



ARAPAHOE BASIN



2012 MASTER DEVELOPMENT PLAN SEPTEMBER 2012

Prepared by:



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1.

INTRODUCTION

Arapahoe Basin (A-Basin) has continued to retain SE Group in a planning and permitting assistance role since the Ski Area Master Development Plan Amendment (MDPA) was completed in 2006. This document capitalizes on the collective knowledge of A-Basin's staff and SE Group's planning experience, along with previous planning documents and NEPA processes (discussed below), to evaluate existing operations and potentials within A-Basin's Forest Service-administered Special Use Permit (SUP) area. The result is a Master Development Plan (MDP) that outlines short and long term upgrades that are designed to provide an improved balance of services to meet the needs of the guest at the resort. This document does not discuss all aspects of A-Basin in detail, but rather, the planning and analysis related to the operations that are affected by the projects to be discussed in chapters 5, 6, and 7.

A. Location

A-Basin is located in the White River National Forest, 15 miles east of Dillon, Colorado (Figure 1). The ski area is accessed by US Highway 6, which runs through the base area. A-Basin is approximately one and a half to two hours driving time from Denver and the Front Range metropolitan area via Interstate 70 and Highway 6, either over Loveland Pass or through the Eisenhower Tunnel.

B. Current Ski Area Operations

A-Basin is owned and operated by Dundee Resort Development, LLC. A-Basin is exclusively a day-use resort, with no overnight accommodations, although many visitors are destination guests staying in nearby accommodations. The majority of visitation occurs on weekends and during holiday periods. A-Basin currently has 6 aerial lifts, 2 carpet conveyors, and 92 lift-served alpine trails. When weather and snow conditions permit, there are 676 lift-served skiable acres and 282 acres of hike-to/hike-back terrain. Support facilities include a primary day lodge, rental shop, mid-mountain lodge, maintenance building, five parking areas, and an on-mountain patrol headquarters with warming hut area and restrooms. There is no night skiing at the resort, and snowmaking coverage is estimated at approximately 95 acres of terrain.

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As demonstrated in Table 1.1, A-Basin's annual visitation over the past ten seasons has been characterized by a general upward trend, with the exception of the recent 2011/12 season which saw a decrease in annual visitation due to below average snowfall totals. Average visitation from 2002/03 to 2010/11 showed a 41% increase. During the 10-year period, A-Basin averaged just over 354,300 annual visits. With a typical season that starts in early to mid-October and typically ends in June, A-Basin often operates over 230 days per season. However, the entire mountain is usually not open until Christmas, and sometimes after. Note that this equates to an approximate 45% utilization rate.¹

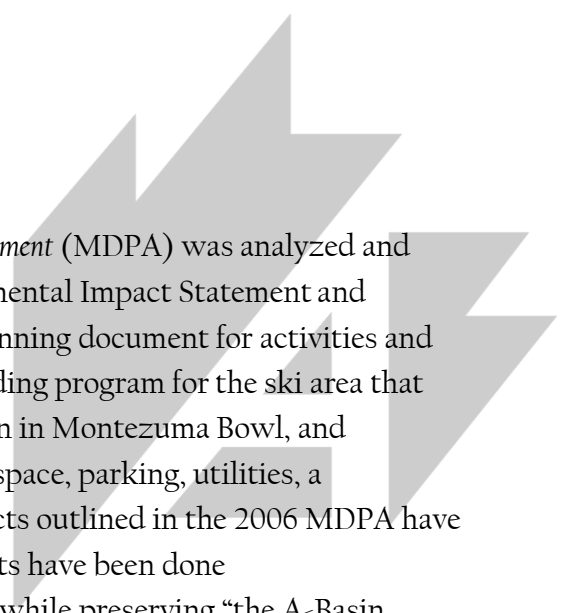
Table 1.1:
Annual Skier/Rider Visits - 2002 to 2012

Season	Visitation
2002/03	317,401
2003/04	275,428
2004/05	328,251
2005/06	326,428
2006/07	360,247
2007/08	431,087
2008/09	409,786
2009/10	356,849
2010/11	452,930
2011/12	285,000
10-Year Average	354,341

C. Background

Skiing began at A-Basin in 1946, when a single rope tow was installed up the front of the mountain. The following year, two single chairs were opened with alignments very similar to the present day Norway and Black Mountain Express chairlifts. In concert with market demand, and the growing expectations of the skiing public, A-Basin has continued upgrading over the past thirty years, adding new chair lifts, new and improved ski terrain, additional parking, and day lodge facilities. The area now includes one detachable quad chairlift (Black Mountain Express), one quad fixed-grip chairlift (Zuma), one triple chairlift (Lenawee), three double chairlifts (Pallavicini, Norway, and Molly Hogan), two conveyor lifts, 958 acres of ski terrain, base area skier service buildings, and the Black Mountain Lodge (providing on-mountain skier services).

¹ Utilization is the analysis of actual annual skier visit days compared to the potential visitation based on the ski area's Comfortable Carrying Capacity, (annual skier visits)/(operating days*comfortable carrying capacity)



The 2006 *Arapahoe Basin Ski Area Master Development Plan Amendment* (MDPA) was analyzed and approved by the White River National Forest in an Environmental Impact Statement and Record of Decision. The 2006 MDPA is A-Basin's current planning document for activities and operations within its SUP area. The MDPA defines an upgrading program for the ski area that includes upgrading existing lifts, adding a lift and new terrain in Montezuma Bowl, and upgrading and expanding skier support facilities (day lodge space, parking, utilities, a restaurant at midway, new rental shop, etc.). All of the projects outlined in the 2006 MDPA have been implemented over the last six years. These improvements have been done conscientiously—addressing guests' needs and expectations while preserving “the A-Basin experience.”

D. Planning and Environmental Documentation

The following list of planning, environmental, and approval documents are the guiding documents for A-Basin. This MDPA builds upon these previous documents.

1. 1997 Master Development Plan

The 1997 Master Development Plan was submitted to the White River National Forest to guide future planning at A-Basin in accordance with the terms of their SUP.

2. 1999 Master Development Plan Final Environmental Impact Statement and Record of Decision

The Record of Decision approved snowmaking, upgraded facilities, utilities and lifts. Many of these upgrades have been implemented, such as the first phase of snowmaking, utility installation, expansion of Patrol Headquarters, reconfiguring Molly Hogan and adding a conveyor lift.

3. 2001 Lenawee Chairlift Realignment Environmental Assessment and Decision Notice/Finding of No Significant Impact

The 2001 Decision Notice approved the installation of an upgraded Lenawee lift with a modified alignment. This project has been implemented.

4. 2002 White River Land and Resource Management Plan (Forest Plan) Final Environmental Impact Statement and Record of Decision

The Record of Decision for the 2002 *White River Land and Resource Management Plan, Final Impact Statement* approved Alternative K. It was noted that the Selected Alternative provides a wide variety of recreation opportunities while promoting ecosystem health. As a result of the selection of Alternative K, A-Basin SUP boundary was modified (i.e., expanded) to include Montezuma Bowl and the Beavers area (Figure 2).

5. 2006 Master Development Plan Amendment

The 2006 MDPA was accepted by the White River National Forest in April 2006.

6. 2006 Improvement Plan Final Environmental Impact Statement and Record of Decision

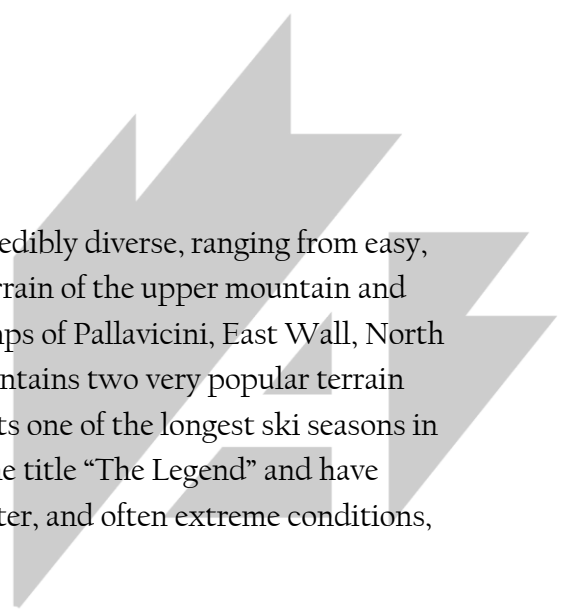
The Record of Decision approved the Exhibition chairlift replacement (now known as the Black Mountain Express), Zuma chairlift installation, the addition of the Montezuma Bowl terrain, and reconfiguration of the Last Chance and Overflow parking lots. All of these proposed upgrades have been implemented.

E. Vision

A-Basin is situated in one of the most dramatic settings in the Colorado, or U.S., ski industry. The striking topography and rustic motif combine to create an intimate atmosphere distinctive among western skiing. In recognition of this unique character, A-Basin has developed a corporate vision which characterizes the services provided and speaks to the nature of their core clientele: “Where the spirit of freedom and big mountain challenges create life altering experiences.” Each and every decision that A-Basin management makes is focused on preserving and improving “the A-Basin experience.”

A-Basin provides a distinctly different skiing/riding experience, especially as compared to other larger ski areas in Summit County. A-Basin guests expect, and receive, an intimate and diverse skiing experience that is unique in the ski industry and cannot be found at other nearby resorts. The comfortable, unpretentious atmosphere and friendly staff at A-Basin contribute to this intimate feel.

In addition to the markedly different atmosphere at A-Basin, the ski area’s uniquely challenging terrain has been attracting a devoted following of locals, Front Range day skiers, and destination



visitors since 1946. A-Basin's high-alpine environment is incredibly diverse, ranging from easy, lower mountain cruisers, and the wide-open intermediate terrain of the upper mountain and Montezuma Bowl, to the incomparable steeps, trees and bumps of Pallavicini, East Wall, North Glades, and the flanks of Montezuma Bowl. A-Basin also maintains two very popular terrain parks. With skiing often from October to June, A-Basin boasts one of the longest ski seasons in North America. Together, these traits have earned A-Basin the title “The Legend” and have inspired a following of die-hard skiers who revere the character, and often extreme conditions, that are unique to A-Basin.

Over the past several years, a focused suite of improvements have been implemented which reflect the historical character of the ski area, while keeping up with current market trends, visitor demands and technology. As a result, A-Basin has experienced a sizeable increase in skier visitation since the 2006 MDP (with the exception of the 2011/12 season which plagued the ski industry across the western United States with below average snowfall). Approximately 328,250 skier visits were reported for the 2004/05 season and the 2010/11 season recorded 452,930 skier visits; this represents a 38% increase from 2005 to 2011.

Through the Upgrade Plan presented in Chapter 6, A-Basin seeks to continue to carefully preserve the unique attributes of “The A-Basin Experience” by strategically increasing opportunities for intermediate, advanced intermediate and expert terrain available at the ski area. Considerable thought and attention has been placed on ensuring that the position of planned and upgraded chairlifts will protect, and enhance, the distinctive skiing experience that A-Basin has built its reputation upon. The purpose of the MDP is to establish A-Basin’s direction and priorities for the physical improvements, both short and long term, while retaining the current feel and appeal of “The Legend.” It is intended that the MDP will identify the type, size, capacity, and location of improvements that are appropriate to achieve these goals.

F. Statement of Goals and Objectives

This MDP is designed to build upon and update the data from the previous planning documents, while meeting A-Basin’s main objective which is to provide a high quality recreational experience that is appealing to guests of all ages and ability levels. The plan also respects the natural resources of the study area and incorporates key skier/snowboarder preferences. The following opportunities have been identified to help meet this objective:

- Provide lift served skiing in The Beavers
- Improve circulation to/from Montezuma Bowl

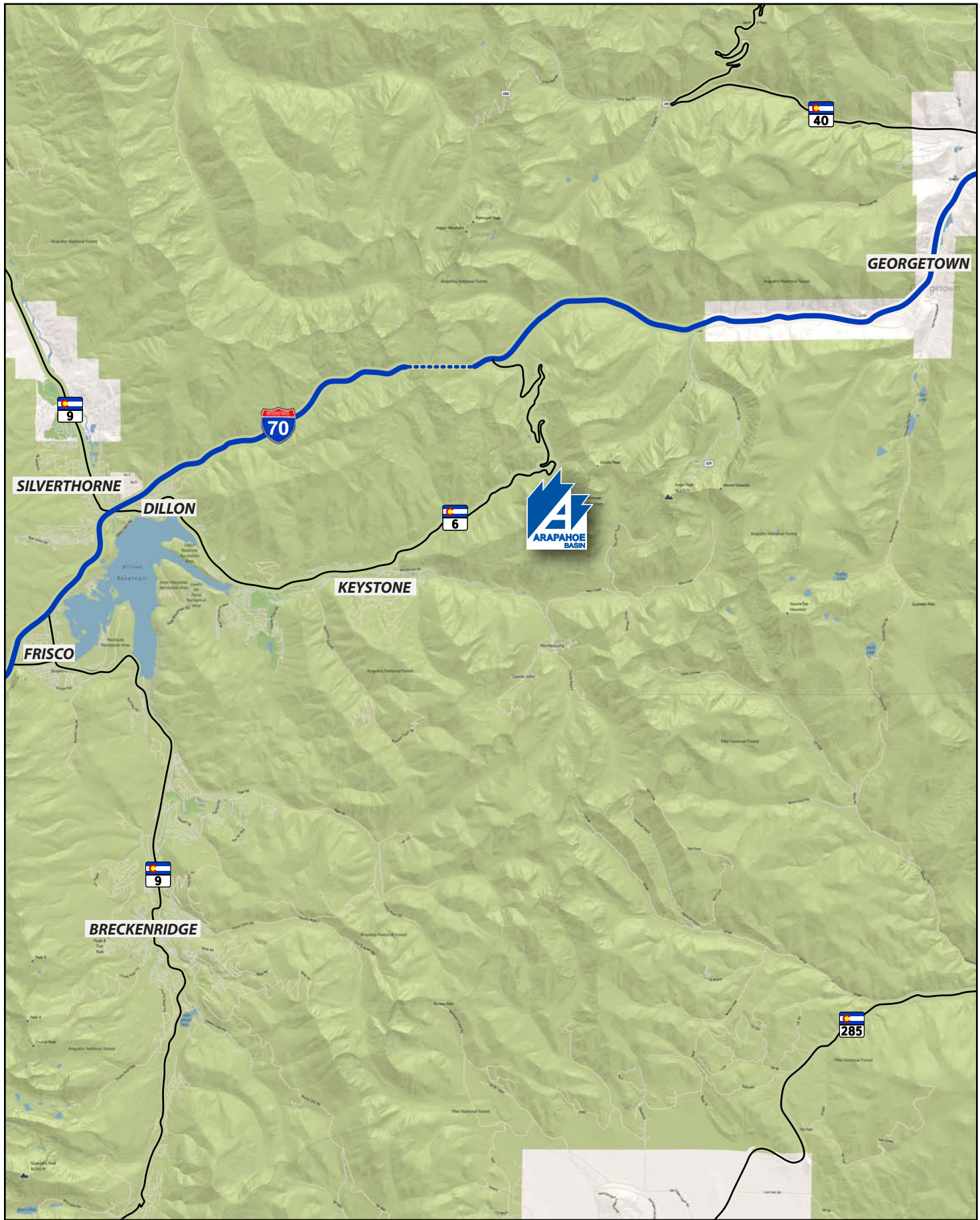
ARAPAHOE BASIN

- Upgrade/improve skier service facilities at the base area
- Upgrade and maintain existing lifts, as needed
- Provide four-season alternative recreational opportunities
- Resolve concerns related to backcountry use in avalanche prone areas within A-Basin's SUP boundary

G. Acceptance by the USFS

This MDP was created using an iterative and collaborative process between A-Basin, SE Group planners, and Forest Service personnel. Forest Service “acceptance” is consistent with the requirements of the A-Basin SUP and the White River National Forest (WRNF) Forest Plan.

Note that Forest Service acceptance of this MDP does not imply authorization to proceed with any of the proposed projects. All projects in this MDP that have not been previously approved through NEPA will require site-specific environmental analyses before a decision can be made or any projects are approved. Site-specific environmental analysis may result in a modification to planned projects. Furthermore, beyond NEPA analysis, implementation of projects identified in this MDP may be dependent upon approval of detailed plans contained in A-Basin's annual summer operations/construction plans.



NORTH



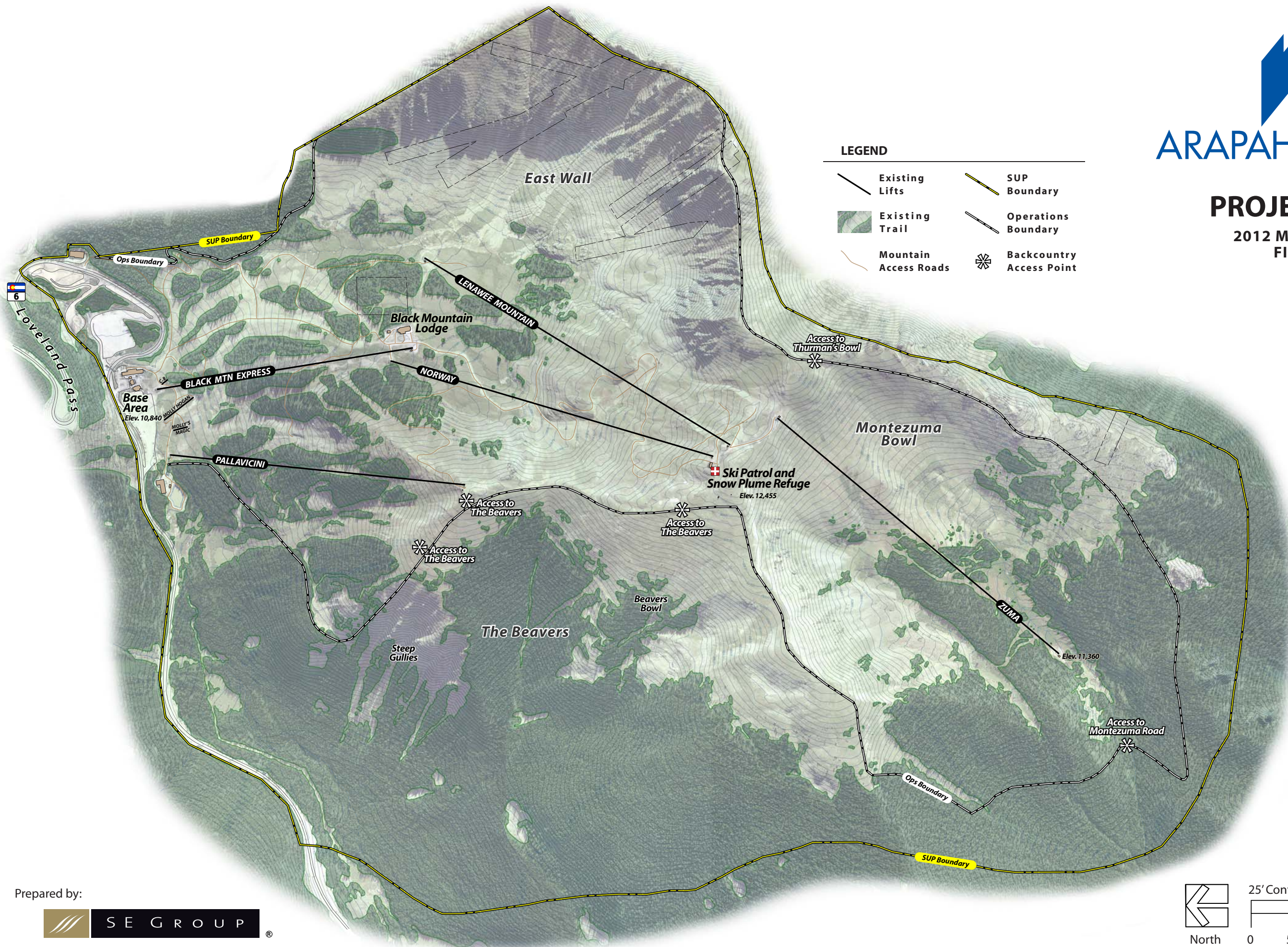
1 MILE

FIGURE 1

VICINITY MAP

PROJECT AREA

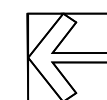
2012 MASTER PLAN
FIGURE 2



LEGEND

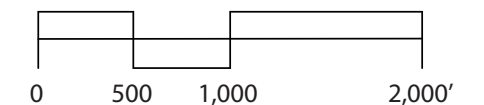
- | | |
|-----------------------|--------------------------|
| Existing Lifts | SUP Boundary |
| Existing Trail | Operations Boundary |
| Mountain Access Roads | Backcountry Access Point |

Prepared by:



North

25' Contour Interval



2.

