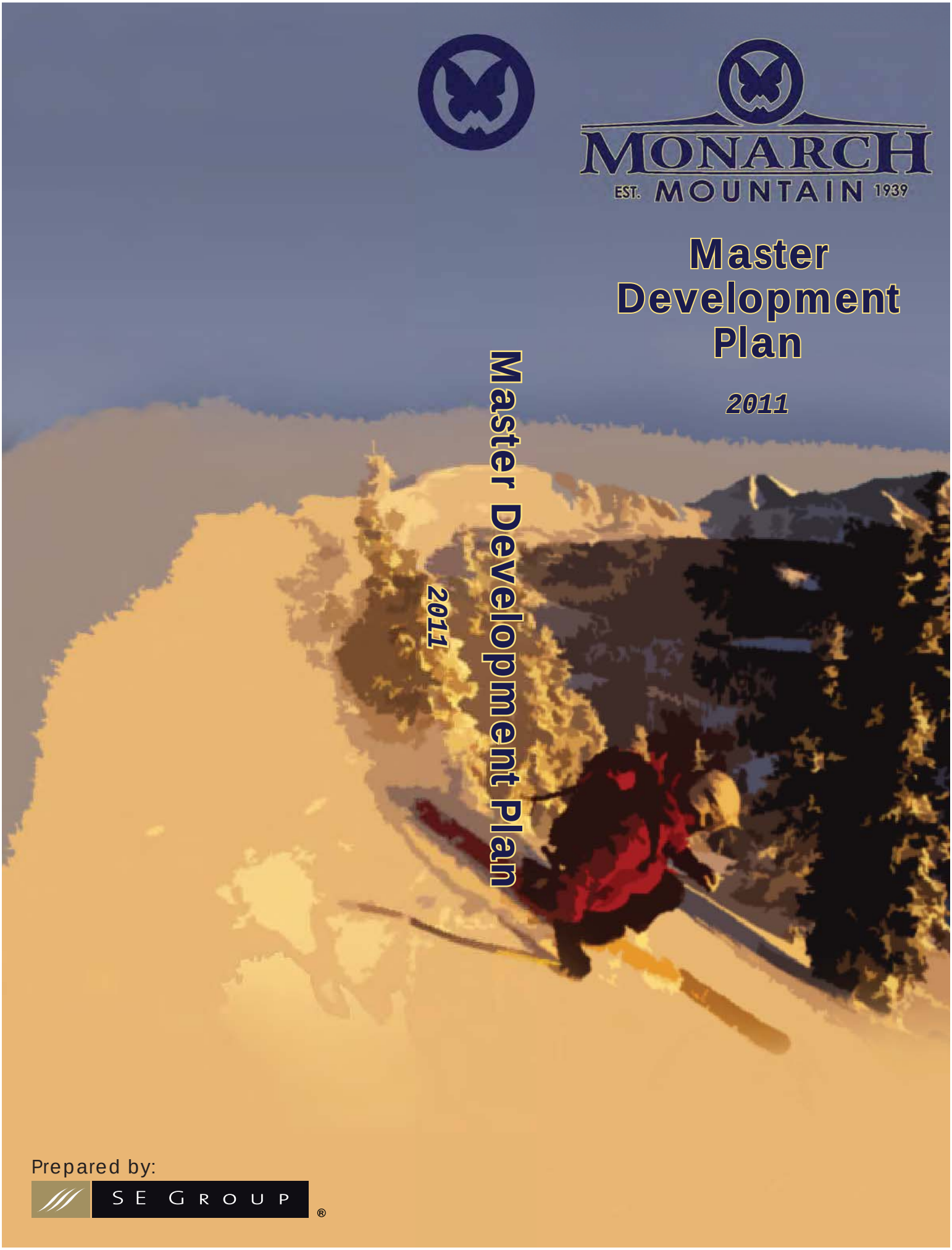

Master Development Plan

2011

Prepared by:

SE GROUP®

Master Development Plan

Monarch, Colorado

2011

Prepared by:

SE GROUP

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Chapter 1
Introduction

I. INTRODUCTION

This Master Development Plan (MDP) has been prepared to provide a thorough assessment of existing operations and facilities at Monarch Mountain (Monarch), and to identify a comprehensive plan for future improvements to the ski area. The MDP is designed to guide the ski area in creating a balanced recreation experience which is appealing to guests and is operationally efficient. In addition, the plan is respectful of the natural resources within the study area while incorporating important guest preferences and addressing increasing skier visitation and demand. The MDP is designed to be a dynamic document which may be amended periodically to reflect innovation in facilities and recreation.

A. BACKGROUND

Monarch is located in the San Isabel National Forest, in Chaffee County, Colorado. The ski area is located approximately 20 miles west of Salida, Colorado, in the Sawatch Mountain Range (refer to Figure I-1). The nearest private lands are located approximately 1 mile to the east at the Madonna Mine site. Monarch is accessed via U.S. Highway 50, a major east-west thoroughfare in south-central Colorado. The ski area occupies approximately 800 acres of forested and developed land on the east side of the Continental Divide, and is located entirely on National Forest System (NFS) lands. Elevations range from 10,790 feet elevation at the base of the ski slopes to 11,942 feet at the summit (refer to Figure I-2).

1. History

Monarch opened to the public in 1939 as a Works Progress Administration (WPA) project with a single rope tow that ran from what is now the parking lot to the top of the *Gunbarrel* trail. Upon completion of the project, the ski area was given to the City of Salida to provide winter recreation opportunities for citizens of Salida and south-central Colorado. Soon after acquiring a U.S. Forest Service (Forest Service) Special Use Permit (SUP), the City of Salida installed a second rope tow and a rustic, log day lodge which was without electricity or running water.

With the increased popularity of recreational skiing in the mid-1950s, the ski area's lift capacity fell short of skier demand and it became apparent that upgrades to the ski area's infrastructure were needed. In 1955, the City of Salida sold Monarch to Ray Berry, the ski area's general manager. Berry added to Monarch's infrastructure with the installation of a T-Bar in 1957, Monarch's first aerial lift in 1960, the clearing of many trails, and upgrading the base facilities in 1965. In 1967, majority ownership changed again, and in order to meet the demand of the skiing public, the Breezeway and Garfield lifts were installed in 1968 and 1969, respectively.

During the 1979/80 season, Monarch was sold again to Westlake Mortgage and Investment Corporation. Improvements to Monarch under this ownership included the installation of the Panorama lift, providing Monarch with a third double chairlift. During the summer of 1981, the Tumbelina lift replaced an existing Poma lift to service Monarch's teaching terrain. The Tumbelina lift was installed with a mid-unload station to facilitate beginner, round-trip skiing on the *Snowflake* trail.

In addition to upgrading the lift network, Monarch also upgraded its downhill ski terrain by offering snowcat tours and lift-accessible "off-piste" terrain.[1] For the 1990/91 season, Monarch initiated a snowcat skiing operation under a Forest Service Outfitter and Guide Permit providing guests with access to approximately 900 acres of expert, off-piste terrain on public lands north and west of Monarch's existing SUP boundary, including terrain within No Name Basin. The boundaries of the Outfitter and Guide Permit, including the snowcat skiing terrain, is located on the Grand Mesa, Uncompaghre, and Gunnison (GMUG) National Forests, though the Permit is administered by the Pike and San Isabel National Forests via a delegation of authority. In addition to the snowcat tours, Monarch's SUP boundary includes Mirkwood Basin located north of the developed ski area. Accessible via the Breezeway lift and a 15-minute hike along a cat-track, the terrain within Mirkwood Basin offers access to approximately 130 acres of advanced and expert terrain with a vertical rise of approximately 1,100 feet. The addition of Mirkwood Basin to Monarch's SUP boundary was approved via a 2005 Decision Memo.

As of 2011, Monarch is owned and operated by a group of private investors, PowderMonarch LLC. PowderMonarch LLC is currently the second largest private employer and major economic driver in Chaffee County, providing full- and part-time employment to 325 people. Many of Monarch's guests stop in or stay in Salida providing substantial spending in the local economy, which is driven by the seasonal tourism industry. With the potential implementation of the MDP, Monarch would increase its employment opportunities within the Chaffee County area by staffing additional on-mountain/base area facilities and trail projects. PowderMonarch LLC operates under a SUP from the Forest Service. The SUP requires the development of a MDP, which identifies management direction and opportunities for future management of the ski area on NFS lands.

B. ABSTRACT OF PROPOSED MASTER DEVELOPMENT PLAN

Following this introduction (Chapter I), this MDP is divided into five sections. The first section (Chapter II) describes the design criteria used for mountain planning purposes specific to Monarch. The second section (Chapter III) describes the site inventory of the ski area, including physical resources, such as aspect and gradient, as well as opportunities and limitations of the ski area. The third component of the plan (Chapter IV) addresses the existing conditions at Monarch and evaluates the balance of ski area operations, facilities, and infrastructure including components such as downhill terrain, lifts, guest services, and parking capacities. This section provides the baseline conditions from which the planning strategies for future upgrades are based. The fourth section (Chapter V) identifies projects previously-approved by the Forest Service within Monarch's existing SUP boundary. The fifth component (Chapter VI) of this MDP details proposed upgrades/improvements to the ski area. The focus of the improvements is to provide a more diverse recreation experience which will create a more varied and interesting atmosphere and more frequent guest visits. In summary, proposed projects include:[2]

[1] "Piste" is a term commonly borrowed from French vernacular which refers to a groomed, maintained, defined ski trail. "Off-Piste" therefore refers to the ungroomed, less defined natural style of skiing commonly found in high Alpine areas and bowls.

[2] All projects identified as "previously-approved" gained Forest Service authorization for construction in the 1999 Monarch Ski Area Master Development Plan Decision Notice and Finding of No Significant Impact. Refer to Chapter V of this MDP for more detailed information.

1. Terrain

- Implement the previously-approved 14 acres of trail widening within the existing terrain network
- Implement the previously-approved 4 acres of new ski trail development
- Implement approximately 1.5 acres of widening and clearing and approximately 6 acres of grading on the front-side
- Glade approximately 48 acres within Monarch's current terrain network
- Develop approximately 62 acres of new trails within No Name Basin
- Develop approximately 58 acres of gladed skiing opportunities within No Name Basin

2. Lifts

- Update previous approval for the Breezeway lift to a fixed-grip, triple chair, with a shortened lift alignment and associated grading near the bottom terminal to ease lift access
- Install a fixed-grip double chairlift in No Name Basin
- Relocate the Safari conveyor lifts
- Install two conveyor lifts adjacent to the Safari and Congo lifts

3. Special Use Permit Boundary Adjustment

- Adjust the current SUP boundary to include a portion of No Name Basin, terrain within the existing Outfitter and Guide Permit area that is located on the GMUG National Forest

4. Guest Services

- Construct the previously-approved 300-square foot mid-mountain facility with a 150-seat sun deck and adjacent composting toilets building
- Construct the previously-approved 756 square foot mountain-top facility, including 50 seats and restrooms
- Construct an 8,000-square foot ski school/children's center structure adjacent to the existing sprung structure in the base area
- Construct an addition to the three floors of the existing base lodge, bar and restaurant seating, the sack lunch area, along with storage space will be expanded upon and improved in this addition
- Construct a 5,000-square foot overflow restaurant seating building with office and admin space adjacent to the day lodge
- Relocate the existing Children's Center modular building to function as a guest service building at the planned tubing facility
- Relocate the existing employee ski storage hut to the tubing facility for storage capacity
- Replace the existing Ski Patrol building with a 3,000 square foot two story building that will include Patrol Headquarters on the upper floor and medical clinic on the lower floor

- Relocate the existing Ski Patrol building adjacent to the maintenance shop to be used as offices for the Lift and Slope Maintenance departments
- Construct an approximately 750-square yurt adjacent to the existing Ski Patrol building for the Monarch Snowcat Tours, meeting location, check-in, lunch, and check-out
- Construct an approximately 750-square foot warming hut at the bottom of the proposed No Name lift within No Name Basin

5. Infrastructure

- Previously-approved snowmaking operations on 33 acres of existing ski terrain
- Develop approximately 2.7 acres of parking in two locations providing 320 additional parking spaces
- Develop an additional 2,100 square feet to expand on to the existing waste water treatment facility
- Construct a 4,000 square foot building adjacent to the existing maintenance facility to be used as the new Vehicle Maintenance shop (existing shop will continue to be used for vehicle and lift maintenance along with a carpentry and paint shop)
- Relocate the cabin presently being used by the Lift Maintenance operations to the bottom of Panorama to accompany the mid-mountain facility to use as storage and preserve the building's historical significance
- Relocate the explosive cache and make-up room away from the planned tubing facility and closer to the Mirkwood egress trail

6. Alternative Winter Recreation

- Development of snowtubing facility adjacent to existing parking and trail network

As a result of previously-approved and proposed projects, Monarch's Comfortable Carrying Capacity (CCC) will increase from 2,870 guests to 3,490 guests (an increase of 22%).[3]

C. DEVELOPMENT PHILOSOPHY (GOALS AND OBJECTIVES)

Historical annual skier visitation at Monarch is attributable to its long history as an affordable day-use ski area accommodating guests from the Chaffee County area as well as the Colorado Front Range.

As demonstrated in Table I-1, skier visits at Monarch have fluctuated each year since the late 1990s, with steady positive growth.

[3] Comfortable Carrying Capacity (CCC) is a planning tool used to determine the optimum level of utilization that facilitates a pleasant recreational experience. This is a planning figure only and does not represent a regulatory cap on visitation. CCC is used to ensure that different aspects of a resort's facilities are designed to work in harmony, that capacities are equivalent across facilities, and sufficient to meet anticipated demand. CCC is based on factors such as vertical transport and trail capacities.

Table I-1:
Total Annual Skier Visitation at Monarch Mountain Compared to the State of Colorado

Season	Annual Colorado Skier Visits	Annual Monarch Skier Visits
2010/11	N/A	170,361
2009/10	11,860,000	184,725
2008/09	11,855,498	165,724
2007/08	12,540,603	175,173
2006/07	12,566,299	160,917
2005/06	12,533,108	166,451
2004/05	11,816,193	142,190
2003/04	11,250,761	144,984
2002/03	11,605,777	147,266
2001/02	11,128,131	138,850
2000/01	11,666,672	147,266
1999/00	10,892,263	127,215
1998/99	11,389,561	141,525
1997/98	11,979,719	148,160

Between the 1997/98 and 2009/10 seasons, Monarch averaged approximately 153,000 skier visits, with a record high of 184,725 skier visits recorded during the 2009/10 season.[4] In the last five seasons, Monarch averaged approximately 171,000 skier visits. This demand has led to Monarch exceeding its CCC more frequently during the ski season.

Monarch caters to the day-use/destination market, hosting the majority of its guests on weekends and holiday periods with lodging available in the Town of Salida. Monarch has experienced approximately 2% average annual growth since the 1997/98 season. In the last 6 years, Monarch's visitation has grown approximately 5% annually, which has out-paced state-wide skier visit statistics by 4%. Even with the dip in the economy over past two years that the state-wide skier visit numbers reflect, Monarch has seen steady growth that is attributed to its loyal destination and day-use patronage, which reinforce Monarch's branding as a "gem" in the Colorado skier market. Furthermore, the younger families in the Colorado Front Range (Denver to Pueblo) have realized the experience that a more affordable, family-based ski area can provide. Denver guests can drive to Monarch in approximately 3 hours via Highway 285, with only a minor mountain pass (Kenosha Pass) at 10,000 feet. Guests from Colorado Springs and Pueblo can drive to Monarch in approximately 2½ hours, with no mountain passes. Whereas, guests traveling to ski areas in Summit and Eagle counties from the Front Range consistently endure 4 to 5 hour car rides to and from the ski area on I-70, over one or two mountain passes. These factors contribute to the success of Monarch and its anticipated growth into the future.

To address the growing demand at Monarch, based on annual visitation, and more importantly meet guest expectations, Monarch must continue to develop and improve on-mountain and base area facilities across the ski area. The development of additional facilities at Monarch is in direct response to Monarch's guest expectations and to improve aging infrastructure. The improvements illustrated within this MDP were designed to enhance the recreation experience for current guests of Monarch, and to accommodate the anticipated increase in downhill skiing demand on NFS lands.

[4] Data provided by PowderMonarch LLC.

Monarch is a participating partner of the Colorado Gems, a group of nine ski areas of similar size and demographic. In conjunction with Colorado Ski Country USA, the ski areas included in the Colorado Gems offers guests an alternative skiing experience to the larger resorts within the state, through smaller crowds, shorter lines, and a more affordable guest experience. Monarch's niche in the ski industry and the clientele they serve helped cultivate the concepts found throughout this planning document. Through planning efforts, the following five major issues were identified which are in need of further detailed planning.

- Improve the never-ever and beginning ski experience at Monarch by providing an appropriate learning progression in an uncongested area and easier access to the *Safari* children's teaching area
- Increase amount of intermediate terrain to meet current and anticipated public demand
- Cater to the growing advanced-intermediate and advanced skier/snowboarder demographic through additional terrain offerings
- Improve skier circulation and access to the base area through expanded and relocated guest service buildings
- Enhance the overall recreation experience by providing convenient on-mountain guest services

Each of these planning concepts/issues is detailed in the Proposed Upgrading Plan in Chapter VI, which strives to achieve the goal of maintaining a desired skiing experience with comfortable terrain capacities.

Buena Vista

Salida

San Isabel National Forest

Gunnison National Forest

MONARCH MOUNTAIN

MONARCH EST. MOUNTAIN 1939

LOCATION MAP

FIGURE 1-1

MONARCH MOUNTAIN
EST. 1939

Master Development Plan

LEGEND

- SUP Boundary
- Existing Mtn Access Roads
- Existing Lift
- Lift to be Constructed in Summer 2011

No Name Basin

Continental Divide

Mirkwood Basin

Old Monarch Pass

SUP Boundary

SUP Boundary

PANORAMA

TUMBELINA

BREEZEWAY

PIONEER

GARFIELD

Base Area and Parking Lot

US Highway 50

PROJECT AREA

Figure I-2

25’ Contours in and adjacant to the SUP
40’ Contours in No Name Basin

North

0 450 900 1,800’

Prepared by:

SE GROUP

Chapter 2
Design Criteria

II. DESIGN CRITERIA

The upgrading and expansion of a ski area is influenced by a variety of facility design criteria that help to create a quality ski experience.[5] This section will briefly discuss these factors as they apply to Monarch. At mountain resorts, guests have a variety of expectations, such as participating in recreation associated with mountains, enjoying dining and shopping opportunities, and enjoying a variety of other vacation experiences in a mountain setting. Thus, a destination resort must offer a multitude of services, amenities, and experiences designed to allow a guest to "re-create" their spirit. Design parameters that guide the development of everything from the pedestrian-oriented, social environment, to the Alpine experience, all contribute to the success of a destination resort.

The following paragraphs describe destination mountain resorts, and the principal base lands and mountain design criteria that lead to the development of a successful resort.

A. REGIONAL DESTINATION SKI AREAS

One common characteristic of destination resorts is that they cater to a significant vacation market and thus offer the types of services and amenities vacationers expect. At the same time, some components of the destination resort will be designed specifically with the day-use guest in mind (e.g., day-use parking). Destination mountain resorts can be broadly defined by the visitation they attract, in most instances either regional or national/international. Within these categories are resorts that are purpose-built and others that are within, or adjacent to, existing communities.

Regional destination ski areas largely cater to a "drive" market. While day-use guests play a large role, the regional destination ski area also appeals to vacationers. Lodging is a component, but due to the average length of stay, and perhaps more importantly a guest's vacation budget, lodging and related services and amenities are usually less extensive than what is common for national/international destination resorts. Where the regional destination ski area has evolved from within, or adjacent to, an existing community, services are often supplied by proprietors in a surrounding or nearby community. Although the Town of Salida, approximately 20 miles from Monarch, offers guests of the ski area and summer vacationers of Chaffee County basic amenities such as lodging and restaurant services, proprietors within the Town primarily cater to the year-round, permanent local population.

B. MOUNTAIN DESIGN

1. Trail Design

a. Slope Gradients and Terrain Breakdown

Terrain ability level designations are based on slope gradients and terrain features associated with the various ability designations unique to each mountain. Ability level designations for this analysis are based on the maximum sustained gradient calculated for each trail. Short sections of a trail can be more or less steep without affecting the run designation. For example, novice skiers are typically not intimidated by short, steeper pitches of slope, but a sustained steeper pitch may cause the trail to be classified with a higher difficulty rating. The following general gradients have been used by SE Group to classify the skier difficulty level of the mountain terrain.

[5] In this document, the term "skier" represents all snowsport participants, including, but not limited to, traditional skiers, snowboarders, disabled skiers, telemark skiers, and skiboarders.

Table II-1:
Terrain Gradients

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

Source: SE Group, Mountain Planning Guidelines

The distribution of terrain by skier ability level and slope gradient is 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 reasonably consistent with market demand. The market breakdown for the Central Rocky Mountain skier market is shown in Table II-2, illustrating that intermediate skiers comprise the bulk of market demand.

Table II-2:
Central Rocky Mountain Skier Ability Breakdown

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

Source: SE Group, Mountain Planning Guidelines

b. Trail Density

The calculation of capacity for a ski area is based in part on the target number of skiers that can be accommodated, on average, on a typical acre of ski terrain at any one given time. The criteria for the range of trail densities for North American ski areas that SE Group utilizes are listed below in Table II-3.

Table II-3:
Skier Density per Acre

Skier Ability	Trail Density
Beginner	25 to 40 skiers/acre
Novice	12 to 30 skiers/acre
Low Intermediate	8 to 25 skiers/acre
Intermediate	6 to 20 skiers/acre
Advanced Intermediate	4 to 15 skiers/acre
Expert	2 to 10 skiers/acre

Source: SE Group, Mountain Planning Guidelines

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, using the milling areas or other support facilities. Through observations and calculations, SE Group has determined that on an average day, approximately 33% of the total number of skiers in the area will be on the trails at any one time. Additionally, areas on the mountain, such as merge zones, convergence areas, lift milling areas, major circulation routes, and egress routes, will experience higher densities periodically during the ski day.

SE Group has seen a recent trend in trail density design criteria that provides for less crowded skiing experiences. As witnessed at many Colorado resorts, there is a segment of the market that has a preference for more natural, unstructured, semi-backcountry types of terrain commonly referred to as off-piste.[6] Open bowls, glades, and other similar types of terrain are increasing in demand. 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 like on a traditional ski run. However, skiers are attracted to these areas for the un-crowded 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.

c. Trail System

A primary goal for Monarch's trail system design is to provide a wide variety of ski terrain which caters to the ski area's guest demographic. Each trail should 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 should provide the full range of ability levels consistent with their market demand.

In terms of a ski area's ability to retain guests at that ski area, 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 for all ability levels: some groomed on a regular basis and some not, bowl skiing, tree skiing, off-piste style skiing, and terrain parks and pipes.

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

d. Terrain Parks

Providing a progression in terrain parks, from beginner through expert, is a primary goal. Teaching parks should be provided. Cross traffic should be minimized with good visibility provided in merge zones. Park features should flow easily from one to another and avoid creating bottle necks and traffic jams. Novice parks and features should be separated from the more advanced parks, and should be geared toward a learning environment. A low pressure venue should be provided for beginners, to allow them to be comfortable as they practice tricks and become accustomed to transitions and jumps. Signage should be clear and delineate the difficulty of the various parks and features. This will help ensure that users will be directed to the feature size most appropriate to their ability. Maintenance of the park is critical to ensure quality and the reputation of the park with park enthusiasts. Quality and diversity of features over quantity should be a goal. As the locations of

[6] As stated in Chapter I, "Piste" is a term commonly borrowed from French vernacular which refers to a groomed, maintained, defined ski trail. "Off-Piste" therefore refers to the ungroomed, less defined natural style of skiing commonly found in high Alpine areas and bowls.

features, particularly pipes, become fixed, constructing them out of earth can greatly reduce the amount of snow coverage required.

2. Lift Design

The goal for lift design is to serve the available ski terrain in an efficient manner, while being sensitive to environmental considerations. A myriad of factors should be considered including wind conditions, visual impacts, wetlands, round-trip skiing, access needs, inter-connectability between other lifts and trails, and the need for circulation space at the lower and upper terminal sites. The vertical rise and length of ski lifts for a particular mountain are important measures of overall attractiveness and marketability of a ski area.

