9%	Intermediate
Rope Tow	6,315	6,294	21	172	132	0.5	12%	12%	Beginner
Total				27,315		135.6			

### Table 5. Terrain Specifications – Existing Conditions



Table 6 and Chart 1 illustrate the distribution of terrain by skier ability level for the developed trail network. These exhibits show that the trail network at SKMR accommodates a range of skier ability levels—from beginner to expert, the terrain distribution figures indicate a surplus of Intermediate and Expert terrain, and a notable deficit of Beginner, Novice and Low Intermediate terrain. This indicates that future expansion ski plans should focus on increasing terrain on the lower ability levels to bring the terrain distribution closer to the skier market levels. In addition to this existing deficiency, the race training programs on the Cougar chair often preclude public use of the runs that are accessed off that chair.

Table 6 and Chart 1 reflect the current existing ski terrain network, as detailed above, which varies from what was presented in the 2014 MDP.

Skier/Rider Ability Level	Trail Area	Skier/Rider Capacity	Skier/Rider Distribution	Skier/Rider Market
	(acres)	(guests)	(%)	(%)
Beginner	0.5	15.6	2%	5%
Novice	5.1	92.0	9%	15%
Low Intermediate	11.5	160.9	16%	25%
Intermediate	42.9	428.5	43%	35%
Advanced	17.3	120.9	12%	15%
Expert	58.4	175.2	18%	5%
Total	135.6	993	100%	100%

Table 6. Terrain Distribution by Ability Level – Existing Conditions





### iii) Existing Snowmaking Infrastructure

Three revisions are required to the 2104 MDP write up on existing snowmaking infrastructure:

- 1. The 2014 MDP listed 110 acres of existing snowmaking coverage. The correct number is 85 acres of existing snowmaking coverage.
- 2. Since the preparation of the 2014 MDP, an additional 27 new TechnoAlpin fan guns were added with corresponding replacement of water pipe and power. These snow guns did not increase the coverage, but rather replaced aged infrastructure and added automation to the snowmaking operation. This upgraded infrastructure is located primarily in the area used for racing and training and includes the runs Cougar, Lower Elk, and Old Man Flats.
- 3. 2,500 linear feet of pipe and power were installed up Upper Elk and along the summit ridge to the top of Summit lift. This added 11.5 acres of coverage and allows SKMR to ensure the ability to ski off the summit.

### iv) Existing Night Lighting

No updates or supplemental information for this section are presented in this document.

### v) Existing Additional Attractions

Since the preparation of the 2014 MDP, the following additional attractions have been constructed:

- Mountain coaster. Known as the Cowboy Coaster, this attraction was built in the summer of 2105 and opened to the public on October 4, 2015. With 400 feet of vertical rise, the coaster includes a 1,660 linear foot uphill track and a 3,295 foot linear foot downhill track. The coaster can be seen on the Existing Conditions map, and is located along the Rafferty lift. The coaster is located entirely on privately owned land.
- The Treetop Adventure Park. This is a series of tree-to-tree aerial challenge courses located entirely on NFS lands just uphill (north) of the mid-unload station on the Rafferty lift. Six courses in total provide challenges for users of differing abilities and challenge levels, with two kids/training courses and four main courses ranging in difficulty from easy to difficult. The individual challenges and obstacles include zip lines, ladders, hoops, climbing walls, bridges, and nets. The Treetop Adventure Park opened to the public in the spring of 2016.

Figure 2 shows all existing summer/multi-season recreation facilities.

### vi) Present Capacity Analysis

As a result of the new lift and ski runs, as well as changes to existing ski runs, an updated capacity analysis is presented in this section. Additionally, supplemental information is presented in the form of more detailed density analyses.

### Comfortable Carrying Capacity

The daily carrying capacity of a mountain resort (in the winter season) is described as the Comfortable Carrying Capacity (CCC). CCC is not a cap on visitation, but is rather a design standard and planning tool defined as the number of daily visitors a resort can comfortably or efficiently accommodate at one time without overburdening the resort infrastructure. In essence, CCC is a guest attendance level that can be serviced by the resort while operations remain optimally functional. The CCC is derived from the resort's supply of vertical transport (the combined uphill hourly capacities of the lifts) and demand for vertical transport (the aggregate number of runs demanded multiplied by the vertical rise associated with those runs). The CCC is calculated by dividing vertical supply (VTF/Day) by Vertical Demand.



The calculation of current CCC is different from the existing conditions presented in the 2014 MDP due to the replacement of the Rafferty lift. The replacement of the lift significantly increased the CCC of the lift because it is 50% longer than the old lift, with three times the hourly capacity.

The calculation of Snow King's CCC is described in the following table.

Lift Name	Slope Length	Vert. Rise	Hourly Capacity	Misloading Stopping	Adjusted Hourly Cap.	VTF/ Day	Vertical Demand	CCC
and Type	(ft.)	(ft.)	(persons/hr.)	(%)	(persons/hr.)	(000)	(ft./day)	(guests)
Rafferty/C4	3,051	853	1,800	10	1,620	9,673	11,891	810
Cougar/C3	2,581	829	960	10	864	5,016	15,301	330
Summit/C2	3,701	1,537	870	10	783	8,426	22,963	370
Conveyor	360	80	600	5	570	266	3,777	70
Total	9,505		4,130		3,742	23,185		1,580

Table 7. Calculation of Comfortable Carrying Capacity – Existing Conditions

As illustrated in Table 7, the CCC of the lift and trail network at SKMR is about 1,580 guests per day. As a general statement, it is desirable to have approximately 10 days per season that exceed CCC, and to have the peak day be approximately 25% over CCC.

Also note that the tube tow has been removed from the CCC calculation, as it is not used for skiing.

### Ski Trail Density Analysis

An important aspect of ski area 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. At any one time, skiers are dispersed throughout the resort, while using guest facilities and milling areas, waiting in lift mazes, riding lifts, or enjoying descents. For the trail density analysis, 25% of each lift's capacity is presumed to be using guest service facilities or milling areas. This 25% of the skier population is the resort's inactive population.

The active skier population can be found in lift lines, on lifts, or on trails. The number of skiers waiting in line at each lift is a function of the uphill hourly capacity of the lift and the assumed length of wait time at each lift. The number of guests on each lift is the product of the number of carriers on the uphill line and the capacity of the lift's carriers. The remainder of the skier population (the CCC minus the number of guests using guest facilities, milling in areas near the resort portals, waiting in lift mazes, and actually riding lifts) is assumed to be enjoying downhill descents.

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 trial 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 density analysis for the existing conditions at SKMR is illustrated in Table 8. This table shows that there is a slight imbalance between downhill terrain capacity and uphill lift capacity. The overall downhill terrain capacity was calculated at around 2,750 people, or well above CCC (at 1,580). This indicates that there is more terrain capacity than lift capacity. While one implication of this is that there are likely to be low densities found on the ski runs, the other implication is that there are inefficiencies due to the imbalance. Note that the imbalance comes from one lift, the Summit lift. The other lifts are quite well balanced with the amount of terrain, as indicated by the density index being close to 100%. Increased lift capacity could help address this imbalance with Summit lift.



This density analysis differs from the "Active Skier Density" that was presented in the 2014 MDP in that it addresses the current lift and ski terrain configuration, which results in a different CCC calculation, ski terrain acreages, and usage patterns.

		Disbursement of Skier/Rider Population					Trail Density Analysis				
Lift Name	(CCC)	Support Fac./Millin g	Lift Lines	On Lift	On Trails	Trail Area	Trail Density	Target Trail Density	Diff.	Index	
		(guests)	(guests	(guests	(guests	(acre s)	(guests/ac .)	(guests/ac.	(+/-)	(%)	
Rafferty/C4	810	203	81	183	343	41.3	8	11	-3	73%	
Cougar/C3	330	83	58	74	115	27.1	4	4	0	100%	
Summit/C2	370	93	65	105	107	66.7	2	6	-4	33%	
Rope Tow	70	29	32	4	5	0.5	10	10	0	100%	
Total	1,580	408	236	366	570	135.6	6	8	-2	70%	

### Table 8. Ski Trail Density Analysis - Existing Conditions

The density figures set forth above show that for all the lift/trail systems, the actual trail densities are at or lower than the target design criteria. The average density numbers for the overall resort are listed along the bottom row of the table. These averages have been weighted for the lift system's CCC. When compared with industry standard criteria, the actual average skier densities experienced at SKMR are approximately 70% of the target density. This is an indication that, on the average, trail densities are where they should be—not overly crowded, but not empty either. This situation again reflects a good balance between uphill and downhill capacities. Again note that the one exception is the Summit lift, which accesses almost half of all the terrain at SKMR. The low hourly capacity of the existing Summit lift is not enough to balance with the existing ski terrain capacity, resulting in underutilization of the Summit lift terrain.

Also note that the tubing lift is not included in this ski terrain density analysis, as it was in the 2014 MDP. This is because the tubing lift access tubing only and is not used for skiing. Intervals between tubes in the lanes is dictated by operators, so the concept of tubing lane density does not apply.