DESIGN CRITERIA

Establishing design criteria is an important concept in resort master planning. This chapter provides an overview of the basic design criteria upon which Chapter 4 (Existing Ski Area Facilities) and Chapter 6 (Upgrade Plan) are based. With the exception of Forest Service Policy and Direction, information presented in Chapter 2 is general in nature and related to the concept of resort master planning, rather than to A-Basin specifically.

A. Day Ski/Regional Destination Resorts

Regional destination resorts largely cater to a “drive” market. While day-use guests play a large role, the regional destination resort also appeals to vacationers. At regional destination resorts, lodging typically is a component, but due to the average length of stay, and perhaps guests’ vacation budgets, lodging and related services and amenities are usually less extensive than what might be expected at a larger destination resort that attracts national and international visitors. Where the regional destination resort has evolved from within, or adjacent to, an existing community, services are often supplied by proprietors in the existing community. Such is the case at A-Basin and its relationship to the nearby towns of Keystone, Dillon, Silverthorne, and Frisco. The services offered at A-Basin cater directly to guests of the resort, while proprietors within these nearby towns supply services to vacationers, as well as permanent residents and second home owners.

B. Base Area Design

Design of the base lands for a mountain resort involves establishing appropriate sizes and locations for the various elements that make up the development program. The complexion and interrelationship of these elements varies considerably depending on the type of resort and its intended character. However, fundamental objectives of base area planning are to integrate the mountain with the base area for the creation of an attractive, cohesive, and functional recreational and social experience. This is essential to creating the feeling of a *mountain community*, and can only be achieved by addressing base area components such as (but not

limited to): guest service locations; skier/rider circulation; pedestrians; parking/access requirements; and mass-transit drop-offs.

Planners rely on resort layout as one tool to establish resort character. The manner in which resort elements are organized, both inside the resort core and within the landscape setting, along with architectural style, help to create the desired character.

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

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

C. Mountain Design

1. Trail Design

a. Slope Gradients and Terrain Breakdown

Terrain ability level designations are based on slope gradients and terrain features associated with the varying terrain unique to each mountain. In essence, ability level designations are based on the maximum sustained gradient calculated for each trail. While short sections of a trail can be more or less steep without affecting the overall run designation, a sustained steeper pitch may cause the trail to be classified with a higher difficulty rating.

The following general gradients are used to classify the skier difficulty level of the mountain terrain. In some cases, steeper terrain gradients are allowable for a lesser ability level to account for unique situations such as; wider slopes being negotiated through traversing, access from an adjacent slope with lower gradients, snow-grooming and snow management being used to mitigate steeper pitches.

**Table 2.1:
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%

The distribution of terrain by skier ability level and slope gradient is compared with the market demand for each ability level. It is desirable for the available ski terrain to be capable of accommodating the full range of ability levels reasonably consistent with market demand. The market breakdown for the Central Rocky Mountain skier market is shown in Table 2.2.







**Table 2.2:
Central Rocky Mountain Skier Ability Breakdown**

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

However, A-Basin's ability breakdown differs from the norm in that it is skewed to the advanced end of the spectrum. Information gained through guest surveys conducted by RRC Associates, Inc. (a planning and research firm), along with information provided by A-Basin, determined the ability breakdown for A-Basin shown below in Table 2.3.²

² See Chapter 4, Chart 4.1 for A-Basin's existing terrain capacity distribution by ability level.








Table 2.3:
A-Basin Skier Ability Breakdown

	Skier Ability	Percent of Skier Market
	Beginner	2%
	Novice	7%
	Low Intermediate	18%
	Intermediate	20%
	Advanced	30%
	Expert	23%

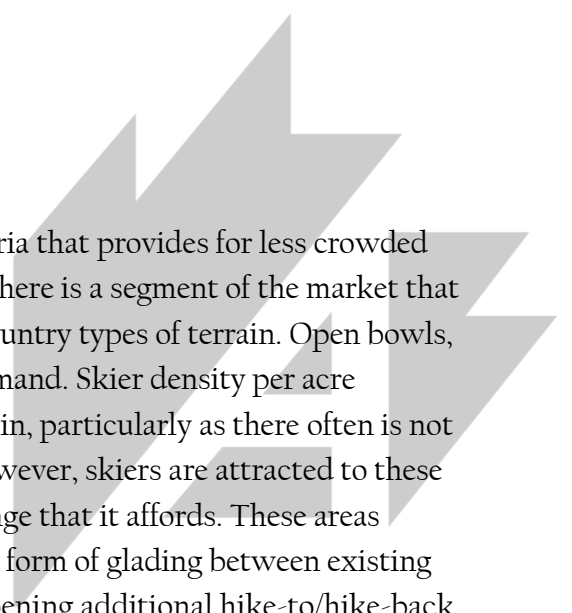
2. Trail Density

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 theoretical 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 2.4.

Table 2.4:
Skier Density per Acre

	Skier Ability	Trail Density
	Beginner	25–40 skiers/acre
	Novice	12–30 skiers/acre
	Low Intermediate	8–25 skiers/acre
	Intermediate	6–20 skiers/acre
	Advanced Intermediate	4–15 skiers/acre
	Expert	2–10 skiers/acre
	Alpine Bowls	0.5 skier/acre

These density figures account for the skiers that are actually populating the trails and do not account for other guests who are either waiting in lift lines, riding the lifts, or using the milling areas or other support facilities. Empirical observations and calculations indicate that, on an average day, approximately 40% of the total number of skiers/riders at a typical resort is on the trails at any given time. Additionally, areas on the mountain, such as merge zones, convergence areas, lift milling areas, major circulation routes, and egress routes, experience higher densities periodically during the 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. 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 of this can be in the form of glading between existing runs, lift serving terrain that has a remote and distant feel, opening additional hike-to/hike-back terrain, and even providing guided out-of-bounds tours.

3. Trail System

A primary goal for A-Basin's trail system design is to offer a wide variety of ski terrain. Each trail should provide an interesting and challenging experience for skiers within the ability level for which the trail is designed. Optimum trail widths 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 resort's ability to retain guests at that resort, both for longer durations of visitation and for repeat business, one of the more important factors has proven to be variation in terrain. This means having developed runs of all ability levels—some groomed on a regular basis and some not, bowl skiing, tree skiing, backcountry 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.

4. Terrain Parks

Terrain parks, areas dedicated to the development and maintenance of a collection of alternative terrain features, have become an important part of most mountain resorts' operations. The presence of terrain parks at mountain resorts has 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 man-made, often increasing snowmaking demand. Terrain parks can affect circulation on the mountain, as the parks are often points of destination.

D. Lift Design

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

E. On-Mountain Guest Services

On-mountain guest service facilities are generally used to provide food service (cafeteria-style or table service), restrooms, and limited retail, as well as ski patrol and first aid services, in closer proximity to upper-mountain terrain. This eliminates the need for skiers and riders to descend to the base area for similar amenities. It has also become common for resorts to offer ski/board demo locations on-mountain, so skiers and riders can conveniently test different equipment throughout the day.

F. Capacity Analysis and Design

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

Design capacity is commonly expressed as “Comfortable Carrying Capacity (CCC),” “Skier Carrying Capacity,” “Skiers at One Time (SAOT),” and other ski industry specific terms. These terms refer to a level of utilization that provides a pleasant recreational experience, without overburdening the resort infrastructure. Accordingly, the design capacity does not normally indicate a maximum level of visitation, but rather the number of visitors that can be “comfortably” accommodated on a daily basis. Design capacity is typically equated to a resort’s fifth or tenth busiest day, and peak-day visitation can be as much as 25 to 30% higher than the design capacity.

The accurate estimation of the CCC of a mountain is a complex issue and is the single most important planning criterion for the resort. Related skier service facilities, including base lodge

seating, mountain restaurant requirements, restrooms, parking, and other guest services are planned around the proper identification of the mountain's true capacity.

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

Note: It is not uncommon for resorts to experience peak days during which visitation exceeds the CCC by as much as 25% to 30%. 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 resort's market appeal.

G. Balance of Facilities

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

H. Management of National Forest System Lands

1. Management Policies and Direction

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.³ These authorities allow the Forest Service to provide recreation opportunities to facilitate the use, enjoyment, and appreciation of National Forests.

³ 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), the National Forest Ski Area Permit Act (1986), and the 2011 Ski Area Recreational Opportunity Enhancement Act.

a. Forest Service Framework for Sustainable Recreation

In Connecting People with America's Great Outdoors: A Framework for Sustainable Recreation (The Framework) the Forest Service acknowledges that:⁴

The National Forests and Grasslands provide the greatest diversity of outdoor recreation opportunities in the world, connecting people with nature in an unmatched variety of settings, activities and traditional beliefs. People hike, bike, ride horses, and drive off-highway vehicles. They picnic, camp, hunt, fish, enjoy recreational shooting and navigate waterways. They view wildlife and scenery, and explore historic places. They glide through powder at world class alpine resorts and challenge themselves on primitive cross-country ski or snowmobile routes.

The Framework presented is intended to help the Forest Service fulfill a number of different objectives, including:

- unite diverse interests,
- create and strengthen partnerships,
- focus scarce resources on mission-driven priorities,
- connect recreation benefits to communities,
- provide for changing urban populations, and most importantly, and
- sustain and expand the benefits to America that quality recreation opportunities provide.

By focusing on the three spheres that frame sustainability—environmental, social, and economic—the recreation program can significantly contribute to the agency's overall mission. In the most profound sense, the Forest Service will not achieve the agency's mission without sustainable recreation and tourism.

b. Forest Service Recreation Agenda

The Forest Service's 2000 Recreation Agenda supports the Forest Service Strategic Plan, the Government Performance and Results Act (GPRA), and the Forest Service Natural Resource Agenda in clarifying the role of national forests in meeting America's recreational needs while protecting the long-term integrity of their natural and cultural resources. This is a framework for defining principles, processes, and priorities for the long term and will lead to the

⁴ USDA Forest Service. 2010.

development of tools that will enable decision makers to assure accountability of resources. It provides a blueprint that will guide plans for communications, funding, and implementation.⁵

The following is a five-part roadmap for recreational activities in national forests:

1. Assure sound stewardship of forest resources and compatible recreational activities.
2. Provide safe, natural, well-designed, accessible and well-maintained recreational opportunities for all visitors.
3. Provide educational opportunities for the public about the values of conservation, land stewardship, and responsible recreation.
4. Strengthen community connections through public and private entities, including volunteer-based and nonprofit organizations to optimize public service.
5. Establish and ensure professionally managed partnerships and intergovernmental cooperative efforts.

c. 2002 Revised WRNF LRMP

A-Basin operations that are conducted on NFS lands within the SUP area must comply with the management directions provided in the 2002 Forest Plan. The 2002 Forest Plan includes 33 separate Management Areas for different portions of the Forest based on ecological conditions, historic development, and anticipated future conditions. A-Basin falls within the 8.25 Management Area, which directs:

“Facilities may be intensively used throughout the year to satisfy a variety of seasonal recreational demands. Base areas that serve as entrance portals are designed as gateways to public lands. Forested areas are managed as sustainable cover with a variety of species and age classes in patterns typical of the natural landscape character of the area. Protection of scenic values is emphasized through application of basic landscape aesthetics and design principles, integrated with forest management and development objectives.”⁶

⁵ USDA Forest Service. 2000. The Recreation Agenda. FS-691.

⁶ USDA Forest Service. 2002. White River National Forest Land and Resource Management Plan 2002 revision. White River National Forest, Glenwood Springs, CO.

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The theme of Management Area 8.25 is:

“Ski areas are developed and operated by the private sector to provide opportunities for intensively managed outdoor recreation activities during all seasons of the year. This management area also includes areas with potential for future development.”⁷

Beyond the 2002 Forest Plan, the Final EIS that was prepared for it has an entire chapter devoted to analysis of ski areas that are permitted on the Forest. Regarding the role of ski area master development plans, the 2002 *Forest Plan Final EIS* states:

“New technology and changing skier preferences with regard to terrain and on mountain services motivate ski areas to adapt and change in order to remain competitive. Because of this, master development plans are dynamic. The Forest Service participates with ski areas in planning changes to meet public needs. Prior to approval for implementation, the master development plan and its component parts are subject to environmental analysis in accordance with the National Environmental Policy Act and other relevant laws and regulations.”⁸

The Forest Service is authorized to approve certain uses of NFS lands under the terms of SUPs.⁹ 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 A-Basin authorizes the following:

“Ski lifts and tows, ski trails, day lodge, restaurants, maintenance and snowmaking facilities, roads, utilities, parking, signs, radio base facilities, explosive cache, and other facilities and improvements needed in the operation and maintenance of a four-season resort.”

The 2002 Forest Plan anticipates that the population growth in Colorado, and along the Front Range in particular, will contribute to an increase in skier visits over the next ten years. The Final EIS that approved the 2002 Forest Plan stated that all of the existing ski areas in Summit County show signs of overcrowding, and that Summit County is likely to be more heavily impacted by future increases in population than any other county on the WRNF. It goes on to state that Summit County would benefit from the allocation of additional terrain to lower skier densities.¹⁰ Alternative K—the Selected Alternative from the Final EIS that approved the 2002

⁷ USDA Forest Service. 2002. White River National Forest Land and Resource Management Plan 2002 revision. White River National Forest, Glenwood Springs. CO. p. 3-80

⁸ USDA Forest Service. 2002. Final environmental impact statement, Volume 1, for the White River National Forest land and resource management plan 2002 revision. White River National Forest, Glenwood Springs. CO. p. 3-437

⁹ 16 USC 497. 1999. 64 FR 8681-8690. National Forest Ski Area Permit Act of 1986 – as adopted in 1999. February 22.

¹⁰ USDA Forest Service. 2002. Final environmental impact statement, Volume 1, for the White River National Forest land and resource management plan 2002 revision. White River National Forest, Glenwood Springs. CO. p. 3-473

Forest Plan—provided the mechanism for expanding A-Basin’s SUP boundary to include both Montezuma Bowl and the Beavers (both of which were previously included within the SUP boundary but subsequently removed). The 2002 Forest Plan EIS notes that “skiers and boarders will benefit from increased protection from avalanches if [Montezuma Bowl and the Beavers] are included within the ski area boundary and developed for skiing.”¹¹

The 2002 Forest Plan FEIS provides detailed information on “Future Expansion” areas at existing ski areas across Eagle, Garfield, Pitkin, and Summit counties. Related to the A-Basin’s SUP area, and specifically related to planned projects discussed in this MDP, the 2002 Forest Plan FEIS states:

“The Beavers are popular with backcountry skiers and snowboarders who access the site from Arapahoe Basin ski area. Steep north-facing chutes above treeline with numerous rock outcrops characterize the terrain. Most skiers hike or hitchhike uphill to return to their vehicles. Avalanche risk to the public is potentially high. The risk could be partially mitigated if the Beavers site was developed for skiing as part of the ski area”¹²

2. Inventoried Roadless Areas

As of July 2012, with the new Colorado roadless rules, A-Basin’s SUP does not contain any roadless areas.

3. Ski Area Recreational Opportunity Enhancement Act of 2011

Enacted in November 2011, the Ski Area Recreational Opportunity Enhancement Act specifically provides the Forest Service with authority to review and consider recreational activities and associated facilities in addition to skiing and snow-sports.¹³ Activities and facilities that may, in appropriate circumstances, be authorized in the Act include, but are not limited to, both zip lines and ropes courses.¹⁴

4. Scenery Management and the Built Environment Image Guide

a. Scenery Management System

Human activities can cause changes to scenic resources that can be objectively measured. By assessing the existing scenic 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

¹¹ Ibid. p. 3-475

¹² Ibid. p. 3-462

¹³ Public Law 112-46-Nov. 7, 2011 125 Stat. 539.

¹⁴ Ibid. Section 3.

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identify the extent to which the scenic character would exhibit scenic contrast with the surrounding landscape, or conversely—scenic compatibility.

The Forest Service adopted the Scenery Management System (SMS) in 1995 as the Agency’s primary scenery management tool. In brief, the SMS is a systematic approach for assessing scenic resources in a project area to help make management decisions.

The acceptable limits of change for a particular area (e.g., Management Area, as defined in the 2002 Forest Plan) are the documented “Scenic Integrity Objectives” (SIO, as defined in the SMS), which serve as management goals for scenic resources. SIOs provide a measure of visible disruption of landscape character, ranging from *Very High* to *Unacceptably Low*. In order of least-to-most altered, SIOs are:

- **Very High** (unaltered)
- **High** (appears unaltered)
- **Moderate** (slightly altered)
- **Low** (moderately altered)
- **Very Low** (heavily altered)
- **Unacceptably Low** (extremely altered)

For reference, *Very High* SIOs are typically found in designated wilderness areas and special interest areas. While there is no standard for SIOs in relation to ski area SUP areas on NFS lands, in most cases, they fall somewhere between *Very Low* and *Moderate*. This is in recognition of the developed nature of ski areas, which tend to operate in highly scenic environments (i.e., assigning an artificially high SIO at a developed ski area would be unachievable, just as assigning an artificially low SIO would not incentivize the ski area to strive to minimize visual impacts).

As indicated in the 2002 Forest Plan, the SIO for the A-Basin SUP area is “Very Low.” This SIO befittingly refers to landscapes where the valued landscape character “appears heavily altered.” The frame of reference for measuring achievement of SIOs is the valued attributes of the “existing” landscape character “being viewed.” The “Very Low” SIO is defined as:¹⁵

Deviations may strongly dominate the valued landscape character. They may borrow from valued attributes such as size, shape, edge effect and pattern of natural openings, changes in vegetation

¹⁵ USDA Forest Service. 2002. White River National Forest Land and Resource Management Plan 2002 revision. White River National Forest, Glenwood Springs. CO.

types, or architectural styles outside the landscape being viewed. However, deviations must be shaped by and blend with the natural terrain so that elements such as unnatural edges, roads, landings and structures do not dominate the composition.