3. Capacity Analysis and Design

Comfortable Carrying Capacity (CCC) is defined as a level of utilization for the ski area (the number of visitors that can be "comfortably" accommodated at any given time) that provides a pleasant recreational experience, without overburdening the ski area's infrastructure. It is expected that ski areas will experience peak day visitation up to 25% above their CCC. The accurate estimation of the CCC of a mountain is a complex issue and is the single most important planning criteria for the ski area. 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.

C. Base Area Design

Particular consideration should be given to the relationship between the base area and the mountain facilities. Upon arrival at the ski area, skiers should be able to move directly from parking, through ticketing or rentals and other essential ski services, to the base of the lifts. Walking distance and vertical differential between the base area facilities and lifts should be minimized in an effort to move skiers directly onto the mountain. Vehicle, pedestrian, and skier circulation should be coordinated to create an organized and pleasant base area environment.

D. 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).

E. APPLICABLE FOREST SERVICE POLICY DIRECTION

1. Pertinent Forest Plan Direction

a. 1984 Land and Resource Management Plan – Pike and San Isabel National Forests

Monarch's operations carried out on NFS lands within the existing SUP area must comply with the management directions provided in the 1984 Land and Resource Management Plan – Pike and San Isabel National Forest (1984 LRMP). The 1984 LRMP includes 21 Management Areas for different portions of the Forest based on ecological conditions, historic development, and anticipated future conditions.[7] Monarch's existing ski area falls within the Management Area 1B. Management Area 1B proximate to Monarch is 870 acres in size (682 acres of the Monarch SUP is within Management Area 1B), and directs:

> *"Management emphasis provides for downhill skiing on existing downhill ski sites. Management integrates ski area development and use with other resource management to provide healthy tree stands, vegetative diversity, forage production for wildlife and livestock, and opportunities for non-motorized recreation."*

Portions of the Monarch SUP area is located within Management Area 2B, including the southern extent of the ski area, the base area entrance and exit roads, and the northern extent of the Mirkwood area. Management Area 2B proximate to Monarch is 4,923 acres in size (58 acres of the Monarch SUP is within Management Area 2B), (Note: due to mapping inaccuracies, the SUP area acreages within Management Area 1B and 2B do not total 800 acres, which is the total SUP acreage presented in the Permit) and directs:

> *"Management emphasis is for rural and roaded-natural recreation opportunities. Motorized and nonmotorized recreation activities such as driving far pleasure, viewing scenery, picnicking, fishing, snowmobiling, and cross-country skiing are possible. Conventional use of highway-type vehicles is provided for in design and construction of facilities. Motorized travel may be prohibited or restricted to designated routes, to protect physical and biological resources."*

b. Management Policies and Direction

Downhill skiing is an important component of the recreation opportunities offered by National Forests. The National Recreation Strategy, a result of the 1987 President's Commission for America's Outdoors, gives the Forest Service a major role in providing recreation opportunities on National Forests through partnerships such as those with the ski industry.[8]

In 1984 the LRMP for the Pike and San Isabel National Forests identified six operating ski areas (Ski Cooper, Monarch, Pikes Peak, Geneva Basin, Cuchara Valley Resort, and Conquistador) and that the demand for downhill skiing has been rapidly increasing.[9] Notably, only Monarch and Ski Cooper remain in operation. The 1984 LRMP additionally provided supply and demand projections for

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[7] USDA Forest Service. 1983 as amended in 1991. Land and Resource Management Plan – Pike and San Isabel National Forests; Comanche and Cimarron Grasslands.

[8] USDA Forest Service. 1988. National Recreation Strategy. April.

[9] As of 2007, the Pikes Peak, Geneva Basin, Cuchara Valley Resort, and Conquistador ski areas have permanently ceased downhill skiing operations. Only Ski Cooper and Monarch operate downhill skiing operations on public lands on the Pike and San Isabel National Forests.

average annual downhill skiing use on the National Forest and anticipated demand to outpace supply by year 2011.[10]

Existing SUP Area

Monarch currently operates under a 40-year term SUP administered by the Pike and San Isabel National Forests, which covers approximately 800 acres of NFS lands (refer to Figure IV-1).

The enabling authorities for the Forest Service are contained in many laws enacted by Congress and in the regulations and administrative directives that implement these laws.[11] These authorities allow the Forest Service to provide recreation opportunities to facilitate the use, enjoyment, and appreciation of National Forests.

The Forest Service is authorized to approve certain uses of NFS lands under the terms of SUPs.[12] Generally, SUPs for recreational developments are issued and administered for uses that serve the public, promote public health and safety, and provide land stewardship. In accomplishing these objectives, the SUP held by Monarch authorizes the implementation of the following:

> *"Base Lodge, A-frame, Children's Ski School and Nursery, Maintenance Building, Ski Lifts and Tows, Ski Trails, Parking Area, Communication System, Log Cabin, Water Supply System, Sewage Treatment Facility, Explosive Storage Buildings, and Ski Patrol Buildings at the following locations: Base Area, Top of Panorama Lift, and Top of Breezeway Lift."*[13]

Proposed SUP Adjustment and the 1991 Grand Mesa, Uncompaghre, and Gunnison National Forest Plan

The existing 800 acre SUP boundary would increase to 1,144 acres to include a portion of No Name Basin. Therefore, the proposed SUP boundary would occur on the Pike and San Isabel National Forests and the Grand Mesa, Uncompaghre, and Gunnison (GMUG) National Forests. No Name Basin lies on the west side of the Continental Divide, and includes portions that are currently used by the Monarch Snowcat Tours. Approximately 344 acres within No Name Basin are proposed to offer 139 acres of lift-served skiing under this MDP.

No Name Basin crosses National Forest boundaries and lies on lands managed by the GMUG National Forests. Administration of the area was delegated to the Pike and San Isabel National Forest by the GMUG National Forest via a Delegation of Authority on April 22, 2009. Development and recreation use of the area would nevertheless be consistent with directives contained in the existing 1991 GMUG Amended Land and Resource Management Plan (1991 GMUG LRMP).

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[10] USDA Forest Service. 1983 as amended in 1991. Land and Resource Management Plan – Pike and San Isabel National Forests; Comanche and Cimarron Grasslands. p. II-40

[11] These laws include: the Organic Administrative Act (1897), the Weeks Act (1911), the Multiple-Use Sustained Yield Act (1960), the Forest and Rangeland Renewable Resources Planning Act (1974), the National Forest Management Act (1976) and the National Forest Ski Area Permit Act (1986).

[12] 16 USC 497: Use and Occupation of Lands for Hotels, Resorts, Summer Homes, Stores and Facilities for Industrial, Commercial, Educational or Public Uses.

[13] USDA Forest Service. 1983 as amended in 1991. Land and Resource Management Plan – Pike and San Isabel National Forests; Comanche and Cimarron Grasslands. p. III-94; The Sprung Structure was approved in the previous Monarch MDP Environmental Assessment. This documentation did not change the language contained with Monarch's 40-year term SUP. Numerous other authorized facilities are not included in the SUP language; the slope side bathroom building, weather station, Ski Patrol building at the top of Garfield, fuel storage locations, and three overflow tents.

No Name Basin falls within the 1991 GMUG LRMP's Management Area 1B. Management Area 1B proximate to Monarch is 5,373 acres in size, and directs:

> *"Management emphasis provides for downhill skiing on existing sites and maintains selected inventoried sites for future downhill skiing recreation opportunities. Management integrates ski area development and use with other resource management to provide healthy tree stands, vegetative diversity, forage production for wildlife and livestock, and opportunities for non-motorized recreation."*

The No Name Basin portion of the Monarch SUP would include 344 acres within overall 5,373 acre Management Area 1B. Adding additional acreage into Monarch's SUP boundary would reduce current skier densities on intermediate trails during the busy weekends and holiday periods and enable the Forest Service to accommodate future demand for developed downhill skiing on public lands. This is supported in the current 1991 GMUG LRMP, which recognizes that the demand for downhill skiing will increase in the future. The 1991 GMUG LRMP specifically mentions the No Name Basin area as a candidate for future developed downhill skiing and states:

> *"Downhill skiing use is expected to reach 1,063,000 RVD's annually by year 2030. Crested Butte, the Monarch expansion, Powderhorn, and Telluride have potential capacity to supply downhill skiing opportunities to meet projected demand through 2030."*[14]

2. Recreation Opportunity Spectrum

The 1984 LRMP for the Pike and San Isabel National Forests states,

> *"Approximately 84 percent of the recreation use on the Pike and San Isabel National Forests occur within the Roaded Natural, Rural, and Urban [Recreation Opportunity Spectrum] ROS classes. Almost 100 percent of all developed recreation sites, including ski areas, occur within these classes and account for the resultant intensive use."*[15]

The Monarch SUP area is designated within the 1984 LRMP to have a ROS setting of "Rural." This setting is described in the Forest Service's 1986 ROS Book as:

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

Additionally, the 1991 GMUG LRMP identifies Management Area 1B to have a ROS setting of "Semi-primitive" (non-motorized) and states,

> *"Management integrates ski area development and use with other resource management to provide…opportunities for non-motorized recreation."*[16]

[14] Ibid. p. II-23
[15] Ibid. p.II-23
[16] Ibid. p. III-92

This setting is described in the Forest Service's 1986 ROS Book as:

> *"A setting that has an area of primitive roads* or trails that are not open to motorized use; is generally at least 2,500 acres in size; and is between 1/2 and 3 miles from all roads, railroads, or trails with motorized use. Access is via non-motorized trails or non-motorized primitive roads or cross-country. Low contact frequency with other visitors. High probability of solitude; natural-appearing environment. Note: "Primitive roads" are not constructed or maintained and are not generally suitable for highway type vehicles."*

The assigned desired ROS condition class is the maximum level of use, impact, development, and management that an area should experience over the life of the Forest Plan. The ROS is not prescriptive; it serves as a tool for land managers to identify and mitigate change. Recreational carrying capacity is a consequence of adopting specific ROS classes for which a landscape will be managed.

3. Scenery Management

a. Visual Management System

In addition to providing recreation experiences and the production of numerous resources, public landscapes provide beauty, which is a valuable resource to many Forest Service constituencies. This resource is explicitly recognized by law. The National Environmental Policy Act (NEPA) requires equal consideration of aesthetics and science. Since the mid-1970s, the Forest Service has utilized the Visual Management System (VMS) to measure the inherent scenic quality of any forest area as a measurement of the degree of alteration for use in inventory and management.[17] Although the Forest Service has since replaced the VMS with a new management direction for visual resources to be included in subsequent Forest Plan revisions, the VMS continues to provide direction for the Pike and San Isabel National Forests under the 1984 LRMP and the GMUG National Forests under the amended 1991 LRMP, for managing the aesthetic environment.

As such, the LRMPs for these respective Forests establish acceptable limits of change for Scenic Resources.[18] The acceptable limits of change are the documented Visual Quality Objectives (VQO), which serve as a management goal for scenic resources.

Visual Quality Objectives

A project can cause visual resource change that can be objectively measured. Viewer response to this change, although subjective, usually displays broad patterns of consensus. Thus, visual impacts comprise both the landscape change and viewer response to that change. By assessing the existing visual character of an area in terms of pattern elements (form, line, color and texture) and pattern character (dominance, scale, diversity, and continuity), it is possible to identify the extent to which the visual character of a facility will exhibit visual contrast with the landscape, or it's converse, visual compatibility.

VQOs as defined within the VMS, are based on the physical characteristics of the land and the sensitivity of the landscape setting as viewed by humans. VQOs define how the landscape will be

[17] USDA Forest Service. 1974. National Forest Landscape management, Volume 2, Chapter 1, The Visual Management System.
[18] USDA Forest Service. 1983 as amended in 1991. Land and Resource Management Plan – Pike and San Isabel National Forests; Comanche and Cimarron Grasslands.

managed; the level of acceptable modification permitted in the area, and under what circumstances modification may be allowed. VQOs range from *Preservation* (untouched environment) to *Maximum Modification* (major disturbance). Per the 1984 LRMP and the Amended 1991 GMUG LRMP, the Monarch SUP area and No Name Basin area are classified as a VQO of *Modification*. The VMS provides the following definition of the *Modification* VQO:

> *"Results of management activities may visually dominate the original characteristic landscape. However activities of vegetative and land form alteration must borrow from naturally established form, line, color, or texture so completely and at such a scale that its visual characteristics are those of natural occurrences within the surrounding area or character type."*

b. Built Environment Image Guide

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

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

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

4. Accessibility to Public Lands

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

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

Significant legislation that preceded the ADA included the Architectural Barriers Act (ABA) of 1968 and the Rehabilitation Act of 1973, as amended. ABA was the first measure passed by Congress to

ensure access to facilities. The ABA requires that all facilities built, bought, or leased by a Federal agency be accessible. Section 504 of the Rehabilitation Act states: "No otherwise qualified individual with a disability in the United States shall, solely by reason of his disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance or under any program or activity conducted by any Executive Agency."

Monarch currently complies with this legislation through their active involvement in assisting disabled guests with skiing and other recreation activities. Through future site-specific NEPA and design development reviews, Monarch will work closely with the Forest Service to ensure accessibility measures are taken to provide equal opportunity to all users of public lands.

Chapter 3
Site Inventory

III. SITE INVENTORY

A. PHYSICAL RESOURCES

1. Topography

Monarch's base lodge and parking lot are located at an approximate elevation of 10,825 feet above sea level. The highest lift-accessible point (via the Panorama lift) is approximately 11,800 feet above sea level, while the "hike to" terrain in Mirkwood Basin tops out at 11,942 feet above sea level (refer to Figure III-3). Therefore, the vertical rise at Monarch is approximately 1,110 feet. The steepest slopes on the mountain are located in Mirkwood Basin. The steepest lift served terrain is generally above the 11,250-foot contour and is accessed by the Panorama and Garfield lifts. Slopes are generally uniform, with the steepest areas near the top and lowest grades at the bottom.

2. Slope Gradients

The Slope Gradient Analysis for the study area is shown in Figure III-1. 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
- Grey: 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% (40 degrees and over) are gradients too steep for all but the highest level of skiing. Areas of this high slope are typically allocated as expert only and are closely managed by the ski area operator

Overall, the slope analysis shows a good mix of ability level designations. As demonstrated in Figure III-1, the middle and lower portions of the SUP provide a variety of easy to low-intermediate terrain with a sufficient amount of slope gradients between 8 to 25% to access the base area. Intermediate terrain, with slope gradients between 26 to 45%, can be found throughout the SUP area and can be accessed by all of Monarch's chairlifts. A limited amount of advanced terrain with slope gradients between 45 to 70% is available within the SUP area. Expert terrain with gradients 70% and above are limited and primarily found within Mirkwood Basin.

A slope analysis performed for terrain within No Name Basin (proposed for lift-served skiing) indicates that the area would primarily cater to the intermediate, advanced-intermediate ability levels. Some proposed gladed terrain could be signed as expert ability level due to the skill set required to navigate through trees. In addition, as demonstrated in Figure III-1, the high alpine terrain on the northern extent of No Name Basin includes terrain with slope gradients between 46 to 70%, which attracts guests of advanced and expert ability levels. Additional advanced to expert terrain can be

found in other "pockets" of No Name Basin. The majority of terrain primarily has a slope gradient between 26 to 45%, which caters to the intermediate ability level.

3. Slope Aspect

The existing Monarch SUP area is located in a large bowl below a long ridge line with a few protruding sub ridges. Individual portions of developed runs have exposures to every aspect, but the majority of terrain has northeast, east and southeast facing aspects (refer to Figure III-2). Slope aspect plays an important role in snow quality and retention at this latitude. The variety of exposures present opportunities to provide a range of slope aspects that can respond to the changes in sun angle. The various angles of exposure are discussed below.

Similar to the Slope Gradient Analysis, a Slope Aspect Analysis was completed for the terrain within No Name Basin (refer to Figure III-2). This area is located on the western ridge of the Continental Divide. As such, terrain within No Name Basin have general exposures to the northwest, west, and southwest. In addition to slope aspect, the high altitude nature of the area would also ensure consistent quality snow conditions. The various angles of sun exposure are discussed below:

- North-facing: ideal for snow retention, minimal wind scour, minimal sun exposure
- Northeast-facing: ideal for snow retention, minimal wind scour, minimal sun exposure
- East-facing: good for snow retention, some wind scour, morning sun exposure
- Southeast-facing: fair for snow retention, moderate wind scour, morning and early afternoon sun exposure
- South-facing: poor for snow retention, moderate wind scour, full sun exposure
- Southwest-facing: poor for snow retention, high wind scour, full sun exposure
- West-facing: fair for snow retention, high wind scour, late morning and afternoon sun exposure
- Northwest-facing: good for snow retention, high wind scour, afternoon sun exposure

4. Fall Line

The Fall Line Analysis evaluates the natural fall lines of mountainous terrain, with the fall line representing the path an object would take as it descends a slope under the influence of gravity. Fall line paths indicate the natural flow of potential ski trail routes, from the top of mountain ridges to the valleys and base areas below. Consistency of fall line provides for the best recreational skiing experience and results in the least amount of environmental disruption due to the minimal amount of terrain modification required for trail construction.

As shown in Figure III-4, the terrain within No Name Basin is characterized by long, consistent fall lines that cover the majority of the area. These features indicate the potential to develop a well-integrated and efficient trail system that would be enjoyable to ski and cause minimal topographic disturbance for construction.

B. PERMIT BOUNDARY AND LAND OWNERSHIP

1. Existing SUP

Monarch operates on 800 acres of NFS land under a 40-year term SUP authorization from the Pike and San Isabel National Forests (refer to Figure IV-1). The 1984 LRMP designates the Monarch SUP under Management Area 1B-1 (Existing Winter Sports Sites). See Chapter II for a description of Management Area 1B-1. Additionally, Monarch operates its snowcat tours on approximately 900 acres of adjacent NFS lands located north of the developed ski area under an annually renewable Forest Service Outfitter and Guide Permit. Since the snowcat tours operation is administered under a separate Forest Service Permit, this MDP does not include further discussion on the snowcat operation.

Existing skiing terrain encompasses 58 trails on approximately 270 acres of lift-served terrain, as well as an additional 141 acres of managed hike-to terrain, with a vertical drop of 1,110 feet. Monarch's bowls, glades, and trails provide a wide variety of skiing, with approximately 38 acres (14%) of the trail capacity distribution classified as novice, 52 acres (19%) as low intermediate, 58 acres (21%) as intermediate, 76 acres (28%) as advanced intermediate, and 44 acres (16%) classified as expert; these numbers include only lift-served skiing and not hike-to terrain or terrain offered by snowcat tours (due to rounding, these do not total 100%).[19]

2. Proposed SUP Adjustment

Refer to Chapter VI for a discussion of a SUP boundary adjustment that would be required for the development of No Name Basin as lift-served skiing.

C. ENVIRONMENTAL RECONNAISSANCE

In developing the proposed design for the No Name Basin terrain, an environmental review team has preliminarily surveyed the area for wetland, wildlife and cultural considerations. The initial design of the No Name Basin pod (refer to Figure VI-1) has taken this information into consideration to ensure that resource parameters and ski terrain function were integrated in the proposed design.

[19] It should be noted that Monarch provides approximately 0.2 acre dedicated to beginner terrain located in the *Safari* teaching area.

MONARCH MOUNTAIN
EST. 1939

Master Development Plan

LEGEND

- SUP Boundary
- Existing Lift

70% and Above	Expert Only
45-70%	Most Difficult
25-45%	More Difficult
8-25%	Easier
0-8%	Unsuitable for Skiing

No Name Basin

Continental Divide

Mirkwood Basin

SUP Boundary

SUP Boundary

Old Monarch Pass

US Highway 50

SLOPE GRADIENT ANALYSIS

Figure III-1

25’ Contours in and adjacent to the SUP
40’ Contours in No Name Basin

North

0 450 900 1,800’

Prepared by:

SE GROUP

MONARCH MOUNTAIN
EST. 1939

Master Development Plan

LEGEND

SUP Boundary

Existing Lift

West Facing
SW
NW
South Facing
North Facing
SE
NE
East Facing

No Name Basin

Continental Divide

Mirkwood Basin

SUP Boundary

SUP Boundary

Old Monarch Pass

US Highway 50

SLOPE ASPECT ANALYSIS

Figure III-2

25’ Contours in and adjacant to the SUP
40’ Contours in No Name Basin

North

0 450 900 1,800’

Prepared by:

SE GROUP

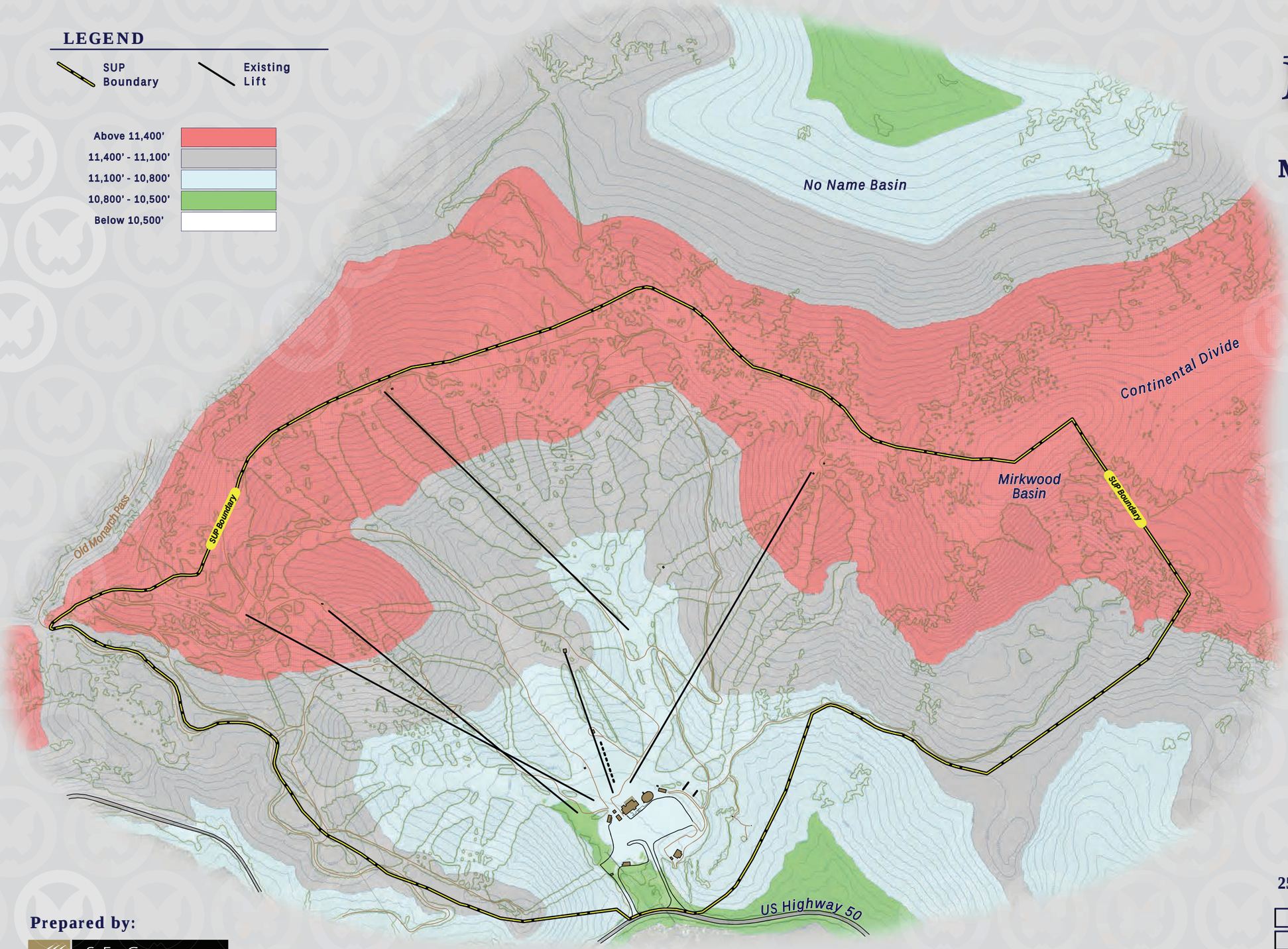
MONARCH MOUNTAIN
EST. 1939

Master Development Plan

LEGEND

- SUP Boundary
- Existing Lift

Above 11,400'	
11,400' - 11,100'	
11,100' - 10,800'	
10,800' - 10,500'	
Below 10,500'	



ELEVATION ANALYSIS

Figure III-3

25' Contours in and adjacant to the SUP
40' Contours in No Name Basin

North

0 450 900 1,800'

Prepared by:

SE GROUP

MONARCH
EST. MOUNTAIN 1939

Master Development Plan

LEGEND

- SUP Boundary
- Existing Lift
- Ridge Line
- Fall Line

No Name Basin

Continental Divide

Mirkwood Basin

Old Monarch Pass

US Highway 50

FALL LINE ANALYSIS

Figure III-4

25’ Contours in and adjacant to the SUP
40’ Contours in No Name Basin

North

0 450 900 1,800’

Prepared by:

SE GROUP

Chapter 4
Existing Facilities Inventory & Analysis

IV. EXISTING FACILITIES INVENTORY AND ANALYSIS

The following section contains an examination and analysis of existing skier facilities at Monarch. Completion of a thorough resort inventory is the first step in the master planning process and involves the collection of data pertaining to Monarch's existing facilities. This inventory includes ski lifts, ski trails, base area structures, skier services, and day-use parking area. The analysis of the inventoried data involves the application of ski industry standards to Monarch's existing conditions. This process allows for the comparison of Monarch's existing ski facilities to those facilities commonly found at comparison ski areas of similar size and composition.