### Tubing

In addition to the ski infrastructure detailed in the above sections, there is also a tubing facility at SKMR, known as King Tubes Snow tubing. There are three lanes served by a magic carpet (operating at 500 people per hour). The tubing operation is open every day except Monday and has proven to be successful.

The tubing operation was included in the capacity analysis of Snow King's ski operation in the 2014 MDP. However, the tubing operation is separate from the skiing operation (separate tickets, different users, etc.), and should not be analyzed as a part of the skiing operation. For this reason, it is not included in this analysis.

### **Mountain Coaster**

As discussed above, a mountain coaster (the Cowboy Coaster) was constructed in the summer of 2015 and is currently operated year-round. Similar to the tubing operation, it is not included in the capacity analysis as it is not part of the skiing operation.

### Summer Guests-At-One-Time

During the summer season, mountain resorts function quite differently than they do in the winter. In a typical scenario, a resort will offer several different activities (zip lines, coasters and slides, lift-



served mountain biking, etc.). Guests will typically participate in a couple of the available activities, often taking advantage of food and beverage facilities, and then leave – usually spending only a few hours at the resort. This is obviously very different from the winter season model where most guests spend the full day at the resort. Furthermore, most resorts typically offer the summer season activities on a per-activity basis, as opposed to a full day ticket. As a result, it is very difficult to calculate a true daily capacity, as there is a significant amount of turnover throughout the day, as well as overlap with many guests participating in multiple activities. The most functional summer capacity calculation is a Guests-At-One-Time (GAOT) calculation, which gives a snapshot of the number guests at any given time, but does not address turnover or overlap.

The following assumptions pertain to the GAOT calculation:

- GAOT is not a daily capacity number it is a snapshot of guests on the mountain;
- Different individual guests will fill those spots throughout the day;
- Group activities are calculated like a restaurant with turnover;
- GAOT does not account for one guest watching another, as in a parent watching a child;
- GAOT assumes an even distribution of guests; and
- GAOT assumes five minutes between activities.

The following table calculates the GAOT for the existing summer season activities at SKMR.

Activity /Facility	Capacity	Utilization	Actual Guests Per Minute	Maze/ Setup	Milling	Guests-at One-Time
Activity/Facility	(guests per hour)	(%)		(Min.)	(Min.)	(guests)
Trampoline (Double)	60	0.85	0.85	20	5	13
Site Seeing	131	0.85	1.85	1	1	13
Alpine Slide	120	0.6	1.20	10	5	25
Alpine Coaster	180	0.6	1.80	15	5	41
Mini Golf	28	0.85	0.40	5	5	12
Hiking	100	0.85	1.42	5	5	97
Biking	100	0.85	1.42	30	5	62
Rock Climbing Park	20	0.85	0.28	15	5	12
Challenge Course	30	0.85	0.43	30	5	43
Base Area Food Service	500	0.8	6.67	5	5	238
Summit Lift	870	0.2	2.90	5	5	52
Rafferty Lift	1800	0.75	22.50	5	5	338
Total						946

Table 9. Calculation of Summer Season Guests-At-One-Time – Existing Conditions

### vii) Skier Services Buildings

This section presents updated and supplemental information regarding skier service buildings, beyond what was presented in the 2014 MDP. The 2014 MDP did not present recommended building sizing or programming, or provide any information on the sizing of existing facilities. Additionally, two new skier service facilities have been constructed since the preparation of the 2014 MDP. The two facilities are both located on private property near the base of Rafferty lift and include:



- A two-story building with a 1,140-square foot footprint that includes ski school space on the first floor and restrooms and retail on the upper floor.
- A 2,400-square foot food service building that includes seating, restrooms, food preparation, and ticket sales.
- The two buildings are connected, and surrounded, by a 5,900-square foot deck. This deck space is used for circulation, milling, and outdoor seating.
- Two temporary modular units have been located adjacent to the magic carpet for use as ski school staff locker/office facilities and a ski school daycare facility.

Skier services are offered in three locations at SKMR: the base of Rafferty, the base of Cougar and Summit, and at the top of Summit. There are three buildings with skier services in the base area: the two new buildings at the base of Rafferty, and the Snow King Sports and Events Center on the western side of the base area, near the base of the Rafferty and Summit chairs. Between these three buildings, all base area skier support and guest services are provided. On-mountain services are provided in the Panorama House at the summit. Services in this building are limited to warming and limited food service.

Sufficient space should be provided to accommodate the resort CCC of 1,580 guests per day. Table 9 shows the recommended skier service space for the base area, the on-mountain facility, and the overall resort—based on a logical distribution of skiers. Table 10 compares Snow King's existing total skier service space for the various locations, as compared to the total recommended space.

Overall, the amount of guest service space provided is right in the center of the range of recommended space based on industry averages. However, it is not over the recommended range, indicating that any increase in skier capacity will require a commensurate increase in skier service space.

Note that the amount of space provided at the base areas is within the recommended range, but that the amount of space provided at the Panorama House is well below the recommended range. Additionally, essentially all of the space in the facility is one open room with a few picnic tables in it—there is no kitchen space or any other the other recommended programming. As a result of this existing significant deficiency, a larger building will be required to accommodate existing and future needs.

Another important factor is that SKMR is located on the edge of the Town of Jackson. This means that the Town can effectively be thought of as providing overflow skier services for SKMR. There are numerous restaurants and hotels within walking distance of the resort, including several that are essentially adjacent to the resort.

As stated, the following tables show the existing demand for skier service space by location - based on the existing lifts and capacities discussed earlier in this section.



	Base	Area	Top of M	lountain	Total Resort Recommended Range		
Service Function	Recommen	ded Range	Recommen	ded Range			
	Low	High	Low	High	Low	High	
Ticket Sales/Guest Services	360	430	-	-	360	430	
Public Lockers	1,070	1,300	-	-	1,070	1,300	
Rentals/Repair	2,530	2,840	-	-	2,530	2,840	
Retail Sales	750	910	-	-	750	910	
Bar/lounge	1,120	1,370	-	-	1,120	1,370	
Adult Ski School	570	700	-	-	570	700	
Kid's Ski School	1,140	1,390	-	-	1,140	1,390	
Restaurant Seating	4,060	4,960	1,170	1,420	5,230	6,380	
Kitchen/Scramble	1,280	1,560	370	450	1,650	2,010	
Rest rooms	750	920	220	260	970	1,180	
Ski Patrol	460	570	400	570	860	1,140	
Administration	750	910	-	-	750	910	
Employee Lockers/Lounge	300	360	-	-	300	360	
Mechanical	410	600	50	80	460	680	
Storage	680	1,000	90	130	770	1,130	
Circulation	1,640	2,410	200	300	1,840	2,710	
Total Square Feet	17,870	22,230	2,500	3,210	20,370	25,440	

### Table 10. Space Use Recommendations – Existing Conditions (sq. ft.)

Table 11. Space Use Compared to Recommendations – Existing Conditions	5
(sq. ft.)	

A	Enisting Tabal	Recommended Range				
Агеа	Existing Total	Low	High			
Base Area	21,000	17,870	22,230			
Top of Mountain	1,650	2,500	3,210			
Total Resort	22,650	20,370	25,440			

### viii) Food Service Seating

Food service seating was not addressed in the 2014 MDP.

Food service seating at SKMR is provided at the base of Rafferty, in the Kim's Corner restaurant in the Snow King Sports and Events Center, and at the Panorama House at the summit. There are a total of about 300 seats available to skiers.

A key factor in evaluating restaurant capacity is the turnover rate of the seats. A turnover rate of two to five times is the standard range utilized in determining restaurant capacity. Sit-down dining at ski areas typically results in a turnover rate of three, while "fast food" cafeteria style dining is characterized by a higher turnover rate. Furthermore, weather has an influence on turnover rates at ski areas, as on snowy days skiers will spend more time indoors than on sunny days. Due to the mix of restaurant types and the typically good weather, an average turnover rate of 3.5 was used for SKMR. Table 12 summarizes the seating requirements at SKMR, based on a logical distribution of the CCC to each service building/location.



<b>Building/Location</b>	Base Area	Top of Mountain	Total Resort
Lunchtime Capacity (CCC)	1,289	370	1,659
Existing Seats	250	50	300
Required Seats	368	106	474
Difference	-118	-56	-174

# Table 12. Food Service Seating Recommendations – ExistingConditions

Source: SE Group

As shown in Table 12, there is an imbalance between existing seats and the calculated number of seats required at the base area. However, as discussed, there are other lunch options available to skiers. Notably, there are two restaurants that are essentially adjacent to SKMR.

Note that the number of seats available at the Panorama House is about half of what the demand is, assuming that a high percentage of skiers would prefer to eat at that facility if food service was provided. The 370 is the number who would be able to use that facility, with the current capacity of the Summit lift. The current number of seats is only able to account for less than half that number.