However, the Forest Plan states that all National Forest System lands shall be managed to attain the highest possible visual quality commensurate with other appropriate public uses, costs, and benefits.¹⁶

b. Forest Service Built Environment Image Guide

The Built Environment Image Guide (BEIG) was prepared by the Forest Service for the “thoughtful design and management” of the built environment contained within the National Forests.¹⁷ The Forest Service defines the built environment as “the administrative and recreation buildings, landscape structures, site furnishings, structures on roads and trails, and signs installed or operated by the Forest Service, its cooperators, and permittees.”¹⁸

The BEIG divides the United States into eight provinces which combine common elements from the ecological and cultural contexts over large geographical areas; A-Basin’s SUP area and adjacent NFS lands are within the Rocky Mountain Province. Site development, sustainability, and architectural character should conform to BEIG guidelines described for this Province. For reference, two of A-Basin’s recently constructed on-mountain structures—the Black Mountain Lodge (2007), Winter Sports Center (2005), and the Snow Plume Refuge (2004)—are BEIG-compliant. All other on-mountain and base area buildings within A-Basin’s SUP area pre-date the BEIG (2001).

5. 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. A-Basin will maintain consistency with this guidebook for future development projects occurring on public lands.

Ski areas operating under special-use authorization from the Forest Service are required to comply with both the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the

¹⁶ USDA Forest Service. 2002. Final environmental impact statement, Volume 1, for the White River National Forest land and resource management plan 2002 revision. White River National Forest, Glenwood Springs. CO. p.AA-17

¹⁷ USDA Forest Service, 2001. The Built Environment Image Guide for the National Forests and Grasslands. FS-710.

¹⁸ Ibid.

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Rehabilitation Act of 1973 (Section 504). The ADA applies because A-Basin operates as a “public accommodation;” moreover, A-Basin is a business open to the public. Section 504 applies because A-Basin 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, state, and local governments with legal jurisdictions on the ski area.

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

A-Basin 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, A-Basin will work closely with the Forest Service to ensure accessibility measures are taken to provide equal opportunity to all users of public lands.

3.

SITE INVENTORY

A. Topography

The base lodge and parking lots are located at an approximate elevation of 10,800 feet. Lift serviced terrain on the mountain extends to 12,470 feet above sea level. Most of the terrain at A-Basin is located in a north facing high alpine bowl with the remaining terrain in the Pallavicini Area and Montezuma Bowl. The steepest slopes on the mountain are found on the Upper East Wall and the upper southeastern facing slopes of Montezuma Bowl. A ridge separates the main “front side” bowl (Old A-Basin) from Montezuma Bowl to the south and another ridge is in between the main “front side” bowl and the steep Pallavicini Area to the west.

The large area known as “The Beavers” is located further west of the Pallavicini Area, within A-Basin’s existing SUP boundary, and is currently administered as backcountry terrain. The Beavers consists of an upper bowl (Beavers Bowl) with intermediate and advanced slopes that lead into steeper advanced and expert terrain below (Steep Gullies). This MDP identifies The Beavers as the next logical phase for development at A-Basin.

A-Basin has a higher percentage of steeper terrain than most ski areas in Colorado. The skiers that it attracts tend, on average, to be of a higher ability level (refer to Table 2.3).

B. Slope Analysis

The Slope Analysis, including Gradient, Aspect, and Fall Line, for The Beavers study area is shown in Figure 3. The full range of skiable gradients is general in nature and have been color coded for use as a planning tool. The general range of slope gradients used for planning purposes in The Beaver’s analysis are described below.¹⁹

- *Easier* – Slopes where the terrain gradient is less than 25%
- *More Difficult* – Slopes where the terrain gradient is greater than 25% and less than 45%

¹⁹Detailed trail gradient and skier ability level breakdowns, as described in Chapter 2, are used for the terrain distribution and terrain capacity analysis outlined in Chapter 4.

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- ***Most Difficult*** – Those slopes where the terrain gradient is greater than 45% and less than 70%
- ***Expert*** – Slopes where the terrain gradient is greater than 70%

The slope analysis for The Beavers shows the presence of all the ability designations, but the small areas of Easiest terrain are not enough to support a novice or beginner level trail. While there is a fair amount of More Difficult terrain the majority of the slopes are in the Most Difficult and Expert designations. The Beavers Bowl consists of Most Difficult terrain with contiguous areas of More Difficult and Expert designations. Detailed Actual gradients associated with the various ability designations are unique to each mountain.

The Beavers is characterized by open bowl terrain that transitions to forested slopes along consistent fall lines (Figure 3). Slope aspects range from predominantly north aspects to southwest exposures (Figure 3). Ridges separate Beavers Bowl from the Steep Gullies and the adjacent forested slope to the southwest.

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

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

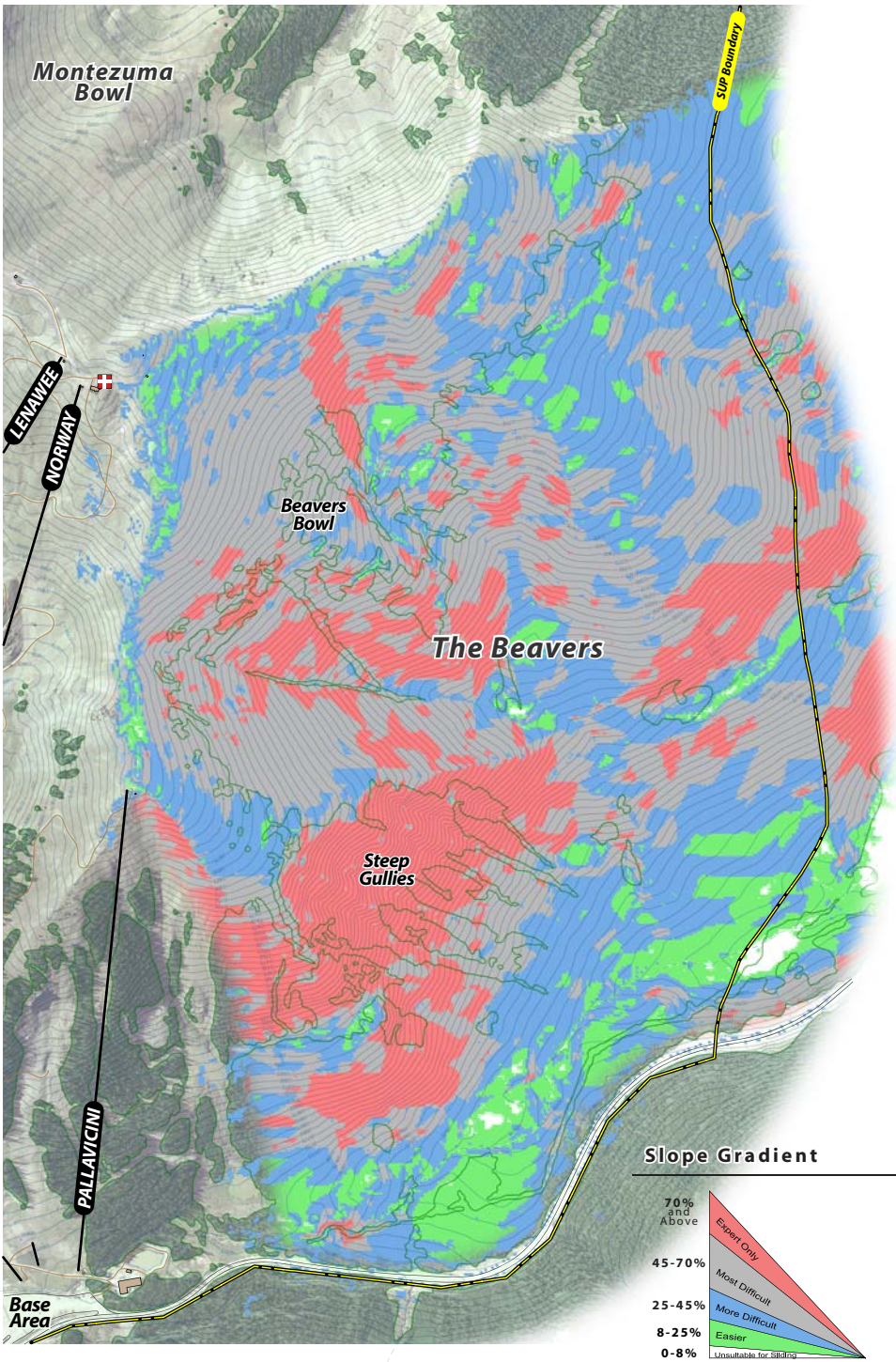
C. Permit Boundary and Land Ownership

A-Basin operates on 1,821 acres of land under a 40-Year SUP issued by the WRNF. The 2002 Forest Plan categorizes the A-Basin permit area as part of Management Area 8.25-Ski Areas, Existing and Potential. Figure 2 shows the current SUP boundary. In 2006 the SUP boundary was adjusted to fix a mapping error that did not include A-Basin's upper parking lots. At that time the CDOT facility was also included in the SUP permit area. A-Basin currently owns 27 acres of private land on the East Wall, two additional 5-acre private in-holdings, and 50% of another 5-acre private in-holding within the permit boundary. The resort is located along the eastern edge of Summit County.

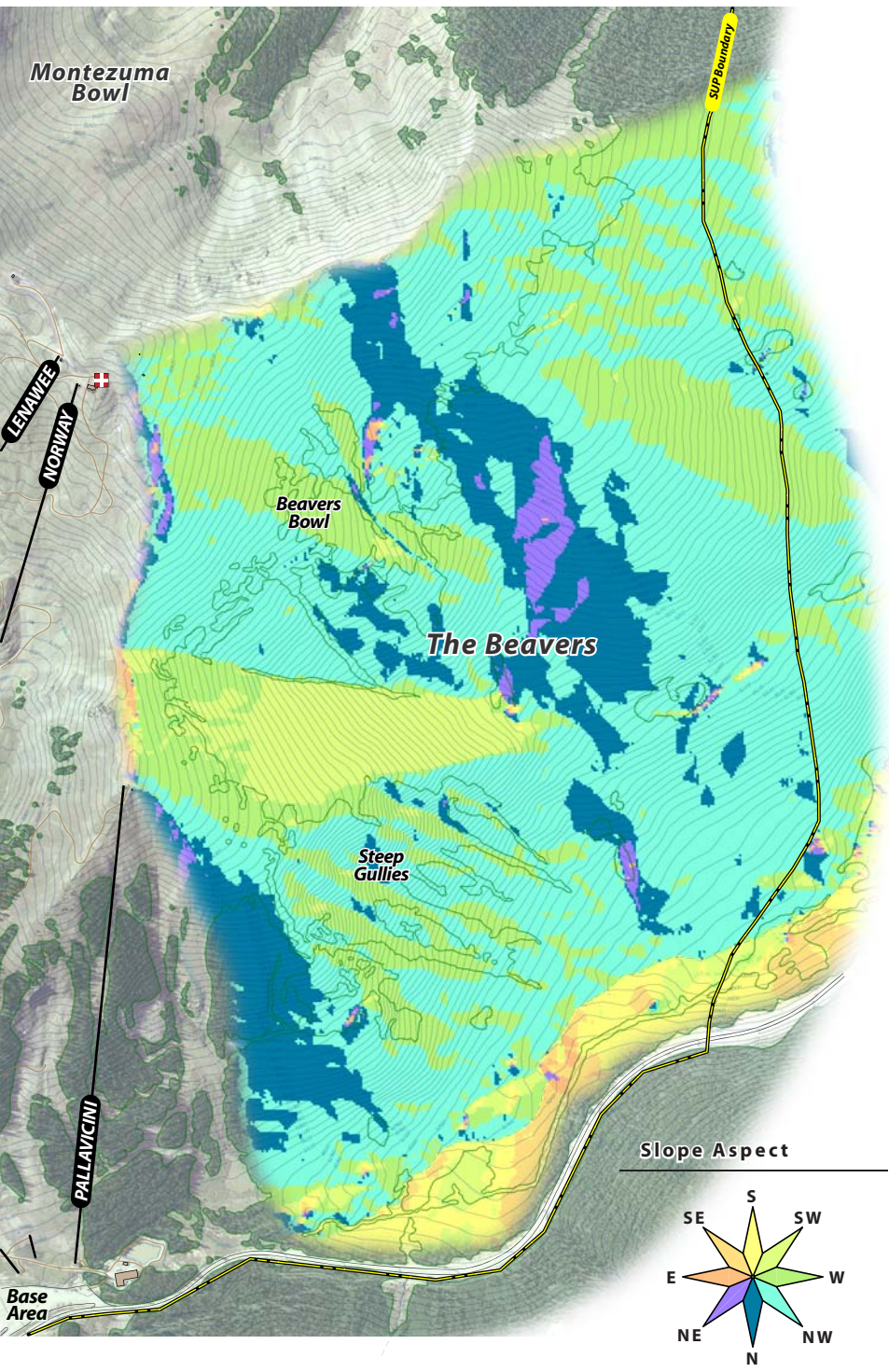
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SLOPE GRADIENT ANALYSIS



SLOPE ASPECT ANALYSIS

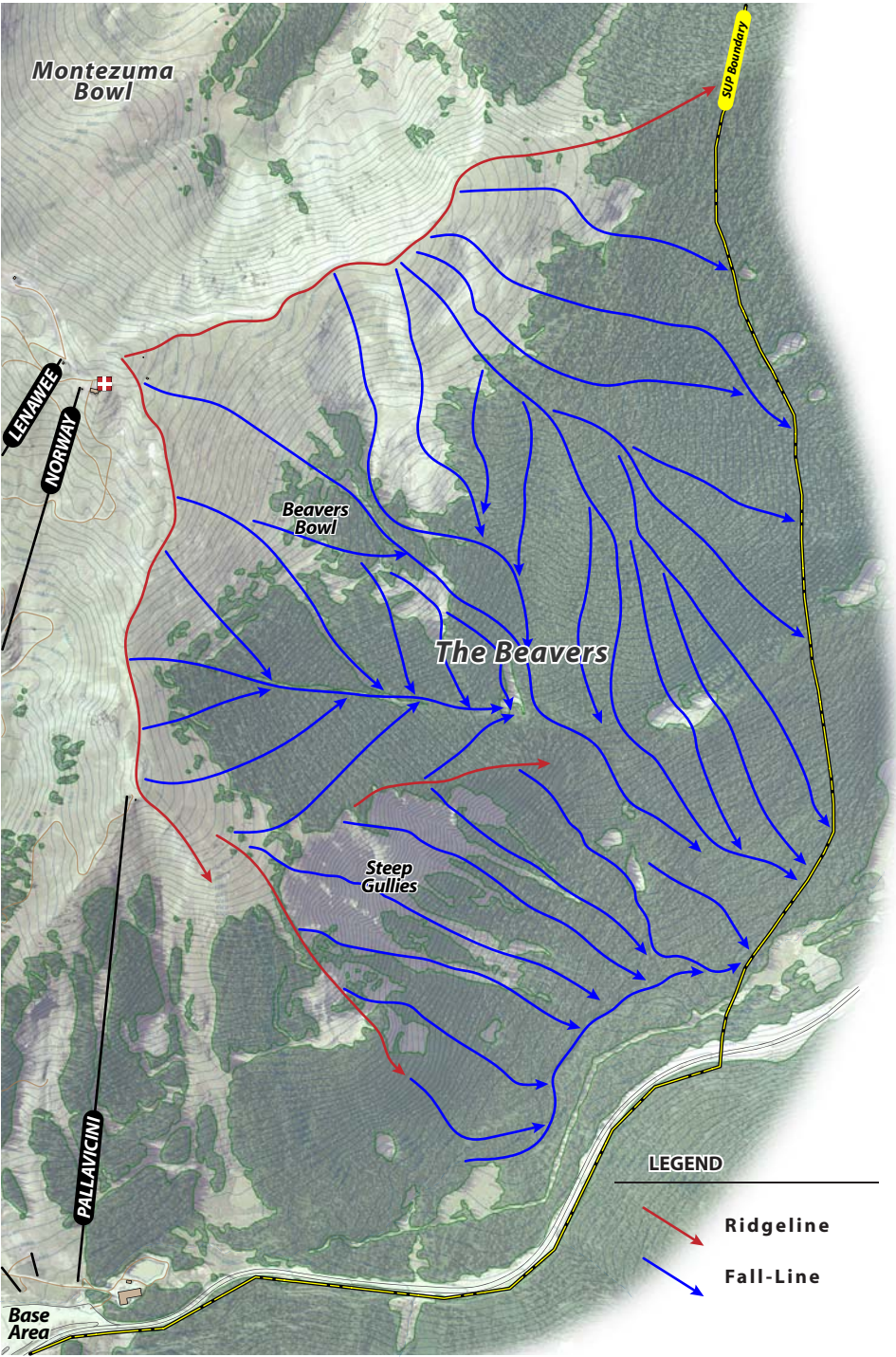


BEAVERS
TERRAIN ANALYSIS

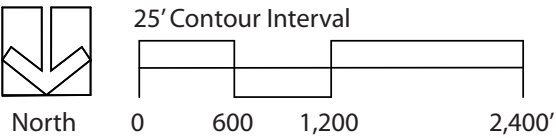
2012 MASTER PLAN
FIGURE 3



FALL LINE ANALYSIS



Prepared by:



4.

EXISTING SKI RESORT FACILITIES

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

The overall balance of the existing ski area is evaluated by calculating the skier capacities of A-Basin's various facility components and then comparing these capacities to the ski area's CCC (A-Basin's existing CCC is detailed in Section 4.D). This examination of capacities helps to identify the ski resort's strengths and weaknesses. The next step is to identify improvements that would help bring the existing ski area into better equilibrium, and would help the resort meet the ever-changing needs of their skier market. Accomplishing both of these objectives should ultimately enhance A-Basin's financial performance.

A-Basin's existing facilities are shown in Figures 4, 5, and 7.

A. Existing Terrain Network

1. Terrain Variety

Terrain variety is the key factor in evaluating the quality of the actual guest experience (as opposed to lift quality, restaurant quality, or any other factor). In SKI Magazine's Reader Resort Ratings, "terrain variety" is ranked as the second most important criterion in readers' choice of a ski destination, behind only snow quality, and ahead of such other considerations as lifts, value, accessibility, resort service, and others. This is a relatively recent industry trend, representing an evolution in skier/rider tastes and expectations. The implication of the importance of terrain variety is that a resort must have a diverse, interesting, and well designed, developed trail system, but also have a wide variety of alternate style terrain, such as mogul runs, trees, glades, and terrain parks. At resorts across the nation, there is a growing trend favoring these more

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natural, unstructured types of terrain. The availability of this style of terrain has become one of the more important factors of a resort's ability to retain guests, for longer durations and for repeat business.

To provide the highest quality guest experience, resorts should offer groomed runs of all ability levels as well as some undeveloped terrain. Undeveloped terrain is primarily used by Advanced and Expert level skiers/riders during desirable conditions (e.g., periods of fresh snow, spring corn, etc.). Even though some of these types of terrain only provide skiing/riding opportunities when conditions warrant, they typically represent the most intriguing terrain, and are the areas that skiers/riders strive to access. A-Basin provides a wide variety of high quality alternate style terrain ranging from large open bowls to extensive glades. Some of this alternate terrain is lift accessible, while some is hike-to/hike-back access.

In summary, to provide the highest quality guest experience, resorts should offer some level of all these terrain types, to the extent practical. Even though some of these terrain types only provide opportunities when conditions warrant, variety is increasingly becoming a crucial factor in guests' decisions for where to visit.

2. Trail Network

The existing lift-served ski terrain at A-Basin is comprised of 92 named runs, including maintained and groomed ski trails, open bowls, tree skiing, glades and chutes. An inventory of all of the named skiing routes reveals that there are approximately 676 acres of lift-served skiable terrain at A-Basin.