The overall balance of the existing ski area is evaluated by calculating the skier capacities of various facility components and then comparing these capacities to the ski area's current CCC. This capacity examination helps identify Monarch's strengths and deficiencies. The next step is the identification of improvements that would bring the existing facilities into better equilibrium, and assist the ski area in meeting the ever-changing expectations of their skier marketplace. Accomplishing these objectives will result in a well-balanced ski area that provides an adequate array of services and experiences to satisfy guest expectations for an excellent recreation experience.

A. SUMMARY OF GUEST EXPERIENCE

Determining the ski area's CCC is an important first step because it enables planners to understand the overall balance of the ski area. Personal observation and close examination of Monarch's principal components reveal some key surpluses and deficiencies.

Monarch's daily lift capacity is determined by analyzing the ski area's supply of, and demand for, vertical transport. The capacity of the lift network was determined to be approximately 2,870 guests (refer to Table 5 in Appendix A for a detailed lift calculation). The planning analysis recognizes limitations and constraints with regards to space and seating at Monarch's base area guest service facilities. This deficit may directly influence guests' enjoyment and comfort at the ski area. In addition, the slight shortage of rental/repair space may be a deterrent for beginners who are typically the majority of rental customers.

The remainder of this chapter briefly describes the qualitative nature of Monarch's guest facilities, as well as Monarch's other ancillary operations (e.g., ski patrol, first aid, maintenance, etc.) and ski area infrastructure. Monarch's existing facilities are discussed below.

B. ALPINE FACILITIES (LIFTS AND TERRAIN)

1. Lifts

Monarch's lift network currently consists five aerial chairlifts and two surface conveyor lifts. These lifts include the following:

- Fixed-grip Quad Chair: (Pioneer)
- Fixed-grip Double Chairlifts: (Garfield, Breezeway, Panorama, and Tumbelina)

- Conveyor Lifts: (Safari and Congo)[20]
- Total Uphill Chairlift Design Capacity per Hour: 7,300 guests

All chairlifts and surface lifts are located entirely on NFS lands. Monarch's existing lifts service the terrain efficiently except for some hard to reach areas, such as the trails from *North Forty* through *Gunbarrel* northeast of the top terminal of Pioneer lift and the hike-to terrain in Mirkwood Basin.

The Breezeway lift serves intermediate, advanced-intermediate, and expert terrain in the northern portion of the ski area and provides Monarch's guests with access to the staging area for the Monarch Snowcat Tours. Breezeway also provides access to the K2 Terrain Park. The terrain serviced by the Breezeway lift features the mountain's longest intermediate runs and has relatively short lift lines. The popularity of Breezeway's terrain is enhanced by machine grooming efforts and long periods of sun on spring days. However, due to Breezeway pod's southern exposure, the snow surface tends to freeze due to spring conditions.

The bottom terminal of the Breezeway lift is located on a 10-foot earthen platform which adds to the amount of vertical that a guest has to traverse from the parking lots to the Breezeway lift. This steep traverse is difficult for many of Monarch's guests that come from lower elevations or are unfamiliar with walking in ski boots. The bottom terminal also adds to the congestion of the base area because of its close proximity to the base area facilities.

The Garfield and Pioneer lifts service a wide variety of terrain in the southern portion of the ski area, from the challenging *Gunbarrel* trail to the widely utilized *Sleepy Hollow* trail. These lifts provide access to approximately 80% of Monarch's novice terrain. The Pioneer lift was installed in 1999 to provide additional out of base capacity and take pressure off the Garfield double chair, which was installed in 1969.[21]

The Panorama lift (fixed-grip double) is Monarch's only up mountain lift that cannot be accessed directly from the base area. The Panorama lift serves the predominately advanced-intermediate and expert terrain situated in the central portion of the ski area. In addition to satisfying the desires of Monarch's advanced skiers and snowboarders, the Panorama lift also serves novice to intermediate ability level guests that choose to ride the lift primarily for the spectacular vistas afforded by the scenic Continental Divide. Panorama's *Skywalker* trail is designed to ensure that the lower ability level guests (except first-time beginners) are able to egress from the lift's upper terminal to the popular *Sleepy Hollow* trail, which is rated as a novice ability level trail.

The Tumbelina lift is very popular with guests of the beginner and novice ability levels. Installed in 1981, the Tumbelina lift features a relatively slow rope speed of 350 feet per minute (FPM).[22] Guests that ride Tumbelina enjoy novice and low intermediate terrain and easy access to the Panorama lift.

[20] An additional conveyor lift is planned to be constructed adjacent to the Tumbelina Chairlift during the 2011 summer construction season. This conveyor lift is shown in the existing condition figures that accompany Chapters 1 through 4, but is not discussed in the existing conditions analysis since it has not operated during any portion of the previous ski season. The detailed specifications of this conveyor lift are discussed in Chapters 5 and 6.
[21] The lower drive terminal of the Garfield lift was completely replaced with a new terminal in 2010.
[22] The Tumbelina lift is designed for a rope speed of 500 FPM, but running it at 350 FPM provides a better guest experience for the beginner guest.

As the main beginner lift and terrain, the Tumbelina lift typically endures the highest utilization of any lift on the mountain, especially during peak periods such as weekends and holidays. Lift line wait times for the Tumbelina lift can often exceed 20 minutes, which consequently adds to the congestion within the base area. The majority of the guests on the Tumbelina lift disembark at the mid-station, and a small number of guests continue up to the top terminal. Improved utilization of upper trails access by Tumbelina lift could be achieved through a reconfiguration of teaching terrain and limited use of the mid-unload terminal.

The Safari and Congo lifts are Monarch's only conveyor lifts and provide access to a small first-time beginner teaching area located on the *Safari* teaching slope. This area is only utilized by the children's ski and ride school since it is in a location separate from areas of skier circulation. However, access to the Safari and Congo lifts can become difficult for some small children due to the relatively large distance between the ski school building and Safari and Congo lifts.

The lift specifications in Table 1 in Appendix A provide specific information by individual lift.

2. Alpine Terrain

The existing developed trail network is comprised of 56 trails that account for a total of 270 acres of lift-served skiable terrain. An additional 130 acres of managed, hike-to terrain is offered in Mirkwood Basin, which is accessed via the Breezeway lift and a short hike. The maximum vertical drop of the trail network is 1,110 feet—from the top of Mirkwood Basin to the base facilities. An additional 900 acres of off-piste terrain are offered through Monarch Snowcat Tours, which operates under a separate Forest Service Outfitter and Guide Permit. This terrain is located immediately adjacent to Monarch's existing SUP boundary on the northern and western boundaries. The terrain specifications in Table 3 in Appendix A provide specific information by individual ski trail.

a. Lift-Served Terrain

Trail development at Monarch maximizes the potential of the site's natural terrain features and topographic relief while respecting the mountain's contours and fall lines. However, some notable challenges are evident in Monarch's trail design. These include the hiking required to access *Tele Alley*, *Gunbarrel, and North Forty* trails after the saddle in the ridge, as well as the narrow and less visible traverse from the top of Garfield that occasionally restricts some use of the northern trail network, including: *Examiner*, *Upper No Name, Lobo*, *Upper Christmas Tree*, and *Lower No Name*. An additional challenge exists for skier/snowboarders accessing the base area from *Lower Tango* due to a significant elevation differential Moreover, the bottom of *Lower Tango* and the Garfield lift bottom terminal are at a lower elevation compared to the base area facilities and the other out-of-base lifts. Trail widening and improved signage along *Lower Tango* would allow guests to directly access base area facilities without an uncomfortable hike out of the lower elevation.

For the most part, Monarch's trails have been cleared to widths that allow for a relatively free flow of skiers and snowboarders. However, during periods of peak demand, some of Monarch's more popular trails experience uncomfortable levels of congestion. Widening of known pressure points, particularly on portions of *Sleepy Hollow*, *Upper Christmas Tree*, *Lower No Name*, and *K2*, as well as modifications to other trails throughout the ski area, would improve the circulation of Monarch's terrain, specifically during periods of peak demand.

Terrain Distribution by Ability Level

Monarch's developed ski trail network accommodates the entire range of skier ability levels, from novice to expert.

Due to the natural topography, Monarch's terrain distribution by ability level is slightly skewed toward the novice to low-intermediate ability levels (refer to Table IV-1 below). Comprising approximately 39 acres of the maintained trail network, Monarch's novice terrain is concentrated in the mid-southern portion of the ski area's SUP boundary. Some of Monarch's most popular trails, *Sleepy Hollow*, *Glade*, *Lower Tango*, and *Skywalker* are within the ability of guests with novice skills.

Approximately 52 acres of Monarch's terrain dedicated to the low-intermediate ability level, which can be found in the southern half of the ski area. The Garfield and Pioneer lifts provide conveyance to some very attractive, low-intermediate terrain, including the following trails: *Freeway*, *North Forty*, and *Tele Alley*.

Due to the disproportionate amount of novice and low-intermediate terrain, Monarch's intermediate skiers and snowboarders are largely limited to the terrain serviced by the Breezeway lift and a few small areas off the Panorama lift. Comprising approximately 59 acres of Monarch's terrain, some popular intermediate trails include *Little Mo*, *K2*, *Lower No Name*, *Turbo*, and *Snowburn*.

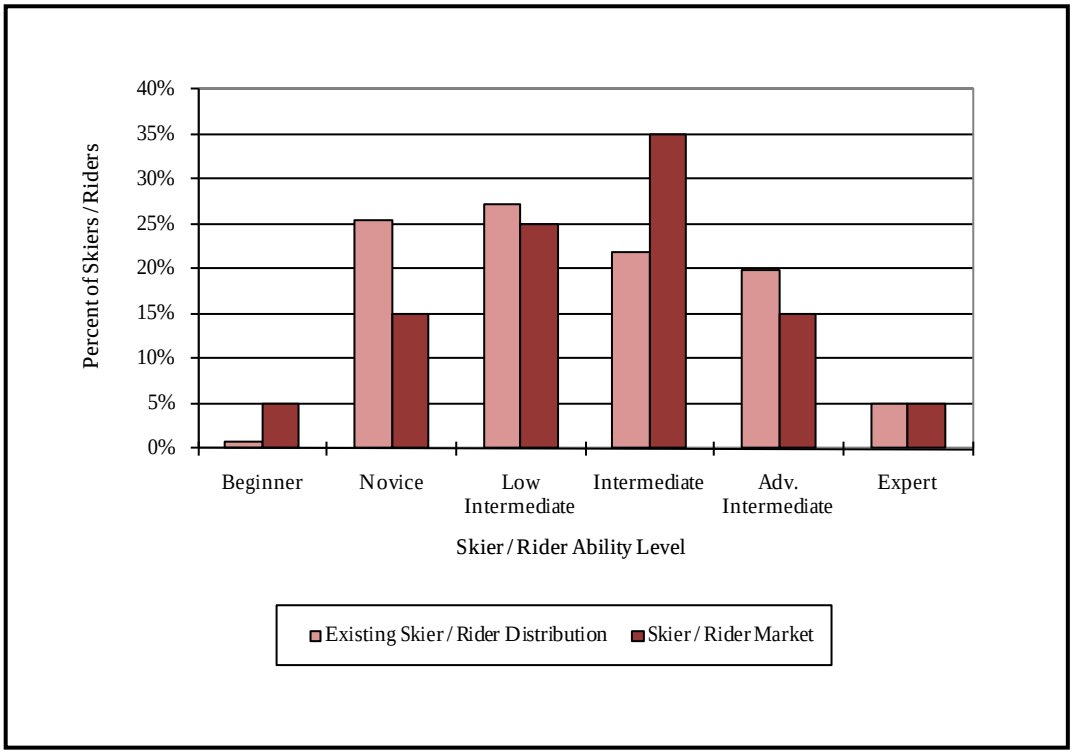
Monarch's advanced-intermediate and expert terrain comprise approximately 76 acres and 45 acres, respectively. The trails served by the Panorama lift are categorized as advanced-intermediate and expert terrain (e.g., *Mirage*, *Sheer-Rock-O*, *High Anxiety*, *Frazzle*, *Zipper*, *Dire Straits*, and *Picante*). Similar terrain is also available to Monarch guests that choose to ski and snowboard the Breezeway and Garfield terrain pods.

Monarch's distribution of terrain by ability level is provided in Table IV-1 and Chart IV-1. The far right column in Table IV-1 represents the estimated ski level distribution of Monarch's targeted markets. Table IV-1 and Chart IV-1 demonstrate how Monarch's terrain distribution compares with the estimated skill level distribution of Monarch's clientele.

Table IV-1:
Terrain Distribution by Ability Level – Existing Conditions

Skier/Rider Ability Level	Trail Area	Skier/Rider Capacity	Monarch Skier/Rider Distribution	Monarch Skier/Rider Market
	(acres)	(guests)	(%)	(%)
Beginner	0.6	18.3	1	5
Novice	37.9	682.4	25	15
Low Intermediate	52.0	728.6	27	25
Intermediate	58.6	586.1	22	35
Adv. Intermediate	76.4	535.0	20	15
Expert	44.6	133.8	5	5
TOTAL	270.2	2,684	100	100

Chart IV-1:
Terrain Distribution by Ability Level – Existing Conditions



The terrain distribution table and chart indicate a shortage of Beginner and Intermediate terrain, and a surplus of Novice, Low-Intermediate and Advanced-Intermediate terrain as compared to the ski industry rider market. To remain competitive in an evolving marketplace, Monarch must provide a distribution of terrain capacity to meet the needs and expectations of guests across the spectrum of ability levels. The primary need is for additional intermediate ability level terrain.

b. Managed Hike-To Terrain

In addition to the developed trail network, Monarch maintains approximately 130 acres of managed, hike-to terrain in Mirkwood Basin. This terrain is accessed from the Breezeway lift and a short (approximately 12 to 15 minutes) hike along a groomed cat-track (this route also serves as access to snowcat skiing addressed below). Mirkwood Basin offers guests approximately 1,110 vertical feet of advanced and expert terrain. Due to minimal vegetation removal and development, Mirkwood Basin provides guests of an advanced ability level with a unique "off-piste" recreation experience not found anywhere else on the mountain. Monarch actively manages the hike-to terrain by providing regular ski patrol services and snow stabilization measures.

3. Terrain Parks

Terrain parks have become a vital part of most ski area's operations, and are now considered an essential mountain amenity. Popularity of terrain parks continue to increase, and is dependent on the regional location of the ski area, demographics of the ski area's target guests, and most importantly, the quality of the parks. In past decades, much of the increase in ski area visitation is a result from the emergence of snowboarding, with the development and evolution of terrain parks following. The presence of terrain parks at ski areas changed various operational and design elements. The

demand for grooming can increase, as terrain parks often require specialized or dedicated operators, grooming machines, and equipment (such as half-pipe cutting tools). Terrain parks typically require significant quantities of snow, either natural or machine produced, often increasing snowmaking demands. Terrain parks can affect circulation on the mountain, as the parks are often a guest destination. Many resorts have either installed terrain park specific lifts, or locate their parks in areas that can easily be repeatedly skied using adjacent lifts. As animation is a significant attraction for the youth market, half pipes and terrain parks often have music, flags, and other items as part of the animation.

Terrain park operations at Monarch for the 2011-12 season will take place in two locations; the Tilt beginner park on *Lower Glade* and along the entire length of *K2*. Previously, three terrain parks were maintained on *Freeway, Lower Glade*, and *K2*. These small parks were comprised of features such as multiple quarterpipes and rollers, log slides, table top jumps, rails, and boxes. Monarch will continue to maintain the beginner park on *Lower Glade* (as the grades are appropriate for beginners), but will move the Aftershock park from *Freeway* to *K2*. Consolidating these parks on *K2* will improve the efficiency of the terrain park operations, but also create an exciting and dynamic environment for the terrain park users from intermediate to advanced ability levels. The terrain parks at Monarch have smaller features since the ski area currently does not have a snowmaking system to support large terrain features. Monarch makes up for the lack of snow by constructing features with more rails and boxes for guests to enjoy.

C. COMFORTABLE CARRYING CAPACITY (CCC)

The daily carrying capacity of a ski area is described as the Comfortable Carrying Capacity (CCC). CCC is not indicate a maximum level of visitation, but is rather a planning tool defined as the number of daily visitors a resort can comfortably or efficiently accommodate at one time without overburdening the ski area's infrastructure. The CCC is derived from the ski area's supply of vertical transport (the combined uphill hourly capacities of the lifts) and demand for vertical transport (the aggregate number of demanded runs multiplied by the associated vertical rise). The CCC is calculated by dividing vertical supply (VTF/Day) by Vertical Demand.

As stated earlier, the accurate estimation of a ski area's CCC is an important, complex analysis and is the single most important planning criterion for the ski area. All other related skier service facilities can be planned based on the proper identification of the mountain's capacity. The detailed calculation of Monarch's current CCC is described in Table 5 in Appendix A and is calculated at 2,870 guests per day. It is typical for ski areas to experience peak days during which skier visitation exceeds the CCC. However, from a planning perspective, it is not recommended to consistently exceed the CCC due to the resulting decrease in the quality of the recreational experience, and thus the ski area's market appeal. In the case of Monarch, the CCC of 2,870 is often exceeded during the holiday periods and during weekends after decent snow fall. During these high visitation periods, the ski area's market appeal may suffer from a degradation of quality as guests experience crowding and longer wait times at lifts and in food service facilities. This degradation of quality and market appeal is anticipated to continue until the ski area's infrastructure is upgraded and expanded to meet the existing demand.

D. 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 ski area, 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 inactive—using guest service facilities or milling areas.

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 base area, 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 trail density for that pod (i.e., the product of the ideal trail density for each ability level and the lift's trail distribution by ability level).

Monarch's trail density analysis considers only the acreage associated with the ski area's lift-served trail network, not including terrain in Mirkwood Basin and terrain accessed via snowcat. The trail density analysis assumes that skiers are spread evenly on each acre of available terrain through the ski area's entire trail network—an unrealistic assumption. Furthermore, on days Monarch is operating at or above its CCC, the majority of skiers are at or around the intermediate ability level range and skiing on intermediate ability level trails. The congestion on certain trails and high trail densities during certain periods of the ski day are a result of the current deficit of intermediate terrain when compared with Monarch's skier/rider market (refer to Table IV-1).

Strictly from a mountain planning standpoint, the Tumbelina lift has the highest densities of terrain served by aerial chairlifts in terms of the relative trail densities or the density index, which is the difference in calculated density and the desired density (refer to Table 7 in Appendix A). As attendance nears Monarch's CCC, the Tumbelina pod becomes more congested. The higher densities (not necessarily "density index") are due in large part to the terrain ability levels this lift serves (i.e., lower ability level terrain has a higher designed trail density), the egress role associated with the *Freeway* trail as skiers return to the base area, as well as the ski school function of the terrain that the Tumbelina lift serves. Higher skier densities are acceptable on ski school terrain since instructors provide oversight for the various ski school groups utilizing the same terrain.

Through visual observations made by Monarch staff and guests, high trail densities, primarily on the beginner and low-intermediate trails, do occur during high visitation periods. This can be attributed to the clientele that primarily visits Monarch (beginner to low-intermediate skier), making certain pods at Monarch more popular than others, and as a result, receive a disproportionate concentration of use. For complete detail regarding Monarch's lift pod densities, refer to Table 7 in Appendix A.

E. SNOWMAKING COVERAGE

Currently, Monarch does not have snowmaking capabilities. However, Monarch management does have snowmaking water rights—0.35 cubic feet per second (cfs) priority #51—from White Ditch #1. Approved via the 1999 Decision Notice, if desired, Monarch management may withdraw water for snowmaking purposes for the period of October 15 through December 1.[23] It would be beneficial for Monarch to develop a snowmaking system focused on covering "hot-spots" on the lower half of the resort and areas near the base area. This "hot-spot" system would enable the ski area to provide high quality and consistent snow coverage during the early season, low-snow seasons, and the important holiday periods.

F. GROOMING OPERATIONS

Monarch grooms the snow surface of their trails to help ensure a quality trail surface, especially during the early and late stages of the season when climatic and snow conditions are less than optimal. Monarch's grooming fleet consists of four grooming vehicles, all of which are in good working condition. Monarch reserves two tour snowcats for the Snowcat Tour program.

Monarch's grooming vehicles are equipped with a variety of grooming implements, such as power tillers, rollers, compactor bars, and powder-makers. These implements help Monarch maximize the utility and efficiency of each grooming vehicle.

Monarch's grooming crews prepare approximately 130 acres of ski terrain on a regular basis. On average, each vehicle is able to groom approximately 4.3 acres per hour or 43 acres over a 10-hour shift. With a fleet of four vehicles, Monarch's optimal, nightly grooming capacity is approximately 172 acres of terrain.

G. SKIER SERVICES SPACE AND FOOD SERVICE SEATING

1. Skier Services

From a planning perspective, Monarch's base area staging location is considered a "gateway" facility with three main functions:

- Receiving arriving guests (from a parked car or bus),
- Distributing the skiers onto the mountain's lift and trail systems, and
- Providing the necessary services for guests at the ski area (tickets, rentals).

The buildings and facilities that accommodate visitor services must be sized and located such that they complement the mountain's CCC. Monarch's existing visitor services are located primarily in the Day Lodge structure within the base area. However, daycare operations, ski school administration, lift operations, employee lockers/lounge, first aid and clinic space, and the racing program are housed in buildings spread throughout the base area. Table IV-2 provides a summary of ski area-wide space use and identifies existing deficiencies/surpluses in space square footage by function. From a capacity standpoint, Monarch currently provides a guest services capacity to support 2,730 guests. This total is arrived at by dividing the total existing square footage (37,458) by

[23] USDA Forest Service, 1999. Monarch Ski Area Master Development Plan Decision Notice and Finding of No Significant Impact.

the industry average for square footage per guest (approximately 13.7). In addition, Table 9 in Appendix A provides a more detailed breakdown by building (e.g., Day Lodge). Monarch's visitor service buildings are discussed, in general terms, in the following paragraphs.

Table IV-2:
Space Use Analysis – Existing Conditions

Function	Existing (sq. ft.)	Recommended Range (sq. ft.)	
		Low	High
Ticket Sales/ Guest Services	1,435	540	660
Public Lockers	954	1,370	1,670
Rentals/ Repair	5,470	4,590	5,170
Retail Sales	1,100	1,570	1,920
Bar/ Lounge	2,565	2,140	2,620
Adult Ski School	685	1,080	1,330
Kid's Ski School	2,190	2,170	2,650
Restaurant Seating	10,884	10,850	13,260
Kitchen/ Scramble	2,244	3,120	3,810
Restrooms	1,720	1,680	2,060
Ski Patrol	980	1,030	1,260
Administration	949	1,440	1,760
Employee Lockers/ Lounge	1,884	570	700
Mechanical	479	870	1,280
Storage	2,663	1,450	2,140
Circulation/ Waste	3,074	3,470	5,130
TOTAL	39,276	37,940	47,420

a. Base Area Facilities

As mentioned above, nearly all of Monarch's visitor services are located in the base area's 22,890-square foot Day Lodge. The building is in fair condition and is a multi-storied, split level structure with the lowest level housing a seating area, public lockers, and limited storage that support the food and beverage service. The second level houses the cafeteria kitchen and scramble area, as well as two small seating areas, and some public lockers. A portion of the third level provides the building's main entry/exit from the parking lots, an entry/exit from the slopeside, public restrooms and lockers, limited kitchen storage space, two additional small seating areas, and minor office and mechanical space. On the next level, above the kitchen, is the 2,565-square foot main bar and lounge. The top level of the Day Lodge houses restaurant and cafeteria-style seating, a coffee shop with limited food and beverage offerings, the retail shop, Snowcat Tour meeting and lunch area, administrative offices, and two entry/exits from the slopeside.