Additionally, as discussed, the Panorama House at the summit currently only provides shelter, with no food or beverage services. This level of service is not adequate for the on-mountain facility, as it is typical for the majority of skiers at a resort to prefer to eat on the mountain if given the choice.

### ix) Parking and Transit

A parking and transit analysis was not presented in the 2014 MDP.

Total parking capacity must be balanced with the CCC. Since SKMR is located in the Town of Jackson, there are numerous methods of getting to the resort. There are quite a few hotels within walking distance, there is a Teton County public bus service (called START) that drops off at SKMR multiple times per hour, there are other shuttles run by hotels and other entities that drop off skiers, many skiers (particularly those in race training) get dropped off and picked up, and there are parking spaces available. The parking spaces fill up on busy days, and overflow parking occurs on city streets within walking distance. Current parking spaces are located in the western base area (Ball park (65) and Ice Rink (83) lots) and in a dirt lot between the two base areas (150 spaces). Additionally, there are 102 shared parking spaces available at the Snow King Hotel that are designated for users of the resort district. These are specified for ski guests during the day and hotel guests overnight.

	Multiplier	Total
CCC plus non-ski guests	5%	1,659
Percent of guests bus/drop-off/shuttle/walk	60%	
Number of guests arriving by bus/drop- off/shuttle/walk		995
Net number requiring parking		664
Required car parking spaces	2.70	246
Required employee car parking spaces		66
Total required spaces		312
Existing parking spaces		400
Surplus		88

### Table 13. Parking Requirements - Existing Conditions



Based upon a CCC of 1,580 skiers, there is a definite surplus of actual parking spaces versus required spaces. Of course, this is on days with 1,580 skiers or less, so on peak days there can be a shortage of parking spaces.

It should be noted that certain events held at SKMR (the World Championship Snowmobile Hill Climb, for example) far exceed the available parking spaces. In these cases, the entire town can effectively act as parking. All spectators are told to ride START buses to the event from designated (and free) parking throughout town. Areas used for parking include the town parking garage, the town parking at Willow and Deloney, and at the County recreation center. Additionally, visitors can park on street parking throughout town and walk to the nearest START shuttle stop which will take them to SKMR.

### x) Resort Balance and Limiting Factors

A resort balance analysis was not presented in the 2014 MDP.

The overall balance of the existing ski area is evaluated by calculating the capacities of the resort's various facilities, as compared to the resort's CCC. The above discussed capacities are shown in Chart 2.





As the Chart 2 shows, the components of SKMR are somewhat out of balance. The excess of trail capacity and parking shows that there isn't sufficient lift capacity to balance. The food service seating shortage is made up by third-party restaurants. This means that the existing resort functions quite well in terms of not having any areas that significantly constrain the overall capacity. As discussed, the surplus of ski terrain capacity is largely the result of the expert terrain off the Summit chair, there is actually a deficiency of lower ability level terrain. The guest services capacity balances closely with the current CCC, implying that that if any expansions or significant lift upgrades are done to the resort, the guest service and restaurant seat components in particular will need to be increased at the same time.


# **5.** Previously Approved/Accepted Projects

Over the past decade, SKMR has undertaken very few improvement projects on USFS lands within the ski area SUP. The following is a list of the most recent approved projects and their completion status:

- Nature trail construction at Summit Completed 2010.
- Photography kiosk at Summit Completed 2010.
- Improvements to paragliding launch site Completed 2012.
- Aerial fiber optic cable/com-line replacement Summit Lift Completed 2013.
- Snowmaking upgrades with power and water to Summit Completed 2014
- Replacement of Rafferty Lift Completed 2015
- Aerial Adventure Course Completed 2015



## 6. Snow King Mountain Development Plan

The purpose of the upgrade plan is to produce a guide for ski area development that ensures the greatest practical and profitable use of the existing lands while remaining sensitive to the environment. The goal of the upgrade plan is to produce a high quality experience throughout the recreational area. Accordingly, the upgrade plan is tailored to improve SKMR's ability to respond to its market/skier demands through development of an expanded resort experience. This plan should allow SKMR to remain competitive in the local skier market, help retain existing guests, and attract new visitors.

SKMR will perform a series of on-mountain and base area improvements as detailed in this section. SKMR will complete several lift upgrades and installations; accompanying ski run construction; and commensurate increases to skier service facilities and parking.

One of the key components of the Upgrade Plan is adjustments to the Special Use Permit area boundary. There are additions to the SUP planned on both the east and west sides of the front of the mountain. An area to the east of the existing Rafferty lift which would expert skiing off the ridge, novice skiing from the top of Rafferty, and three new short intermediate runs, as well as road access to the summit, would be added to the SUP, totaling 67 acres. An area to the west of the existing SUP, totaling 89 acres, would also be added to the SUP. The total existing SUP area is 338 acres, and the total adjusted SUP area would be 494 acres.

Another key component of the plan is development of skiing in the existing SUP to the south of the existing area. This southernmost portion of the existing SUP extends over the summit ridge and down into a natural bowl feature. This area is suitable for development of low-intermediate and intermediate level ski terrain. A new lift is planned for this area. In addition to these updates a small building is proposed to support the ski patrol at the top of the Cougar lift to replace an existing tent used for warming as a top station during night skiing operations.

Adjustments to the SUP boundary are shown and described in Figure 4, and the overall Upgrade Plan is shown in Figure 5.

## A. Terrain

The goal of the ski terrain upgrading program is to create more ski terrain that balances with the new lifts. In total, 121 new acres of ski terrain would be constructed, making for a total of 256 acres of developed, constructed ski runs.

As there is no available land to create more beginner teaching terrain at the base of SKMR, and there is ample suitable area to create teaching terrain at the top of the mountain, it is proposed to create a teaching area at the top of the mountain. This area would be accessed by the gondola and serviced by the Summit skier service facility. This area would require an SUP expansion to the west of the existing SUP boundary, totaling 89 acres. From the western end of the beginner area, there would then be a new upper level run heading down a ridge and then cutting back to the western base area. The area between this new run and the existing Bearcat run would provide excellent advanced level glades. See section below for details on planned glades.

The new terrain off the new Lift A would be the biggest improvement to the Novice and Intermediate level ski experience at SKMR. This terrain has ideal grades for continuous Novice, and Intermediate level terrain, the categories for which SKMR has an existing significant deficiency. This area is within the existing SUP.

Run 6 is planned to be a novice skiway that starts at the top of Rafferty and goes outside of the existing SUP to the east, then returns to the mid-station of the lift. This skiway not only provides a



continuous novice route from the top to the bottom, but also would provide an access road to the summit, as well as enabling advanced and expert level skiers to ski from the top of Lift A down to this run, and create the opportunity for three new Low-intermediate and Intermediate level runs in the area. The three new runs (Runs 01-03) are planned to descend from the eastern peak of the area, in addition to the existing East and West "S" Chutes. In addition to providing additional ski terrain for upper ability level skiers, these runs would aim to increase the compaction of snow above the top terminals of the Rafferty. It is anticipated that there will be a need for additional avalanche control work in this area and considerations for snow fencing to better protect the top terminal of the Rafferty Lift. This area would require an SUP expansion to the east of the existing SUP boundary, totaling 67 acres.

Various new runs would be developed within the existing area as well. These would be located primarily on the upper section of the mountain and would primarily be targeted towards upper ability level skiers, with the goal of balancing the terrain capacity of the upper mountain with the projected increase in future use of the upper mountain as a result of the increased uphill capacity of the gondola. These runs would be designed to work in conjunction with the new novice level skiway. These runs are labeled as Runs 10–13 in Figure 5.

## i) Terrain Specifications

The table below lists details of the proposed terrain upgrades.

	1		10						
Trail Name	Top Elevation	Bottom Elevation	Vertical Drop	Slope Length	Avg. Width	Slope Area	Avg. Grade	Max. Grade	Skier/Rider
	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(acres)	(%)	(%)	Ability Level
Flying Squirrel	7,174	6,850	324	1,163	169	4.5	29%	42%	Intermediate
Moose	7,179	6,880	299	915	196	4.1	35%	55%	Advanced
East S Chute	7,935	7,482	453	949	79	1.7	55%	72%	Expert
West S Chute	7,755	7,533	222	407	56	0.5	65%	73%	Expert
Cut Off	7,360	7,173	187	424	102	1.0	49%	57%	Expert
Grizzly Upper	7,516	6,999	517	1,224	241	6.8	47%	59%	Expert
Upper Kelly's	6,973	6,781	192	541	290	3.6	38%	40%	Intermediate
Grizzly Lower	6,935	6,826	110	395	218	2.0	29%	33%	Low Intermediate
Old Man's Flats	6,820	6,515	305	1,212	325	9.0	26%	35%	Intermediate
Upper Elk	7,703	7,052	651	1,639	273	10.3	44%	57%	Expert
Lower Elk	7,034	6,833	201	511	419	4.9	43%	45%	Advanced
Bison	7,089	6,741	348	1,000	141	3.2	37%	61%	Expert
Bighorn	7,084	6,885	199	451	120	1.2	49%	58%	Expert
Cougar	7,102	6,567	535	1,532	334	11.7	38%	59%	Expert
Belly Roll	7,713	7,108	605	1,359	123	3.8	50%	67%	Expert
Upper Exhibition	7,777	6,951	826	1,762	160	6.5	54%	73%	Expert
Exhibition	6,936	6,501	435	1,107	324	8.2	43%	49%	Advanced
Holy Land	6,529	6,259	271	941	564	12.2	30%	41%	Intermediate
Bearcat	7,800	7,167	633	1,453	117	3.9	49%	73%	Expert
Bearcat Glades	7,164	6,675	490	1,177	284	7.7	46%	63%	Expert
Cats	6,868	6,324	544	2,265	183	9.5	25%	33%	Low Intermediate