Additional advanced intermediate and expert ability level hike-to/hike-back terrain exists within the ski area boundary. The hike-to terrain is along and above the East Wall. The hike-back terrain is located to the south of the Zuma Lift in Montezuma Bowl and requires guests to hike back to the lift. These terrain areas encompass 282 acres, and combined with 676 acres of lift-served terrain, give A-Basin 958 total skiable acres.

The developed ski trail network accommodates the entire range of skier ability levels from beginner to expert. The trail layout appears to be well conceived, in terms of minimal cross-traffic, lack of skier traffic bottlenecks, and provision of logical and free-flowing skier circulation.

Undeveloped, natural, and unstructured style of terrain is provided in the Pallavicini and Zuma terrain pods. This style of terrain can also be found by those willing to hike into or out of that terrain.

Table 4.1 outlines the terrain that constitutes A-Basin's trail network.

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Table 4.1:
Terrain Specifications – Existing Conditions

Trail Area/Name	Top Elev. (ft)	Bot. Elev. (ft)	Vert. Rise (ft)	Slope Length (ft)	Avg. Width (ft)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
Wrangler Lower	11,160	10,841	319	2,081	133	6.4	16	28	Novice
Wrangler Middle	11,442	11,165	277	2,172	246	12.3	13	24	Novice
Wrangler Upper	11,550	11,445	105	942	93	2.0	12	23	Novice
Chisholm Trail	11,429	11,166	263	2,288	32	1.7	12	16	Novice
Chisholm	11,130	11,003	127	1,488	41	1.4	9	18	Novice
North Fork	11,166	10,958	208	812	80	1.5	27	36	Intermediate
Sundance	11,504	10,919	585	2,670	192	11.8	23	33	Low Intermediate
High Noon	11,550	10,900	650	2,819	203	13.1	24	37	Intermediate
Ramrod	11,443	10,868	575	1,990	132	6.1	30	41	Intermediate
The Gulch	11,427	11,114	313	926	62	1.3	36	44	Intermediate
Exhibition	11,452	10,832	620	2,016	169	7.8	33	62	Expert
High Noon Terrain Park	11,529	11,463	66	403	105	1.0	17	18	Intermediate
Molly Hogan Upper	10,975	10,798	176	861	237	4.7	21	26	Intermediate
Cornice Run II	12,115	12,061	54	733	94	1.6	7	16	Adv. Intermediate
Wildcat	12,080	11,804	276	672	301	4.6	46	58	Expert
Nose	12,100	11,745	355	733	279	4.7	56	70	Expert
South Chute	12,090	11,714	376	787	116	2.1	55	70	Expert
Slalom Slope	12,112	11,699	413	840	171	3.3	57	66	Expert
North Chute	12,053	11,699	354	794	192	3.5	50	60	Expert
Grizzly Road	12,108	11,685	423	1,843	83	3.5	24	39	Intermediate
Radical	11,747	11,474	273	676	96	1.5	45	57	Expert
Standard	11,541	10,979	562	1,342	147	4.5	47	71	Expert
13 Cornices Upper	11,777	11,340	437	1,111	92	2.3	43	66	Expert
My Chute	11,736	11,437	299	581	118	1.6	60	69	Expert

Table 4.1:
Terrain Specifications – Existing Conditions

Trail Area/Name	Top Elev. (ft)	Bot. Elev. (ft)	Vert. Rise (ft)	Slope Length (ft)	Avg. Width (ft)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
International	11,833	10,888	945	2,178	218	10.9	49	72	Expert
North Glade	11,890	11,210	680	1,579	149	5.4	48	70	Expert
Bear Trap	11,202	10,882	320	736	162	2.7	49	69	Expert
Roller Coaster	11,480	10,920	560	1,192	330	9.0	54	82	Expert
Rock Garden	11,384	11,025	359	784	263	4.7	52	70	Expert
East Avenue	12,006	11,579	426	871	136	2.7	56	67	Expert
Pali Main Street	12,105	11,044	1,062	2,297	203	10.7	52	62	Expert
The Spine	11,937	11,410	527	1,058	78	1.9	58	71	Expert
Pali Face	11,869	11,068	800	1,667	211	8.1	55	74	Expert
West Alley	11,726	11,114	613	1,194	152	4.2	60	90	Expert
Pali Wog	11,043	10,846	197	1,176	89	2.4	17	33	Expert
Humbug	12,421	12,149	272	1,043	136	3.2	27	45	Adv. Intermediate
Lenawee Face	12,435	12,132	304	1,202	408	11.3	26	39	Low Intermediate
Powerline	12,457	12,039	418	1,268	119	3.5	35	48	Intermediate
Norway Face	12,436	12,027	409	1,319	260	7.9	33	51	Intermediate
Norway Mountain Run	12,445	11,985	460	1,374	147	4.6	36	50	Intermediate
Knolls	12,433	11,959	474	1,516	257	8.9	33	51	Intermediate
King Cornice	12,259	11,938	321	871	287	5.7	40	58	Adv. Intermediate
West Wall	12,057	11,872	185	434	488	4.9	47	54	Adv. Intermediate
Cornice Run I	12,459	12,064	395	2,145	89	4.4	19	33	Adv. Intermediate
Dercum's Gulch	12,132	11,538	593	3,461	291	23.1	17	35	Low Intermediate
Falcon	12,107	11,759	348	1,051	78	1.9	36	63	Expert
Dragon	12,105	11,566	539	1,569	133	4.8	37	59	Expert
West Gully	12,108	11,529	579	2,282	130	6.8	26	51	Adv. Intermediate

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Table 4.1:
Terrain Specifications – Existing Conditions

Trail Area/Name	Top Elev. (ft)	Bot. Elev. (ft)	Vert. Rise (ft)	Slope Length (ft)	Avg. Width (ft)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
Lenawee Parks	12,104	11,698	405	1,284	351	10.3	34	55	Expert
Gentry	12,019	11,719	300	1,016	327	7.6	32	70	Expert
Jamie's Face	11,959	11,794	164	457	303	3.2	39	51	Adv. Intermediate
East Gully	11,761	11,521	241	818	80	1.5	31	47	Expert
Treeline Terrain Park	11,786	11,509	276	2,011	165	7.6	14	36	Adv. Intermediate
Shooting Gallery	11,605	11,452	153	1,117	454	11.7	14	40	Adv. Intermediate
Molly Hogan 1	10,870	10,813	56	429	205	2.0	13	19	Novice
Molly Hogan 2	10,852	10,795	57	463	95	1.0	12	19	Novice
Molly's Magic Carpet	10,837	10,809	28	168	395	1.5	17	17	Beginner
Carpet II	10,847	10,841	6	72	67	0.1	9	9	Beginner
End Zone	12,177	11,591	586	1,534	392	13.8	42	71	Expert
Jump	12,255	11,709	547	1,382	608	19.3	44	70	Expert
Schauffler	12,255	11,764	491	1,129	308	8.0	49	73	Expert
Durrance	12,251	11,817	433	892	301	6.2	56	73	Expert
Grosword	12,312	11,846	466	958	380	8.4	56	83	Expert
Max	12,420	12,069	351	676	357	5.5	61	74	Expert
Long Chute	12,491	11,813	678	1,652	181	6.9	45	55	Adv. Intermediate
Black Bear	12,495	11,864	631	1,635	364	13.7	42	56	Expert
Larkspur	12,466	11,448	1,018	4,564	227	23.8	23	54	Adv. Intermediate
Independence	11,827	11,556	271	1,153	108	2.9	24	48	Adv. Intermediate
Shining Light	12,060	11,678	381	1,381	337	10.7	29	44	Adv. Intermediate
Columbine	12,473	11,357	1,116	4,656	453	48.4	25	51	Adv. Intermediate
Northern Spy	12,472	12,184	288	868	616	12.3	35	50	Adv. Intermediate
Mountain Goat Traverse	12,412	11,820	592	3,649	221	18.5	17	33	Adv. Intermediate

Table 4.1:
Terrain Specifications – Existing Conditions

Trail Area/Name	Top Elev. (ft)	Bot. Elev. (ft)	Vert. Rise (ft)	Slope Length (ft)	Avg. Width (ft)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
Tieze's Claim	12,061	11,713	348	779	911	16.3	50	62	Expert
Elk Meadows	11,928	11,642	286	1,046	478	11.5	29	34	Adv. Intermediate
T.B. Glade	11,511	11,380	131	747	641	11.0	18	33	Intermediate
Powder Keg Upper	12,002	11,719	283	806	394	7.3	38	48	Adv. Intermediate
Powder Keg Lower	11,707	11,594	113	280	265	1.7	44	52	Adv. Intermediate
Challenger	11,742	11,508	234	548	229	2.9	48	65	Expert
No Name	11,750	11,459	291	806	136	2.5	39	58	Expert
13 Cornices Lower	11,325	11,110	215	403	133	1.2	63	70	Expert
Poma Line	11,170	10,860	310	752	173	3.0	46	62	Expert
Turbo	11,494	10,989	505	1,040	82	2.0	56	90	Expert
West Turbo	11,531	10,996	535	1,073	84	2.1	58	95	Expert
Timber Glades	11,946	11,396	550	1,115	289	7.4	57	65	Expert
David's Run	11,789	11,402	387	784	96	1.7	57	69	Expert
2nd Alley	11,774	11,066	708	1,427	195	6.4	58	82	Expert
3rd Alley	11,759	11,117	641	1,222	231	6.5	62	80	Expert
Scudder	11,724	11,549	175	402	196	1.8	49	62	Expert
Gauthier	11,678	11,108	569	1,066	162	4.0	64	83	Expert
Cabin Glades	11,740	11,530	210	631	153	2.2	35	45	Adv. Intermediate
Half Moon Glades	11,842	11,568	274	661	367	5.6	46	64	Expert
Elephant's Trunk	12,072	11,575	497	1,217	267	7.5	45	53	Adv. Intermediate
Gentling's Glade	11,978	11,534	444	1,172	634	17.1	41	49	Adv. Intermediate
Winning Card	11,933	11,530	404	1,278	347	10.2	33	46	Adv. Intermediate
Montezuma's Revenge	11,553	11,501	51	1,088	53	1.3	5	12	Adv. Intermediate
Eureka	11,533	11,371	162	549	780	9.8	31	45	Adv. Intermediate

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Table 4.1:
Terrain Specifications – Existing Conditions

Trail Area/Name	Top Elev. (ft)	Bot. Elev. (ft)	Vert. Rise (ft)	Slope Length (ft)	Avg. Width (ft)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
Miner's Glade	11,824	11,494	330	1,454	440	14.7	23	45	Adv. Intermediate
Log Roll	11,857	11,578	279	642	363	5.3	49	71	Expert
Placer Junction	11,713	11,554	159	350	322	2.6	51	62	Expert
Torreys	11,647	11,425	223	807	413	7.7	29	52	Adv. Intermediate
TOTAL				123,959		676			

The following table and charts illustrate the distribution of terrain by skier ability level for the developed trail network, as well as the distribution of the active skier population at A-Basin. The terrain distribution is compared to both A-Basin's actual market and to the industry norm market. Note that A-Basin's actual market is considerably different than the industry norm, in that it is skewed toward advanced ability levels.

These exhibits show that the trail network at A-Basin accommodates a range of skier ability levels—from Beginner to Expert. They also indicate a shortage of Intermediate and Expert terrain with a slight deficit of Beginner, and Low Intermediate terrain.²⁰ There is a surplus of Novice and a slight surplus of Advanced Intermediate terrain, demonstrating that A-Basin is out of balance with its actual skier/rider market.

The source of the A-Basin skier/rider distribution is from market research performed by RRC Associates, Inc. It was determined through skier surveys that the skier/rider distribution at A-Basin, when compared to the Rocky Mountain norm, is skewed to the upper ability levels, refer to Chapter 2, Tables 2.1 through 2.3.

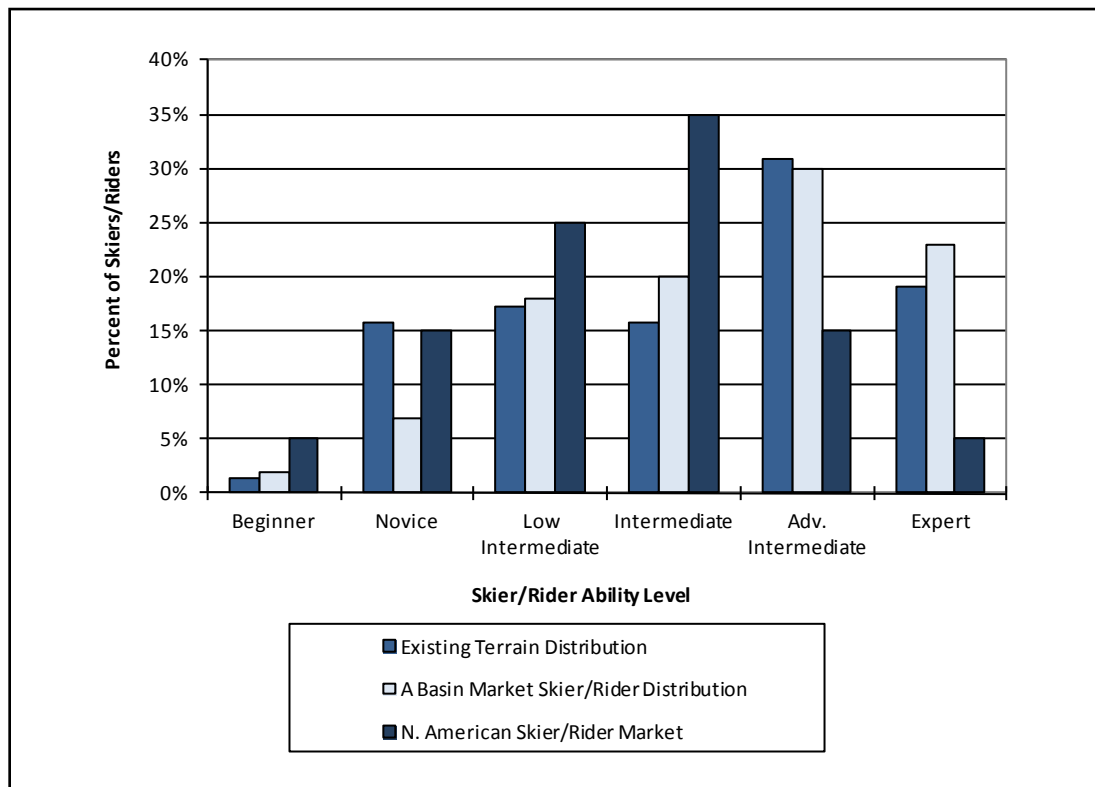
Table 4.2:
Terrain Distribution by Ability Level – Existing Conditions

Skier/Rider Ability Level	Trail Area (acres)	Skier/Rider Capacity (guests)	Skier/Rider Distribution (%)	N. American Market (%)	A-Basin Market (%)
Beginner	1.6	57.1	1	5	2
Novice	26.8	669.3	16	15	7
Low Intermediate	46.1	738.2	17	25	18
Intermediate	67.0	670.4	16	35	20
Adv. Intermediate	263.4	1316.9	31	15	30
Expert	270.9	812.7	19	5	23
TOTAL	675.9	4,264	100	100	100

Source: SE Group

²⁰ There are no opportunities within A-Basin's SUP area to develop additional beginner terrain.

Chart 4.1: Terrain Capacity Distribution by Ability Level – Existing Conditions



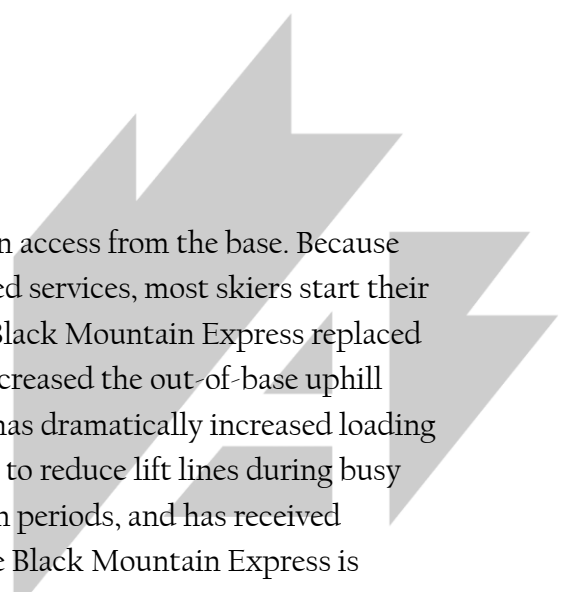
Source: SE Group

B. Existing Lift Network

A-Basin's lift network currently consists of seven ski lifts. These lifts include:

- One high speed four-passenger (quad) chairlift: Black Mountain Express
- One fixed-grip quad chairlift: Zuma
- One fixed-grip triple chairlift: Lenawee
- Three fixed-grip double chairlifts: Pallavicini, Norway, and Molly Hogan
- Two carpet conveyor lifts: Molly's Magic and Carpet II (to be installed Summer 2012)

A-Basin's lift locations service the existing terrain efficiently. However, access to Montezuma Bowl from the Lenawee Mountain and Norway lifts can be challenging for some skiers and riders. Also, some of the lifts are over twenty-five years old. While all the lifts have been well maintained and are in good working order, some of these lifts will need to be replaced or removed in the future due to their age.



Black Mountain Express and Pallavicini provide up-mountain access from the base. Because Pallavicini serves predominately advanced terrain with limited services, most skiers start their day on the Black Mountain Express. For the 2010/11 season, Black Mountain Express replaced the fixed-grip triple Exhibition chairlift. This replacement increased the out-of-base uphill capacity from 1,800 people per hour (pph) to 2,000 pph and has dramatically increased loading efficiencies due to its detachable technology. This has helped to reduce lift lines during busy periods in the morning, after lunch and during peak visitation periods, and has received overwhelmingly positive feedback from A-Basin's guests. The Black Mountain Express is A-Basin's primary out-of-base lift, and accommodates all of the ski area's winter and summer activities by providing direct access to the Black Mountain Lodge.

The Lenawee Mountain chairlift serves the upper elevations on the "front side" of A-Basin. It also provides access to Montezuma Bowl and Zuma chairlift. Norway chairlift serves the same functions as Lenawee Mountain and is considered a redundant chairlift which is only operated during peak weekends and holidays.

The Zuma Lift and Montezuma Bowl opened in January 2008. The lift serves the new terrain pod very efficiently, nearly doubling A-Basin's lift served terrain at the time, and has been well received by A-Basin's local and destination guests.

Currently, access to Montezuma Bowl from the Lenawee Mountain and Norway lifts is on a 400-foot long catwalk. The catwalk is slightly uphill for those going from "the front side" to Montezuma bowl, but it is essentially flat for those going from the top of Zuma Lift back to "the front side" of A-Basin. Some skiers are able to "skate" along the catwalk, but most guests (both skiers and snowboarders) chose to either stay in their gear and shuffle their way to the other end of the catwalk or remove their gear and walk. Moving along the catwalk is especially difficult on fresh snow or windy days.

The Molly Hogan Lift, Molly's Magic Carpet, and Carpet II provide transportation for the novice and beginners at the base of the mountain.

Specifications for the existing lifts are set forth in the following table.