The multi-floor layout of the Day Lodge creates substantial inefficiencies. The spatial requirement for circulation is dramatically increased and some services are duplicated. As a result, while the Day Lodge building has over 22,890 square feet of space, its overall utility is reduced to the level of a building approximately two-thirds of this size.

Located north of the Day Lodge is the Rental and Lesson Center Sprung structure, which was constructed in 2006 and is in excellent condition. The structure is approximately 8,600 square feet in size with its primary function providing rentals/repair services to Monarch's guests. However, the structure also houses Monarch's Lesson Center, rental will call, ski school administration offices, and restrooms, as well as required mechanical and circulation space.

An existing retaining wall and staircase located adjacent to the Rental and Lesson Center is in disrepair and will require reconstruction.

The Children's Center, located north of the Day Lodge, was constructed in 1987, and is in good condition. The approximately 2,600 square foot facility houses play spaces for the daycare, and young children's ski programs on its main floor and employee lockers in the basement floor. A 750 square foot yurt housing ski school programs for 7-10 year olds sits adjacent to the Children's Center. Unfortunately, these buildings are a considerable distance from a lift—a factor that limits the utility of the Safari slope and hampers Monarch's ability to provide the best possible service to the family market. The Children's Center's distance from the Day Lodge which houses the Ski School Sales Desk and related guest services (e.g., administration, restrooms, etc.) also results in duplicated spaces and general inefficiencies, which substantially compromises its utility.

The Ski Patrol Building was constructed in 1986, and is in good condition. This facility is located southeast of the Day Lodge with on-grade access to both the trails and parking lot. The 1,492-square foot, single-level structure is dedicated entirely to ski patrol functions. The building is comprised of clinic space, administrative space, patrol locker room, patrol/clinic restrooms, space for patrol radio dispatch, and an office for the Monarch Snowcat Tours.

The 1,300-square foot Tent Deck, adjacent to the Day Lodge, was relocated to its current location in 2006 and is in fair condition. This facility is used to accommodate large groups. While it has seating, there are no attached services that relate to the seating, such as food service and restrooms. As a result, the space within the Tent Deck has only marginal utility and is mostly used by guest bringing their "brown bag" lunches to the resort.

The Restroom facility was constructed in 2006 and is in excellent condition. The approximately 756-square foot structure is located just south of the Day Lodge and adjacent to the Tent Deck.

b. On-Mountain Facilities

Monarch's on-mountain facilities are limited to three small ski patrol shacks and four race buildings. The ski patrol buildings are located at the top of the Breezeway, Garfield, and Panorama lifts each are respectively 192, 96, and 120 square feet. There are four small race buildings (ranging from 36 to 132 square feet in size). None of the on-mountain buildings have public space associated with them.

2. Food Service Seating

Food service seating at Monarch is provided in the Day Lodge and the Tent Deck. There are 808 indoor, outdoor, and cafeteria-style seats available to Monarch guests. Nearly 15% of the indoor seats (107 seats) are located in the Tent Deck and are considered to have marginal utility given the physical separation between the Tent Deck and the services offered in the Day Lodge. The lowest level of the Day Lodge (old rental shop) is not available to food & beverage except for the food

storage area. The seating area cannot be accessed from inside the building making it more practical to be used as a separate sack lunch area.

A key factor in evaluating food service seating capacity is the seat turnover rate. A turnover rate ranging from 3 to 5 is utilized in determining a ski area's food service seating capacity. Ski areas with sit-down dining typically experience a turnover rate of three people per day, while cafeteria-style dining is characterized by a higher turnover rate of 4.5 to 5 people per day. In addition to the type of food service, a ski area's climate and snow conditions also impact the seat turnover rate (i.e., cold and snowy climates have lower turnover rates; powder days tend to shorten skier and snowboarder lunch breaks).

Taking into consideration Monarch's guest demographic, climate, normal snow conditions, the ski area's cafeteria-style food service, and the situation where an above-average number of guests "lounge" in food service facilities when compared to the ski industry average, an average turnover rate of 3 was used to calculate the seating capacity of the ski area's food service outlets and a turnover of 2.5 was used for the sack lunch areas. Table IV-3 summarizes Monarch's existing seating requirements, based on a logical distribution of the mountain's CCC to each building/location.

Table IV-3:
Existing and Required Restaurant Seats and Seating Capacity

	Day Lodge	Day Lodge (Sack Lunch)	Tent Deck (Sack Lunch)	Total
Lunchtime Capacity (CCC + Additional guests)				3,014
Average Seat Turnover (indoor)	3.0	2.5	2.5	
Existing Indoor Seats	513	165	107	785
Average Seat Turnover (outdoor)	2.0	1.0		
Existing Outdoor Seats	50	118		168
Required Seats	1,005			1,005
Difference (indoor seats – required)	-442			-220
Existing seating capacity (indoor)	1,539	413	268	2,219
Existing seating capacity (indoor and outdoor)	1,639	531	268	2,437

Many Rocky Mountain resorts use outdoor seating to help mitigate seating shortages during periods of favorable weather. However, this outdoor seating is only available during periods of clement weather, usually during the early and late stages of the ski season. As mentioned earlier, Monarch has very minimal outdoor seating. This is due in large part to the fact that during the majority of Monarch's periods of peak demand, inclement weather prevents the use of outdoor seating. However, although Monarch should focus on offering more indoor seating, the ski area may benefit from additional outdoor seating used to mitigate congestion, especially during the early and late stages of the ski season.

Again, another seating factor that is considered in the capacity model is the amount of non-skiing guests that "lounge" in the restaurants during the day. This was estimated to be 5% of the CCC (144 guests) to achieve the "Required Lunchtime Capacity" of 3,014 guests, as stated in Table IV-3.

H. PARKING CAPACITY

The table below indicates that Monarch maintains 853 parking spaces within the base area, and at a current CCC of 2,870, Monarch should maintain 851 parking spaces. However, after periods of snow, Monarch's parking capacity is reduced due to the increased area needed for snow storage. This area fluctuates throughout the season and can dramatically reduce the amount of parking available for guests.

Currently, Monarch experiences visitation during periods of the ski season in the range of 3,000 to 4,000 guests as demonstrated in the attached charts. On these days, not all guest vehicles can be accommodated in our current parking lot, and approximately 60 to 80 vehicles must park in the highway easement. In addition to parking guests in the highway easement, Monarch runs two shuttle buses form employees from Salida and the remaining employees park off-site at the Madonna Mine. The range of 3,000 to 4,000 guests that fit within the current parking system is driven by the number of people per car, which will fluctuate depending on the type of visitation we are experiencing. Parking vehicles and commuting employees in this manner creates an unsafe environment for guests and employees, as well as the general public traveling on U.S. Highway 50. By reducing the need to park vehicles along the highway, Monarch would substantially lower the risk of vehicle/pedestrian conflicts as guests and employees access base area facilities from their vehicles.

Access to Monarch is generally satisfactory. Situated immediately adjacent to U.S. Highway 50, Monarch's access road is 600 feet long (refer to Figure IV-1). Maintained by Monarch management, the access road has a paved surface and meets generally accepted design standards. As mentioned above, overflow employee parking (60 to 100 spaces) is provided at the Madonna Mine lot located approximately 1 mile east on U.S. Highway 50 of the Monarch entrance. Moreover, when Monarch anticipates a peak day, employees are required to park at the overflow lot to maximize guest parking in the base area.

On-site, guest parking is available at the base area's 8.3-acre surface parking lot as well as the entrance and exit roads. Monarch's parking area is both paved and has a three-quarter inch gravel surface and is in good condition (i.e., no major washouts, sink holes, or other areas of distress). While the parking lot is relatively flat, Forest Service personnel have expressed concern about the lot's propensity to contribute sediment to nearby streams (primarily through Monarch's snow removal operations). Monarch has implemented mitigation measures to minimize impacts to water quality. These measures include: a sediment basin and drainage control efforts.

Table IV-4:
Existing Parking at Base Area

	Multiplier	Total
CCC (2,870) + other guests requiring parking (144)[a]		3,014
Guests arriving by car	92%	2,772
Required parking spaces (3.6 guests per car)	3.6	*770*
Guests arriving by charter bus	8%	241
Required charter bus parking spaces (35 guests per bus)	35.0	7
Equivalent car spaces (1 bus=4.5 cars)	4.5	*31*
Required employee car parking spaces		*50*
Total required spaces		*851*
Existing parking spaces		*853*
Surplus		*2*

Note:
Existing car parking spaces are based on a calculation of parking spaces per acre.
Italicized numbers indicate parking spaces.
[a] "other guests" include non-skiing guests who are an additional 5% of Monarch's CCC.

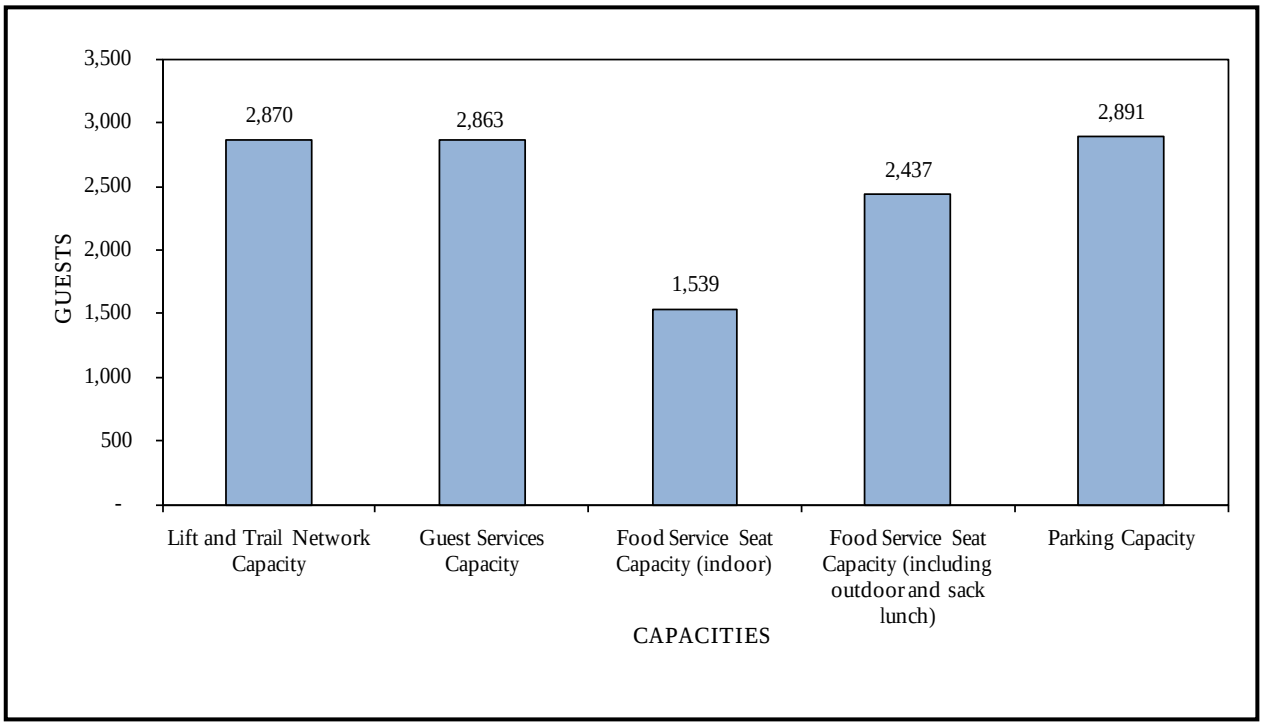
Based on a CCC of 2,870, Table IV-4 indicates Monarch's ability to accommodate 3,014 guests arriving by car (3.6 guests per vehicle) and bus (35 guests per bus).[24] The overall parking capacity available for guests (excluding employees) parking only by car is 2,891 (853 parking spaces, minus 50 employee spaces, multiplied by 3.6 guests per car).

I. BALANCE OF FACILITIES

The overall balance of the existing ski area is evaluated by calculating the capacities of Monarch's various facilities and comparing those facilities to the CCC. The above discussed capacities are shown in Chart IV-2.

[24] 3.6 guests per vehicle is within the ski industry average for ski areas without a bed base. This average vehicle occupancy was determined based on the amount of families, groups and the destination location of the ski area.

Chart IV-2:
Ski Area Balance – Existing Conditions



As the above chart indicates, the existing ski area needs to achieve an improved balance of skier support facilities, in particular related to restaurant seating. Restaurant seating space is recognized as a specific constraint at Monarch. This is attributable to the low turnover rate due to families staying within the base area longer, especially those with small children not participating in ski school. Another reason for the low seating capacity is that there are 270 indoor day lodge seats essentially dedicated to sack lunch seating due to the lack of connectivity to the organized food service areas in the lodge. These factors contribute to the restaurant seating capacity being considerably lower than the existing CCC of 2,870.

J. ALTERNATIVE WINTER RECREATION

Currently, Monarch does not provide alternative recreational opportunities for guests. Variety in guest opportunities would allow guests of different ages to engage in experiences that are currently not offered; thereby, improving the overall guest experience.

K. OPERATIONS (MAINTENANCE, UTILITIES)

1. Maintenance Facility

Monarch's only maintenance facility is located adjacent to the guest parking lot and is visible from the base area.

Comprised of approximately 3,100 square feet, the facility is a steel, wood, and concrete structure, heated by gas and wood systems. The facility is responsible for all major vehicle and lift maintenance operations and also features space for vehicle storage, parts storage, lift operations storage,

restrooms, and administrative space. In addition to the primary maintenance facility, there is a small storage building (approximately 250 square feet) adjacent to the maintenance building.

From an equipment standpoint, the facility is adequately equipped with tools that are common to ski facilities of Monarch's size. Structurally, the maintenance facility appears to be in fair to good condition. However, the facility is much too small to service Monarch's vehicles and provide maintenance to Monarch's lifts and other base area buildings. Preliminary estimates show the facility being undersized by approximately 3,650 square feet.

2. Utilities

a. Water

Monarch's domestic water is supplied by two wells. One well produces an estimated maximum flow of 15 gallons per minute (gpm), while the other produces approximately 14 gpm. Domestic water storage is supplied by two, underground, concrete storage tanks which each feature a storage capacity of 24,000 gallons for a total of 48,000 gallons of storage. Monarch's existing water supply and water storage system appears adequate to meet the ski area's peak domestic water demand.

b. Sewage

Monarch presently owns and operates a tertiary sewage treatment system that has a 23,000 gallon per day capacity. This system runs at 45 to 55% of its capacity in the winter and 5% of its capacity in the summer. The system was built in such a way that it can be expanded to double the capacity, as mandated by the State when the limits are reached. The system currently meets both State and Federal requirements.

c. Electricity

Electrical power is supplied to Monarch over a Xcel 25,000 kVa transmission which provides the ski area with three-phase, incoming power (110-208-430v). Xcel also furnishes Monarch's major transformers and distribution lines. Currently, the ski area's electrical service requirements amount to approximately one-third of the existing power supply, or an estimated 8,000 kVa. Consequently, Monarch's power supply is more than adequate for existing ski area operations.

d. Communication

U.S. West Communications provides phone service to Monarch. Presently, the ski area has 32 incoming lines (system capacity of 200) which feed into a Nortel Network System. Telephone lines connect each building to each lift system, and telephone lines link the upper and lower terminals of each lift system. In addition, Monarch as two T1 lines—one for phone and one for internet/networking capabilities.

Monarch's on-mountain telephone network is augmented with hand-held and mobile radios, two mobile stations, two base stations, a repeater and an approved tower location. The radio system services 70 hand-held radios. Monarch's radio communication system affords a direct means of communication for Monarch's management team, maintenance personnel, and the ski patrol operation. Monarch's radios range from fair to good condition.

Recently, the GMUG National Forest has installed a radio antenna which is attached and integrated into the infrastructure of the Monarch's radio tower at the top of the Panorama lift. This additional antenna improved the radio coverage west of the continental divide for the USFS.

e. Weather Station

Weather data collection is necessary for purpose of avalanche forecasting for both the ski area and for the Colorado Avalanche Information Center. Critical data such as wind speed/ direction, barometric pressure, and temperatures are collected from a weather station located at the highest point on the ridge above Mirkwood Basin. The weather instruments are located on a 10 foot tower and uses radio signals to transmit the data to Ski Patrol Headquarters. This weather station has been in place since 1990.

f. Fuel Storage

Monarch's fuel storage system is adequate to meet existing demand and is located above ground adjacent to the Maintenance Facility on the eastern portion of the SUP boundary. The fuel storage system is comprised of:

- 2 diesel storage tanks (6,000 and 250 gallons)
- 1 unleaded gasoline tank (4,000 gallons
- 5 propane tanks ([2]500 gallon tanks, 125 gallon tank, and [2]1,000 gallon tanks)

L. SUMMER RECREATIONAL OPPORTUNITIES

Monarch operates primarily as a day-use, winter sports recreation area. Therefore, Monarch does not support summer operations such as mountain biking, hiking, chairlift rides, special events, etc.

LEGEND

- SUP Boundary
- Existing Ski Trail
- Existing Building
- Existing Lift
- Lift to be Constructed in Summer 2011
- Existing Mtn Access Roads

MONARCH MOUNTAIN EST. 1939

Master Development Plan

SUP Boundary
GREAT DIVIDE
SKY WALKER
HIGH ANXIETY
FRAZZLE
ZIPPER
DIRE STRAITS
PICANTE
TICABOO
SNOW BURN
OUTBACK
SHAGNASTY
TURBO
MIRAGE
SHORT N SWEET
QUICK DRAW
SLEEPY HOLLOW
KC CUTOFF
CURECANTI
TENDERFOOT
GLADE
ROOMER
PANORAMA 3
UPPER CHRISTMAS TREE
UPPER NO NAME
BEE LINE
LOWER NO NAME
AFTERSHOCK
FREEWAY
LITTLE JOE
TUMBELINA 4
SNOWFLAKE
BREEZEWAY 1
B'S BASH
DOC'S RUN
UPPER HALL ALLEY
ORCS
MIRKWOOD BOWL
MIRKWOOD TREES
ELATION RIDGE
STAIRCASE
LODGEVIEW
EAST TREES
LITTLE MO
K2
GENTLEMEN'S GLADES
TANGO
KANONEN
CLEANER
AJAX
OBOE
ROMP
ROUNDABOUT
TODDLER
SIDEWINDER
LOWER TANGO
PIONEER 5
GARFIELD 2
CONGO 7
SAFARI 6
Base Area and Parking
RICOCHET
NORTH FORTY
TELE ALLEY
GUNBARREL

EXISTING CONDITIONS

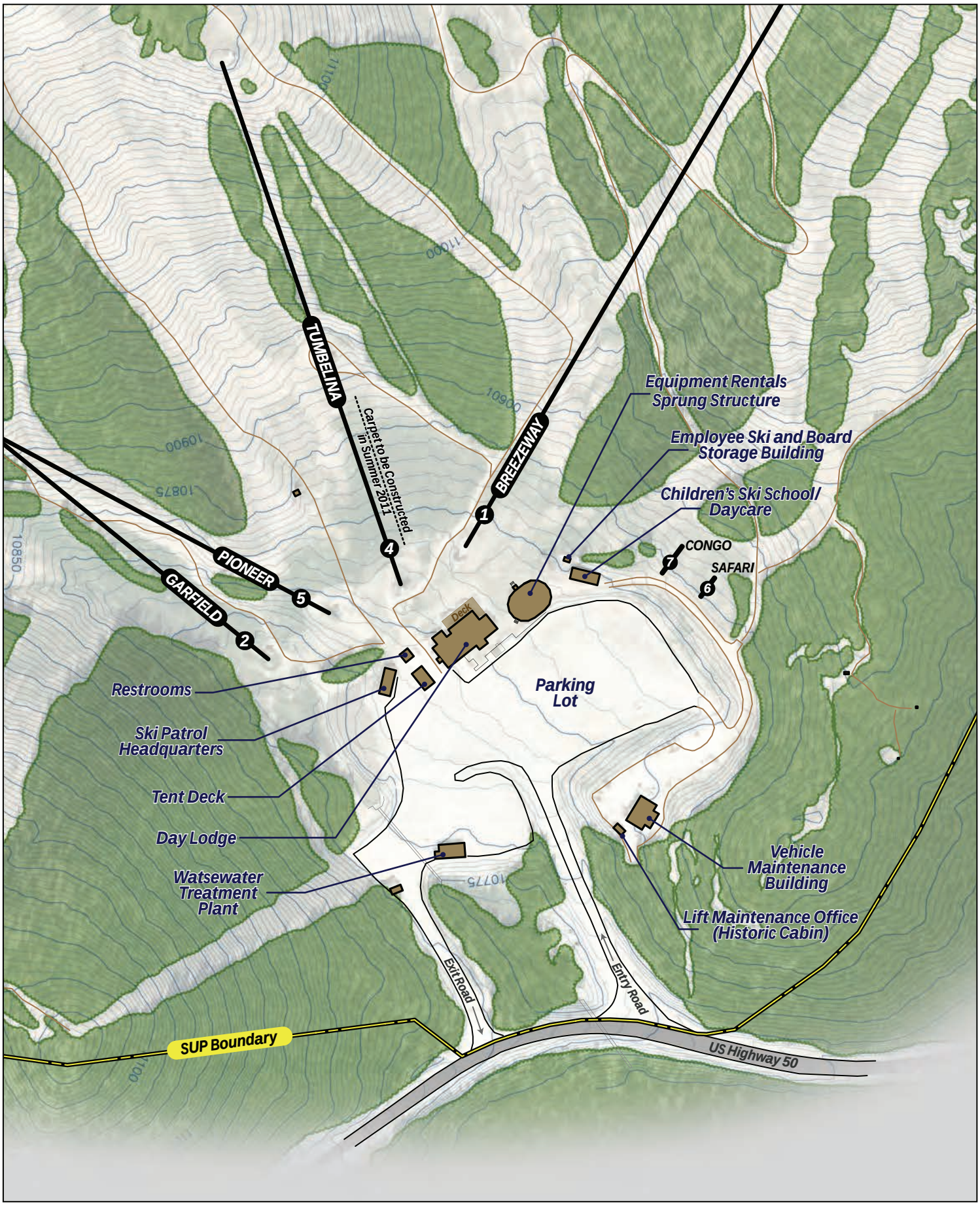
Figure IV-1

Prepared by: SE GROUP

North

5' Contour Interval

0 300 600 1,200'



5' Contour Interval

North

0 150 300 600'

BASE AREA DETAIL

Figure IV-2

Chapter 5
Previously Approved Projects, Not Yet Implemented

V. PREVIOUSLY APPROVED PROJECTS, NOT YET IMPLEMENTED

The projects detailed in this section have been previously approved, but have not yet been implemented. It is anticipated that the majority of these projects will ultimately be implemented as capital for on-mountain improvements becomes available. Prior to project implementation, the Forest Service will review project consistency with the 1984 LRMP for the Pike and San Isabel Nationals Forests standards and guidelines and determine if additional analysis is warranted due to changed environmental and social conditions, and/or new planning and regulatory guidance. Applicable analysis and approvals are contained in the following documents:

- 1998 Monarch Ski Area Master Development Plan, Environmental Assessment
- 1999 Monarch Ski Area Master Development Plan, Decision Notice and Finding of No Significant Impact

All of the projects listed below were previously approved via the 1999 Decision Notice and Finding of No Significant Impact Monarch Ski Area Master Development Plan (1999 DN).

A. LIFTS

The previously approved lift upgrades detailed here have been included in the appropriate proposed capacity calculations within this MDP.

1. Breezeway Lift

The Forest Service approved the upgrade of the Breezeway lift as a bottom-drive, fixed-grip, four-person chairlift. The previous approval authorized the relocation and realignment of the chairlift. Although, new planning has revealed that the current alignment of the Breezeway lift is appropriate, but the bottom terminal should be relocated up the lift line approximately 100 feet. In addition, new planning revealed that a four-person chair is not warranted and only a triple is needed. These modifications to the previous approval are addressed in further detail in Chapter VI.