## Table 14. Terrain Specifications - Upgrade Plan



	Тор	Bottom	Vertical	Slope	Avg.	Slope	Avg.	Max.	Chiere (Didere
Trail Name	Elevation	Elevation	Drop	Length	Width	Area	Grade	Grade	Ability Level
	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(acres)	(%)	(%)	
Towers	6,836	6,548	287	880	122	2.5	35%	41%	Intermediate
Snake River Run	6,724	6,517	207	614	199	2.8	36%	38%	Intermediate
Kelly's Alley	6,755	6,345	410	1,529	222	7.8	28%	45%	Intermediate
Turnpike	6,703	6,594	108	480	272	3.0	23%	25%	Novice
Re-Turn Trail	6,617	6,520	97	692	133	2.1	14%	21%	Novice
Karen's Way	6,778	6,741	37	520	57	0.7	7%	9%	Intermediate
Rope Tow	6,315	6,294	21	172	132	0.5	12%	12%	Beginner
Run 1	7,624	7,079	545	1,106	124	3.1	57%	64%	Expert
Run 2	7,823	7,111	712	1,332	178	5.5	63%	75%	Expert
Run 3	7,877	7,231	646	1,180	252	6.8	66%	79%	Expert
Run 4	7,070	6,945	125	434	99	1.0	30%	32%	Low Intermediate
Run 5	7,081	6,911	170	426	136	1.3	30%	35%	Low Intermediate
Run 6	7,184	6,774	410	4,157	83	7.9	10%	25%	Novice
Run 7	7,143	6,876	267	752	107	1.8	30%	35%	Low Intermediate
Run 8	7,831	7,554	277	513	140	1.6	64%	73%	Expert
Run 9	7,168	7,132	37	384	63	0.6	10%	11%	Expert
Run 10	7,683	7,361	322	649	136	2.0	57%	65%	Expert
Run 11	7,288	6,866	422	927	68	1.4	51%	59%	Expert
Run 12	7,300	7,102	198	431	137	1.4	52%	64%	Expert
Run 13	7,746	7,411	335	612	134	1.9	66%	78%	Expert
Run 14	7,799	7,193	606	6,397	92	13.5	10%	25%	Novice
Run 15	7,618	6,450	1,168	4,975	120	13.7	25%	63%	Expert
Run 16	7,968	7,134	834	4,098	117	11.0	21%	25%	Novice
Run 17	7,942	7,474	468	1,370	253	7.9	36%	49%	Advanced
Run 18	7,987	7,218	769	3,771	112	9.7	21%	39%	Intermediate
Run 19	7,866	7,396	470	1,440	127	4.2	35%	43%	Intermediate
Run 20	7,812	7,273	538	1,425	157	5.1	41%	45%	Intermediate
Run 21	7,766	7,457	309	804	229	4.2	42%	46%	Advanced
Run 22	7,754	7,354	400	1,887	142	6.2	22%	45%	Intermediate
Run 23	7,769	7,667	102	596	87	1.2	17%	24%	Novice
Run 24	7,720	7,294	426	1,301	136	4.1	35%	55%	Advanced
Run Lift B	7,789	7,761	28	374	215	1.8	8%	10%	Beginner
Run Lift C	7,758	7,709	49	514	176	2.1	10%	12%	Beginner
Total				69.169		256.9			

## Table 14. Terrain Specifications - Upgrade Plan



## ii) Terrain Distribution

Table 15 and Chart 3 compare the existing distribution of terrain by skier ability level with the distribution after upgrading. These exhibits show that the upgraded trail network at SKMR will accommodate a range of skier ability levels from beginner to expert. The terrain distribution figures indicate an improvement in the shortage of Beginner and Novice terrain. Addressing the shortage of ski terrain in these categories is a primary focus of the ski components of this upgrade plan. It is the lower ability level skiers that represent the biggest opportunities for Snow King - particularly with kids and community programs. Having the ability to provide a quality ski experience for lower level skiers is what Snow King has always lacked and what is important for the resort to provide.

Additionally, as discussed in Chapter 3, the race training programs often preclude public use of the Cougar Lift and the associated terrain. This further reduces the amount of Intermediate and lower ability level terrain available for public skiers, as well as creates conflicts between the public skiers and the race training program skiers. Having the novice/low intermediate terrain available off the south side lift would provide an excellent experience for that segment of public skiers, without any conflict with the race training programs.

Note that, while the percentages of Low Intermediate and Intermediate terrain decrease, this is only in relation to the increases in the other categories of terrain – the actual acreages of Low Intermediate and Intermediate terrain would increase.

Skier/Rider Ability Level	Trail Area	Skier/Rider Capacity	Skier/Rider Distribution	Skier/Rider Market	
	(acres)	(guests)	(%)	(%)	
Beginner	4.4	132	6%	5%	
Novice	38.7	696.6	31%	15%	
Low Intermediate	15.6	218.4	10%	25%	
Intermediate	68.1	681	30%	35%	
Advanced	33.5	234.5	10%	15%	
Expert	96.4	289.2	13%	5%	
Total	256.6	2,252	100%	100%	

Table 15. Terrain Distribution by Ability Level – Upgrade Plan









## iii) Glading

Glading is planned for both of the expansion areas, discussed below. Table 16 details the acreages of the glading, broken out by property status. Glading prescriptions would be developed in conjunction with the Forest Service prior to any glading. Glading prescriptions are discussed in the 2015 Snow King Mountain Resort Vegetation Management Plan, and the general goal for gladed ski routes is to have approximately 15 to 18 feet between stems. In many cases, this may not require much tree removal, but would certainly involve brushing and limbing, as well as removal of any diseased or hazard trees.

- To the west, glading would occur in the space between the planned skiway off the summit (Run 7), and the planned expert level run (Run 08). This glading would be all Expert level glades and would total just over 70 acres.
- On the east side, glading would be almost entirely in the SUP expansion area. Glading is planned for the area coming from the summit ridge down to Run 06. This glade would be an expert level glade. This glade is currently anticipated to be more similar to the existing Bearcat glade, where there are wider openings, with denser islands of trees between the openings.
- On the south side, glading would occur in the areas between runs 20 and 22 to improve ski terrain in this area. This area comprises approximately 15 acres.

Location	West Side	East Side	Total
On NFS Lands in Current SUP	23.1	1.5	24.6
On NFS Lands in Expanded SUP	44.5	17	61.5
On Private Lands	2.6		2.6
Total	70.2	18.5	88.7

#### Table 16. Glading Specifications - Upgrade Plan

• In addition to the specific glading areas discussed above, much of the rest of the existing tree stands (within the existing boundary) will be improved for skiing with the removal of all dead and live trees less than 6 inches in diameter. This prescription is recommended by the 2015 Snow King Mountain Resort Vegetation Management Plan.

## iv) Summit Access Road/Novice Skiway

In order to make the best use of the gondola and new summit facility, it is critical that a ski route be created that could be used by all skiers. In addition, an access road will need to be constructed to access the summit—both for construction and for ongoing maintenance and operation. In response to both of these needs, it is clear that an access road/skiway should be constructed from the top down. Figure 6 displays the various options for the access road/skiway. This figure shows that the most logical and practical alignment for this access road/skiway is to follow the gentle grades down the ridge to the west from the summit, then bench in a skiway across the upper portion of the ski terrain, and tie into the existing top terminal of the Rafferty lift, then continue down and return to the exiting area where it would tie into the existing road and run network. The alignment works very well, significantly improves on-mountain circulation, and creates minimal impact both in terms of disturbance area and impacts to the existing ski terrain, since it simply crosses the face without any switchbacks.

Other options were considered, including adding switchbacks and attempting to keep the alignment within the current SUP boundary. However, as is clearly shown in Figure 6, these various options for alignments of the access road/skiway end up with significantly larger impacts, both in terms of



disturbance area and in terms of impacts to the existing ski terrain. These impacts are significant enough that they preclude those options from further consideration. The steepness of the natural terrain dictates that the only realistic option is to have the single length of skiway cut across.