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Table 4.3:
Lift Specifications – Existing Conditions

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)	Year Installed
Black Mtn Express <i>DC-4</i>	11,549	10,838	712	2,800	2,929	25	2,000	1,000	120	2010
Pallavicini <i>C-2</i>	12,115	10,790	1,325	3,207	3,512	41	1,200	525	53	1978
Norway <i>C-2</i>	12,445	11,534	910	3,641	3,801	25	1,200	500	50	1978
Lenawee <i>C-3</i>	12,465	11,450	1,015	3,879	4,071	26	1,800	500	50	2001
Molly Hogan <i>C-2</i>	10,870	10,813	57	393	398	15	1,000	368	44	1978
Molly's Magic <i>c</i>	10,836	10,808	28	148	151	19	1,200	124	6	2003
Zuma Lift <i>C-4</i>	12,475	11,362	1,113	3,973	4,168	28	1,900	450	57	2008
Carpet II <i>c</i>	10,847	10,841	6	70	72	9	600	60	6	2012

c = carpet conveyor

C-2 = fixed-grip double chairlift

C-3 = fixed-grip triple chairlift

C-4 = fixed-grip quad chairlift

DC-4 = detachable quad chairlift

Source: SE Group

C. Terrain Parks

The terrain park offerings have become an important part of A-Basin's operations and are located at the Treeline Terrain Park, adjacent to the Norway Lift, and at the High Divide Terrain Park, located on the upper section of the Exhibition trail. The High Divide Terrain Park serves guests looking for an entry level terrain park experience while the Treeline Terrain Park provides terrain features for intermediate and advanced terrain park users. Each terrain park consists of different features including several rails of varying difficulty, boxes, and a few medium-sized tabletops and rollers. Areas within the terrain park not currently designated as having terrain features may include them in the future.

A-Basin's terrain park operation contains a desirable progression in ability level from first-timers to the most experienced. They accommodate skiers and boarders of all ages. A-Basin designates the park as Freestyle Terrain. Evaluations are made throughout the season of features, ability levels, traffic patterns, and customer feedback; which sometimes leads to the park being modified during the season.

D. Backcountry Access

Within A-Basin's SUP boundary, an Operational Boundary is established which represents the extent of the presently developed, maintained, and patrolled ski area. In some areas, the Operational Boundary is contiguous with the SUP boundary, in other areas, it is not. Terrain areas which lie beyond A-Basin's Operational Boundary, but which are within the SUP boundary are characterized as "Backcountry Terrain within the A-Basin SUP Boundary." This type of terrain differs from typical "backcountry" in that it lies within the extent of the ski area's SUP area and has therefore been established as being appropriate for future lift-served, developed, Alpine skiing.

The 2002 White River Land and Resource Management Plan Final Environmental Impact Statement EIS and Record of Decision modified the boundary of the A-Basin SUP to incorporate Montezuma Bowl and The Beavers, which were previously adjacent to, and outside of, the SUP boundary. Lift-served skiing in Montezuma Bowl was planned in the 2006 MDPA. The subsequent *Arapahoe Basin 2006 Improvement Plan Final Environmental Impact Statement* approved the Montezuma Bowl project, which was implemented during the Summer 2007. Montezuma Bowl opened for lift-served skiing in January 2008.

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Prior to 2006, Montezuma Bowl constituted “Backcountry Terrain within the A-Basin SUP Boundary.” However, that is no longer the case with the addition of the Zuma lift. Therefore The Beavers is the only area within A-Basin’s SUP area, and outside of A-Basin’s Operational Boundary, that is currently utilized by the public as “backcountry” terrain. Up to 200 people per day go through the backcountry access point and ski The Beavers terrain to US Highway 6. The area is not patrolled and no avalanche control work is performed.

The Beavers area is approximately 475 acres in size, and located on the western edge of the A-Basin operational boundary west of the Pallavicini Lift pod. This area is made up of predominantly advanced intermediate and expert terrain, although intermediate terrain is available within Beavers Bowl. The Beavers and Steep Gullies have become very popular due to their visibility from Highway 6, straight forward access from the Cornice Run entry point, and relatively easy hike-back from the valley floor to Highway 6.

Presently, there are three Forest Service backcountry access points along A-Basin’s operational boundary into The Beavers and Steep Gullies areas:

- Along the skier’s left edge of Cornice Run to access The Beavers and Steep Gullies
- Adjacent to the Pallavicini top terminal to access The Beavers and Steep Gullies
- Along the skier’s left edge of Pali Cornice to access The Beavers and Steep Gullies

There is limited backcountry use, beyond The Beavers and Steep Gullies, in an area known at The Rock Pile. This area is outside of A-Basin’s SUP, but access to The Rock Pile should be accommodated in the Upgrade Plan.

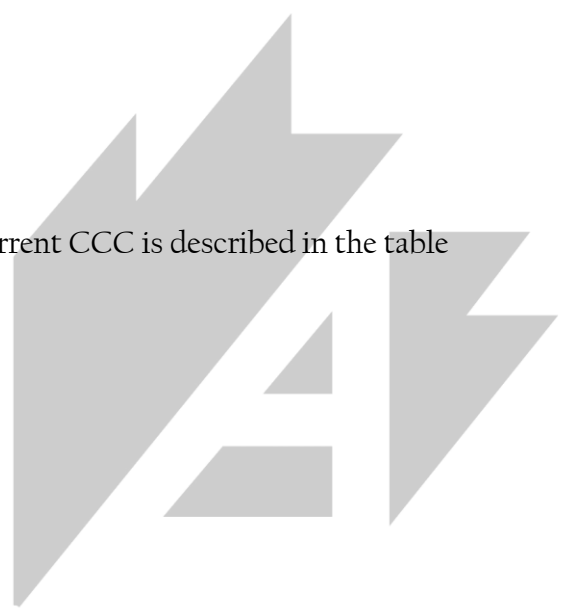
Two additional Forest Service backcountry access points are located along A-Basin’s operational boundary that accommodate access to backcountry areas that are outside of A-Basin’s SUP area:

- Uphill and east of the Zuma Lift top terminal that allows access to Thurman’s Bowl
- Down the drainage, below the Zuma Lift bottom terminal, that intersects with Montezuma Road

E. Comfortable Carrying Capacity

As stated earlier, the accurate calculation of a ski area’s CCC is an important and complex analysis that is the single most important planning criterion for the ski area. All other related skier service facilities can be evaluated and planned based on the proper identification of the

mountain's capacity. The detailed calculation of A-Basin's current CCC is described in the table below.



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Table 4.4:
Comfortable Carrying Capacity (Chairlift Based) – Existing Conditions

Lift Name, Lift Type	Slope Length (ft)	Vertical Rise (ft)	Actual Design Capacity (guests/hr)	Oper. Hours (hrs)	Up-Mtn. Access Role (%)	Misloading/ Lift Stoppages (%)	Adjusted Hourly Cap. (guests/hr)	VTF/Day (000)	Vertical Demand (ft/day)	CCC (guests)
Black Mtn Express DC-4	2,929	712	2,000	7.50	10	5	1,700	9,073	11,246	810
Pallavicini C-2	3,512	1,325	1,200	7.00	5	5	1,080	10,016	19,249	520
Norway C-2	3,801	910	1,200	6.50	0	5	1,140	6,743	15,257	440
Lenawee C-3	4,071	1,015	1,800	6.50	10	5	1,530	10,097	12,514	810
Molly Hogan C-2	398	57	1,000	6.50	0	20	800	298	1,442	210
Molly's Magic c	151	28	1,200	6.50	0	5	1,140	209	1,742	120
Zuma Lift C-4	4,168	1,113	1,900	6.50	0	5	1,805	13,063	15,571	840
Carpet II c	72	6	600	6.50	0	5	570	22	710	30
TOTAL	19,102		10,900				9,765	49,521		3,780

Source: SE Group

As illustrated in Table 4.4, the calculated CCC of the lift and trail network at A-Basin is 3,780. In the 2006 MDPA the existing CCC was calculated to be 3,210. This difference is due to the addition of Zuma Lift, Carpet II, and the increased capacity from the replacement of the Exhibition Lift with the Black Mountain Express high speed quad.

The Zuma Lift installation and Exhibition replacement were the only planned lift improvements in the 2006 MDP, which indicated a planned CCC of 3,910. The current CCC of 3,780 is lower than 3,910 since both of the lifts were installed with lower design capacities than were originally conceived in the 2006 MDPA.

It is typical for ski areas to experience peak days during which skier visitation exceeds the CCC by as much as 25% to 30%. However, it is not recommended to consistently exceed the CCC due to the resulting decrease in the quality of the recreational experience, and thus the resort's market appeal.

F. Guest Services Buildings

The vast majority of guest services are currently offered in A-Basin's base area. Existing services are provided in the A-Frame, Guest Services Building, Ticket Office Building, Rental Shop and First Aid Building. The restaurant, restrooms, retail and administration are located in the A-Frame.

The Rental Shop building, located in the base area, was upgraded during the summer of 2005. This upgrade includes a new rental and repair shop, additional public restrooms, two staff apartments and staff space.

Base area guest service space allocations and recommendations are shown below in Table 4.5 and Chart 4.2. It shows that while the total guest service square footage is near the high end of the range for some of the facilities, when compared with industry standards, they are undersized.

As will be discussed in the "Previously Approved Projects, Not yet Implemented" section of this document, A-Basin has Forest Service approval to upgrade all the base area facilities. The implementation of these approvals will bring A-Basin's space allocations into balance with industry averages.

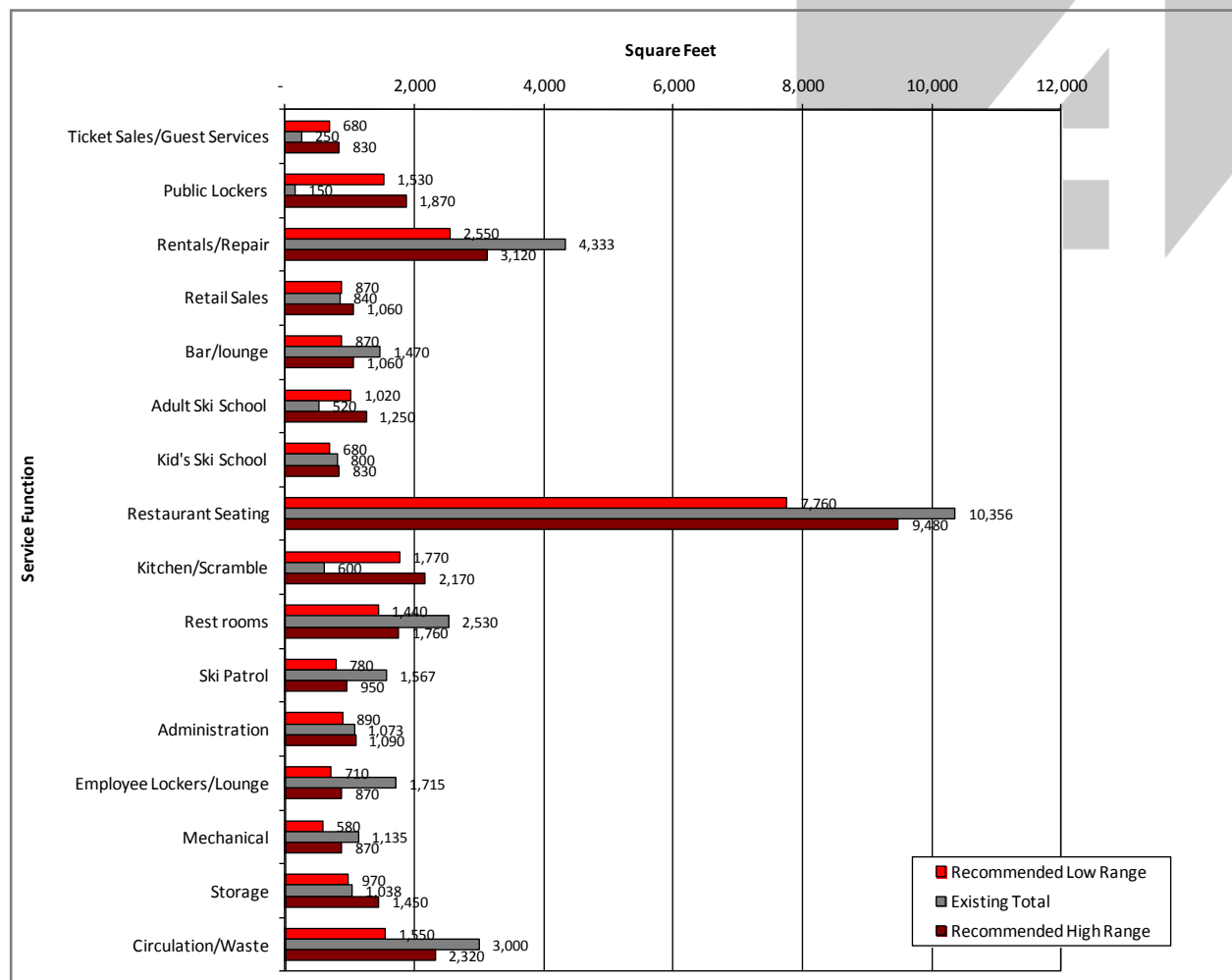
Figure 7 illustrates the current guest facilities, maintenance facility and parking at A-Basin.

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Table 4.5:
Industry Average Space Use
Base Area – Existing Conditions (square feet)

Service Function	Existing Total	Recommended Range		Difference from Recommended	
		Recommended Low Range	Recommended High Range	Low	High
Ticket Sales/Guest Services	250	680	830	(430)	(580)
Public Lockers	150	1,530	1,870	(1,380)	(1,720)
Rentals/Repair	4,333	2,550	3,120	1,783	1,213
Retail Sales	840	870	1,060	(30)	(220)
Bar/lounge	1,470	870	1,060	600	410
Adult Ski School	520	1,020	1,250	(500)	(730)
Kid's Ski School	800	680	830	120	(30)
Restaurant Seating	10,356	7,760	9,480	2,596	876
Kitchen/Scramble	600	1,770	2,170	(1,170)	(1,570)
Rest rooms	2,530	1,440	1,760	1,090	770
Ski Patrol	1,567	780	950	787	617
Administration	1,073	890	1,090	183	(17)
Employee Lockers/Lounge	1,715	710	870	1,005	845
Mechanical	1,135	580	870	555	265
Storage	1,038	970	1,450	68	(412)
Circulation/Waste	3,000	1,550	2,320	1,450	680
TOTAL SQUARE FEET	31,377	24,650	30,980	6,727	397

Chart 4.2: Base Area – Existing Space Use and Recommendations (square feet)



Source: SE Group

Additional on-mountain skier services are located at the Ski Patrol Headquarters at the summit (which opened in 2004) and the Black Mountain Lodge at mid-mountain (which opened in 2007). These facilities focus on providing warming hut, restrooms, food and beverage, and restaurant seating. Table 4.6 shows the on-mountain guest service space allocations and recommendations.

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Table 4.6:
Industry Average Space Use
On-Mountain – Existing Conditions (square feet)

Service Function	Existing Total	Recommended Range		Difference from Recommended	
		Recommended Low Range	Recommended High Range	Low	High
Ticket Sales/Guest Services	896	-	-	896	896
Public Lockers	-	-	-	-	-
Rentals/Repair	-	-	-	-	-
Retail Sales	-	-	-	-	-
Bar/lounge	200	-	-	200	200
Adult Ski School	-	-	-	-	-
Kid's Ski School	-	-	-	-	-
Restaurant Seating	4,183	4,380	5,360	(197)	(1,177)
Kitchen/Scramble	1,624	1,000	1,220	624	404
Rest rooms	992	810	1,000	182	(8)
Ski Patrol	1,328	440	540	888	788
Administration	-	-	-	-	-
Employee Lockers/Lounge	86	-	-	86	86
Mechanical	1,669	180	270	1,489	1,399
Storage	-	300	450	(300)	(450)
Circulation/Waste	-	480	710	(480)	(710)
TOTAL SQUARE FEET	10,978	7,590	9,550	3,388	1,428

G. Restaurant Seating

Restaurant seating at A-Basin is provided at the A-Frame (base area) and the Black Mountain Lodge (mid-mountain). Each location has indoor and outdoor seating. There are a total of 889 seats available at the A-Frame (585 indoor and 304 outside) and 440 seats at the Black Mountain Lodge (240 indoor and 200 outside).

A key factor in evaluating restaurant capacity is the turnover rate of the seats. A turnover rate of three to five times is the standard range utilized in determining restaurant capacity. Fine 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; for example, on snowy days skiers will spend more time indoors than on sunny days.

The following table summarizes the seating requirements at A-Basin, based on the current CCC.

**Table 4.7:
Existing Restaurant Seating**

	Base Area	Black Mtn Lodge	Total Resort
Lunchtime Capacity (CCC)	2,464	1,392	3,856
Average Seat Turnover	4	4	
Existing Seats	585	240	825
Recommended Seats	616	348	964
Difference	-31	-108	-139
Existing seating capacity	2,340	960	3,300
Existing Outdoor Seats	304	200	504
Average Outdoor Seat Turnover	2	2	
Seating capacity including Outdoor Seats	2,948	1,360	4,308

Table 4.7 illustrates that with an average turnover rate of 4.0 for indoor seating and 2.0 for outdoor seats, A-Basin has a slight surplus of seating on busy days when the outdoor deck seating can be utilized. On busy days when the weather precludes use of the deck and or peak days with visitation above their CCC, there is a seating deficit.

H. Parking

Total parking capacity must be balanced with the CCC. All guests come to A-Basin by personal vehicles, the Summit Stage, Front Range Ski Bus, or charter buses and park in the day-skier parking areas. Additionally, overflow parking occasionally occurs along the sides of Highway 6 and at the highway pull-offs. This overflow situation does not occur as often as it had in the past now that recent parking lot improvements (per the 2006 ROD) have increased A-Basin's parking lot capacity. Existing parking capacities are shown in Table 4.8.

Table 4.8:
Parking Lots and Capacities – Existing Conditions

	Multiplier	Base Area
CCC + other guests		3,856
Peak Day	125%	4,820
% Arriving at portal		100%
# arriving at portal		4,820
# of guests arriving by car	93%	4,482
# of guests arriving by charter bus	0%	0
# of guest arriving by bus	7%	337
Recommended car parking spaces	2.75	1,630
Required employee car parking spaces		50
# of Turnover Spaces		150
Total required spaces		1,530
Existing parking spaces		1,750
surplus/deficit		220
Existing parking capacity (guests)		5,012

Notes:

7% of guests arrive by Summit Stage

On busy weekends, A-Basin staff has observed more than 200 cars leave the Early Riser lot between 10:00 and Noon. For this analysis 150 cars are considered in this turnover scenario

Based on a CCC of 3,780 skiers, with an additional 2% of non-skiing guests, a 125% peak day translates to 4,820 guests. Assuming an average vehicle occupancy (AVO) of 2.75, bus ridership, and the turnover of 150 parking spaces, there is currently a surplus of 220 parking spaces on peak days (refer to Table 4.8 above).

In a pro-active manner, to increase AVO and reduce the parking demand, A-Basin implemented a peak day parking plan in Spring 2012. The plan incentivizes carpooling by parking vehicles with four or more guests in reserved, close-in parking spaces of the Early Riser lot. The plan also encourages guest and employee bus ridership on the Summit Stage and Front Range Ski Bus, organizes employee carpooling information, and implements an employee express shuttle from down valley.

Since this peak day parking plan was only introduced at the end of the 2012 season, its effect on increasing AVO and reducing the parking demand is not fully understood at this time. Therefore, the existing AVO of 2.75 and current understanding of the parking demand does not change in the discussion for this MDP.