2. Snowflake Surface Lift[25]

The Forest Service approved the installation of the Snowflake surface lift to be located between the Tumbelina and Breezeway lifts. This MDP proposes a modification to the previous approval; moreover, the Snowflake surface lift would be installed as a conveyor lift in a different location. The alignment of the conveyor lift would parallel the Tumbelina lift, avoiding wetlands in the previously-approved alignment. These modifications to the previous approval are addressed in further detail in Chapter VI.

B. TERRAIN

The Forest Service approved a 36-acre increase to Monarchs' trail network. The majority of the increase will be the result of trail widening, with a minor amount of new trail construction. To date, Monarch has implemented a portion of this approved trail clearing. Therefore, this MDP proposes to complete the previously-approved upgrades to Monarch's terrain network through new trail construction and trail widening.

[25] This lift is scheduled to be constructed during the 2011 summer construction season.

1. Trail Development

The Forest Service approved development of a new trail connecting *Turbo* and *Sleepy Hollow* with *Mirage*. The trail will require approximately 3.5 acres of vegetation removal and will improve skier circulation within the terrain serviced by the Panorama lift. The previously-approved trail will have an average skiable width of approximately 110 feet and offer advanced-intermediate skiers a new terrain option.

2. Trail Widening

The Forest Service approved additional terrain modifications to facilitate necessary widening and trail connection projects. These projects were approved to relieve congestion and improve the ski area's overall skier circulation. As stated, Monarch intends to complete this approval by removing approximately 14 acres of vegetation. Previously-approved trail widening applies, but is not limited to the following trails: *Romp*, *Drifter*, *Sleepy Hollow*, *Upper Christmas Tree*, *Upper No Name*, *Lower No Name*, *Glade*, *Snowburn*, *K2*, and areas within the *Safari* teaching area.

C. FACILITIES

1. Mountain-Top Facility

The Forest Service approved the construction of a mountain-top facility to be located adjacent to the top terminal of the Panorama lift. The 700-square foot yurt type facility will accommodate seating for 50 guests and provide limited food service. In addition, the facility will have composting toilets and will function as a warming hut. The previously-approved ski patrol function for the Mountain-top facility is not part of this MDP.

2. Mid-Mountain Facility

The Forest Service also approved construction of a small mid-mountain facility, sun deck, and associated restrooms facility as part of the 1999 DN. This facility was approved to be approximately 300 square feet in size and offer limited food preparation (barbeque) as well as restroom facilities in the form of composting toilets. The attached sun deck will accommodate approximately 150 people. Also included with the mid-mountain facility is the relocation of the 1,300-square foot Tent Deck currently located at the base area. The Tent Deck would be located adjacent to the mid-mountain facility and provide additional on-mountain seating.

D. SNOWMAKING

The Forest Service approved the development of snowmaking capabilities on approximately 33 acres of skiable terrain to improve early snow conditions and ensure adequate coverage on popular novice and intermediate terrain. The snowmaking system will utilize high efficiency, fan-type (airless) snowmaking equipment to augment natural snowfall by approximately 9 inches on each of the proposed trails to be covered. Monarch is previously approved to provide snowmaking coverage on the following trails: *Safari*, *Sleepy Hollow*, *Freeway*, *Glade*, *Little Jo*, and *Snowflake*.

The outstanding previously-approved snowmaking coverage requires the construction of a snowmaking pond located immediately south of the guest parking lots. Supplied by an unnamed tributary that flows through the base area, the pond will be approximately 1 acre in size with an average depth of 3 feet. Necessary water lines and power lines will require approximately 11,000 feet of trenching.

E. PREVIOUSLY APPROVED PROJECTS NOT CONTAINED WITHIN THIS MDP

The Forest Service approved projects that Monarch will not pursue and are therefore not included in the upgrading plan contained within this MDP. These projects include the Gunbarrel surface lift, a snowplay area, and a Maintenance Facility.

1. Gunbarrel Surface Lift

The Forest Service approved a surface lift located on the southeast portion of Monarch's SUP area. This lift was approved to be approximately 1,125 feet long with a capacity of 600 people per hour. Its primary function was to eliminate the uphill walk required for accessing the *Tele Alley, North Forty* and *Gunbarrel* trails. This previously approved project is not included in this MDP because Monarch determined that the terrain this lift is supposed to service would remain underutilized, even with installation of this lift. Therefore, the lack of an improvement to the recreation experience does not justify the increase in operational costs associated with this lift.

2. Snowplay Area

The Forest Service approved the creation of a snowplay area to be located along the northeastern edge of the parking lot, north of the *Safari* trail. The snowplay area would have been serviced by a small handle tow, would allow sledding, tubing, shallow halfpipes, and a lengthy run out/ transition zone. Monarch has elected not to include the original design that was previously-approved. Recent planning has developed an improved site plan for a snow tubing facility. This facility is discussed in Chapter VI.

3. Maintenance Facility

The Forest Service approved for Monarch to expand and relocate the existing Maintenance Facility north of the base area. The upgraded facility would have been approximately 10,000 square feet in size and would have provided facilities for vehicle maintenance and operations personnel. This previously-approved project is not included in this MDP because of the excessive costs associated with moving the facility. Moreover, the previously-approved location for the Maintenance Facility can be better utilized for overflow parking. The addition of a new vehicle maintenance facility is planned adjacent to the existing maintenance facility; refer to Chapter VI for the detailed discussion of this facility.

Chapter 6
Proposed Upgrading Plan

VI. PROPOSED UPGRADING PLAN

A. SUMMARY OF UPGRADING PLAN

The purpose of this upgrading plan is to provide direction for the future development of Monarch, which ensures a balance of facilities and variety of amenities to provide an exceptional guest experience and operational efficiencies. This plan will allow Monarch to remain competitive in the destination and day-skier market, help retain existing guests, and attract new visitors. The upgrading plan is depicted in Figures VI-1 and VI-2.

Monarch will perform a series of ski area upgrades as detailed in this section. These projects include:

- Chairlift upgrades and installation
- Conveyor lift installations
- Upgrades to existing trail network
- Installation of previously approved snowmaking infrastructure
- Adjustment of Monarch's SUP boundary to include lift-served skiing in No Name Basin
- Installation of new on-mountain guest service facilities
- Increase in parking capacity
- Upgrades to existing guest service facilities
- Construction of snow tubing facility

The proposed upgrading plan includes on-mountain and base area improvements designed to meet guest expectations that provide an enjoyable recreational and social experience at the ski area. As stated in Chapter I, Monarch provides a skiing experience for a diverse range of clientele.

B. ALPINE FACILITIES (LIFTS AND TERRAIN)

1. Ski Area-Wide Upgrades (Front-side and No Name Basin)

Monarch currently operates five chairlifts and two conveyor lifts. With the upgrading plan:

- 1 new chairlift would be installed
- 1 existing chairlift would be upgraded
- 1 existing conveyor lift would be relocated
- 2 new conveyor lifts would be installed
- 1 new conveyor lift to service a snow tubing facility
- Implement the previously approved conveyor lift adjacent to the Tumbelina Chairlift (to be installed during the 2011 summer construction season)

The existing developed ski trail network accommodates a wide range of skier ability levels, from novice to expert.[26] With the upgrading plan Monarch would:

- Implement the previously approved trail widening within existing terrain network
- Implement previously approved new trail development
- Develop two short trail segments within Monarch's current terrain network
- Provide additional gladed tree skiing within Monarch's current terrain network
- Develop new trails and gladed tree skiing opportunities within No Name Basin

Additionally, Monarch plans on providing another recreational opportunity with a snow tubing facility adjacent to the Safari teaching area. The snow tubing facility is discussed in section J of this chapter and should be noted that the tubing lift and associated buildings are not included in the analysis of the skier services facilities and on-mountain lifts. Furthermore, the conceptual plan of the snow tubing facility would be to attract guests from the current and expected guests that would be skiing and arriving at the ski area with skiers. Therefore, facilities do not need to be planned to accommodate additional guests above the Upgrading Plan CCC.

In summary, the upgrading plan includes additions to Monarch's existing lift-served trail network both within and outside the current SUP boundary. Monarch's trail network currently offers approximately 270 acres of lift-served terrain and approximately 130 acres of managed hike-to terrain within Mirkwood Basin. The proposed developed lift-served trail network at Monarch will total approximately 347 acres of skiable terrain. In addition to developed trails, Monarch would also glade existing inter-trail tree islands on the front-side and in No Name Basin totaling 21 acres and 58 acres, respectively. Monarch would augment the existing 130 acres of managed, hike-to terrain in Mirkwood Basin with 27 acres of additional gladed terrain. Together, these total approximately 583 acres that Monarch would patrol, control and maintain for skiing.

a. Lift-Served Terrain

In addition to the previously-approved trail projects discussed in Chapter V, with this upgrading plan, Monarch also proposes several trail widening/tree clearing projects to improve identified skier circulation concerns. Approximately 1.5 acres of widening and clearing and approximately 6 acres of grading is proposed on the front-side (refer to Figure VI-1).

Terrain Distribution by Ability Level

The following table and chart compares the existing distribution of terrain capacity by skier ability level with the distribution after upgrading. These exhibits show that the upgraded trail network at Monarch will continue to accommodate a range of skier ability levels from novice to expert. With the proposed upgrades, the terrain distribution figures demonstrate that a shortage of beginner and intermediate terrain will persist given the skier/ rider market. In addition, the terrain distributions for the low-intermediate and advanced-intermediate ability levels increase, while the novice and expert distributions slightly decrease. The reduction in terrain capacity distribution of the novice and expert categories is primarily a result of changing the overall percentages due to the increases in acreages for low-intermediate, intermediate, and advanced-intermediate ability levels.

The upgrading plan includes the addition of approximately 0.6 acre of beginner terrain. As previously stated, a shortage of beginner terrain would persist. This is due to the limited slope angles available at Monarch. Over the past several years, Monarch has made ski school operational decisions that have improved the usability and efficiency of the beginner terrain, which has improved the guest experience.

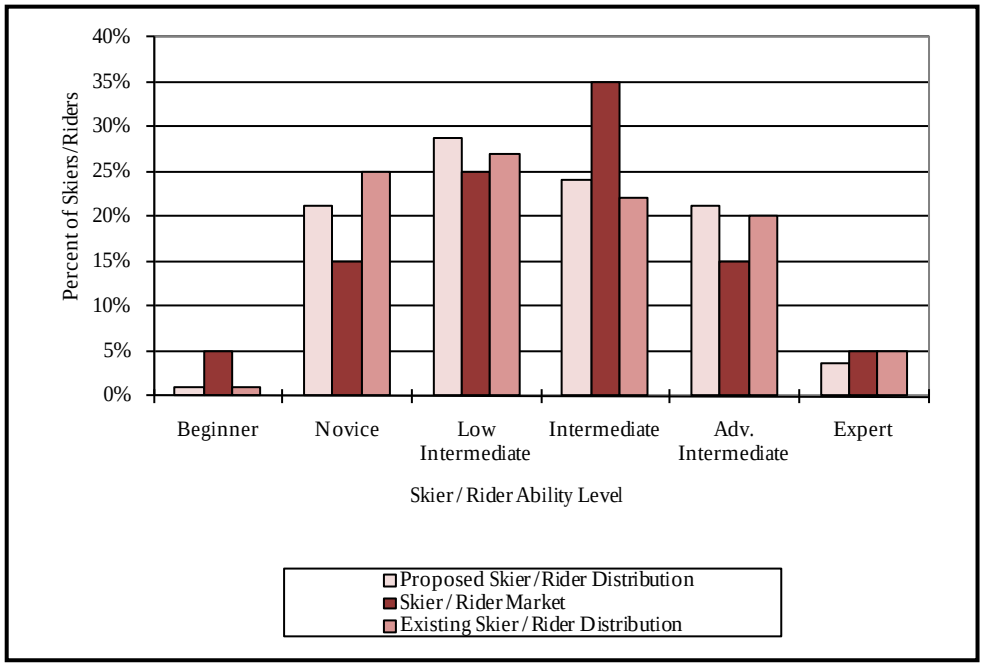
[26] It should be noted that Monarch provides approximately 0.2 acre dedicated to beginner terrain located in the *Safari* teaching area. However, this terrain is exclusively utilized for children's ski and ride school.

It should be noted that the national skier/rider market distribution for advanced-intermediate and expert terrain is 15 and 5%, respectively. With the improvement of ski equipment technology and the advent of shaped skis, a greater percentage of intermediate skiers are pushing themselves into advanced terrain. This situation occurs when the appropriate conditions are present, and is becoming a more common occurrence in bowls and other areas where fewer obstacles exist (e.g., gladed terrain). Therefore, even though the national market distribution is accurate for Monarch, advanced terrain should be available for this growing.

Table VI-1:
Terrain Distribution by Ability Levels – Upgrading Plan

Skier/Rider Ability Level	Trail Area	Skier/Rider Capacity	Skier/Rider Distribution (Existing)	Skier/Rider Distribution (Proposed)	Skier/Rider Market
	(acres)	(guests)	(%)	(%)	(%)
Beginner	1.4	41.2	1	1	5
Novice	40.7	732.6	25	21	15
Low Intermediate	71.0	993.9	27	29	25
Intermediate	83.2	832.1	22	24	35
Adv. Intermediate	105.1	735.6	20	21	15
Expert	43.2	129.7	5	4	5
TOTAL	344.6	3,465	100	100	100

Chart VI-1:
Terrain Distribution by Ability Level – Upgrading Plan



Managed Hike-To Terrain

In addition to the proposed developed trail network, Monarch would maintain approximately 130 acres of managed hike-to skiing in Mirkwood Basin. A glading project is proposed in Mirkwood Basin to enhance the existing managed, hike-to terrain experience (refer to Figure VI-1). Managed hike-to terrain is growing in popularity within the Colorado skier market as evidenced by the proliferation and popularity of off-piste terrain within controlled ski area boundaries.

2. Front-side Lifts and Terrain

a. Lifts

The lift upgrading plan calls for the relocation of the previously approved upgraded Breezeway lift's bottom terminal and the installation of two new conveyor lifts and relocation of one existing conveyor lift within the *Safari* children's teaching terrain.

Breezeway Lift

As stated in Chapter V, Monarch is including within this MDP the previously-approved upgrade of the Breezeway lift. Monarch has decided to upgrade Breezeway from a fixed-grip double (1,000 people per hour) to a fixed-grip triple (1,800 people per hour) instead of a fixed-grip, four-person chair. However, not included in this upgrading plan is the previously-approved relocated alignment to the northeast. In this MDP, the bottom terminal of the Breezeway lift would be moved approximately 100 feet upslope (northeast) of the bottom terminal's existing location to an approximate elevation of 10,840 feet. In addition, grading would occur in the area of the relocated bottom terminal to provide a smoother and consistent terrain gradient that provides easier access for guests to the Breezeway lift from the base area and parking lots.

Relocating the bottom terminal would also benefit the *Snowflake* teaching terrain adjacent to Monarch's base area through terrain widening and reducing the existing bottleneck effect occurring between the bottom terminals of the Tumbelina and Breezeway lifts.

Breezeway's top terminal would remain in the location of the existing terminal at approximately 11,675 feet.

Tumbelina Lift

The existing Tumbelina lift is well aligned and maintains an adequate lift capacity for the terrain it serves. To better serve the terrain, Monarch proposes the discontinued use of the existing mid-unload station. Discontinuing the use of the mid-unload can be accomplished in conjunction with the installation of the Snowflake Conveyor. The removal of the mid-unload and the installation of the Snowflake Conveyor will better disperse skiers across terrain that is currently underutilized.

Safari Lift System

To enhance the children's learning experience, the existing Congo conveyor lift would be relocated and two additional conveyor lifts installed within Monarch's Safari children's teaching area (refer to Figure VI-2).

The Congo conveyor would be slightly relocated to provide access to the Safari teaching area from the new Children's Center with an average slope gradient of 8%. Safari will remain in its current location on the existing grade of approximately 10%. To compliment and expand upon the existing lifts, two additional conveyors will be installed adjacent to the Congo and Safari conveyors. An 80-foot long and 150-foot long conveyor lifts would be installed on 10% and 12% slopes. This proposed lift configuration would provide a more natural learning progression as the successive conveyor lifts each services a slightly steeper grade than the preceding lift.

b. Terrain

In addition to the previously-approved trail projects that are carried forward in this MDP, two relatively short trail segments, several trail widening/tree clearing projects are proposed to improve identified skier circulation concerns. Approximately 0.8 acres between two short trail segments, 1.5 acres of widening and clearing, and approximately 6 acres of grading is planned on the front-side (refer to Figure VI-1), including:

- Two trail segments are planed to be developed. One between *High Anxiety* and *Mirage* and the other between *Rookie* and *Glade*, respectively 0.6 acres and 0.2 acres would be cleared. These trail connections would improve skier and rider circulation on the mountain.
- Trail widening and clearing for the bypass trail from *K2* to *Little Mo*, which would route skiers on *K2* above the *Safari* beginner area.
- Trail widening on *Sleepy Hollow* and *Ticaboo* trails to improve skier circulation.
- Grading on *Romp* trail in conjunction with previously-approved trail widening would improve skier circulation by reducing a "break-over" on the trail, which currently creates trail congestion.

3. SUP Boundary Adjustment and Associated Lift and Terrain

As stated in Chapter II, the existing 800 acre SUP boundary would increase to 1,144 acres to include No Name Basin. Therefore, the proposed SUP boundary would occur on the Pike and San Isabel National Forests and the Grand Mesa, Uncompaghre, and Gunnison (GMUG) National Forests. No Name Basin lies on the west side of the Continental Divide, and includes portions that are currently used by the Monarch Snowcat Tours. Approximately 344 acres within No Name Basin are proposed to offer 139 acres of lift-served skiing under this MDP.

No Name Basin is located on NFS lands managed by the GMUG. As such, the 1991 GMUG LRMP designates No Name Basin under Management Prescription 1B (Provides for existing and potential winter sports sites). Management Prescription 1B includes a much larger area of terrain (approximately 5,400 acres) when compared to the proposed SUP area. Management Prescription 1B states:

> *Management emphasis provides for downhill skiing on existing sites and maintains selected inventoried sites for future downhill skiing recreation opportunities.*[27]

Therefore, the proposed SUP boundary adjustment and development of the proposed ski terrain would be consistent with the 1991 GMUG LRMP. During future site-specific NEPA analysis for No Name Basin, the SUP boundary would be adjusted to accommodate No Name Basin projects. Details of proposed upgrades to No Name Basin are addressed below.

a. No Name Lift

A new fixed-grip double chair is proposed to be installed in No Name Basin; located on the backside of the existing Monarch ski area on public lands managed by the GMUG National Forests. The No Name lift would have a slope length of approximately 2,725 feet and an hourly design capacity of approximately 1,200 people per hour.

The top terminal of the proposed No Name lift would be located at approximately 11,700 feet in elevation on top of a natural bench along the Continental Divide separating No Name Basin from the existing developed ski area. This location was selected due to the existing 10% decline on either side of the lift's terminal, which would provide efficient skier egress from the terminal area and easy access to the terrain within No Name

[27] USDA Forest Service. 1983, as amended in 1991. Land and Resource Management Plan – Pike and San Isabel National Forests; Comanche and Cimarron Grasslands. p. III-92

Basin. The bottom terminal would be located at approximately 10,740 feet in elevation at the bottom of the revised SUP area (addressed above) within No Name Basin. As indicated in Figure VI-1, the proposed alignment would be located within the north central part of No Name Basin. The top and bottom terminals would meet the Forest Service scenic quality standards of "Modification."

Construction and maintenance of the No Name lift bottom terminal in the proposed remote location can be accomplished without construction of a road. Furthermore, all infrastructure, equipment, and tools would be transported to the bottom terminal through a combination of the following methods: use of a helicopter, over-the-snow via snowcat or snowmobile, or carried down by hand in the summer. Grading and tower excavation would be accomplished by utilizing low-impact excavating equipment and hand digging.[28]

b. No Name Basin Terrain

The new lift would offer guests of Monarch access to approximately 62 acres of developed trails encompassing low intermediate, intermediate and advanced-intermediate terrain, with a vertical rise of approximately 960 feet. Approximately 58 acres of gladed terrain will also be developed in conjunction with this proposed lift and trails project. Therefore, the proposed terrain within No Name Basin would total approximately 120 acres, which would be initially accessed from the front-side of the ski area via the Breezeway or Panorama lift.

The development of No Name Basin for downhill skiing would enhance the recreation experience for guests of Monarch through offering new terrain that caters specifically to the intermediate ability level. This type of advanced terrain would be a high-quality addition to Monarch's existing advanced terrain, as Monarch currently lacks lift-served, gladed tree skiing. The addition of No Name Basin would better accommodate the increasing visitation Monarch is experiencing. This terrain would better disperse guests across the proposed SUP and allow guests to feel even closer to nature in No Name Basin. No Name Basin would perpetuate the role that Monarch leads in the community of attracting families, and children in particular, to the Forest.

The specifics of the No Name Basin lift and trails proposal are illustrated on Figure VI-1.

C. COMFORTABLE CARRYING CAPACITY

The calculation of Monarch's Upgrading Plan CCC is described in Table VI in Appendix A. As illustrated, the upgrading program increases the CCC of the lift and trail network at Monarch to 3,490 guests per day, an increase of 620 guests, or 22%. The CCC for Monarch is related to lift capacity and the functions that lifts serve to move and distribute guests around the mountain. As stated in Chapter IV, visitation at Monarch has exceeded the existing CCC of 2,870 several times throughout the past few seasons due to the affordability and broad range of guests the ski area serves. The goal of this MDP and the upgrading plan is to better accommodate existing visitation levels within the upgraded capacity of 3,490 guests on a comfortable day.

D. SKI TRAIL DENSITY ANALYSIS

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

When the planned skiers per acre are correctly balanced resort-wide, the existing densities at Monarch are at desirable levels. As stated in Existing Conditions, this is not a typical occurrence as the intermediate trails are occasionally congested and this situation is anticipated to increase in frequency as visitation continues to increase in the future. Since significant increases in skier density would decrease the quality of the skiing experience, it is a goal of the upgrading plan to balance increases in lift capacity with commensurate increases in skiing terrain capacity. The density analysis for the upgrading plan at Monarch is illustrated in Table 8 in

[28] "Low-impact" refers to excavating equipment that is specifically designed to have low ground pressure.

Appendix A. At the planned capacity level, the Tumbelina lift would continue to exhibit the highest trail density of any other lift on the mountain. This increase in the density index over existing conditions is acceptable due to the nature of the terrain the Tumbelina lift serves (novice and ski school terrain) where it is acceptable to have more people skiing at slow speeds within a concentrated area.

The addition of intermediate, advanced-intermediate, and advanced terrain as well as the No Name Basin lift under the upgrading plan, serves to distribute skier densities across similar ability level terrain serviced by the Garfield and Panorama lifts. Thus, lower trail densities within these lift pods would occur as indicated in Table 8 in Appendix A. This is a result of fewer people skiing Panorama's terrain pod as they would now be skiing similar terrain within No Name Basin. Under the upgrading plan, Monarch's overall trail density index would be reduced providing even more space for guests skiing throughout the ski area.

E. SNOWMAKING COVERAGE

The upgrading plan calls for the implementation of previously-approved snowmaking infrastructure and a coverage area for the snow tubing facility to be operated within Monarch's existing SUP boundary (refer to Figure VI-1). As described in Chapter V, the Forest Service approved the development of snowmaking coverage on approximately 33 acres of skiable terrain to improve early snow conditions and ensure adequate coverage on popular novice and intermediate terrain. The snow tubing facility would need 1.6 acres of snowmaking coverage.

Chapter V also discussed the Forest Service approval of a snowmaking pond immediately south of the guest parking lots. This location would have a dual function – a snowmaking pond and a snow storage area for parking lot removal. At this location, disclosed on Figures VI-1 and VI-2, Monarch maintains the option to increase the capacity of the snowmaking pond by either digging the pond deeper or increasing the surface area. This will allow for flexibility in future snowmaking needs.

F. GROOMING OPERATIONS

With implementation of the upgrading plan, Monarch would groom terrain similar to current conditions. This would include the grooming of intermediate and certain advanced-intermediate terrain proposed within No Name Basin.