Additional routes were examined as well that would use some of the existing road network on the mountain. These options also shown on Figure 6. However, these options were also precluded from further consideration as they do not meet the criteria for the route – to have a skiable route down as well as drivable grades up and down. These other options have sections that are steep enough that the skiway would need to be widened to accommodate the grade – creating significantly more disturbance. Also, these options have sections of the skiway that are too flat for skiing – which would completely negate the benefits of creating a top-to-bottom skiway.

Consideration was given to upgrading the Leeks Canyon road access to the top of the mountain in order to prevent additional road construction on the face of the mountain; however, this option creates difficult complications for mountain operations, would force employees to drive through town to access the road, and does not provide a beginner route down the mountain or access to the top of the Rafferty lift.

In conjunction with this project, several existing road segments on the mountain will be reclaimed. These are road segments that will no longer be used and can be graded back to natural grade and rehabilitated/revegetated back to a more natural state. Specifically, these are the road segments that are above the top of the Cougar lift, between the Elk and Exhibition runs. While more analysis will be required to determine which segments should be reclaimed, the total length of rehabilitated roads could be up to a mile.

## v) Grading

In addition to the grading required for the development of the new runs, there are a number of areas on existing ski runs that are planned for grading. These areas are shown of Figure 5 and are as follows:

- 1. The area at the top of flying squirrel is to remove a prominent knob that impedes skier use of the run and creates a steep section of the run. Removing this knob would notably improve skier flow of the run.
- 2. The second area is in the vicinity of the old top terminal of the Rafferty Lift. The grading will eliminate the road and improve the ski run between Grizzly and Kelly's Alley, where Karen's Way is located, since the Rafferty lift no longer provides access to that point.
- 3. In addition, numerous other existing ski runs on the mountain could benefit from grading to reduce the need for snowmaking coverage. As opportunities arise, it can be expected that grading on additional runs would be considered.

## B. Snowmaking

As stated in the 2014 MDP, snowmaking upgrades would occur in conjunction with the terrain expansions described in this section.

- Planned snowmaking expansions include both snowmaking on existing terrain and on planned terrain:
  - » 2,400 linear feet of pipe and power to be installed on Exhibition run. This will add nine acres of coverage and will allow SKMR to ensure coverage on Exhibition, both for skiing and for the Snowmobile Hill Climb. A sewer line would be installed in the same trench as this snowmaking pipe to service the improved facility at the summit of the mountain.



- » Snowmaking coverage will be extended to the top of the existing Rafferty lift, up the Moose and Flying Squirrel runs. This will add approximately 8.5 acres of snowmaking coverage.
- » Much of the planned developed ski terrain would have snowmaking coverage (specifically Runs 04, 05, 06, 14, 16, 18, and 23)—meaning that there would be an additional 51 acres of snowmaking coverage. This would require approximately 21,000 linear feet of pipe and power installation.

All water would continue to be supplied by the Town of Jackson.

## C. Lighting

As detailed in the 2014 MDP, SKMR plans to replace all of the existing night lighting equipment with new, more advanced and efficient lighting. The night lighting is planned to be upgraded in two ways that are not discussed in the 2014 MDP:

- 1. The light coverage will be more consistent than the existing lighting, meaning that spacing between fixtures will be reduced, resulting in more total fixtures.
- 2. The lighting coverage will be expanded to include coverage to the top of the existing Rafferty lift and summit of the mountain on the Elk ski run.

## D. Ski Lift Improvements

The upgraded lift specifications have been updated to represent current existing conditions (with the current Rafferty lift), as well as revised lift plans. The differences between the lifts presented in the 2014 MDP and in this document are that there was a lift shown to the east of the SUP in an expanded SUP addition and a short pulse gondola between the two base areas that are not presented in this document. The lift in the existing SUP to the south of the summit ridge that is presented in this document was not included in the 2014 MDP.

The lift upgrade plan calls for the installation of one new chair lift, two teaching area conveyors, one surface lift, and upgrading of one existing lift to a gondola.

- One new fixed-grip lift will be installed in the existing SUP area to the south of the existing ski area.
- The Summit lift will be upgraded to a gondola, which will reduce lift line time, improve ski terrain access, and allow pedestrian access to the new summit facility at all times of year and day. With the installation of the gondola, the existing bottom terminal of the existing Summit lift would be removed, as would the pumphouse adjacent to it. The bottom terminal would be extended about 200 feet downhill, to improve access to the terminal. Another, not preferred, option would be to replace the Summit lift in its existing alignment.
- A new beginner teaching areas will be constructed, at the top of the mountain, near the new summit facility which will include two new conveyor lifts, labeled Lifts B and C.
- Lift D is a surface tow that will be used to allow skiers in the new area south of the summit ridge to return to the summit lodge and gondola, or to access the novice level ski run to the bottom. Without this lift, the only option for those skiers would be to ski down the steep terrain of *Upper Elk* or *Belly Roll*. This surface lift will be placed to avoid disturbance of the summer access road down to Leeks Canyon, some grading will be required for lift placement.

Specifications for the planned lifts are set forth in the Table 17.



Lift Name	Top Elevation	Bottom Elevation	Vertical Rise	Slope Length	Avg. Grade	Hourly Capacity	Rope Speed	Carrier Spacing	Lift Maker/ Year
and Type	ft.	ft.	ft.	ft.	%	persons/hr.	fpm	ft.	Installed
Rafferty/C4	7,178	6,325	853	3,051	29%	1,800	450	60	Doppelmayr/2 015
Cougar/C3	7,083	6,254	829	2,581	34%	960	500	94	CTEC/1994
Summit/Gondola	7,800	6,249	1,551	3,876	44%	1,500	1,000	250	Proposed
Rope Tow	6,315	6,294	21	172	12%	500	330	40	Multi Lift/2007
Lift A/C4	7,991	7,121	870	3,015	30%	1,800	500	50	Planned
Lift B/Conveyor	7,782	7,768	13	363	4%	600	150	15	Planned
Lift C/Conveyor	7,763	7,717	46	506	9%	600	150	15	Planned
Lift D/Surface									Planned
Tow	7,776	7,667	110	679	16%	300	150	30	

#### Table 17. Ski Lift Specifications – Upgrade Plan

## E. Expansion Plan Capacity Analysis

## i) Comfortable Carrying Capacity

The calculation of SKMR's Upgrade Plan CCC is described in Table 18. As illustrated, the upgrading program increases the CCC of the lift and trail network at SKMR to about 2,620 guests per day, an increase of 1,010 guests, or 64%. CCC of the Summit lift will increase significantly with the upgrade to a gondola.

Lift Name	SlopeVert.HourlyMisloadingAdjustedLengthRiseCapacityStoppingCap.LengthLengthLengthLengthLength		Adjusted Hourly Cap.	VTF/ Day	Vertical Demand	CCC		
anu rype	ft.	ft.	persons/hr.	hr. % persons hr.		000	ft./day	guests
Rafferty/C4	3,051	853	1,800	10	1,620	9,673	11,891	810
Cougar/C3	2,581	829	960	10	864	5,016	15,301	330
Summit/Gondola	3,876	1,551	1,500	5	1,425	15,470	26,490	580
Rope Tow	172	21	500	5	475	70	955	70
Lift A/C4	3,015	870	1,800	10	1,620	9,863	15,064	650
Lift B/Conveyor	363	13	600	10	540	44	539	80
Lift C/Conveyor	506	46	600	10	540	149	1,456	100
Lift D/Surface Tow	679	110	300	10	270	208	3,925	-
Total	14,243		8,060		7,354	40,493		2,620

Table 18. Calculation of Comfortable Carrying Capacity - Upgrade Plan

- Note that Lifts D does not increase the CCC of the overall resort. This is because it would not be used for any repeat skiing. As discussed in the lifts section above, it would be used to return skiers from the southern area back to the summit lodge. The skiers who would use these tows are already accounted for in the Lift A capacity number, as these skiers would simply use the tow to return to the summit.
- Note that the above CCC calculation differs from the CCC presented in the 2014 MDP. The CCC presented in the 2014 MDP was 1780, or 840 less than the above calculation. This reason for this difference includes several factors:



- » As discussed in the Existing Conditions section above, the existing CCC of the Rafferty Quad lift that was installed in the summer of 2015 is 810. This is 452 over the 358 that was presented in the 2014 MDP.
- » The Summit Gondola is planned here with a higher hourly capacity (1,500pph) than what was presented in the 2014 MDP (1,200pph). Upon further consideration, it was felt that limiting the lift to 1200 pph might be restrictive for the planned uses, and a slightly higher hourly capacity could provide improved access.
- » The 2014 MDP showed a reduced CCC for the Cougar in the Expansion Plan Capacity Analysis. It was assumed that this lift would see reduced utilization and shorter lift lines. However, since this lift will continue to be used primarily for race training and access, particularly by Jackson Hole Ski and Snowboard Club, it is felt that this lift will continue to have high utilization.

## ii) Ski Trail Density Analysis

The trail density analysis compares the calculated trail density for each lift pod to the desired trial density for that pod.

As stated in the Existing Conditions section above, the existing densities at SKMR are at target levels. The implication of that is that a commensurate amount of terrain would need to be built to balance the lifts that would be built in the expansion area.