I. Maintenance Facilities, Utilities, Snowmaking Coverage, and Grooming

1. Maintenance Facilities

A-Basin's maintenance facility is located at the west end of the Early Riser Parking Lot adjacent to the snowmaking pond. The facility is approximately 8,500 square feet that accommodates maintenance areas for snow cats, vehicles, snowmaking, lifts, equipment storage, and the waste water treatment system. The facility meets the existing and foreseeable future needs of A-Basin.

2. Utilities

a. Waste Water

A-Basin has an onsite wastewater treatment facility permitted and monitored by the State of Colorado. It is shown as part of the Maintenance Facility on Figure 7. The plant has a maximum hydraulic capacity of 35,000 gallons per day. In 1997 A-Basin installed a 25,000 gallon storage tank to accommodate short term high flows that may exceed the daily capacity. For example, if the resort has a peak day flow that exceeds 35,000 gallons, it can hold up to 25,000 additional gallons and treat the excess flow on subsequent days. Over the past three years the highest 30-day average flow was 13,000 gallons. Waste water lines currently connect the plant to the base area facilities and to Black Mountain Lodge. The restrooms located at Patrol Headquarters at the summit are composting toilets and are not connected to the plant.

b. Domestic Water

Domestic water is supplied to base area facilities from the North Fork of the Snake River. Water is diverted at a rate of 30 gallons per minute to a treatment system in the basement of the A-Frame. From the A-Frame, water is pumped to a 100,000 gallon storage tank on the east side of the Ramrod trail, at an elevation of 10,970 feet. From the tank, water is supplied to all of the base area facilities, including the maintenance building. With average water consumption of eight gallons per person per day, this 24-hour supply is adequate for a daily population of 5,400 people which is 142% of the existing CCC.

The Black Mountain Lodge domestic water supply comes from a nearby well that provides water at a rate of 15 to 30 gallons per minute that feeds a 60,000-gallon underground storage tank.

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c. Power

Electric power is supplied to A-Basin by Xcel Energy. The existing service line has a capacity to supply a power load of 1,875 kilowatts. The power supply can be upgraded by 15% without running new lines to the ski area. The current load at A-Basin is approximately 1,100 kilowatts. All of the power distribution lines to lifts and buildings at the ski area are underground.

d. Snowmaking

The snowmaking system at A-Basin helps ensure a predictable opening date, high quality conditions early- and mid-season and to extend the season into June and sometimes July.

The 1998 ROD approved the snowmaking system at A-Basin to cover 125 acres of terrain. Currently, the resort covers approximately 95 acres of terrain with snowmaking. However, nine of those acres do not have snowmaking infrastructure installed, and are covered by stretching hoses from hydrants in other areas or by pushing man-made snow to these areas with snow cats. It is A-Basin's intention, per their existing approval, to install snowmaking infrastructure in these areas in the future. Refer to Figure 6 for the existing and previously approved snowmaking coverage areas.

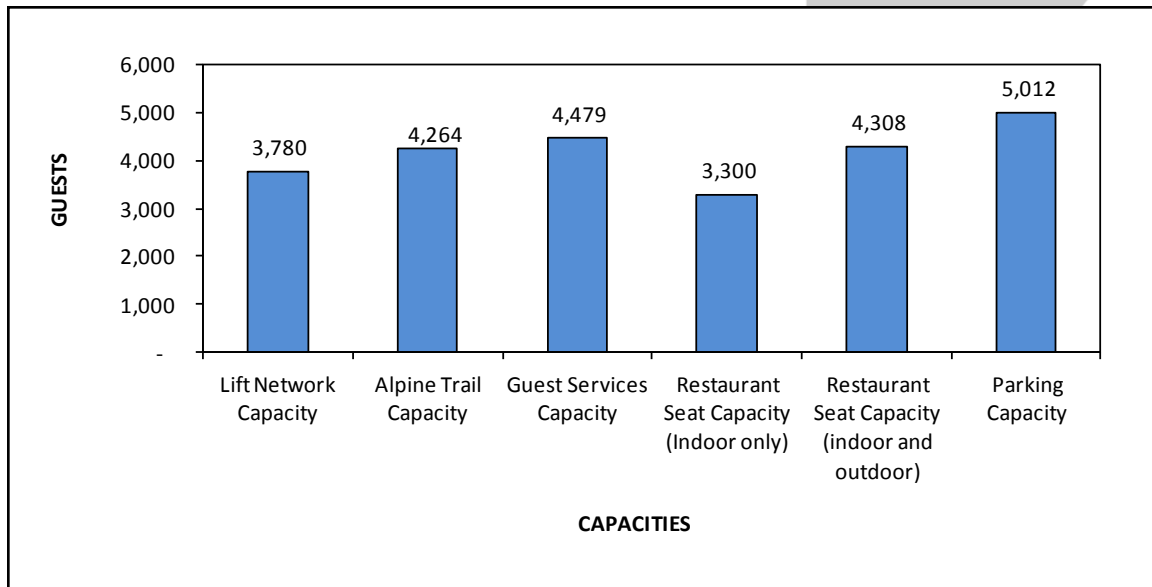
A-Basin currently has approval to divert water from the North Fork of the Snake River in the base area. In a year with average flows, the snowmaking operation diverts approximately 55 acre feet of the estimated 90 acre feet within their existing water rights. While diverting, A-Basin has committed to maintain a 0.5 cubic feet per second bypass flow; in October the maintained bypass flow is 1.0 cubic feet per second. In addition to the bypass flow previously described, water withdrawal will be less than or equal to 25% of the stream flow.

A storage reservoir, located adjacent to the maintenance building, with a capacity of 5.5 acre feet is used to provide buffer storage. This storage is inadequate during periods when conditions allow A-Basin to run its snowmaking system at full capacity. Additional storage would be helpful during those times.

J. Resort Balance and Limiting Factors

The overall balance of the existing ski area is evaluated by calculating the capacities of the resort's various lifts, terrain, skier services, food service seating and parking, as compared to the resort's CCC. The capacities discussed above are shown in Chart 4.3.

Chart 4.3: Resort Balance – Existing Conditions



As the above chart shows, the existing resort has adequate capacities for the calculated CCC of 3,780. As previously discussed, on peak days during adverse weather conditions when outside seating for food service is underutilized, there is a shortage of seating. As with many resorts, there is excess trail capacity. However, as the distribution shown on Chart 4.1 indicates, the mix of terrain does not quite match A-Basin's skier ability distribution. It should be noted that trail capacity represents only those guests actually skiing, which at any one time is typically 40% of the total visitation.

K. Alternative Resort Activities

A-Basin currently provides a handful of alternative recreation opportunities, most of which are contained within the lower mountain, from the Black Mountain Lodge to the base area.

Activities include:

- *Moonlight dinner series*; guests ride the Black Mountain Express and enjoy the scenery from the Black Mountain Lodge. This is typically scheduled during the winter season.
- *Alpenglow Dinner and Wildflower Hike*; guests hike the interpretive trail from the base area to the Black Mountain Lodge, have dinner, and then ride the Black Mountain Express back down to the base area. This event is typically scheduled during early summer.

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- *Weddings and other lunch/dinner events*; many weekends are booked with weddings and other lunch and dinner events during the weekdays are scheduled throughout the summer months.
- *Festivals at the base area*; numerous events are scheduled to take place at the base area from the spring through the late summer. Events include; the Chili Festival, Festival of the Brew Pubs, and the Clam Bake.
- *Trail Run and BBQ*; new for Summer 2012, A-Basin hosted a trail run with a BBQ following at the Black Mountain Lodge.
- *Argentine North Fork Trail*; A-Basin has a 1.8-mile long single track mountain bike and hiking trail that is accessed from the base area and the Black Mountain Lodge. There are plans to add interpretive signage that will add to the guest experience along the trail. From the Black Mountain Lodge, bikers and hikers can connect to the mountain road and ascend to the top of the ski area. This is a popular route for connecting to the Lenawee Trail that descends to Peru Creek.

EXISTING CONDITIONS FRONTSIDE

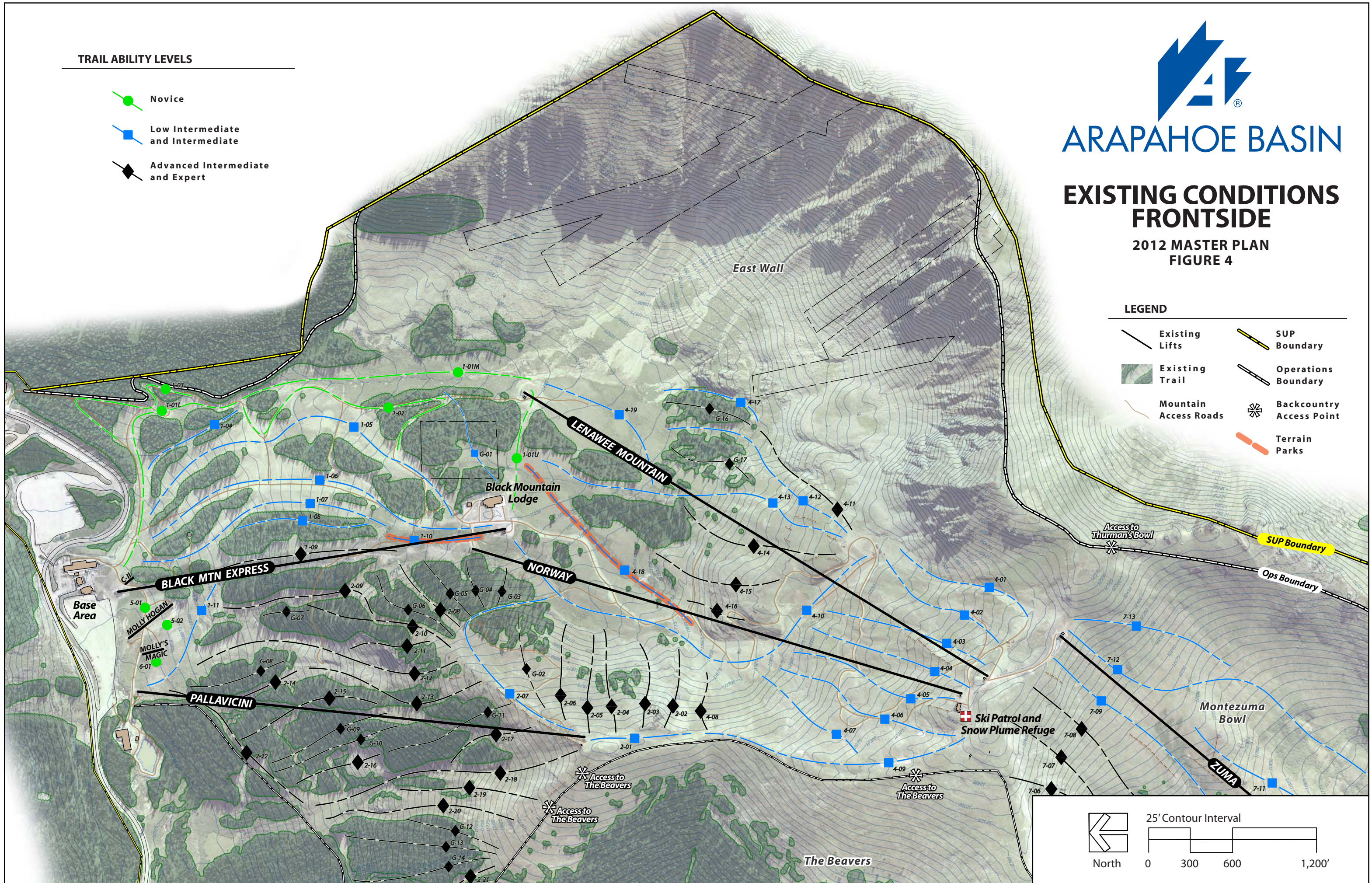
2012 MASTER PLAN
FIGURE 4

TRAIL ABILITY LEVELS

- Novice
- Low Intermediate and Intermediate
- ◆ Advanced Intermediate and Expert

LEGEND

- | | |
|-----------------------|--------------------------|
| Existing Lifts | SUP Boundary |
| Existing Trail | Operations Boundary |
| Mountain Access Roads | Backcountry Access Point |
| | Terrain Parks |












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EXISTING CONDITIONS ZUMA BOWL

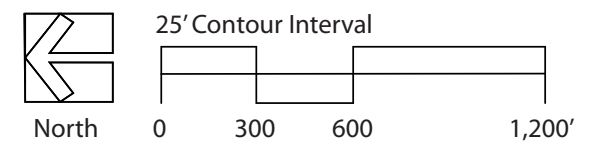
2012 MASTER PLAN
FIGURE 5

LEGEND

- | | |
|---|--|
|  Existing Lifts |  SUP Boundary |
|  Existing Trail |  Operations Boundary |
|  Mountain Access Roads |  Backcountry Access Point |
|  Hike Back Trails | |

TRAIL ABILITY LEVELS

- | | |
|---|--|
|  Low Intermediate and Intermediate | |
|  Advanced Intermediate and Expert | |

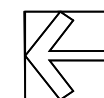
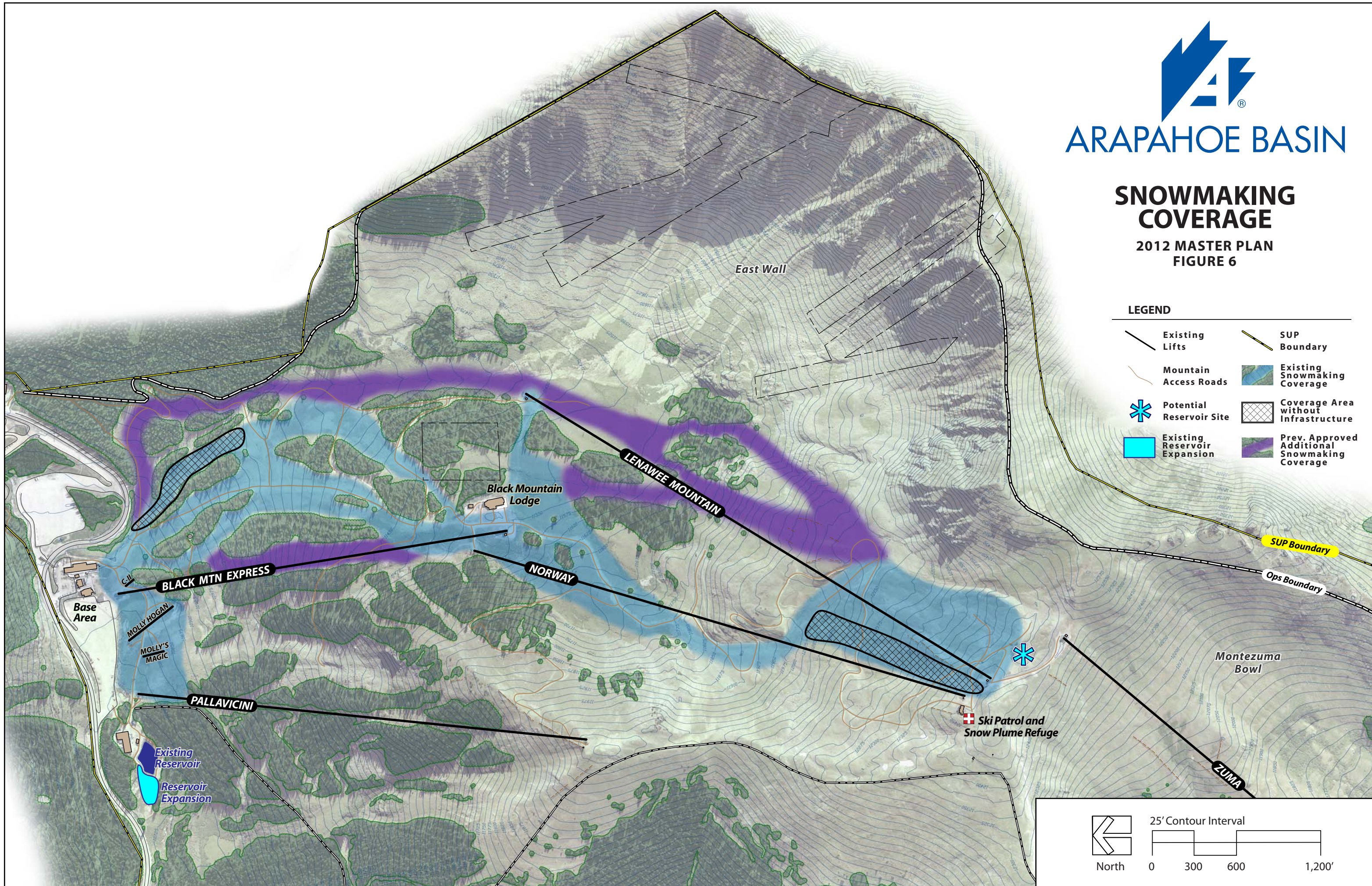


SNOWMAKING COVERAGE

2012 MASTER PLAN
FIGURE 6

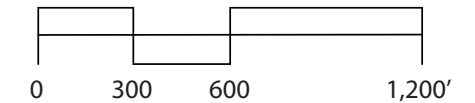
LEGEND

- | | |
|---|--|
|  Existing Lifts |  SUP Boundary |
|  Mountain Access Roads |  Existing Snowmaking Coverage |
|  Potential Reservoir Site |  Coverage Area without Infrastructure |
|  Existing Reservoir Expansion |  Prev. Approved Additional Snowmaking Coverage |



North

25' Contour Interval









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BASE AREA AND PARKING LOTS

2012 MASTER PLAN
FIGURE 7

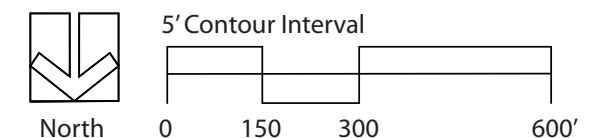
LEGEND

	Existing Lifts		SUP Boundary
	Existing Trail		Mountain Access Roads

- A** A-Frame
- B** Guest Services
- C** Ticket Office Building
- D** Rental Shop
- E** First Aid and Ski Patrol Building
- F** Maintenance Shop



Prepared by:



5.

PREVIOUSLY APPROVED PROJECTS, NOT YET IMPLEMENTED

The following upgrades have been previously approved, but have not yet been implemented. Approvals are contained in the 1999 *Record of Decision Arapahoe Basin Master Development Plan Final Environmental Impact Statement* (1999 ROD), the 2001 *Decision Notice and Finding of No Significant Impact for Arapahoe Basin Lenawee Chairlift Realignment* (2001 DN/FONSI), or the *Arapahoe Basin 2006 Improvement Plan Final Environmental Impact Statement Record of Decision* (2006 ROD). Due to the length of time that has elapsed since some of these approvals, and because the WRNF's Land and Resource Management Plan was revised in 2002, additional site-specific NEPA (re)analysis may be required before A-Basin can implement them.

A. Lifts

1. Norway Lift

As part of the 1999 ROD, the Forest Service approved a midway terminal which would allow loading and unloading. This would allow it to provide beginner access to Dercum's Gulch, a trail rated "beginner."

At this time A-Basin does not plan on implementing this project.

2. Upgrade of Lifts

In the 1999 ROD, the Forest Service states "In the event that any other lifts require replacement over the term of the A-Basin MDP, they will be replaced with new equipment along their current alignment and with similar uphill hourly capacity."

Lift upgrades may be required in the future to replace older equipment with newer technology. Lift upgrades, with the implementation of best management practices and conditions described within the EIS, are "approved to allow A-Basin to continue to provide a high level of service to its users."