G. SKIER SERVICES SPACE AND FOOD SERVICE SEATING

Sufficient guest service space should be provided to accommodate the upgraded ski area's CCC of 3,490 guests per day. The CCC is the design standard and planning tool defined as the number of daily visitors a ski area can comfortably or efficiently accommodate at one time without overburdening the ski area's infrastructure. In essence, CCC is a guest attendance level that can be serviced by the ski area while operations remain optimally functional. As such, the distribution of the CCC is utilized to determine guest service capacities and spatial requirements for skier services at the base area and previously-approved on-mountain facilities. The CCC should be distributed between each guest service facility location according to the number of guests that would be utilizing the lifts and terrain associated with each facility.

Based upon a CCC of 3,490 skiers, the distribution described in Table 13 in Appendix A and Chart VI-2 below, compares the upgraded space use allocations of the visitor service functions to industry standards for a ski area of similar market orientation and regional context as Monarch. Square footage figures contained in the table are calculated to illustrate how the ski area compares to industry averages, and should not be considered absolute requirements.

1. Skier Services

Under the upgrading plan, Monarch's base area would continue to be the only staging location at the ski area. This staging location would be expanded to offer more diverse commercial skier services such as retail, rental, and food services. Under the upgrading plan, Monarch would:

a. Base Area

- Construct additions to the existing Day Lodge
- Enclose the loading dock at the Day Lodge for additional storage
- Construct a ski school/ children's center building adjacent to the Safari teaching area
- Construct a two story building that would replace existing tent deck for overflow seating and administrative offices
- Replace stairs and retaining wall structure adjacent to Day Lodge and install a wheelchair lift along side the new stairs
- Replace the existing Ski Patrol building with a two story building that will include a Patrol Headquarters on the upper floor and medical clinic on the lower floor
- Relocate the existing Ski Patrol building adjacent to the maintenance shop to be used as offices for the Lift and Slope Maintenance departments
- Construct an approximately 750-square yurt adjacent to the existing Ski Patrol building for the Monarch Snowcat Tours, meeting location, check-in, lunch, and check-out

b. On-Mountain

- Construct the previously-approved mountain-top warming hut at the near the top of the Panorama lift
- Construct the previously-approved mid-mountain food and beverage facility near the bottom of the Panorama lift with sun deck and adjacent composting toilet building (relocate the existing Tent Deck from base area and historic cabin from the maintenance shop lot to this location)
- Relocate the existing Children's Center modular building to function as a guest service building at the planned the tubing facility
- Construct a planned warming hut at the bottom of the proposed No Name lift

c. Base Area Buildings

In order to provide easy and efficient skier access and circulation within the base area, Monarch is proposing various upgrades to the base area infrastructure. Upgrades include but are not limited to expanding existing guest services in the Day Lodge. The specifics of the proposal are illustrated on Figure VI-2.

As shown in Table 10 in Appendix A, at 58,229 square feet, Monarch's proposed base area guest service space falls just above the recommended range of 41,840 to 52,200 square feet. This increase in guest service space from the existing condition will improve the guests experience as they flow through the base area facilities.

Day Lodge

The Day Lodge would continue to be the primary service area for guests of Monarch. Although well maintained, the Day Lodge is an older building and accommodates 100% of the guests skiing at Monarch. As such, in order to continue to provide quality guest services, and accommodate existing and future skier visitation, the Day Lodge is in need of upgrades. The goal is to maintain and improve the guest service level

at the base area location by providing convenience and easy access to the base area and adjacent lifts from the parking lot, and to provide a better balance between the number of guests and the amount of guest service space.

To accommodate the anticipated increase in skier visitation, the Day Lodge would need to be considerably expanded and upgraded over existing conditions. Tables 9 and 10 in Appendix A illustrate existing and proposed space use of Monarch's base area buildings. Under the upgrading plan, the Day Lodge would be expanded to include an additional 3,420 square feet. Restaurant and bar seating (500 seats) along with the sack lunch area with be expanded and improved with this addition. Monarch plans to enclose the existing 720-square foot Day Lodge loading dock and convert that area storage space, and shipping and receiving. Along with this the house freezer and refrigeration area would be expanded.

Monarch has also indicated that additional ticket windows are needed. As the Day Lodge roof line is extended to enclose the existing loading dock, the new roof section would continue towards the existing ticket windows allowing new ticket windows to be covered by the roof extension.

As stated in Chapter IV, the existing staircase and retaining walls adjacent to the Day Lodge are in disrepair. Monarch proposes to reconstruct these structures to the appropriate appearance and quality that a guest would expect. Monarch also plans to install a wheelchair lift that would be ADA accessible taking guests from the parking lot level to the snowfront level.

The space recommendations contained in Table IV-2 are directly related to the distribution of the ski area's capacity to the various guest service facilities located in the base area and on-mountain. This distribution responds to the guest demographic of Monarch as well as guest behavior and movement around the mountain and base area throughout the day. As such, it is important to provide adequately sized facilities to respond to this guest demographic and circulation.

A complete inventory of existing and proposed resort-wide guest services space use is described in Table 13 in Appendix A.

Ski School and Children's Center

In order to improve the children's learning experience, the upgrade plan calls for the construction of an approximately 8,000-square foot, two story structure. This structure would be located immediately adjacent to the existing Children's Center and the Safari teaching area. The slope level, which is located approximately 100 feet from the Safari teaching slope, would accommodate the Children's Center and Junior Mountain program. Functions on the lower level would include a Ski School meeting room, a lift operations office, and locker rooms for lift operations, guest services, rental operations.

The current Ski School meeting room and offices in the Rental Sprung will be converted to retail sales and additional seating.

Overflow Seating and Administrative Offices Building

An overflow seating facility is proposed in the location of the existing tent deck adjacent to the Day Lodge. This two story facility would be approximately 5,000 square feet and would provide seating room for 300 guests during busy weekends and when large groups visit the ski area. Limited food service would be available at this facility. A small porting of this building, 700 square feet, would be dedicated to administrative offices.

Monarch Snowcat Tours Facility

Currently Snowcat Tours guests meet in a small room on the upper floor of the day lodge. Monarch plans to construct a dedicated facility for those guests to meet and check-in at the beginning of their day, have lunch,

and to wrap up their day. This facility would be a yurt-type structure approximately 750 square feet located adjacent to the Ski Patrol Building.

d. On-Mountain Facilities

Further detail of each individual guest service location is required to illustrate specific locations and amount of additional space recommended throughout the ski area, in order to optimize opportunities for improvements to the guest experience. Tables 10 and 12 contained in the Appendix A address the proposed upgraded space which calls for the addition of two previously approved on-mountain facilities and new proposed facility.

Previously-Approved On-Mountain Facilities

Mountain-top Facility

- The previously-approved mountain-top facility would be located near the top of the Panorama lift. This yurt-type warming hut would include 50 seats, limited pre-packaged food service and restroom facilities. At approximately 750 square feet.

Mid-mountain Facility

- The previously approved mid-mountain facility would be located near the bottom terminal of the Panorama lift and approximately 300 square feet in size with a 150-seat outdoor sun deck. Additional seating would be provided by the existing tent deck currently located in the base area, which is proposed to be relocated adjacent to the Mid-mountain facility. The 1,300-square foot tent deck would provide approximately 100 indoor seats, since it is anticipated that the central location of mid-mountain facility would make it a popular on-mountain destination.
- A composting toilet building is also planned to be constructed adjacent to the mid-mountain facility

Proposed On-Mountain Facilities

Tubing Facility Guest Service Facility

- The existing Children's Center modular building is planned to be relocated at the bottom of the tubing facility and adjacent to the proposed parking. This building would have functions of ticketing/check-in, food service limited to pre-packaged beverage and food items, and a guest warming facility.
- The small employee ski and board storage building adjacent to the existing Children's Center will also be relocated to the tubing facility to provide additional storage.

No Name Basin Hut

- To accommodate guests within No Name Basin, a small warming hut is proposed to be located adjacent to the bottom terminal of the proposed No Name lift. The proposed warming hut would be approximately 750 square feet in size and provide seating for approximately 50 guests. In conjunction with the proposed and previously-approved on-mountain facilities, the No Name warming hut facility would help distribute guests skiing on Monarch and eliminate the need for all skiers to descend to the base area for basic services such as food, restroom, and protection from adverse weather.

2. Food Service Seating

Food service seating at Monarch would be provided at the following locations:

- Expanded Day Lodge
- Proposed overflow seating facility
- Previously-approved mountain-top facility
- Previously approved mid-mountain facility
- Proposed No Name Basin hut

As stated in Chapter IV, a key factor in evaluating restaurant capacity is the turnover rate of the seats. A turnover rate of 3 to 5 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 would spend more time indoors than on sunny days. Due to the family oriented demographic and high-altitude inclement weather, an average turnover rate of 2.5 to 3 was used for the indoor base area facilities, 3 was used for on-mountain facilities at Monarch. Lower turnover rates were used for the outdoor seating and sack lunch areas due to the situation where an above-average number of guests "lounge" in these areas.

Seating and restaurant space recommendations are directly related to the lunchtime capacity. The lunchtime capacity is determined by the distribution of each lift pod's CCC. It is assumed that skiers would prefer to dine at the facility closest to the area where they are skiing. To allow for this convenience, it is important to provide on-mountain dining services to accommodate the lunchtime capacity of the area.

Table 14 in Appendix A summarizes the seating requirements at Monarch, based on a logical distribution of the CCC to each food service building and location. As shown Table 14 in Appendix A, under the upgrading plan, there is a slight surplus of 37 indoor seats at Monarch. The Day Lodge and the proposed Overflow Seating Building within Monarch's base area displays the largest surplus in seating capacity by 30 seats. On-mountain seating would be balanced (surplus of six seats) when compared to the CCC allocations. Additional seating provided by the on-mountain guest service facilities would meet the desired needs of guests. When considering the remaining seats that are designated as sack lunch (165 seats), the Base Area shows a surplus of 195 seats. The total resort is relatively balanced in relationship to the proposed CCC, especially with the additional sack lunch and outdoor seating. It is not ideal to rely on these additional seats, but with strategic organization of groups during peak periods, Monarch should be able to accommodate the proposed CCC.

H. PARKING CAPACITY

The proposed upgrading plan includes the development of approximately 2.7 acres of parking space that would supplement Monarch's existing parking capacity by 320 spaces, bringing total parking capacity to 1,173 spaces. The proposed parking would be located along the entrance and exit roads (80 spaces) and above the existing maintenance building (240 spaces). The lot above the maintenance building would involve an access road with requisite grading and vegetation removal (refer to Figure VI-2). In addition to these projects, two retaining walls are planned to be developed along the Northeastern edge of the parking lot to "square up" the lot to make the adjacent areas better utilized.[29] Table VI-2 provides Monarch's parking capacity according to the upgrading plan.

[29] Prior to implementation of proposed parking lots, Monarch will provide a Stormwater Management and Erosion Control Plan for Forest Service review and acceptance. This Plan will address existing and proposed conditions to achieve and maintain consistency with Forest Plan standards and guidelines.

Table VI-2:
Proposed Parking

	Multiplier	TOTAL
CCC + other guests requiring parking[a]		3,665
Number of guests arriving by car	92%	3,371
Required parking spaces (3.6 guests per car)	3.6	*936*
Guests arriving by charter bus	8%	293
Required Charter Bus Parking Spaces	35.00	*8*
Equivalent car spaces (1 bus=4.5 cars)	4.5	*38*
Required employee car parking spaces		*50*
Total required spaces		*1,024*
Existing parking spaces		*853*
Proposed parking spaces		*320*
Total parking spaces		*1,173*
Surplus		*149*

Note:
Italicized numbers indicate parking spaces
[a] "other guests" include non-skiing guests who are an additional 5% of Monarch's CCC.

Based on a CCC of 3,490, Table VI-2 indicates a surplus of 149 parking spaces to accommodate 3,371 guests arriving by car (3.6 guests per vehicle) and bus (35 guests per bus). Under the upgrading plan, the overall parking capacity available for guests (excluding employees) parking on by car is 4,043 (1,173 parking spaces, minus 50 employee spaces, multiplied by 3.6 guests per car).

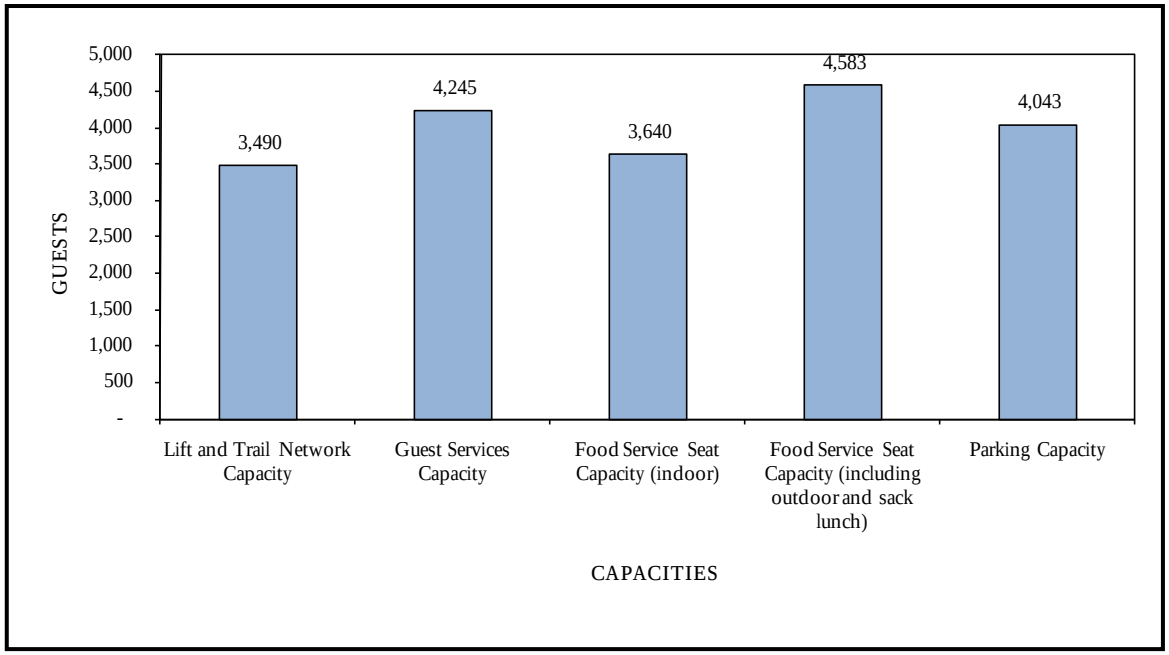
An average vehicle occupancy (AVO) of 3.6 guests per car is well above the ski industry average of 2.5 guests per car. Monarch could look into incentives to raise the average vehicle occupancy (AVO) to improve their parking situation, but it would be unlikely that the AVO would increase much above 3.6.

In an effort to better address all parking needs, this MDP includes proposed on-site parking improvements and also sets the stage for analysis of possible options to reduce vehicular traffic. In conjunction with developing all parking facilities proposed in this MDP, Monarch, along with the Forest Service, will work on developing initiatives with community leaders to explore potential effective public transportation systems (shuttle bus, ride sharing, etc) between local communities and Monarch. Should viable opportunities become available for reducing the amount of parking needed on-site, Monarch would consider the appropriate reductions in parking proposals assessed via the NEPA process.

I. BALANCE OF FACILITIES

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

Chart VI-2:
Ski Area Balance – Upgrading Plan



Factors that previously limited Monarch from reaching the CCC, while maintaining a quality guest experience, will be upgraded in conjunction with the lift network. Skier services space, such as base area and on-mountain services, will be brought into better balance with the upgraded CCC of the ski area, bringing Monarch into an overall balance improving the quality of the guest experience.

J. ALTERNATIVE WINTER RECREATION

Many groups and families visit Monarch and the surrounding area for numerous days and are looking for recreation alternatives to skiing and riding at Monarch Mountain. A snow tubing facility is planned to fill that desire for another recreational opportunity at the mountain. The snow tubing facility would have four tubing lanes that would be serviced by a carpet conveyor lift. The lanes would be approximately 500 feet long and the lift would be roughly 275 feet long.

Two buildings would be constructed adjacent to the lift and lanes; a guest service facility, the relocated Children's Center, would provide ticketing/check-in, food service, and warming facility for the snow play guests and a snow tube storage building, the relocated Employee Ski and Board Storage Building, would be needed to house the tubes while the facility is closed.

Snowmaking would be needed to provide a consistent and safe snow play experience. The snowmaking coverage area would be 1.6 acres and the snowmaking infrastructure would tie into the previously approved snowmaking system that is discussed in Chapter V.

K. OPERATIONS (SKI PATROL/FIRST AID, MAINTENANCE, UTILITIES)

1. Ski Patrol / First Aid

In addition to the ski patrol space in the base area, Monarch currently operates a small ski patrol/warming hut located at the top of the Breezeway lift. The building is approximately 192 square feet dedicated to ski patrol functions and a small amount of storage space. This facility would continue to be the primary source of

on-mountain ski patrol functions. Two additional ski patrol stations are located at the top of Panorama lift (120 square feet) and the top of Garfield lift (96 square feet).

The existing ski patrol headquarters building located in the base area is slightly undersized for the use it serves across the mountain (approximately 1,500 square feet), and more space would benefit this department. Therefore, the upgrading plan includes replacing the existing building with a two story building totaling 3,000 square feet. The upper floor would house Ski Patrol Headquarter and the lower floor would be a medical clinic.

Ski Patrol's explosive cache and make-up room will need to be relocated as the planned Tubing Facility is implemented. These building would move to the North, closer to the Mirkwood egress trail.

2. Maintenance

As stated in Chapter V, the previously-approved relocation of the maintenance facility is not being carried forward in this upgrading plan. It has been determined through additional site planning that the existing location functions well from an accessibility standpoint.

Monarch plans to construct a new 4,000-square foot vehicle maintenance adjacent to the existing maintenance facility. The existing shop will continue to be used for vehicle and lift maintenance along with a carpentry and paint shop.

The existing Ski Patrol building would be relocated adjacent to the existing maintenance shop to be used as offices for the Lift and Slope Maintenance department. The Lift Maintenance department is currently using a historic cabin for their office which is also located adjacent to the maintenance shop. The historic cabin will be relocated to the previously approved mid-mountain food service facility near the Panorama lift. Monarch will preserve the cabin's historical significance and will be used as on-mountain storage.

3. Snowcat Storage

The upgrading plan proposes to construct an approximately 4,000-square foot facility to be located immediately adjacent to the existing maintenance facility near the base area. This facility would be utilized for snowcat storage, with three walls enclosed and one to remain open for easy access.

4. Utilities

Power to the proposed No Name lift top terminal would be supplied from the bottom terminal of Panorama lift. The underground utility corridor would route up *B's Bash*, the service road, *Shagnasty*, and *Outback* to the proposed top terminal of No Name lift. Power to the proposed No Name lift bottom terminal and warming hut would either be provided by an underground utility line routed along the proposed lift corridor or by the use of solar panels at the bottom terminal and warming hut. Heating energy for the No Name bottom terminal lift building and warming hut would be provided by the buried power line or through the use of propane tanks.

In order to handle the additional power requirements, Breezeway's power infrastructure would need to be upgraded. The previously-approved and proposed warming hut/yurt located at the top of Panorama lift would require power and would be supplied via an underground spur line from the lift top terminal.

The existing water treatment facility, located on the southeast corner of the existing parking lot, would double in size to accommodate increased pump capacity necessary for ski area upgrades.

5. Snow Storage

The snow storage area located to the south of the existing Ski Patrol building is planned to be expanded by implementing a portion of the tree clearing that was previously approved for the snowmaking pond described in Chapter 5. The tree clearing would allow Monarch to make better use of this space as snow storage and therefore improving the parking lot utilization.

L. SUMMER RECREATION

No summer recreation is proposed.

LEGEND

- SUP Boundary
- Planned SUP Boundary
- Existing Ski Trail
- Existing Lift
- Prev. Approved Ski Trail
- Lift to be Constructed in Summer 2011
- Planned Ski Trail and Clearing
- Planned Lift Upgrade
- Prev. Approved Snowmaking
- Planned Lift
- Planned Snowmaking
- Existing Building
- Planned Terrain Grading
- Prev. Approved Building
- Planned Thinning For Gladed Skiing
- Relocated Building
- Planned Building

MONARCH MOUNTAIN EST. 1939

Master Development Plan

Warming Hut

No Name Lift

Gladed Skiing

Prev. Approved Mountain Top Facility

Food Service, Sun Deck, Composting Toilets, and Relocated Cabin

SUP Boundary

PANORAMA

TUMBELINA

BREEZEWAY

Upgrade to C-3

PIONEER

GARFIELD

See Figure VI-2 For Base Area Detail

PREVIOUSLY APPROVED AND PLANNED PROJECTS

Figure VI-1

25’ Contours in and adjacent to the SUP
40’ Contours in No Name Basin

North

0 450 900 1,800’

Prepared by:

SE GROUP

MONARCH MOUNTAIN
EST. 1939

Master Development Plan

Move Bottom Terminal of Breezeway Uphill

Carpet to be Constructed in Summer 2011

BREEZEWAY Upgrade to C-3

TUMBELINA

SNOWFLAKE

Planned Children's Center and Ski School Building

Addition to Bar, Cafeteria, and Sack Lunch Area

PIONEER

GARFIELD

LOWER TANGO

Overflow F&B Seating and Offices

Deck

750 sq.ft. Yurt for Snowcat Tours Check-in and Lunch

Replace Ski Patrol Building with 2-story structure

Previously Approved Snowmaking Pond

Increased Snow Storage Area

Relocate Children's Center to Tubing Facility

Replace Stairs and Retaining Walls, Install ADA Lift

Enclose Loading Dock and Cover Additional Ticket Windows

Retaining Wall

Addition to Water Treatment Facility

Parking Expansion Along Entry/Exit Roads (80 Spaces)

Relocate Carpet

Relocated Carpet

Proposed Carpet

Existing Carpet

Proposed Carpet

Tubing Lanes

Snow Tubing Carpet

Relocated Bomb Cache and Arming Room

Snow Tube Storage (Relocated Ski Storage Hut)

Guest Service Building (Relocated Children's Center)

Retaining Wall

Parking Lot (240 Spaces) Located on Previously Approved Maintenance Shop Location

Additional Maintenance Shop Building

Lift and Slope Department Offices (Relocated Ski Patrol Building)

SUP Boundary

LITTLE JOE

Glade

LITTLE MO

K2

AFTERSHOCK

FREEWAY

11000

10900

10825

10775

10750

LEGEND

- SUP Boundary
- Existing Ski Trail
- Prev. Approved Ski Trail
- Planned Ski Trail and Clearing
- Prev. Approved Snowmaking
- Planned Snowmaking
- Planned Terrain Grading
- Existing Lift
- Lift to be Constructed in Summer 2011
- Planned Lift Upgrade
- Planned Lift
- Existing Building
- Planned Building
- Relocated Building
- Planned Parking Additions

BASE AREA DETAIL PREVIOUSLY APPROVED AND PLANNED PROJECTS

Figure VI-2

5' Contour Interval

North

0 100 200 400'

Prepared by:

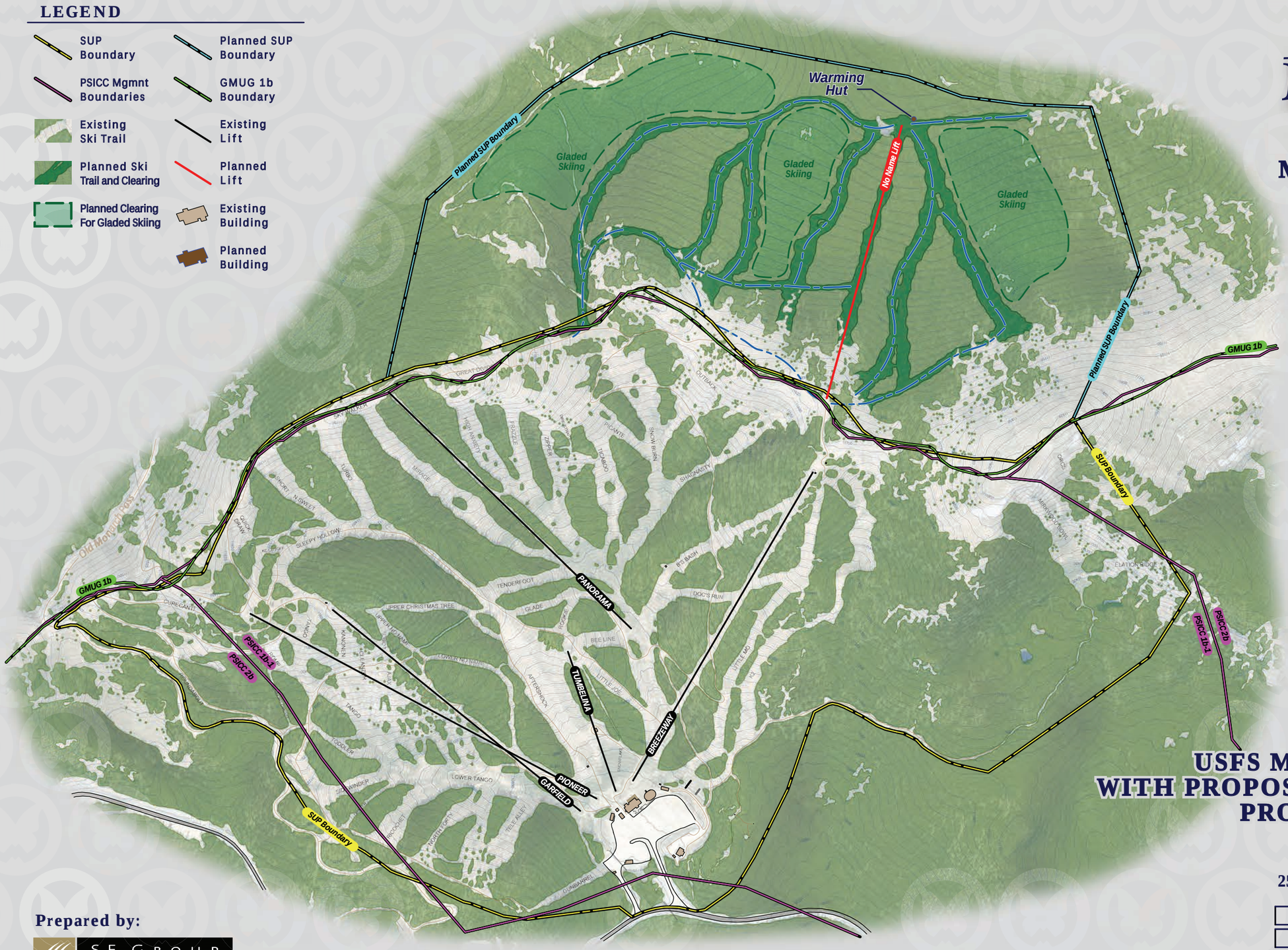
SE GROUP

LEGEND

- SUP Boundary
- PSICC Mgmnt Boundaries
- Existing Ski Trail
- Planned Ski Trail and Clearing
- Planned Clearing For Gladed Skiing
- Planned SUP Boundary
- GMUG 1b Boundary
- Existing Lift
- Planned Lift
- Existing Building
- Planned Building

MONARCH MOUNTAIN EST. 1939

Master Development Plan



USFS MANAGEMENT AREAS WITH PROPOSED NO NAME BASIN PROJECT COMPONENTS

Figure VI-3

25' Contours in and adjacent to the SUP
40' Contours in No Name Basin

North

0 450 900 1,800'

Prepared by:

SE GROUP

Chapter 7
Glossary

VII. GLOSSARY

Ability Level: The relative rank of a skier or snowboarder, or the relative rank given to alpine terrain. The ten ability levels relied upon by SE Group are as follows: first-time beginner, beginner, advanced beginner, novice, low intermediate, intermediate, advanced intermediate, expert, advanced expert, and extreme.