The density analysis for the upgrade plan at SKMR is illustrated in Table 19. The last line of the table shows that this goal has been accomplished, with densities remaining at target levels, with a desirable slight decrease in overall density.

		Disburs	Skier/Ri ion	der	Trail Density Analysis				Densites	
Lift Name	(CCC)	Support Fac./ Milling	Lift Lines	On Lift	On Trails	Trail Area	Trail Density	Target Trail Density	Diff.	Index
		guests	guests	guests	guests	acres	guests/ac.	guests/ac.	+/-	%
Rafferty/C4	810	203	81	183	343	47.2	7	10	-3	70%
Cougar/C3	330	83	58	74	115	27.1	4	4	0	100%
Summit/Gondola	580	145	119	115	201	103.8	2	7	-5	29%
Rope Tow	70	28	32	4	6	0.5	12	3	9	400%
Lift A/C3	650	163	81	163	243	74.3	3	25	-22	12%
Lift B/Conveyor	80	32	18	22	8	1.8	4	30	-26	13%
Lift C/Conveyor	100	40	18	30	12	2.1	6	30	-24	20%
Total	2,620	694	407	591	928	256.9	5	13	-9	34%

Table 19. Ski Trail Density Analysis – Upgrade Plan

The above density analysis reflects the updated ski terrain calculations and CCC calculations presented in this section, and as a result varies from what is presented in the 2014 MDP.

## Summer Guests-At-One-Time

As discussed in the existing conditions chapter above, the most functional summer capacity calculation is a Guests-At-One-Time (GAOT) calculation, which gives a snapshot of the number guests at any given time, but does not address turnover or overlap.

The following assumptions pertain to the GAOT calculation:



- GAOT is not a daily capacity number it is a snapshot of guests on the mountain;
- Different individual guests will fill those spots throughout the day;
- Group activities are calculated like a restaurant with turnover;
- GAOT does not account for one guest watching another, as in a parent watching a child;
- GAOT assumes an even distribution of guests; and
- GAOT assumes five minutes between activities.

The following table calculates the GAOT for the upgraded summer season activities at SKMR.

Activity/Facility	Capacity	Utilization	Actual Guests Per Minute	Maze/ Setup	Milling	Guests-at One-Time
	(guests per hour)	(%)		(Min.)	(Min.)	(guests)
Trampoline (Quad)	60	0.85	0.85	20	5	13
Site Seeing	131	0.85	1.85	1	1	13
Alpine Slide	120	0.6	1.20	10	5	25
Alpine Coaster	180	0.6	1.80	15	5	41
Mini Golf	28	0.85	0.40	5	5	12
Hiking	100	0.85	1.42	5	5	97
Biking	100	0.85	1.42	30	5	62
Rock Climbing Park	20	0.85	0.28	15	5	12
Challenge Course	30	0.85	0.43	30	5	43
Zip Line	120	0.85	1.70	30	5	59
Zip Tour	30	0.85	0.43	30	5	19
Downhill Mtn Biking	150	0.85	2.13	5	5	21
Base Area Food Service	500	0.8	6.67	5	5	238
Summit Food Service	600	0.8	8.00	5	5	285
Summit Gondola	1500	0.85	21.25	5	5	319
Rafferty Lift	1800	0.75	22.50	5	5	338
Lift A	1800	0.75	22.50	5	5	315
Total						1,911

#### Table 20. Calculation of Summer Season Guests-At-One-Time – Upgrade Plan

## F. Guest Services Buildings

Improved and expanded skier services will be offered at SKMR upon completion of the upgrading program. Sufficient space must be provided to accommodate the upgraded resort CCC of 2,620 guests per day. Due to a lack of expansion space at the current base area, as well as a desire to get additional skiers to the summit, most of the increased skier service space will be in a new summit building. Additionally, another small skier services space would be provided at the western side of the base area, adjacent to the bottom terminal of the gondola.

The Summit building would be sized to accommodate various functions, including:

1. Winter skier lunch use (making the assumption that half the skiers on the mountain any given day would want to eat lunch at the summit restaurant, with additional non-skiers using the facility as well),



- 2. Year-round restaurant use (both day and evening), and
- 3. Special events (weddings, groups, etc.).

As a result of these various uses, the recommended size of the facility is somewhat larger than would be required just for skier use.

The Summit restaurant would be used year round to provide dinner to the public. It is anticipated that the combination of the excellent views and the novelty of riding the gondola to access the restaurant would combine to make the restaurant very attractive and highly used throughout the year. The building will have space for winter operations (ski school, etc) and limited retail in addition to the food service. The building would also house the top terminal of the gondola, allowing for direct, enclosed, access between the gondola cabins and the facility. The building will also accommodate space for storage of all the individual gondola cabins when not in use.

Additionally, the building is planned to house a celestial observatory. The observatory would consist of two components. The first is a detached small building that would house the telescope and related equipment. See Figure 7 for the location of this building (on a high point for unobstructed views). The second component is a viewing room in the Summit building, where images from the telescope would be projected. The observatory could be used by school groups and other educational/research purposes as well as shows for the general public. When not in use for the observatory, the seating area in the Summit building would be used for other functions and events, such as meetings, lectures, conferences, weddings, etc. This building would also house a summit ski patrol facility.

Figure 7 shows more detail on the Summit building and area.

## i) Recommended Space Use

Based upon the upgraded CCC, Tables 21 through 22 show recommended space use allocations of the visitor service functions for the base areas and summit.

As shown in these tables, overall, SKMR will need to add between 22,000 and 33,000 square feet of skier service space to accommodate the proposed CCC.



	Base	Area	Top of M	lountain	Total	Resort
Service Function	Recommen	ded Range	Recommen	ded Range	Recommen	ded Range
	Low	High	Low	High	Low	High
Ticket Sales/Guest Services	590	720	450	550	1,040	1,270
Public Lockers	1,770	2,160	-	-	1,770	2,160
Rentals/Repair	4,190	4,720	-	-	4,190	4,720
Retail Sales	1,240	1,510	90	110	1,330	1,620
Bar/lounge	1,860	2,270	900	1,100	2,760	3,370
Adult Ski School	940	1,150	270	330	1,210	1,480
Kid's Ski School	1,890	2,310	-	-	1,890	2,310
Restaurant Seating	6,270	7,670	4,950	6,050	11,220	13,720
Kitchen/Scramble	1,970	2,410	3,150	3,850	5,120	6,260
Rest rooms	1,160	1,420	990	1,210	2,150	2,630
Ski Patrol	720	880	450	570	1,170	1,450
Administration	1,240	1,510	-	-	1,240	1,510
Employee Lockers/Lounge	500	610	108	132	608	742
Mechanical	660	970	473	579	1,133	1,549
Storage	1,100	1,610	2,700	3,300	3,800	4,910
Circulation	2,630	3,870	1,800	2,200	4,430	6,070
Total Square Feet	28,730	35,790	16,331	19,981	45,061	55,771

Table 21. Space Use Recommendations – Upgrade Plan (sq. ft.)

Table 22. Space U	se Compared to Recon	nmendations – Upgr	ade Plan (sq. ft.)
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Area	Existing Total	Recommen	ided Range	Difference from Recommended		
		Low	High	Low	High	
Base Area	21,000	28,730	35,790	7,730	14,790	
Top of Mountain	1,650	16,331	19,981	14,681	18,311	
Total Resort	22,650	45,061	55,771	22,411	33,101	

## ii) Food Service Seating

Food service seating at SKMR will continue to be provided at the base area and at mountain-top facilities. An additional food service facility is anticipated to be built in a new skier services building at the west base area. The new Summit facility would include greatly enhanced food service, with multiple dining options.

Table 23 summarizes the seating requirements at SKMR, based on a logical distribution of the CCC to each service building/location.

Building/Location	Base Area	Top of Mountain	Total Resort
Lunchtime Capacity	1,991	1,050	3,041
Existing Seats	250	50	300
Required Seats	569	300	869
Difference	-319	-250	-569

 Table 23. Food Service Seating Recommendations – Upgrade Plan



#### Source: SE Group

As stated above, it is assumed that there will be more people using the summit restaurant than just skiers, so the facility is sized for that additional use.

Due to the mix of restaurant types, the average turnover rate of 3.5 was retained for use in the upgrade scenario for SKMR.

As shown in Table 21, given the upgraded CCC of 2,620 there would be a need to increase seating capacity by 569 total seats. As the ski area is upgraded, the new structures that include food service seating discussed will need to be constructed to provide for additional food service seating.

## Wedding Venue

In conjunction with the Summit facility, a wedding venue is planned to be constructed a few hundred feet to the west of the facility. This would be an in-ground facility, currently envisioned as being constructed with stone benches/tiers in a semi-circle around a raised platform. The location of the facility is shown on the Upgrade Plan figure.

## Maintenance

A new maintenance facility is planned on private land immediately uphill (south) of the existing town skating rink. This facility will allow for mountain maintenance vehicles be worked on without transport on city streets to the existing Vine St. Shop.