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3. Lenawee Midway Station

As part of the 2001 DN/FONSI, a facility at mid-mountain was approved.

B. Facilities

1. Base Facilities

In the 1999 ROD, it was acknowledged that the existing base area buildings at A-Basin are inadequate for its current operation. While detailed plans for upgrading the base area have not been prepared, the existing small buildings could be upgraded, replaced or consolidated into a large building, with the final configuration of buildings staying within the existing “disturbed footprint area” (estimated at 26,500 square feet). As noted in the approval, an increase of approximately 15%, or 5,000 square feet, is possible.

C. Snowmaking

1. Completion of Phase 1

Currently A-Basin is making snow on 76% of the terrain authorized in Phase 1 of their snowmaking approval in the 1999 ROD. Approximately 9 acres of the Phase 1 snowmaking approvals does not have infrastructure in place such as water lines, power and hydrants. This infrastructure was approved for installation under the 1999 ROD.

2. Phase 2

The Phase 2 snowmaking approvals include: construction of a diversion structure and withdrawal pump station on the North Fork and the installation of a water pipeline from Porcupine Gulch to the pump station. The diversion would be located on the North Fork of the Snake River, downstream of the Porcupine Gulch confluence, and would consist of an infiltration gallery of approximately 100 feet in length. The pump house would be built off-channel and would be approximately 300 square feet in size. Water would be pumped from the North Fork through a 10- to 12-inch pipeline to A-Basin. The final locations of the diversion and pump station would be selected to avoid impacts to cultural resources and to minimize potential impacts to wetlands and wildlife.

D. Tubing Park

In an attempt to increase recreational opportunities at A-Basin, a small tubing park was approved in the 1999 ROD for the space directly to the west of the Molly Hogan Lift and

beginner area. The overall park would not exceed 550 feet in length and 135 feet in width. Three lanes, separated by 3- to 5-foot berms, would run approximately 300 feet in length. It is anticipated that less than 5 acre feet of water would be used for the tubing park. A surface lift would serve the tubing hill and would have a similar alignment as the Molly Hogan Lift.

At this time A-Basin does not plan on implementing this project.

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6.

UPGRADE PLAN

The proposed upgrade plan for A-Basin continues the tradition of “The Legend,” by building on previous planning and approvals. This section discusses the findings of the existing facilities analysis, with the assumption that the base facilities improvements from the Previously Approved, Not Yet Implemented projects, as previously discussed, will be implemented.

The purpose of the upgrade plan is to produce a guide for ski area development that ensures the greatest practical and profitable use of the existing lands while remaining sensitive to the environment. The goal of the upgrading plan is to produce a high quality experience throughout the recreational area. Accordingly, the upgrading plan is tailored to improve A-Basin’s ability to respond to its market/skier demands through the development of more balanced terrain distribution, improved efficiency of lift operations, better connectivity to Montezuma Bowl, increased capacity of guest service facilities, and development of a multi-season recreational presence. This plan should not only improve the ski area’s current market niche, but also help to attract new visitors.

Unless stated otherwise, the planned conditions detailed in this section reflect a full build-out scenario, with all projects being completed.

A. Ski Terrain

1. The Beavers

Additional ski terrain and Ski Patrol operations in The Beavers, including the Steep Gullies, is the focus of this MDP. The following information provides a broad overview of A-Basin’s plan to incorporate the Beavers into its lift-served terrain network. Additionally, specific information on lifts, terrain and operations is provided in subsequent headings. The Beavers is located in the western portion of A-Basin’s SUP and is accessible from both the Lenawee Mountain, Norway, and Pallavicini chairlifts (refer to Figure 8).

The upgrading plan includes the installation of one chairlift that serves the intermediate, advanced intermediate, and expert slopes within Beavers Bowl. The top terminal is located just

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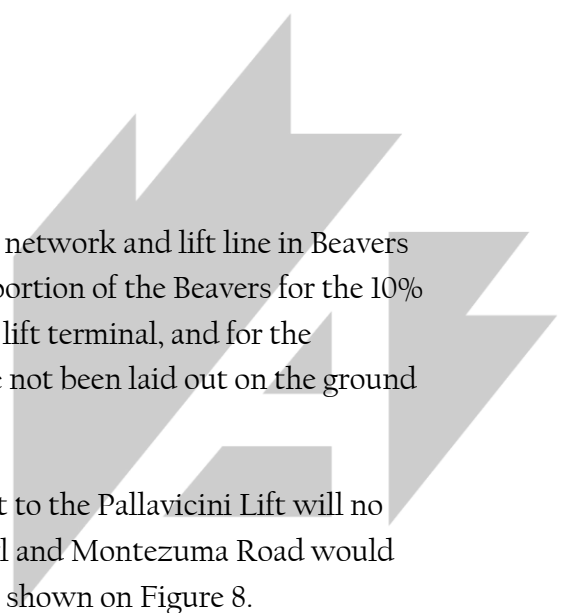
west of the mountain top Ski Patrol building at an approximate elevation of 12,460 feet. The bottom terminal, located along the lower reaches of the terrain break that separates Beavers Bowl from the Steep Gullies and adjacent terrain to the northwest, is at an approximate elevation of 10,960 feet. The lift would have an approximate vertical gain of 1,500 feet with a slope length of 4,170 feet (refer to Table 6.3 Lift Specification). The capacity of the lift would be 1,800 people per hour.

As planned, there would be approximately 67 acres of lift served developed terrain in Beavers Bowl. This terrain consists of approximately 18 acres of intermediate terrain, 30 acres of advanced intermediate terrain, and 19 acres of expert terrain (refer to Table 6.1). The addition of this terrain slightly adjusts A-Basin's terrain distribution by ability level (refer to Table 6.2) increasing the percentage of intermediate and advanced intermediate while the percentage of expert terrain remains the same.

The terrain areas between the developed trails have a good potential for tree skiing. Eventually these areas could be enhanced (removal of standing dead and downed trees, limbing and thinning of trees to create skiable lines, etc.) and opened for tree skiing as A-Basin gains an understanding of how they function in relation to the planned trail network. The potential tree skiing areas are not included in the terrain analysis of this MDP.

Similar to Montezuma Bowl, there is the ability to utilize the expert terrain below the bottom terminal of the planned lift and into the Steep Gullies (north of the furthest skier's right planned trail) down to a lower boundary adjacent to the valley drainage. This terrain encompasses approximately 150 acres. Skiers could then hike along a designated route back to the Pallavicini lift. As shown on Figure 8, a lower egress traverse (sloped at 10%) will be indicated by signage along the slope for those who would like to reduce the amount of hiking required to get back to the Pallavicini lift. As skiers and riders look to reduce hiking time even more, an upper egress traverse will most likely develop in addition to the lower egress traverse. Regarding the lower egress traverse, from the junction of the traverse and the hike back trail, the walk to Pali lift line would be 3,100 linear feet and 320 vertical feet. At a walking speed of two miles per hour, this hike would take approximately eighteen minutes. The upper egress traverse would lead to a hike of approximately six minutes.

The skiing below the lower egress traverse is less desirable, due to its lack of steepness, tighter trees, and lower elevations. Because of these conditions, the majority of skiers are expected to use either the upper or lower egress traverse to return to the bottom of Pali.



Tree clearing will be required for the planned developed trail network and lift line in Beavers Bowl, and minimal tree removal will be needed in the lower portion of the Beavers for the 10% traverse, hike-back route, emergency egress from the bottom lift terminal, and for the installation closure boundaries. Actual limits of clearing have not been laid out on the ground and exact clearing acreages have not been calculated.

The backcountry access points along *Cornice Run* and adjacent to the Pallavicini Lift will no longer be need. The existing access points to Thurman's Bowl and Montezuma Road would remain and an access point to The Rock Pile will be added as shown on Figure 8.

The rationale for providing lift served skiing in The Beavers is as follows:

- Improved skier safety with the addition of ski patrol operations within The Beavers, especially with the introduction of a snow safety program for the Steep Gullies where several backcountry fatalities have occurred. As stated on page 3-458 of the Forest Plan EIS, in regards to The Beavers, “Avalanche risk to the public is potentially high. The risk could be partially mitigated if The Beavers site was developed for skiing as part of the ski area.”
- Since the 2006 MDPA, with the exception of the 2011/12 season due to below average snowfall, A-Basin has experienced a sizeable increase in skier visitation. 328,251 skier visits were reported for the 2004/05 season and the 2010/11 season recorded 452,930 skier visits representing a 38% increase from 2005 to 2011.
- The 2002 Forest Plan EIS projected that skier visitation in Colorado would increase by 800,000 skiers by 2010. It goes on to say that the majority of this growth would take place in the WRNF and that Summit County would experience the largest percentage of that growth. Consistent with the Forest Plan predictions, skier visitation in Colorado increased by approximately 727,000 between 2002 and 2010. The majority of this growth occurred on the WRNF and Summit County experienced the largest percentage of the WRNF growth, with an increase of approximately 173,000 additional visits in Summit County alone. The recent growth in A-Basin's and Summit County's skier visitation validates providing lift served skiing in The Beavers.
- The Beavers is currently within the ski area's SUP boundary and, as stated in the Forest Plan: “is a logical expansion of the ski area.” This expansion would allow for more efficient use of existing ski area infrastructure while meeting the growing demand for lift served skiing by visitors to the WRNF.

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- The Beavers is currently skied by the public from the access gates along Cornice Run and near the Pallavicini top terminal to the valley floor below Highway 6. These backcountry users, then hike up to Highway 6, either catch a ride or walk along the highway back to A-Basin. Providing lift service and a designated egress from the area below the Steep Gullies would dramatically reduce the use of Highway 6 as the connection back to A-Basin.
- With the availability of the terrain in The Beavers, skiers will be more evenly distributed across the mountain—especially when low snow conditions do not allow A-Basin to open Montezuma Bowl.
- As has been shown at other areas (e.g., Breckenridge Ski Resort, Vail Resort, and Copper Mountain Resort), the skiing public considers open bowl skiing to be highly desirable.

2. Trail Network

Table 6.1 below outlines the terrain that constitutes A-Basin's ski trail network with the addition of The Beavers.

Table 6.1:
Terrain Specifications – Upgrade Plan

Trail Area/Name	Top Elev. (ft)	Bot. Elev. (ft)	Vert. Rise (ft)	Slope Length (ft)	Avg. Width (ft)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
Wrangler Lower	11,160	10,841	319	2,081	133	6.4	16	28	Novice
Wrangler Middle	11,442	11,165	277	2,172	246	12.3	13	24	Novice
Wrangler Upper	11,550	11,445	105	942	93	2.0	12	23	Novice
Chisholm Trail	11,429	11,166	263	2,288	32	1.7	12	16	Novice
Chisholm	11,130	11,003	127	1,488	41	1.4	9	18	Novice
North Fork	11,166	10,958	208	812	80	1.5	27	36	Intermediate
Sundance	11,504	10,919	585	2,670	192	11.8	23	33	Low Intermediate
High Noon	11,550	10,900	650	2,819	203	13.1	24	37	Intermediate
Ramrod	11,443	10,868	575	1,990	132	6.1	30	41	Intermediate
The Gulch	11,427	11,114	313	926	62	1.3	36	44	Intermediate
Exhibition	11,452	10,832	620	2,016	169	7.8	33	62	Expert
High Noon Terrain Park	11,529	11,463	66	403	105	1.0	17	18	Intermediate
Molly Hogan Upper	10,975	10,798	176	861	237	4.7	21	26	Intermediate
Cornice Run II	12,115	12,061	54	733	94	1.6	7	16	Adv. Intermediate
Wildcat	12,080	11,804	276	672	301	4.6	46	58	Expert
Nose	12,100	11,745	355	733	279	4.7	56	70	Expert
South Chute	12,090	11,714	376	787	116	2.1	55	70	Expert
Slalom Slope	12,112	11,699	413	840	171	3.3	57	66	Expert
North Chute	12,053	11,699	354	794	192	3.5	50	60	Expert
Grizzly Road	12,108	11,685	423	1,843	83	3.5	24	39	Intermediate
Radical	11,747	11,474	273	676	96	1.5	45	57	Expert
Standard	11,541	10,979	562	1,342	147	4.5	47	71	Expert
13 Cornices Upper	11,777	11,340	437	1,111	92	2.3	43	66	Expert
My Chute	11,736	11,437	299	581	118	1.6	60	69	Expert

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Table 6.1:
Terrain Specifications – Upgrade Plan

Trail Area/Name	Top Elev. (ft)	Bot. Elev. (ft)	Vert. Rise (ft)	Slope Length (ft)	Avg. Width (ft)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
International	11,833	10,888	945	2,178	218	10.9	49	72	Expert
North Glade	11,890	11,210	680	1,579	149	5.4	48	70	Expert
Bear Trap	11,202	10,882	320	736	162	2.7	49	69	Expert
Roller Coaster	11,480	10,920	560	1,192	330	9.0	54	82	Expert
Rock Garden	11,384	11,025	359	784	263	4.7	52	70	Expert
East Avenue	12,006	11,579	426	871	136	2.7	56	67	Expert
Pali Main Street	12,105	11,044	1,062	2,297	203	10.7	52	62	Expert
The Spine	11,937	11,410	527	1,058	78	1.9	58	71	Expert
Pali Face	11,869	11,068	800	1,667	211	8.1	55	74	Expert
West Alley	11,726	11,114	613	1,194	152	4.2	60	90	Expert
Pali Wog	11,043	10,846	197	1,176	89	2.4	17	33	Expert
Humbug	12,421	12,149	272	1,043	136	3.2	27	45	Adv. Intermediate
Lenawee Face	12,435	12,132	304	1,202	408	11.3	26	39	Low Intermediate
Powerline	12,457	12,039	418	1,268	119	3.5	35	48	Intermediate
Norway Face	12,436	12,027	409	1,319	260	7.9	33	51	Intermediate
Norway Mountain Run	12,445	11,985	460	1,374	147	4.6	36	50	Intermediate
Knolls	12,433	11,959	474	1,516	257	8.9	33	51	Intermediate
King Cornice	12,259	11,938	321	871	287	5.7	40	58	Adv. Intermediate
West Wall	12,057	11,872	185	434	488	4.9	47	54	Adv. Intermediate
Cornice Run I	12,459	12,064	395	2,145	89	4.4	19	33	Adv. Intermediate
Dercum's Gulch	12,132	11,538	593	3,461	291	23.1	17	35	Low Intermediate
Falcon	12,107	11,759	348	1,051	78	1.9	36	63	Expert
Dragon	12,105	11,566	539	1,569	133	4.8	37	59	Expert
West Gully	12,108	11,529	579	2,282	130	6.8	26	51	Adv. Intermediate

Table 6.1:
Terrain Specifications – Upgrade Plan

Trail Area/Name	Top Elev. (ft)	Bot. Elev. (ft)	Vert. Rise (ft)	Slope Length (ft)	Avg. Width (ft)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
Lenawee Parks	12,104	11,698	405	1,284	351	10.3	34	55	Expert
Gentry	12,019	11,719	300	1,016	327	7.6	32	70	Expert
Jamie's Face	11,959	11,794	164	457	303	3.2	39	51	Adv. Intermediate
East Gully	11,761	11,521	241	818	80	1.5	31	47	Expert
Treeline Terrain Park	11,786	11,509	276	2,011	165	7.6	14	36	Adv. Intermediate
Shooting Gallery	11,605	11,452	153	1,117	454	11.7	14	40	Adv. Intermediate
Molly Hogan 1	10,870	10,813	56	429	205	2.0	13	19	Novice
Molly Hogan 2	10,852	10,795	57	463	95	1.0	12	19	Novice
Molly's Magic Carpet	10,837	10,809	28	168	395	1.5	17	17	Beginner
Carpet II	10,847	10,841	6	72	67	0.1	9	9	Beginner
End Zone	12,177	11,591	586	1,534	392	13.8	42	71	Expert
Jump	12,255	11,709	547	1,382	608	19.3	44	70	Expert
Schauffler	12,255	11,764	491	1,129	308	8.0	49	73	Expert
Durrance	12,251	11,817	433	892	301	6.2	56	73	Expert
Grosword	12,312	11,846	466	958	380	8.4	56	83	Expert
Max	12,420	12,069	351	676	357	5.5	61	74	Expert
Long Chute	12,491	11,813	678	1,652	181	6.9	45	55	Adv. Intermediate
Black Bear	12,495	11,864	631	1,635	364	13.7	42	56	Expert
Larkspur	12,466	11,448	1,018	4,564	227	23.8	23	54	Adv. Intermediate
Independence	11,827	11,556	271	1,153	108	2.9	24	48	Adv. Intermediate
Shining Light	12,060	11,678	381	1,381	337	10.7	29	44	Adv. Intermediate
Columbine	12,473	11,357	1,116	4,656	453	48.4	25	51	Adv. Intermediate
Northern Spy	12,472	12,184	288	868	616	12.3	35	50	Adv. Intermediate
Mountain Goat Traverse	12,412	11,820	592	3,649	221	18.5	17	33	Adv. Intermediate

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Table 6.1:
Terrain Specifications – Upgrade Plan

Trail Area/Name	Top Elev. (ft)	Bot. Elev. (ft)	Vert. Rise (ft)	Slope Length (ft)	Avg. Width (ft)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
Tieze's Claim	12,061	11,713	348	779	911	16.3	50	62	Expert
Elk Meadows	11,928	11,642	286	1,046	478	11.5	29	34	Adv. Intermediate
T.B. Glade	11,511	11,380	131	747	641	11.0	18	33	Intermediate
Powder Keg Upper	12,002	11,719	283	806	394	7.3	38	48	Adv. Intermediate
Powder Keg Lower	11,707	11,594	113	280	265	1.7	44	52	Adv. Intermediate
Challenger	11,742	11,508	234	548	229	2.9	48	65	Expert
No Name	11,750	11,459	291	806	136	2.5	39	58	Expert
13 Cornices Lower	11,325	11,110	215	403	133	1.2	63	70	Expert
Poma Line	11,170	10,860	310	752	173	3.0	46	62	Expert
Turbo	11,494	10,989	505	1,040	82	2.0	56	90	Expert
West Turbo	11,531	10,996	535	1,073	84	2.1	58	95	Expert
Timber Glades	11,946	11,396	550	1,115	289	7.4	57	65	Expert
David's Run	11,789	11,402	387	784	96	1.7	57	69	Expert
2nd Alley	11,774	11,066	708	1,427	195	6.4	58	82	Expert
3rd Alley	11,759	11,117	641	1,222	231	6.5	62	80	Expert
Scudder	11,724	11,549	175	402	196	1.8	49	62	Expert
Gauthier	11,678	11,108	569	1,066	162	4.0	64	83	Expert
Cabin Glades	11,740	11,530	210	631	153	2.2	35	45	Adv. Intermediate
Half Moon Glades	11,842	11,568	274	661	367	5.6	46	64	Expert
Elephant's Trunk	12,072	11,575	497	1,217	267	7.5	45	53	Adv. Intermediate
Gentling's Glade	11,978	11,534	444	1,172	634	17.1	41	49	Adv. Intermediate
Winning Card	11,933	11,530	404	1,278	347	10.2	33	46	Adv. Intermediate
Montezuma's Revenge	11,553	11,501	51	1,088	53	1.3	5	12	Adv. Intermediate
Eureka	11,533	11,371	162	549	780	9.8	31	45	Adv. Intermediate

Table 6.1:
Terrain Specifications – Upgrade Plan

Trail Area/Name	Top Elev. (ft)	Bot. Elev. (ft)	Vert. Rise (ft)	Slope Length (ft)	Avg. Width (ft)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
Miner's Glade	11,824	11,494	330	1,454	440	14.7	23	45	Adv. Intermediate
Log Roll	11,857	11,578	279	642	363	5.3	49	71	Expert
Placer Junction	11,713	11,554	159	350	322	2.6	51	62	Expert
Torreys	11,647	11,425	223	807	413	7.7	29	52	Adv. Intermediate
Beaver's Trail 1	12,110	11,001	1,109	3,049	147	10.3	39	65	Expert
Beaver's Trail 2 Lower	11,947	10,960	986	3,171	152	11.1	33	50	Adv. Intermediate
Beaver's Trail 2 Upper	12,430	11,947	483	2,879	53	3.5	17	33	Adv. Intermediate
Beaver's Trail 3 Lower	11,560	11,041	519	1,257	298	8.6	46	65	Expert
Beaver's Trail 3 Middle	11,999	11,572	427	1,122	159	4.1	41	51	Adv. Intermediate
Beaver's Trail 3 Upper	12,445	12,000	445	1,257	402	11.6	38	49	Adv. Intermediate
Beaver's Trail 4 Lower	11,887	10,961	926	3,007	188	13.0	32	46	Intermediate
Beaver's Trail 4 Upper	12,451	11,887	564	2,881	76	5.0	20	43	Intermediate
TOTAL				142,582		743			

Light Gray = Planned Trails

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The following table and charts illustrate the distribution of terrain by skier ability level for the proposed trail network, as well as the distribution of the active skier population at A-Basin. The terrain distribution is compared to both A-Basin's actual market and to the industry norm market. These exhibits show that the trail network accommodates a range of skier ability levels—from beginner to expert. It is one of the goals of this MDP to better balance the terrain offered at the resort with the skier distribution unique to A-Basin. The terrain distribution for the upgrading plan is illustrated in Table 6.2; it shows that with implementation of The Beavers the skier/rider distribution is slightly affected with the largest change being Intermediate from existing 16% to 18% and Novice from 16% to 14% in the upgrade plan scenario.