Acceptable Trail Density: The maximum number of skiers and snowboarders that can slide on an acre of trail at any given time without causing uncomfortable crowding on the trail. Acceptable trail density is measured in skiers and snowboarders per acre. *As a general rule, the difficulty of the trail and acceptable trail density share an inverse relationship.*

Acre Foot: The amount of water, or snow, necessary to cover 1 acre to a depth of 1 foot.

Active Skiers and Snowboarders: Skiers and snowboarders are considered active if they are: (1) waiting in a lift line, (2) riding a lift, or (3) enjoying a downhill descent. Depending primarily upon weather and snow conditions, 70 to 85% of a resort's skiers and snowboarders are active. The remaining 15 to 30% of a resort's skiers and snowboarders are either using a resort's support facilities and amenities or are circulating in a resort's various staging and milling areas. These guests are considered non-active.

Alpine Comfortable Carrying Capacity (Alpine CCC): Alpine CCC is the comfortable, daily capacity of a resort's skiing/snowboarding lifts. In short, Alpine CCC is derived from the supply of vertical transport (i.e., the combined uphill hourly capacities of the lifts) and the demand for vertical transport (i.e., the aggregate number of runs demanded multiplied by the vertical rise associated with those runs). In some instances, Alpine CCC is also called skiers-at-one-time (SAOT) capacity.

Best Management Practices (BMPs): Methods, measures, and practices specifically adopted for local conditions that deal effectively and practically with a given problem. BMPs include, but are not limited to, construction practices, structural and nonstructural controls, operations protocol, and maintenance procedures.

Comfortable Carrying Capacity: Comfortable Carrying Capacity (CCC) is a planning tool used to determine the optimum level of utilization that facilitates a pleasant recreational experience. This is a planning figure only and does not represent a regulatory cap on visitation. CCC is used to ensure that different aspects of a resort's facilities are designed to work in harmony, that capacities are equivalent across facilities, and sufficient to meet anticipated demand. CCC is based on factors such as vertical transport and trail capacities.

Cubic Foot Per Second (cfs): The unit used to measure stream flow or similar discharge. One cfs is equivalent to 449 gallons per minute, or approximately 2 acre feet per day.

Day-Use Skier/Snowboarder: Generally speaking, a skier or snowboarder that lives within the resort's day-use skier/snowboarder market. Given normal road and weather conditions, the day skier/snowboarder market is defined as the geographic area found within a 100-mile radius, or two-hour drive, of the resort. Day-use skiers and snowboarders drive to the resort and park in day-use lots.

Destination Skier/Snowboarder: Generally speaking, a skier or snowboarder that resides beyond a 250-mile, or five-hour, drive from the resort. On average, destination skiers and snowboarders stay at a resort for longer periods of time (i.e., ranging from three to seven days) and commonly comprise a majority of a resort's mid-week visitation. Destination skiers/snowboarders typically rely

upon air travel and shuttle service for transport to the resort, and obligate overnight lodging and numerous other resort amenities.

Detachable Grip Chairlift: An aerial tramway system on which chairs circulate around the system—alternately attaching and detaching from a moving haul rope. Chairlift detachment occurs at the lower and upper terminals for ease of lift loading and unloading.

Fall-Line: The path an object would naturally take as it descends a slope under the influence of gravity. Fall-line paths indicate the natural flow of potential trails, from the top of ridges to the elevations below. Fall-line terrain allows skiers and snowboarders to make equally weighted, left and right turns.

Fixed-Grip Chairlift: An aerial tramway system on which chairs remain attached to a haul rope.

Food Service Seat Turnover Rate: The turnover rate is used to evaluate a resort's aggregate food service seating capacity. The turnover rate is the estimated number of times a food service seat is used during a resort's peak food service operations. Sit-down dining at a resort lodge typically has a turnover rate of 3, while cafeteria-style dining is characterized by a turnover rate in the range of 4 to 5. In addition to the type of food service, a resort's climate also impacts turnover rate (i.e., cold and snowy climates have lower turnover rates).

Formal Trail Network: The trails and other named terrain delineated on a resort's trail map. In addition to traditional trail corridors, the network might include named and patrolled bowls, glades, chutes, couloirs, hike-to areas, and tree skiing/snowboarding areas.

Glading: The removal of a slope's trees, which enables a tree stand to be skied or rode by a larger percentage of a resort's guests. Varying degrees of tree removal can be conducted to achieve a positive guest experience, based on existing stand structure.

Gradient: The vertical distance divided by the horizontal distance (i.e., commonly known as "rise over run"), which is measured as a percent, or a degree. Slope gradient is used to determine the ability level distribution of a resort's alpine terrain.

Guest Services Facilities or Guest Services: Facilities or services that are supplied by a resort to accommodate guests and enhance the quality of the recreational experience. Examples of guest services facilities include: restaurants, warming huts, general information desks, resort lost and found departments, restrooms and lounges, ski school, daycare, public lockers and ski-check facilities, ski patrol, first aid clinics, etc.

Halfpipe: A channel constructed in the snow, ranging from 75 to 400 feet long, with consistent 6- to 12-foot walls on both sides. The walls of the channel are contoured from horizontal to vertical and the bottom of the channel is generally flat.

Maze: A waiting area used to line up skiers and snowboarders just prior to lift loading (i.e., the corral area immediately adjacent to the loading point of the lift).

Mitigation: Actions taken to avoid, minimize, or compensate for adverse environmental impacts.

Morning Access Capacity: The resort's capacity to carry skiers and snowboarders to other, up-mountain lifts within an acceptable time frame. By comparing the aggregate staging requirement for each access lift to the access lift's uphill access capacity, the length of the access period for each access lift can be determined. Per industry standards, a destination resort should have dedicated access lifts (with sufficient hourly capacities) that supply the resort's up-mountain lifts with guests

(numbers commensurate with lift hourly capacities) within an access period ranging from 90 to 120 minutes.

Mountain Work Roads: On-mountain primary and secondary roads that provide summertime access (for rubber tire vehicles) to all mountain buildings and lift terminal locations.

National Environmental Policy Act of 1970 (NEPA): The federal act which requires federal agencies to prepare detailed reports on the environmental effects of proposed actions on public lands.

Off Fall-Line: The path an object takes as it crosses the fall-line slope. Off fall-line terrain compels skiers and snowboarders to make alternating long and short turns (turns that are not equally weighted) in order to accommodate the off fall-line condition. In some instances, and if properly designed, off fall-line terrain can be enjoyable to snowboarders.

Ollie Roll: A mound of snow, either naturally occurring or manmade, in the middle of a snowboard park that provides a jump or a hit. An ollie ranges from 3 to 6 feet in height and typically 10 feet in diameter.

Off-Piste: Alpine terrain not associated with a named and maintained ski trail.

Peak Day Carrying Capacity (PDCC): The anticipated visitation for holiday periods and for winter weekends with optimal snow and weather conditions (i.e., powder days). PDCC is estimated after a resort has established its Resort Comfortable Carrying Capacity (RCCC) threshold. In addition to RCCC, PDCC must reflect historic visitation records (i.e., the frequency with which attendance exceeds RCCC and the magnitude by which peak visitation exceeds RCCC). PDCC typically exceeds RCCC by anywhere from 105 to 150%.

Pod: A delineated parcel of land that, due to its favorable terrain characteristics, is suitable for lift and trail development. Pods are areas of relatively consistent terrain (both slope gradient and fall-line) that may be serviced by one or more lifts and may be easily integrated into the existing skier and snowboarder circulation patterns.

Prominent Ridge: The line of separation (i.e., a divide) between drainage basins.

Quad: A common abbreviation for a four-passenger chairlift.

Rider: A commonly used term for a snowboarding guest.

Round-Trip Interval (RTI): The round-trip interval represents the aggregate time spent waiting in the lift line, riding the lift, and skiing or riding a particular trail of the lift. The RTI is used to calculate the number of runs an average skier/snowboarder is expected to take on a particular lift over the course of a day. Ultimately, the RTI is used to calculate the daily vertical demand of an average skier/snowboarder.

Skier/Snowboarder Circulation Analysis: An on-slope survey in which skier and snowboarder circulation characteristics are recorded for the full spectrum of ability levels. The on-slope survey is performed for each lift, yielding an accurate determination of the lift's average RTI and Alpine CCC.

Skiway: A trail that allows skiers and snowboarders to traverse the mountain and avoid additional chairlift rides. Skiways, or traverses, are also used in pods of intermediate, advanced intermediate, and expert terrain to provide an appropriate descent for guests of beginner and novice ability levels. A skiway is typically designed to maintain an average slope gradient of 10%.

Space Use Definitions

- Administration All resort operations office space not already incorporated in the square footage totals for the service functions listed below.
- Bar/Lounge All serving and seating areas designated as restricted use for the serving and consumption of alcoholic beverages. If bar/lounge space is used for restaurant seating, these restricted seats should be included in the overall restaurant seat count.
- Circulation/Waste All circulation space and associated spaces, including hallways, stairwells, lobbies, elevators, etc.
- Daycare/Nursery Includes all daycare/nursery facilities, registration area, and lunch rooms associated with this function. Storage, employee lockers, restrooms, and administrative space directly associated with daycare/nursery should be included in this total. Areas associated with rental equipment should be included in the Rentals/Repair square footage total.
- Employee Lockers/Lounge All employee space not previously allocated to the other service functions listed under the space use definition section.
- Guest Services Services including general resort information desks and lost and found departments. The milling area beyond the information desks should be included in the guest services square footage total.
- Kitchen/Scramble The area where food preparation, food service, and food storage occurs. Employee lockers, employee restrooms, and administrative space directly associated with food services should be included in the kitchen/scramble square footage total.
- Mechanical All space designated to mechanical functions, including telephone rooms, furnace rooms, and space occupied by water heaters.
- Outdoor Deck Seats Included in restaurant seat count in some clement areas (e.g., resorts with a significant number of sunny, warm days), but not in areas of inclement weather.
- Public Lockers All public locker and changing rooms. Any public lockers located along the walls of circulation space should be included (add an additional 2 square feet of space per locker to account for space associated with locker use).
- Rentals/Repair All rental shops, repair services, and associated storage areas.
- Restaurant Seating All areas designated for food service seating, including restaurants, cafeterias, brown bag areas, and bar/lounge space dedicated to food service. Major circulation aisles through food service seating areas should be categorized as circulation space.
- Retail All retail shops and associated storage areas. Base area retail operations, as well as on-mountain outlets (selling sunscreen, sunglasses, goggles, hats, gloves, etc.), should be included in the retail square footage total.
- Ski Patrol Space associated with all first aid facilities and clinics. Storage, ski patrol lockers and restrooms, and administrative space directly associated with ski patrol should be included in the square footage total.
- Ski School Includes ski school registration area and any indoor staging areas. Storage, employee lockers, restrooms, and administrative space directly associated with ski school should be included in the ski school square footage total.

- Storage All storage space not previously allocated to the other service functions listed under the space use definition section.
- Ticket Sales The space associated with ticketing and season pass sales and associated administrative space. Exterior milling areas associated with ticket sales should not be included in this total. Interior milling areas should be categorized as circulation space.
- Staging: An area, or zone, where guests assemble and are prepared for a particular recreational pursuit. Examples of staging areas include milling and maze areas, check-in and guest drop-off areas, plazas, etc.
- Surface Lift: A lift on which passengers are propelled by means of a circulating overhead wire rope while remaining in contact with the snow surface. Connection between the overhead wire and the passenger is by means of a towing device (e.g., T-bar, J-bar, platter, etc.) attached and circulating with the lift's haul rope. (Note: For definitional purposes, conveyor and belt lifts are considered surface lifts.)
- Table Top: A mound of snow on the slope that is cut flat on the top providing a place for snowboarders to land on top or jump over.
- Terrain Park: An area dedicated to the development and maintenance of a collection of alternative terrain features, which may include, but is not limited to, elements like halfpipes, quarterpipes, big air hits, ollies, spines, jibbing elements, barrel bonks, table tops, etc.
- Trail Density Per Acre: The number of skiers and snowboarders that occupy an acre of trail at any one given time. Trail density is reported in a persons-per-acre ratio.
- Uphill Hourly Capacity: A calculation of the number of skiers and snowboarders transported—per hour—from the lower to the upper terminal of the lift. A resort's combined uphill hourly capacity is the aggregation of the resort's individual lift capacities.
- Vertical Demand: The vertical demand of a lift is the by-product of the lift's vertical rise, the average round-trip interval (i.e., number of runs per hour), and the number of hours the lift is used by an average skier or snowboarder. In short, vertical demand is the product of the lift's vertical rise and the number of runs skied/rode in a day of typical operation.
- Vertical Transport Feet per Hour (VTF/hr.) (000): The number of persons a lift is able to transport 1,000 vertical feet in 1 hour. VTF/hour is derived by multiplying a lift's uphill capacity (measured in persons per hour) by the lift's vertical rise (measured in feet) and dividing by 1,000.

Appendix A

Table 1:
Lift Specifications - Existing Conditions

Map Ref	Lift Name, Lift Type	Top Elev. (ft.)	Bot. Elev. (ft.)	Vert. Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Avg. Grade (%)	Actual Design Capacity (pers./hr.)	Rope Speed (fpm)	Carrier Spacing (ft.)	Lift Maker/ Year Installed
1	Breezeway *C-2*	11,675	10,845	830	3,191	3,319	26	1,000	500	60	Hall 1960
2	Garfield *C-2*	11,638	10,793	846	2,832	2,986	30	1,200	500	50	Hall 1969
3	Panorama *C-2*	11,804	11,020	785	2,987	3,131	26	1,200	500	50	Hall 1980
4	Tumbelina *C-2*	11,160	10,835	325	1,315	1,368	25	400	300	90	Hall 1981
5	Pioneer *C-4*	11,602	10,819	783	3,476	3,598	23	1,500	450	72	Ctec 1999
6	Safari *C*	10,883	10,875	8	60	63	13	600	120	12	Magic Carpet 2005
7	Congo *C*	10,886	10,875	11	80	80	14	600	120	12	2006
8	Mid Unload *C-2*	10,915	10,835	80	591	615	14	800	300	45	Hall 1981

Source: SE Group

Table 2:
Lift Specifications - Upgrade Plan

Map Ref	Lift Name, Lift Type	Top Elev. (ft.)	Bot. Elev. (ft.)	Vert. Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Avg. Grade (%)	Actual Design Capacity (pers./hr.)	Rope Speed (fpm)	Carrier Spacing (ft.)	Lift Maker/ Year Installed
1	Shortened and Upgraded Breezeway *C-3*	11,675	10,840	835	3,080	3,203	26	2,000	500	60	New
2	Garfield *C-2*	11,638	10,793	846	2,832	2,986	30	1,200	500	50	Hall 1969
3	Panorama *C-2*	11,804	11,020	785	2,987	3,131	26	1,200	500	50	Hall 1980
4	Tumbelina *C-2*	11,160	10,835	325	1,315	1,368	25	1,200	400	40	Hall 1981
5	Pioneer *C-4*	11,602	10,819	783	3,476	3,598	23	1,800	450	60	Ctec 1999
8	Proposed No Name *C-2*	11,700	10,740	960	2,550	2,725	37	1,200	500	50	New
9	Snowflake Carpet	10,894	10,843	51	450	453	14	400	120	18	New
6	Safari *C*	10,878	10,873	5	60	60	10	600	120	12	Magic Carpet 2005
7	Proposed Carpet III *C*	10,893	10,875	18	150	151	12	600	120	12	2006
10	Congo *C*	10,882	10,874	8	80	80	8	400	120	18	New
11	Proposed Carpet IV *C*	10,882	10,874	8	80	80	10	400	120	18	New

Legend:

Existing, Upgraded/Modified Lifts

New, Proposed Lifts

Previously Approved Lift, to be installed in Summer 2011

Source: SE Group

Table 3:
Terrain Specifications – Existing Conditions

Map Ref	Trail Area/Name	Top Elev. (ft.)	Bot. Elev. (ft.)	Vert. Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
1	Gunbarrel	11,132	10,809	323	1,237	1,332	75	2.3	26	61	Hike To
2	Tele Alley	11,114	10,841	273	1,218	1,274	221	6.5	22	43	Intermediate
3	North Forty	11,112	10,885	227	1,144	1,182	113	3.1	20	36	Intermediate
4	Liberty	11,169	10,955	214	945	970	147	3.3	23	30	Low Intermediate
5	Drifter	11,195	11,023	172	922	942	43	0.9	19	26	Low Intermediate
6	Sidewinder	11,282	11,032	250	1,245	1,278	116	3.4	20	29	Low Intermediate
7	Toddler	11,282	11,081	201	625	660	68	1.0	32	44	Intermediate
8	Short Circuit	11,427	11,254	173	533	564	26	0.3	32	47	Adv. Intermediate
9	Roundabout	11,584	11,322	261	3,536	3,593	64	5.3	7	23	Low Intermediate
10	Curecanti	11,671	11,566	105	1,044	1,053	322	7.8	33	66	Expert
11	Romp	11,503	11,366	138	360	387	130	1.2	38	44	Intermediate
12	Tango	11,596	11,013	584	1,830	1,930	154	6.8	32	50	Adv. Intermediate
13	Lower Tango	11,013	10,786	227	1,840	1,868	197	8.5	12	20	Low Intermediate
14	Examiner	11,625	10,810	815	2,644	2,800	132	8.5	31	51	Adv. Intermediate
15	Ajax	11,384	10,983	401	1,065	1,145	247	6.5	38	53	Adv. Intermediate
16	Cleanzer	11,522	11,241	281	574	642	255	3.8	49	65	Expert
17	Kanonen	11,620	11,301	320	605	686	222	3.5	53	61	Expert
18	Sky Walker II	11,625	11,586	38	522	525	80	1.0	7	12	Novice
19	Sky Walker I	11,803	11,612	191	2,841	2,875	99	6.5	7	19	Novice
20	Quick Draw	11,595	11,465	130	747	761	277	4.8	17	32	Low Intermediate
21	KC Cutoff	11,585	11,566	19	168	170	49	0.2	12	12	Novice
22	Sleepy Hollow	11,593	11,190	403	2,770	2,813	122	7.9	15	24	Novice
23	Lobo	11,517	11,430	87	162	184	92	0.4	54	54	Adv. Intermediate
24	Upper No Name	11,615	11,320	295	667	734	89	1.5	44	59	Expert
25	Upper Xmas Tree	11,599	11,226	372	1,031	1,103	78	2.0	36	50	Adv. Intermediate
26	Lower No Name	11,320	10,915	405	1,376	1,437	53	1.7	29	41	Adv. Intermediate
27	Freeway	11,190	10,818	372	1,831	1,874	333	14.3	20	28	Low Intermediate

Table 3:
Terrain Specifications – Existing Conditions

Map Ref	Trail Area/Name	Top Elev. (ft.)	Bot. Elev. (ft.)	Vert. Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
28	Snowflake	10,902	10,834	68	550	555	357	4.5	12	17	Novice
29	Little Joe	11,141	10,894	247	1,109	1,137	90	2.4	22	25	Novice
30	Bee Line	11,153	11,023	130	461	482	131	1.5	28	39	Intermediate
31	Rookie	11,151	11,088	63	397	403	75	0.7	16	22	Novice
32	Glade	11,195	10,838	356	2,751	2,785	165	10.6	13	22	Novice
33	Tenderfoot	11,227	11,033	194	1,317	1,336	136	4.2	15	25	Novice
34	Short N Sweet	11,708	11,435	273	908	953	146	3.2	30	45	Intermediate
35	Turbo	11,755	11,395	360	966	1,035	170	4.0	37	53	Adv. Intermediate
36	Mirage	11,770	11,070	700	2,372	2,494	156	9.0	30	56	Expert
37	Sheer Rocko	11,805	11,104	700	2,032	2,165	43	2.1	34	48	Adv. Intermediate
38	High Anxiety	11,747	11,059	688	2,163	2,298	174	9.2	32	58	Expert
39	Safari	10,869	10,855	14	98	100	266	0.6	15	15	Beginner
40	Little Mo	11,651	10,859	792	3,256	3,359	108	8.3	24	35	Low Intermediate
41	K2	11,672	10,891	781	3,872	3,975	143	13.1	20	41	Intermediate
42	Lower Hall's Alley	11,273	10,945	328	1,202	1,248	110	3.1	27	34	Low Intermediate
43	Doc's Run	11,396	11,081	316	1,082	1,130	96	2.5	29	37	Intermediate
44	B's Bash	11,567	11,028	539	1,789	1,885	137	5.9	30	53	Adv. Intermediate
45	Frazzle	11,720	11,215	505	1,203	1,315	165	5.0	42	58	Expert
46	Zipper	11,557	11,158	399	926	1,017	143	3.3	43	59	Expert
47	Dire Straits	11,481	11,255	225	468	522	131	1.6	48	60	Expert
48	Ticaboo	11,692	11,066	627	2,140	2,238	143	7.3	29	45	Intermediate
49	Great Divide	11,803	11,525	278	2,051	2,075	144	6.9	14	36	Intermediate
50	Picante	11,551	11,209	342	1,074	1,132	203	5.3	32	46	Adv. Intermediate
51	Snow Burn	11,525	11,057	468	2,255	2,317	208	11.0	21	39	Intermediate
52	Outback	11,535	11,242	293	889	941	623	13.5	35	55	Adv. Intermediate
53	Shagnasty	11,649	11,150	499	1,566	1,652	212	8.0	32	51	Adv. Intermediate
54	Upper Hall's Alley	11,667	11,293	374	1,126	1,193	95	2.6	33	51	Adv. Intermediate