## G. Saddleback Yurt Camp

This facility is no longer planned as a component of the MDP.

## H. Zip Lines

Zip Line alignments are reflected in Figure 5. In addition, a concept for a zip-tour to the South of the Summit area is presented in Figure 5 as an alternative to zip-lines on the face of the mountain.

## I. Treetop Adventure

As discussed in Chapter 4, this facility (an aerial adventure park) was constructed in the summer of 2015 and opened in the spring of 2016.

## J. Multi-Season Recreational Trails

Presently, the multi-use trails on SKMR see hundreds of users on a daily basis and are the most used trails in Jackson Hole. SKMR, the USFS, and the community of Jackson seek to improve the trails and facilities for trail users on the mountain.

Community focus groups have highlighted the importance of making SKMR the primary trailhead for the greater Snow King trails system. Community members have voiced concerns about increased traffic and parking issues at many neighborhood trailheads and expressed the desire to channel trail users to the base of Snow King. However, the steep nature of the existing uphill trails on SKMR tends to deter a range of trail users that seek more gradual routes. The MDP calls for the creation of three new trails designed specifically for the main user groups on the mountain. These trails will all originate in the west portal area of SKMR and offer a more gradual ascent immediately out of the base of the mountain.<sup>17</sup> Future trail user input will determine if these trails should be multi-use or for hikers only.

<sup>&</sup>lt;sup>17</sup> The exact locations of trails may change when developed to achieve desired grade and location with respect to existing terrain features.



#### Uphill Hiking Trail

A new uphill hiking trail in the West SUP expansion area, with an approximate grade of 13 percent, will create an improved experience for hikers seeking to ascend the mountain. This trail will route trail users off the face of the mountain where service roads provide access to the summit of the mountain and create potential safety concerns. In winter months, this trail will serve as the primary designated uphill ski route. Taking uphill skiers off the main ski runs in winter reduces conflicts between uphill and downhill skier traffic, as well as limits the interaction between uphill skiers and grooming operations at night.

#### Uphill Biking Trail

With the expansion of the SUP to the West, a new return skier glide path at the base of the gladed trees will be constructed. This new road will serve as an access path to a new uphill mountain bike trail on the mountain. It will have a 10 percent grade, will eliminate the need for bikers to ascend directly up the face of SKMR, create a new loop for bikers within the greater Snow King Trails System, and may reduce biker hiker interactions if the trail is designed for bikes only.

#### Staircase to the Summit

A direct ascent route to the summit will be created in the trees along the Exhibition Ski Run to eliminate erosion problems associated with community trails that have been created in this corridor. This staircase trail will cater to the many trails users that demand the toughest or most direct workout for ascending the mountain. In the winter months this route will serve as the designated direct boot pack ascent route.

Recreational trails and other summer activities are discussed in much greater detail below in Section M – Upgraded Summer Zones. Refer to Figures 8 and 9.

## K. Lift Accessed Bike Trails

With its location in Jackson, SKMR offers an ideal site for the development of lift accessed bike trails. Studies undertaken by bike park development consultants have illuminated the local demand for downhill bike trails in the region and detailed some of the best locations on the mountain for new trail development.<sup>18</sup> Developed ski areas are the prime locations for downhill bike parks on National Forest Land. Existing winter experience and infrastructure lends itself to the oversight of downhill bike parks and the associated safety concerns.

SKMR will develop downhill bike trails on the mountain in three stages. The first stage will involve the construction of trails on the lower two thirds of the mountain with access off of the Cougar Chairlift. The second stage of construction will expand into South SUP area following construction of a lift to the South and become the primary bike park zone on the mountain. Bikes will circulate on the new lift proposed for this South SUP area. Ultimately, with the development of the Summit Gondola, new downhill trails off the summit will be developed to connect bikers to the base of the mountain.

Recreational trails and other summer activities are discussed in much greater detail below in Section M – Upgraded Summer Zones.

## L. Winter Terrain Parks

Winter terrain parks will be constructed in the Old Lady Flats area on a seasonal basis to facilitate training and competitions for the JHSSC.

<sup>&</sup>lt;sup>18</sup> Gravity Logic Feasibility Study, 2012. Hoots Feasibility Study 2011.



## M. Upgraded Summer Activities

## i) Summer "Activity Zones"

At a site-specific level, this supplemental information takes the existing setting, combined with the anticipated use of the area, to establish finer-grain prescriptions. The summer activity zones identified in this chapter are based on the existing setting and level of development.

Through the planning process, four distinct zones have been identified within the SKMR SUP area. These zones consider several characteristics similar to the ROS, 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

Each of these characteristics is to be considered within the context of SKMR as a developed ski area. Existing summer recreation and maintenance occurs throughout developed portions of the ski area; therefore, no area within the developed ski area is off limits to administrative access and maintenance.

The first step in the zone designation process was a careful consideration of the setting and the proximity to infrastructure supporting snow sports. Features such as watershed, topography, vegetation structure, level of existing disturbance, and existing infrastructure, as well as past NEPA approval requirements were considered in establishing area boundaries across the entire SUP area. The exercise resulted in the creation of nine areas unique in their location and/or features.

The second step of the zone designation process was applying a score for each characteristic on a scale of 1 to 3, with 1 being the most disturbed and 3 being the least disturbed. The Summer Zones figure (Figure 8) illustrates the zone designations within the SKMR's SUP area.

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. SKMR 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.

## 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, including parking and transportation hub;
- Considerable human activity (people recreation and/or resort operations) occur 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.

Two areas were designated as Zone 1: Area 7 and Area 9. These areas are located adjacent to the base area, and the summit lodge area.



#### **Desired Experience**

Within Zone 1, guests are expected to encounter a high concentration of other guests and feel completely safe within their surroundings. 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. Most guests visiting Zone 1 will initially access it from private lands via the East & West Base Areas as well as the proposed Summit Gondola. Within Zone 1, the concepts in the BEIG 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 (Zone 2). Zone 1 abuts Zone 3 along one border: Area 3 to the east. 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 SKMR, in addition to the Zone 1 adjacent to base area private lands, Zone 1 serves as the on-mountain hub, from which guests will access surrounding activities and refuel between activities. Typically, guests will first access these areas after riding the proposed Summit Gondola; however, guests could also access Zone 1 under their own power from the surrounding trail network. The East Base Area already hosts several multi-season recreational activities, including event space, an Alpine Coaster and other activities. These activities are intended to attract guests from private lands onto NFS lands.

Activities on NFS lands with Zone 1 may include an alpine coaster, challenge courses, canopy tours, zip lines, singletrack, 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.

#### Zone 2

#### Setting

The 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. Within the context of the overall SUP area, 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.

One area within SKMR's SUP area is designated as Zone 2: Area 8, where summer trails, roads, and chairlift infrastructure presently exists. These areas are also the middle portion of the ski area, which is heavily developed.



#### **Desired Experiences**

Most guests will access Zone 2 from Zone 1, in areas surrounding Area 8. In moving between these zones, 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 SKMR, 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**

Passive activities within Zone 2 include educational/interpretive opportunities, sightseeing and light hiking, or simply visiting with friends and family. Zone 2 will provide enhanced sightseeing opportunities when compared to Zone 1. Potential activity offerings include zip lines and canopy tours, guided hikes and interpretative opportunities, extended hiking trails, singletrack and developed mountain biking trails, challenge courses, climbing walls, and other natural resource-based activities.

As mentioned above, Zone 2 serves two primary purposes—to provide activities in a natural setting in proximity to existing infrastructure and services, and to provide a buffer between Zones 3 and 4 and more developed areas within Zone 1 and on private lands. Thus, areas within Zone 2 serve as transitional zones, encouraging guest exploration into more natural portions of the National Forest in a setting that still feels comfortable for less-experienced Forest users. The setting of Zone 2 and the activities that occur within will offer sufficient challenge for first-time guests, and will prepare others to venture into the less developed areas of Zones 3 and 4. Overall, developed activities requiring infrastructure are appropriate within Zone 2, but would entail a lesser concentration of guests compared to Zone 1.

## Zone 3

## <u>Setting</u>

The setting of Zone 3 contains areas of disturbance from ski trail and chairlift development, but guests can still find a greater degree of remoteness and naturalness depending on their location within the zone. Generally speaking, Zone 3 includes areas where existing chairlifts 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;
- 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.

Three areas within the SUP area were designated as Zone 3: areas extending out of the middle portion of SKMR consisting of Areas 1, 5, and 6. Not all of the areas which received a Zone 3 designation are equal in characteristics. For example, Area 6 is less accessible and includes a higher degree of remoteness when compared to the Area 5; however, both locations scored in the range to be characterized as Zone 3. Area 3 parallels a residential area, which alters the accessibility, and naturalness characteristics in comparison to the adjacent Area 4.