Table 3:
Terrain Specifications – Existing Conditions

Map Ref	Trail Area/Name	Top Elev. (ft.)	Bot. Elev. (ft.)	Vert. Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
55	Geno's Meadow	11,273	11,010	264	790	835	452	8.7	33	46	Adv. Intermediate
56	Tumbelina Lift Line	11,157	10,932	225	647	688	89	1.4	35	37	Intermediate
57	Mirkwood Basin	11,925	11,175	750	3,000	3,186	1,888	138.1	25	67	Hike To
58	Mirkwood Basin Egress	11,175	11,000	175	2,400	2,429	53	2.9	7	65	Hike To
	TOTAL					83,660		413.5			

Table 4:
Terrain Specifications – Upgrading Plan

Map Ref	Trail Area/Name	Top Elev. (ft.)	Bot. Elev. (ft.)	Vert. Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
1	Gun barrel	11,132	10,809	323	1,237	1,332	75	2.3	26	61	Hike To
2	Tele Alley	11,114	10,841	273	1,218	1,274	221	6.5	22	43	Intermediate
3	North Forty	11,112	10,885	227	1,144	1,182	122	3.3	20	36	Intermediate
4	Liberty	11,169	10,955	214	945	970	152	3.4	23	30	Low Intermediate
5	Drifter	11,195	11,023	172	922	942	71	1.5	19	26	Low Intermediate
6	Sidewinder	11,282	11,032	250	1,245	1,278	119	3.5	20	29	Low Intermediate
7	Toddler	11,282	11,081	201	625	660	68	1.0	32	44	Intermediate
8	Short Circuit	11,427	11,254	173	533	564	74	1.0	32	47	Adv. Intermediate
9	Roundabout	11,584	11,322	261	3,536	3,593	69	5.7	7	23	Low Intermediate
10	Curecanti	11,671	11,566	105	1,044	1,053	296	7.2	33	66	Expert
11	Romp	11,503	11,366	138	360	387	130	2.5	38	44	Intermediate
12	Tango	11,596	11,013	584	1,830	1,930	154	6.8	32	50	Adv. Intermediate
13	Lower Tango	11,013	10,786	227	1,840	1,868	197	8.5	12	20	Low Intermediate
14	Examiner	11,625	10,810	815	2,644	2,800	143	9.2	31	51	Adv. Intermediate
15	Ajax	11,384	10,983	401	1,065	1,145	247	6.5	38	53	Adv. Intermediate
16	Cleanzer	11,522	11,241	281	574	642	255	3.8	49	65	Expert
17	Kanonen	11,620	11,301	320	605	686	222	3.5	53	61	Expert
18	Sky Walker II	11,625	11,586	38	522	525	80	1.0	7	12	Novice
19	Sky Walker I	11,803	11,612	191	2,841	2,875	99	6.5	7	19	Novice
20	Quick Draw	11,595	11,465	130	747	761	277	4.8	17	32	Low Intermediate
21	KC Cutoff	11,585	11,566	19	168	170	49	0.2	12	12	Novice
22	Sleepy Hollow	11,593	11,190	403	2,770	2,813	151	9.7	15	24	Novice
23	Lobo	11,517	11,430	87	162	184	92	0.4	54	54	Adv. Intermediate
24	Upper No Name	11,615	11,320	295	667	734	124	2.1	44	59	Expert
25	Upper Xmas Tree	11,599	11,226	372	1,031	1,103	152	3.9	36	50	Adv. Intermediate
26	Lower No Name	11,320	10,915	405	1,376	1,437	98	3.2	29	41	Adv. Intermediate
27	Freeway	11,190	10,818	372	1,831	1,874	352	15.1	20	28	Low Intermediate

Table 4:
Terrain Specifications – Upgrading Plan

Map Ref	Trail Area/Name	Top Elev. (ft.)	Bot. Elev. (ft.)	Vert. Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
28	Snowflake	10,902	10,834	68	550	555	385	4.9	12	17	Novice
29	Little Joe	11,141	10,894	247	1,109	1,137	90	2.4	22	25	Novice
30	Bee Line	11,153	11,023	130	461	482	131	1.5	28	39	Intermediate
31	Rookie	11,151	11,088	63	397	403	75	0.7	16	22	Novice
32	Glade	11,195	10,838	356	2,751	2,785	174	11.1	13	22	Novice
33	Tenderfoot	11,227	11,033	194	1,317	1,336	136	4.2	15	25	Novice
34	Short N Sweet	11,708	11,435	273	908	953	149	3.3	30	45	Intermediate
35	Turbo	11,755	11,395	360	966	1,035	170	4.0	37	53	Adv. Intermediate
36	Mirage	11,770	11,070	700	2,372	2,494	123	7.0	30	56	Expert
37	Sheer Rocko	11,805	11,104	700	2,032	2,165	43	2.1	34	48	Adv. Intermediate
38	High Anxiety	11,747	11,059	688	2,163	2,298	174	9.2	32	58	Expert
39	Safari	10,869	10,855	14	98	100	531	1.2	15	15	Beginner
40	Little Mo	11,651	10,859	792	3,256	3,359	112	8.7	24	35	Low Intermediate
41	K2	11,672	10,891	781	3,872	3,975	148	13.6	20	41	Intermediate
42	Lower Hall's Alley	11,273	10,945	328	1,202	1,248	110	3.1	27	34	Low Intermediate
43	Doc's Run	11,396	11,081	316	1,082	1,130	96	2.5	29	37	Intermediate
44	B's Bash	11,567	11,028	539	1,789	1,885	137	5.9	30	53	Adv. Intermediate
45	Frazzle	11,720	11,215	505	1,203	1,315	165	5.0	42	58	Expert
46	Zipper	11,557	11,158	399	926	1,017	143	3.3	43	59	Expert
47	Dire Straits	11,481	11,255	225	468	522	131	1.6	48	60	Expert
48	Ticaboo	11,692	11,066	627	2,140	2,238	144	7.4	29	45	Intermediate
49	Great Divide	11,803	11,525	278	2,051	2,075	149	7.1	14	36	Intermediate
50	Picante	11,551	11,209	342	1,074	1,132	211	5.5	32	46	Adv. Intermediate
51	Snow Burn	11,525	11,057	468	2,255	2,317	214	11.4	21	39	Intermediate
52	Outback	11,535	11,242	293	889	941	623	13.5	35	55	Adv. Intermediate
53	Shagnasty	11,649	11,150	499	1,566	1,652	212	8.0	32	51	Adv. Intermediate
54	Upper Hall's Alley	11,667	11,293	374	1,126	1,193	95	2.6	33	51	Adv. Intermediate

Table 4:
Terrain Specifications – Upgrading Plan

Map Ref	Trail Area/Name	Top Elev. (ft.)	Bot. Elev. (ft.)	Vert. Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
55	Geno's Meadow	11,273	11,010	264	790	835	452	8.7	33	46	Adv. Intermediate
56	Tumbelina Lift Line	11,157	10,932	225	647	688	89	1.4	35	37	Intermediate
57	Mirkwood Basin	11,925	11,175	750	3,000	3,186	1,888	138.1	25	67	Hike To
58	Mirkwood Basin Egress	11,175	11,000	175	2,400	2,429	53	2.9	7	65	Hike To
	High Anxiety to Mirage	11,282	11,213	69	292	310	83	0.6	24%	26%	Expert
	Rookie to Glade Bypass	11,147	11,128	19	165	170	40	0.2	11%	11%	Beginner
PA-1		11,507	11,319	188	536	569	138	1.8	35	41	Intermediate
PA-2		11,345	11,190	156	846	866	93	1.8	18	34	Low Intermediate
P-1		11,539	10,751	789	4,330	4,426	107	10.8	18	34	Low Intermediate
P-2		11,461	10,917	544	1,450	1,551	135	4.8	38	44	Intermediate
P-3		11,513	11,009	504	1,473	1,558	136	4.9	34	39	Intermediate
P-4		11,580	10,777	803	2,211	2,354	136	7.3	36	44	Intermediate
P-5		11,637	10,771	866	2,666	2,813	165	10.7	32	46	Adv. Intermediate
P-6		11,480	10,947	533	1,321	1,427	158	5.2	40	53	Adv. Intermediate
P-7		11,665	11,319	346	3,409	3,436	38	3.0	10	19	Intermediate
P-8		11,659	11,338	322	2,812	2,855	60	4.0	11	32	Low Intermediate
P-9		10,833	10,749	83	1,069	1,074	65	1.6	8	12	Adv. Intermediate
P-LL		11,673	10,743	930	2,530	2,701	102	6.3	37	50	Adv. Intermediate
	TOTAL					109,770		487.9			

Legend:
Existing, Widened/Modified Trails
New, Proposed Trails
Source: SE Group

Table 5:
Daily Lift Capacity – CCC – Existing Conditions

Map Ref.	Lift Name, Lift Type	Slope Length	Vertical Rise	Actual Design Capacity	Oper. Hours	Up-Mtn. Access Role	Misloading/ Lift Stoppages	Adjusted Hourly Cap.	VTF/Day	Vertical Demand	Daily Lift Capacity
		(ft.)	(ft.)	(guests/hr.)	(hrs.)	(%)	(%)	(guests/hr.)	(000)	(ft./day)	(guests)
1	Breezeway *C-2*	3,319	830	1,000	7.00	-	10	900	5,229	15,431	340
2	Garfield *C-2*	2,986	846	1,200	7.00	-	10	1,080	6,394	13,545	470
3	Panorama *C-2*	3,131	785	1,200	6.75	-	10	1,080	5,720	8,283	690
4	Tumbelina *C-2*	1,368	325	400	7.00	15	10	300	682	3,613	190
5	Pioneer *C-4*	3,598	783	1,500	7.00	10	5	1,275	6,988	9,268	750
6	Safari *C*	63	8	600	7.00	-	5	570	32	685	50
7	Congo *C*	84	11	600	7.00	-	5	570	44	860	50
8	Mid Unload *C-2*	615	80	800	7.00	-	15	680	381	1,146	330
	TOTAL	15,164		7,300				6,455	25,470		2,870

Source: SE Group

Table 6:
Daily Lift Capacity – CCC – Upgrading Plan

Map Ref.	Lift Name, Lift Type	Slope Length	Vertical Rise	Actual Design Capacity	Oper. Hours	Up-Mtn. Access Role	Misloading/ Lift Stoppages	Adjusted Hourly Cap.	VTF/Day	Vertical Demand	Daily Lift Capacity
		(ft.)	(ft.)	(guests/hr.)	(hrs.)	(%)	(%)	(guests/hr.)	(000)	(ft./day)	(guests)
1	Shortened and Upgraded Breezeway *C-3*	3,203	835	2,000	7.00	15	10	1,500	8,771	15,994	550
2	Garfield *C-2*	2,986	846	1,200	7.00	-	10	1,080	6,393	13,766	460
3	Panorama *C-2*	3,131	785	1,200	6.75	15	10	900	4,766	8,610	550
4	Tumbelina *C-2*	1,368	325	1,200	7.00	15	10	900	2,046	5,051	410
5	Pioneer *C-4*	3,598	783	1,800	7.00	5	5	1,620	8,878	9,435	940
8	Proposed No Name *C-2*	2,725	960	1,200	6.50	-	10	1,080	6,739	16,999	400
9	Proposed Snowflake Carpet	374	51	400	7.00	-	5	380	136	1,808	80
6	Safari *C*	60	5	600	7.00	-	5	570	20	1,478	10
7	Proposed Carpet III *C*	151	18	600	7.00	-	5	570	72	1,478	50
10	Congo *C*	80	8	400	7.00	-	5	380	21	949	20
11	Proposed Carpet IV *C*	80	8	400	7.00	-	-	400	22	949	20
	TOTAL	17,757		11,000				9,380	37,864		3,490

Legend:

Existing, Upgraded/Modified Lifts

New, Proposed Lifts

Previously Approved Lift, to be installed in Summer 2011

Source: SE Group

Table 7:
Density Analysis – Existing Conditions

Map Reference	Daily Lift Capacity	Guest Dispersal				Density Analysis				Density Index
		Support Fac./Milling	Lift Lines	On Lift	On Terrain	Terrain Area	Terrain Density	Desired Trail Density	Diff.	
		(guests)	(guests)	(guests)	(guests)	(acres)	(guests/ac.)	(guests/ac.)	(+/-)	(%)
Breezeway *C-2*	340	85	45	100	110	206.8	1	3	-2	33
Garfield *C-2*	470	118	126	108	118	71.3	2	10	-8	20
Panorama *C-2*	690	173	126	113	278	91.9	3	8	-5	38
Tumbelina *C-2*	190	48	60	23	59	7.8	8	14	-6	57
Pioneer *C-4*	750	188	149	170	243	30.2	8	14	-6	57
Mid Unload *C-2*	330	83	136	23	88	4.1	21	18	3	117
TOTAL	2,770	695	642	537	896	412.1	6	11	-5	59

Source: SE Group

Table 8:
Density Analysis – Upgrading Plan

Map Reference	Daily Lift Capacity	Guest Dispersal				Density Analysis				Density Index
		Support Fac./Milling	Lift Lines	On Lift	On Terrain	Terrain Area	Terrain Density	Desired Trail Density	Diff.	
		(guests)	(guests)	(guests)	(guests)	(acres)	(guests/ac.)	(guests/ac.)	(+/-)	(%)
Shortened and Upgraded Breezeway *C-3*	550	138	75	160	177	207.5	1	3	-2	33
Garfield *C-2*	460	115	126	108	111	78.6	1	10	-9	10
Panorama *C-2*	550	138	105	94	213	104.9	2	9	-7	22
Tumbelina *C-2*	410	103	105	51	151	8.7	17	14	3	121
Pioneer *C-4*	940	235	189	216	300	34.0	9	14	-5	64
Proposed No Name *C-2*	400	100	72	98	130	47.8	3	9	-6	33
TOTAL	3,310	829	672	727	1,082	481.5	6	10	-5	56

Source: SE Group

Table 9:
Space Inventory for Base Area Facilities – Existing Conditions

Service Function	Day Lodge	Rental Sprung	Tent Deck	Children's Center	Restroom Building	Ski Patrol	Existing Total	Recommended Range	
								Recommended Low Range	Recommended High Range
Ticket Sales/Guest Services	1,010	425	-	-	-	-	1,435	540	660
Public Lockers	954	-	-	-	-	-	954	1,375	1,670
Rentals/Repair	-	5,470	-	-	-	-	5,470	4,590	5,170
Retail Sales	1,110	-	-	-	-	-	1,100	1,570	1,920
Bar/lounge	2,565	-	-	-	-	-	2,565	2,140	2,620
Adult Ski School	300	685	-	-	-	-	685	1,080	1,330
Kid's Ski School	-	-	-	2,190	-	-	1,440	2,170	2,650
Restaurant Seating	9,484	-	1,400	-	-	-	10,884	10,850	13,260
Kitchen/Scramble	2,244	-	-	-	-	-	2,244	3,120	3,810
Rest rooms	850	390	-	-	480	-	1,720	1,680	2,060
Ski Patrol	-	-	-	-	-	980	980	1,030	1,260
Administration	610	243	-	-	-	96	949	1,440	1,760
Employee Lockers/Lounge	144	-	-	1,440	-	300	1,884	570	700
Mechanical	123	260	-	-	96	-	479	870	1,280
Storage	2,163	384	-	-	-	116	2,663	1,450	2,140
Circulation/Waste	1,704	1,370	-	-	-	-	3,074	3,470	5,130
TOTAL SQUARE FEET	22,951	9,227	1,400	3,630	576	1,492	39,276	37,940	47,420

Notes:
1. Existing space numbers supplied by Rich Moorhead 3/06 and 5/07, updated by George Cowherd 8/08
2. Majority of administration functions have been moved down to Salida
3. Existing restaurant seating includes 1,890-sq. ft. brown bag seating space
4. Season Lockers (750 sq. ft.) captured in public locker space. (previously counted as Sack Lunch area)
5. Kitchen includes 144-sq. ft. Starbuck's
6. Employee lockers recommended range does not include ski school, ski patrol or mountain operations employee lockers
7.Children's Center sq.ft. includes the adjacent 750 sq.ft. yurt
Source: SE Group

Table 10:
Space Inventory for Base Area Facilities – Upgrading Plan

Service Function	Day Lodge				Rental Sprung			Overflow Seating	Ski Patrol		Restroom Building	Employee Lockers	Ski School Building	Total	Recommended Range	
	Existing	Re-allocated	Proposed	Total	Existing	Re-allocated	Total	Proposed	Existing	Proposed	Existing	Proposed	Proposed		Recommended Low Range	Recommended High Range
Ticket Sales/Guest Services	1,010	-	-	1,010	425	-	425	-	-	-	-	-	-	1,435	660	810
Public Lockers	954	-	-	954	-	-	-	-	-	-	-	-	-	954	1,660	2,030
Rentals/Repair	-	-	-	-	4,750	-	4,750	-	-	-	-	-	850	5,600	5,580	6,280
Retail Sales	1,100	355	-	1,455	-	720	720	-	-	-	-	-	-	2,175	1,910	2,340
Bar/lounge	2,565	-	900	3,465	-	-	-	-	-	-	-	-	-	3,465	2,610	3,180
Adult Ski School	-	-	-	-	685	-	685	-	-	-	-	-	800	1,485	1,320	1,610
Kid's Ski School	-	-	-	-	-	-	-	-	-	-	-	-	3,200	3,200	2,640	3,220
Restaurant Seating	9,484	-	3,420	12,904	-	-	-	3,630	-	-	-	-	500	17,034	10,810	13,220
Kitchen/Scramble	2,244	-	800	3,044	-	-	-	-	-	-	-	-	600	3,644	3,110	3,800
Rest rooms	850	-	-	850	390	-	390	-	-	-	480	-	150	1,870	1,680	2,050
Ski Patrol	-	-	-	-	-	-	-	-	-	3,000	-	-	-	3,000	1,030	1,260
Administration	610	-	-	610	243	-	243	700	-	-	-	-	500	2,053	1,750	2,140
Employee Lockers/Lounge	144	-	-	144	-	-	-	-	-	-	-	2,880	-	3,024	690	850
Mechanical	123	-	-	123	260	-	260	-	-	-	96	-	-	479	960	1,410
Storage	2,163	-	720	2,883	384	-	384	-	-	-	-	-	200	3,467	1,600	2,350
Circulation/Waste	1,704	-	400	2,104	1,370	-	1,370	670	-	-	-	-	1,200	5,344	3,830	5,650
TOTAL SQUARE FEET	22,951	355	6,240	29,546	8,507	720	9,227	5,000	-	3,000	576	2,880	8,000	58,229	41,840	52,200

Notes:
1. Proposed Addition to Lodge adds 1,710 sq. ft. to the Sidewinder Saloon (bar) and 1,710 sq.ft. to the Gunbarrel Grill (restaurant seating)
2. Addition of 355 sq. ft. to Lodge retail subtracts 355 from restaurant seating
3. Proposed enclosing of day lodge loading dock adds 720 sq. ft. of food storage (add to kitchen/scramble) Source: SE Group

Table 11:
Space Inventory for On-Mountain Facilities – Existing Conditions

Service Function	On-Mountain Patrol Huts
Ticket Sales/Guest Services	-
Public Lockers	-
Rentals/Repair	-
Retail Sales	-
Bar/lounge	-
Adult Ski School	-
Kid's Ski School	-
Restaurant Seating	-
Kitchen/Scramble	-
Rest rooms	-
Ski Patrol	408
Administration	-
Employee Lockers/Lounge	-
Mechanical	-
Storage	-
Circulation/Waste	-
TOTAL SQUARE FEET	408

Table 12:
Space Inventory for On-Mountain Facilities – Upgrading Plan

Service Function	On-Mountain		Total	Recommended Range	
	Existing	Proposed		Recommended Low Range	Recommended High Range
Ticket Sales/Guest Services	-	-	-	-	-
Public Lockers	-	-	-	-	-
Rentals/Repair	-	-	-	-	-
Retail Sales	-	-	-	-	-
Bar/lounge	-	-	-	-	-
Adult Ski School	-	-	-	-	-
Kid's Ski School	-	-	-	-	-
Restaurant Seating	-	3,068	3,068	1,940	2,370
Kitchen/Scramble	-	750	750	550	690
Rest rooms	-	150	150	300	370
Ski Patrol	408	-	408	180	230
Administration	-	-	-	-	2,140
Employee Lockers/Lounge	-	-	-	-	850
Mechanical	-	-	-	80	210
Storage	-	-	-	130	360
Circulation/Waste	-	-	-	330	870
TOTAL SQUARE FEET	408	3,968	4,376	3,510	8,090

Table 13:
Space Inventory for Resort-Wide Facilities – Upgrading Plan

Service Function	On-Mountain			Total	Recommended Range	
	Existing	Reallocated	Proposed		Recommended Low Range	Recommended High Range
Ticket Sales/Guest Services	1,435	-	-	1,435	660	810
Public Lockers	954	-	-	954	1,660	2,030
Rentals/Repair	4,750	-	850	5,600	5,580	6,280
Retail Sales	1,100	1,075	-	2,175	1,910	2,340
Bar/lounge	2,565	-	900	3,465	2,610	3,180
Adult Ski School	685	-	800	1,485	1,320	1,610
Kid's Ski School	-	-	3,200	3,200	2,640	3,220
Restaurant Seating	9,484	-	10,618	20,102	12,750	15,590
Kitchen/Scramble	2,244	-	2,150	4,394	3,660	4,490
Rest rooms	1,720	-	500	2,220	1,980	2,420
Ski Patrol	408	-	3,000	3,408	1,210	1,490
Administration	853	-	1,200	2,053	1,750	4,280
Employee Lockers/Lounge	144	-	2,880	3,024	690	1,700
Mechanical	479	-	-	479	1,040	1,620
Storage	2,547	-	920	3,467	1,730	2,710
Circulation/Waste	3,074	-	2,270	5,344	4,160	6,520
TOTAL SQUARE FEET	32,442	1,075	29,288	62,805	45,350	60,290

Table 14:
Recommended Restaurant Seats

	Day Lodge	Proposed Group Seating Building	Base Area Total	Top of Panorama	Mid Mountain	Top of Breeze-way	No Name Pod	Total Resort	Day Lodge (Sack Lunch)
Lunchtime Capacity (CCC + Add'l guests)	-	-	3,004	110	329	123	100	3,665	-
Average Seat Turnover (indoor)	2.5	2	2.3	3	3	3	3	-	2.5
Existing Indoor Seats	513	-	513	-	-	-	-	513	165
Average Seat Turnover (outdoor)	2	-	-	-	2	-	-	-	1
Outdoor Seats	50	-	50	-	150	-	-	200	118
Re-allocated Seats		-	-	-	107	-	-	107	-
Proposed Seats	500	302	802	40		40	40	922	-
Required Seats	-	-	1,335	37	110	41	33	1,555	-
Difference (indoor seats - required)	-	-	30	3	-3	-1	7	36	-
Proposed seating capacity (indoor)	-	-	2,959	120	321	120	120	3,640	-
Proposed seating capacity (indoor and outdoor)	-	-	3,071	120	621	120	120	4,052	-
Proposed seating capacity (including Sack Lunch area)	-	-	-	-	-	-	-	-	4,583

Notes:
1. Existing base area seats in Sidewinder = 167, Top Level = 145, Mid level = 107, Cafeteria = 94, Old Rental = 165 (sack lunch)
2. Proposed 500 seats in between the Sidewinder Saloon and the Gunbarrel Grille
3. Proposed 302 seats in proposed building to be located where the tent deck is currently
4. Proposed 40 seats in warming yurt at the top of Panorama
5. 107 seats in relocated Tent Deck at Mid Mtn
6. Proposed 40 seats in warming yurt at the top of Breezeway
7. Proposed 40 seats in warming yurt at the bottom of No Name