#### **Desired Experiences**

The majority of guests will initially view Zone 3 during a scenic chairlift ride from private lands to Zone 1. This proximity exposure will allow guests to see diverse vegetation types and topographic features as they make their way up the mountain. On the ground, access to Zone 3 typically occurs after traveling through Zones 1 and 2 from the top lift terminals; however, guests could also access Zone 3 from private lands via the existing trails network. Once in Zone 3, guests will have a variety of opportunities to engage in their surroundings in a more natural and remote environment.

The desired experience in Zone 3 will be achieved through the activities offered there. Guests will enjoy nature hikes with interpretive signage that will provide education on their biological, cultural, and historical surroundings. Guests will hike to locations with views up and down the Jackson Hole valley, scenic views of the Tetons. Opportunities for self-guided tours, or dispersed travel also exist. Guests will ride mountain biking trails through forested settings and learn the importance of forest health and stewardship. Mountain biking trails would be less developed cross-country oriented trails and the trail network would be less dense compared to Zone 2. In Zone 3, guests may also encroach into Zone 3 on zip lines and canopy tours over and through the canopy to experience amazing views of the SKMR area and its natural surroundings.

Zone 3 offers a diverse set of experiences for guests, which will promote NFS lands as a recreationally-, biologically-, and geographically-diverse landscape.

#### **Compatible Activities and Facilities**

Activities include singletrack mountain biking trails, scenic chairlift rides, hiking trails, canopy tours, and other similar natural resource-based activities. Select activities such as interpretive tours and canopy tours may occur on a year-round basis. Activities within Zone 3 will not require substantial modifications to natural topography to facilitate construction and will require limited infrastructure to support the activity. Existing ski area development (ski trails and chairlifts) 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.

## Zone 4

#### Setting

The setting of Zone 4 is more remote and provides a great degree of naturalness. Ski area development is limited and, where ski trails are present, larger tree islands prevail. 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 remoteness;
- The area is completely natural or has limited disturbance; and
- Infrastructure, including a chairlift and small buildings, are present.

Three areas within the SKMR SUP area were designated as Zone 4: Areas 2, 3, and 4. Area 2 includes ski trails and glading, but development is limited and large tree islands are dominant features. Area 4 parallels the high traffic summit of SKMR, but possesses a strong feeling of remoteness due to the nature, remoteness, and topography due its position on the opposing side of the ridge.

#### **Desired Experiences**

In Zone 4 guests will connect with the more natural setting in a relatively undisturbed environment. Dispersed hiking 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 even greater opportunities for environmental education and exposure to unique environments. These activities include hiking trails with signage and interpretation, equestrian trails, and singletrack 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. In Zone 4, additional infrastructure would be limited to signage.

Table 24 describes the characteristics of each zone and Table 23 provides information about each zone at SKMR.

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 Site of Ski Area Infrastructure	3
Minimum Score Possible	4
Maximum Score Possible	12
Zones	Score Range
1	4
2	5 to 6
3	7 to 9
4	10 to 11
5	12

Table 24. Luie Character Istics	Table	24. Zone	Characteristics
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Note that the above table lists five possible zones. Since none of the areas at SKMR scored a 12, there is no discussion of Zone 5.



## Table 25. Summer Zone Analysis

Area Boundaries	Scor Appropriate	Area Boundaries	Scor	Appropriate	
	е	Zone		е	Zone
Area 1			Area 83		
Access	3		Access	1	
Remoteness	3		Remoteness	1	
Naturalness	3		Naturalness	1	
Infrastructure	3		Infrastructure	1	
Total Score	12	Zone 5	Total Score	4	Zone 1
Area 2			Area 9		
Access	3		Access	1	
Remoteness	3		Remoteness	1	
Naturalness	2		Naturalness	1	
Infrastructure	3		Infrastructure	2	
Total Score	11	Zone 4	Total Score	5	Zone 2
Area 3			Area 10		
Access	2		Access	1	
Remoteness	2		Remoteness	1	
Naturalness	2		Naturalness	1	
Infrastructure	3		Infrastructure	1	
Total Score	9	Zone 3	Total Score	4	Zone 1
Area 4			Area 11		
Access	3		Access	2	
Remoteness	3		Remoteness	1	
Naturalness	3		Naturalness	2	
Infrastructure	3		Infrastructure	3	
Total Score	12	Zone 5	Total Score	8	Zone 3
Area 5			Area 12		
Access	2		Access	2	
Remoteness	2		Remoteness	2	
Naturalness	3		Naturalness	2	
Infrastructure	3		Infrastructure	3	
Total Score	10	Zone 4	Total Score	9	Zone 3
Area 6			Area 13		
Access	3		Access	2	
Remoteness	3		Remoteness	1	
Naturalness	3		Naturalness	2	
Infrastructure	3		Infrastructure	1	
Total Score	12	Zone 5	Total Score	6	Zone 2
Area 7			Area 14		
Access	2		Access	3	
Remoteness	2		Remoteness	3	
Naturalness	2		Naturalness	3	
Infrastructure	2		Infrastructure	2	
Total Score	8	Zone 3	Total Score	11	Zone 4
Total Score	8	Lone 3	I otal Score	11	Zone 4



## ii) Activities and Locations

SKMR's multi-season recreation activities and facilities would be located within the appropriate zones, as depicted on the Summer Zones figure (Figure 8). These activities and facilities would be further planned in the future and proposed to the BTNF as site-specific projects.

## iii) Construction Timeframe

SKMR expects to implement projects within one to five years subsequent to review and potential approval in accordance with the National Environmental Policy Act. At this time, anticipated projects consist of zip lines, canopy tour, and mountain biking. This satisfies the master planning process requirement identified in FSM 2343.14(8)(c).

## N. Parking and Transit

As there is no significant land available for additional parking at SKMR, there is only limited increased parking proposed. Efforts will be made to reconfigure the parking at the west base area, and hopefully improve the circulation and utilization of that parking. The existing dirt lot that is located between the two base areas could be improved with possible increases in parking capacity. It is anticipated that approximately 50 parking spaces will be added with these efforts. The majority of skiers arriving at SKMR now arrive via public transit, drop-off, shuttles, or walking. It is planned that this trend will continue, and will make up the difference between current skiers (and summer visitors) and future use. The START bus service will be better utilized. It is anticipated that the upgrades to SKMR will contribute to increased winter occupancy rates at Jackson hotels, with guests walking, using shuttles, and the START buses. SKMR is involved in conversations with the Town of Jackson regarding parking and transit. With the millions of visitors that come to Town every year, parking in general is recognized by the Town as a growing concern. Several options have been discussed, including ways to better use the Town parking structure (located about five blocks away from SKMR), which is currently underutilized in the winter months.

	Multiplier	Total
CCC plus non-ski guests	5%	2,751
Percent of guests bus/drop-off/shuttle/walk	60%	
Number of guests arriving by bus/drop- off/shuttle/walk		1,650
Net number requiring parking		1,100
Required car parking spaces	2.70	408
Required employee car parking spaces		66
Total required spaces		474
Upgraded parking spaces		450
Deficit		24

#### Table 26. Parking Requirements - Upgrade Plan

## **O.** Resort Balance and Limiting Factors

The overall balance of the ski area is evaluated by calculating the capacities of the resort's various facilities, as compared to the resort's CCC. The above discussed capacities are shown in Chart 4.





Chart 4. Resort Balance – Upgrade Plan

2017 Master Development Plan



# Figures





> WINTER ACTIVITIES EXISTING CONDITIONS Fig. 1





> SUMMER ACTIVITIES EXISTING CONDITIONS Fig. 2





2014 MASTER DEVELOPMENT PLAN EXISTING BASE AREA SEPTEMBER 2017 Fig. 2a





> SLOPE ANALYSIS Fig. 3





SUP PLAN Fig. 4





> UPGRADE PLAN Fig. 5





2014 MASTER DEVELOPMENT PLAN UPGRADE BASE AREA SEPTEMBER 2017 FIG. 5a

\_Run 15





> ACCESS ROAD OPTIONS Fig. 6





--LIFT-C

Run 07

SUMMIT CONCEPT Fig. 7





> SUMMER ZONES PLAN Fig. 8





> SUMMER ACTIVITIES UPGRADE PLAN Fig. 9




2014 MASTER DEVELOPMENT PLAN SUPPLEMENTAL INFORMATION SEPTEMBER 2017

> WEST PORTAL BASE CONCEPT OPTION 1 Fig.10

Winter Tubing

0

1

- Proposed Parking

Summer Event Stage

Proposed Ticketing, Cafe, Restrooms

Proposed DropOff

Zip Tower on Top of Building

Park Gateway

Proposed Streetscape Improvements





2014 MASTER DEVELOPMENT PLAN SUPPLEMENTAL INFORMATION SEPTEMBER 2017

> WEST PORTAL BASE CONCEPT OPTION 2 Fig. 11

Winter Tubing

0

Proposed Gravel Access for Event Lawn

Proposed Ticketing, Cafe, Restrooms

Proposed Streetscape Improvements and Parking

100

Concert Stage

Zip Tower on Top of Building

Park Gateway

Proposed Streetscape Improvements and Parking