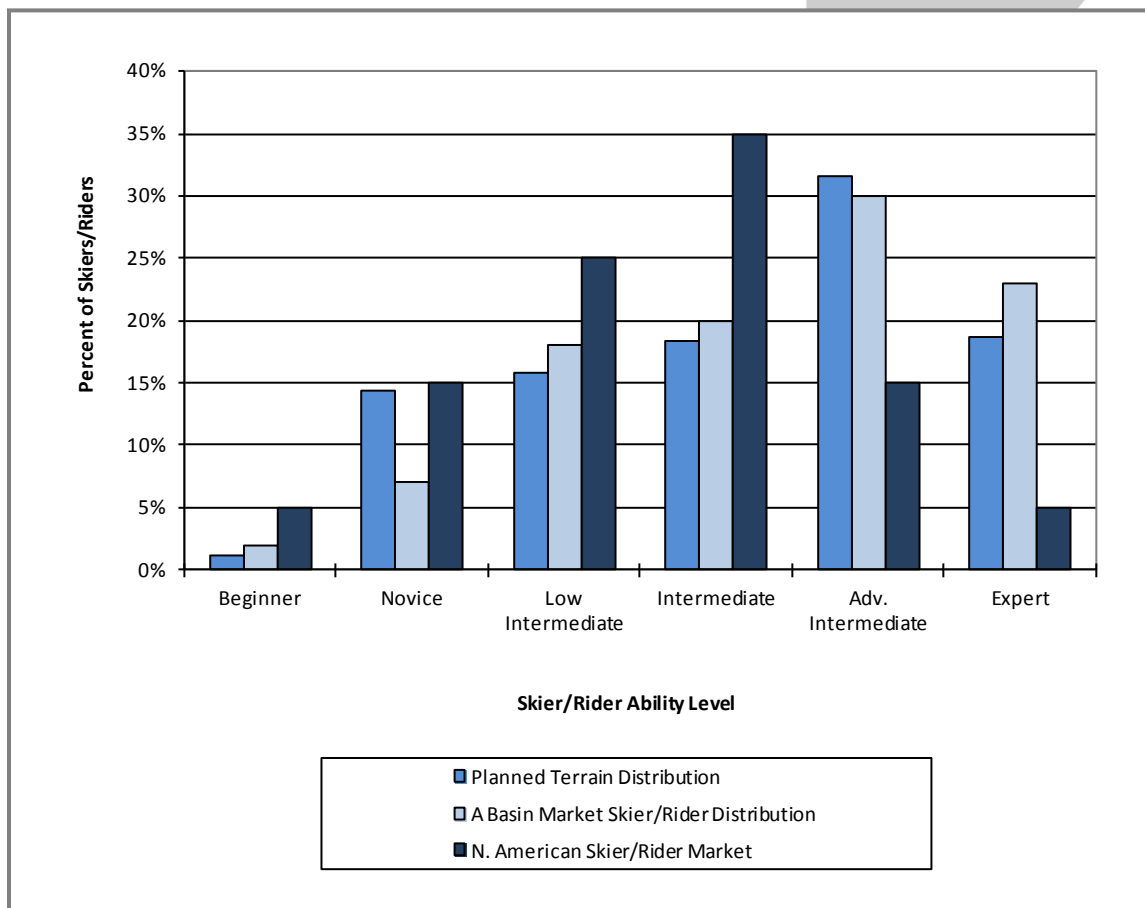
Table 6.2:
Terrain Distribution by Ability Level – Upgrade Plan

Skier/Rider Ability Level	Trail Area (acres)	Skier/Rider Capacity (guests)	Skier/Rider Distribution (%)	N. American Market (%)	A-Basin Market (%)
Beginner	1.6	57.1	1	5	2
Novice	26.8	669.3	14	15	7
Low Intermediate	46.1	738.2	16	25	18
Intermediate	85.1	850.6	18	35	20
Adv. Intermediate	293.7	1468.3	32	15	30
Expert	289.8	869.4	19	5	23
TOTAL	743.1	4,653	100	100	100

Source: SE Group

As shown in the above table and the following chart, the A-Basin skier/rider market differs from the industry norm, and tends towards more advanced intermediate and expert terrain. A-Basin also attracts guests who revere the rugged character, and often extreme conditions, that are unique to “The Legend.” The Beavers terrain fulfills both of these criteria unique to the A-Basin market. As evidenced by the following charts and the rugged nature of the area, the addition of The Beavers terrain would bring A-Basin's terrain in better balance with its particular market, as compared to its existing terrain distribution.

Chart 6.1: Terrain Capacity Distribution by Ability Level – Upgrade Plan



Source: SE Group

B. Lift Improvements

The upgrade plan indicates five lift projects; the installation of two new lifts (Beavers chairlift and Zuma surface lift), the replacement of two existing chairlift (Pallavicini and Molly Hogan), and the removal of the Norway chairlift.

1. Beavers Lift

As discussed in the Terrain section of this Upgrade Plan, A-Basin proposes to install a new chairlift in Beavers Bowl to provide lift served skiing.

The top terminal is planned just west of the mountain top Ski Patrol building at an approximate elevation of 12,460 feet. The bottom terminal, located along the lower reaches of the terrain break that separates Beavers Bowl from the Steep Gullies and adjacent terrain to the northwest, is at an approximate elevation of 10,960 feet (refer to Figure 8). The lift would have an approximate

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vertical gain of 1,500 feet with a slope length of 4,170 feet. The planned capacity of the lift is 1,800 people per hour (refer to Table 6.3 Lift Specification).

2. Zuma Access Surface Lift

As mentioned in chapter 4, access to Montezuma Bowl from the Lenawee Mountain and Norway lifts can be difficult on the 400-foot long catwalk. To remedy this situation, a surface lift is planned to be installed on the catwalk alignment. This lift would provide transportation in both directions along the catwalk. It would be approximately 360 feet in length and would require some dirt work to grade in a platform for the lift alignment.

3. Pallavicini Lift Replacement

As mentioned in the Previously Approved, Not Yet Implemented chapter of this MDP, lift upgrades may be required in the future to replace older equipment with newer technology. Replacement of the Pallavicini lift is consistent with this concept. Pallavicini was installed in 1978. It is in good working condition, but due to its age and difficulty to obtain spare parts, it will need to be replaced sometime in the future.

The plan is to replace the lift in a similar alignment and capacity.

4. Molly Hogan Lift Replacement

The Molly Hogan lift is also outdated. It was installed in 1978 and will need to be replaced in the near future.

The plan is to replace the lift in a similar alignment and capacity.

5. Norway Lift Removal

The Norway chairlift serves the same functions as Lenawee Mountain and is only operated during peak weekends and holidays and is considered a redundant chairlift. Similar to the lifts mentioned above, due to its age, Norway would need to be replaced sometime in the future, but because of its redundancy with the Lenawee Mountain Lift and the transition of some Lenawee/Norway skiers to The Beavers, instead of replacing the Norway lift, A-Basin would choose to remove the lift entirely instead of replacing it.

The following table details the lift specifications of the Upgrade Plan.

Table 6.3:
Ski Lift Specifications – Upgrade Plan

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)	Year Installed
Black Mtn Express DC-4	11,549	10,838	712	2,800	2,929	25	2,000	1,000	120	2010
Pallavicini C-2	12,115	10,790	1,325	3,207	3,512	41	1,200	525	53	1978
Norway C-2										Removed
Lenawee C-3	12,465	11,450	1,015	3,879	4,071	26	1,800	500	50	2001
Molly Hogan C-2	10,870	10,813	57	393	398	15	1,000	368	44	1978
Molly's Magic c	10,836	10,808	28	148	151	19	1,200	124	6	2003
Zuma Lift C-4	12,475	11,362	1,113	3,973	4,168	28	1,900	450	57	2008
Carpet II c	10,847	10,841	6	70	72	9	600	60	6	2012
Zuma Access s	12,470	12,459	11	360	361	3	700	400	137	New
Beaver's Lift C-4	12,462	10,963	1,499	3,839	4,169	39	1,800	500	67	New

c = carpet conveyor

C-2 = fixed-grip double chairlift

C-3 = fixed-grip triple chairlift

C-4 = fixed-grip quad chairlift

Source: SE Group

C. Comfortable Carrying Capacity

The calculation of A-Basin's planned CCC is described in the following table. As shown, the upgrade plan increases the CCC from 3,780 to 4,140, a 9.5% increase.

The additional CCC due to the installation of the Beavers lift is not fully realized in the total CCC because of the removal of the Norway lift.

Table 6.4:
Calculation of Comfortable Carrying Capacity – Upgrade Plan

Lift Name, Lift Type	Slope Length (ft)	Vertical Rise (ft)	Actual Design Capacity (guests/hr)	Oper. Hours (hrs)	Up-Mtn. Access Role (%)	Misloading/ Lift Stoppages (%)	Adjusted Hourly Cap. (guests/hr)	VTF/Day (000)	Vertical Demand (ft/day)	CCC (guests)
Black Mtn Express DC-4	2,929	712	2,000	7.50	10	5	1,700	9,073	11,246	810
Pallavicini C-2	3,512	1,325	1,200	7.00	5	5	1,080	10,016	19,249	520
Norway C-2	-	-	-	0.00	0	0	-	0	0	-
Lenawee C-3	4,071	1,015	1,800	6.50	10	5	1,530	10,097	12,514	810
Molly Hogan C-2	398	57	1,000	6.50	0	20	800	298	1,442	210
Molly's Magic c	151	28	1,200	6.50	0	5	1,140	209	1,742	120
Zuma Lift C-4	4,168	1,113	1,900	6.50	0	5	1,805	13,063	15,571	840
Carpet II c	72	6	600	6.50	0	5	570	22	710	30
Zuma Access s	361	11	700	6.50	100	0	-	0	1,214	-
Beaver's Lift C-4	4,169	1,499	1,800	6.50	0	5	1,710	16,660	20,782	800
TOTAL	19,831		12,200				10,335	59,438		4,140

Source: SE Group

D. Guest Services Upgrade Plan

1. Base Facility Upgrades

As discussed in the Previously Approved, Not Yet Implemented section of this document, the 1999 ROD acknowledged that the existing base area buildings at A-Basin are inadequate for its current operation. Consistent with that concept, and while detailed plans for upgrading buildings throughout the base area have not been prepared for this Upgrade Plan, it is understood that the existing small buildings will be upgraded, replaced or consolidated into a large building. The final configuration of buildings will stay within the existing “disturbed footprint area” (estimated at 26,500 square feet). Also noted in the approval, an increase of approximately 15%, or 5,000 square feet, is contemplated.

The following table outlines the recommended guest service space allocations for the base area after being fully upgraded.

Table 6.5:
Planned Base Area Space Use Recommendations (square feet)

Service Function	Existing Total	Recommended Range		Difference from Recommended	
		Recommended Low Range	Recommended High Range	Low	High
Ticket Sales/Guest Services	250	750	910	(500)	(660)
Public Lockers	150	1,680	2,050	(1,530)	(1,900)
Rentals/Repair	4,333	2,790	3,420	1,543	913
Retail Sales	840	950	1,160	(110)	(320)
Bar/lounge	1,470	950	1,160	520	310
Adult Ski School	520	1,120	1,370	(600)	(850)
Kid's Ski School	800	750	910	50	(110)
Restaurant Seating	10,356	8,350	10,210	2,006	146
Kitchen/Scramble	600	1,910	2,330	(1,310)	(1,730)
Rest rooms	2,530	1,550	1,900	980	630
Ski Patrol	1,567	840	1,020	727	547
Administration	1,073	980	1,200	93	(127)
Employee Lockers/Lounge	1,715	780	960	935	755
Mechanical	1,135	630	940	505	195
Storage	1,038	1,050	1,570	(12)	(532)
Circulation/Waste	3,000	1,680	2,520	1,320	480
TOTAL SQUARE FEET	31,377	26,760	33,630	4,617	(2,253)

2. On-Mountain Restaurants

When the Black Mountain Lodge came on-line for the 2007/08 ski season, A-Basin's guests' restaurant experience was improved by providing an option to the base area restaurant in the A-frame. In addition to the existing food service facilities, this upgrade plan re-implements a food service program at the Snow Plume Refuge adjacent to the Lenawee Mountain lift and Norway lift top terminals.

Prior to the opening of the Black Mountain Lodge, there was a small operation in the Snow Plume Refuge that provided prepackaged food and beverage items along with hot dogs and hot chocolate. Once the Black Mountain Lodge was operational, the demand for food service at the Snow Plume Refuge essentially disappeared. This MDP indicates that there will be a demand for some food service at the Snow Plume Refuge with the development of The Beavers terrain. Once again the food service will be smaller in scale and will provide a limited menu for those visiting the Snow Plume Refuge.

The following table outlines the recommended space allocations for the on-mountain facilities. It should be noted that the Ski Patrol square footage is existing and located in the Snow Plume Refuge at the summit.

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Table 6.6:
Planned On-Mountain Space Use Recommendations (square feet)

Service Function	Existing Total	Recommended Range		Difference from Recommended	
		Recommended Low Range	Recommended High Range	Low	High
Ticket Sales/Guest Services	896	-	-	896	896
Public Lockers	-	-	-	-	-
Rentals/Repair	-	-	-	-	-
Retail Sales	-	-	-	-	-
Bar/lounge	200	-	-	200	200
Adult Ski School	-	-	-	-	-
Kid's Ski School	-	-	-	-	-
Restaurant Seating	4,183	4,950	6,050	(767)	(1,867)
Kitchen/Scramble	1,624	1,130	1,380	494	244
Rest rooms	992	920	1,120	72	(128)
Ski Patrol	1,328	500	610	828	718
Administration	-	-	-	-	-
Employee Lockers/Lounge	86	-	-	86	86
Mechanical	1,669	200	300	1,469	1,369
Storage	-	340	500	(340)	(500)
Circulation/Waste	-	540	810	(540)	(810)
TOTAL SQUARE FEET	10,978	8,580	10,770	2,398	208

Food service seating at A-Basin is planned to be provided at the base area, Black Mountain Lodge, and the Snow Plume Refuge. A key factor in evaluating restaurant capacity is the turnover rate of the seats. A turnover rate of 3.0 to 5.0 is the standard range utilized in determining restaurant capacity. Fine dining at ski areas typically results in a turnover rate of three, while “fast food” cafeteria style dining is characterized by a higher turnover rate. Furthermore, weather has an influence on turnover rates at ski areas, as on snowy days skiers will spend more time indoors than on sunny days.

The following table summarizes the seating requirements at A-Basin, based on a logical distribution of the CCC to each service building/location.

**Table 6.7:
Restaurant Seating Recommendations – Upgrade Plan**

	Base Area	Black Mtn Lodge/Snowplume Refuge	Total Resort
Lunchtime Capacity (CCC)	2,651	1,572	4,223
Average Seat Turnover	4	4	
Existing Seats	585	270	855
Required Seats	663	393	1,056
Difference	-78	-123	-201
Existing seating capacity	2,340	1,080	3,420
Existing Outdoor Seats	304	248	552
Average Outdoor Seat Turnover	2	2	
Seating capacity including Outdoor Seats	2,948	1,576	4,524

Note:

Snowplume Refuge = 30 Indoor Seats and 48 Outdoor seats

Due to the mix of restaurant types an average turnover rate of four was used for A-Basin. The seating analysis shows that, if conditions are not favorable for outdoor seating, there is a slight deficit of seats at the base area and a sizeable deficit at the on-mountain facilities. If weather conditions are such that use of the outdoor seats are reasonable, there is plenty of seating capacity at the base area and a balanced seating capacity at the on-mountain facilities.

E. Parking

Total parking capacity must be balanced with the CCC for a peak visitation day. Guests arrive at A-Basin by personal vehicles, the Summit Stage, Front Range Ski Bus, or charter buses. As mentioned in Chapter 4, overflow parking occasionally occurs along the sides of Highway 6 and at the highway pull-offs. This overflow situation does not occur as often as it had in the past now that recent parking lot improvements have increased A-Basin's parking lot capacity. Parking capacities and requirements under the upgrade plan scenario are shown in Table 6.8.

Table 6.8:
Parking Requirements – Upgrade Plan

	Multiplier	Base Area
CCC + other guests		4,223
Peak Day	125%	5,279
% Arriving at portal		100%
# arriving at portal		5,279
# of guests arriving by car	93%	4,909
# of guests arriving by charter bus	0%	0
# of guest arriving by bus	7%	369
Required car parking spaces	2.75	1,785
Required employee car parking spaces		50
# of Turnover Spaces		150
Total required spaces		1,685
Existing parking spaces		1,750
surplus/deficit		65
Existing parking capacity (guests)		5,044

Notes:

7% of guests arrive by Summit Stage

On busy weekends, A-Basin staff has observed more than 200 cars leave the Early Riser lot between 10:00 and Noon. For this analysis 150 cars are considered in this turnover scenario

Table 6.8 indicates that with a CCC of 4,140 with an additional 2% of non-skiing guests, a 125% peak day translates to 5,279 guests. Assuming an average vehicle occupancy of 2.75, bus ridership, and the turnover of 150 parking spaces, there would be a surplus of 65 parking spaces on peak days under the upgrade plan scenario.

A-Basin plans to continue to implement its' peak day parking plan, including the incentive program, and it will evolve as needed to continue to address guest and parking demands.

F. Snowmaking

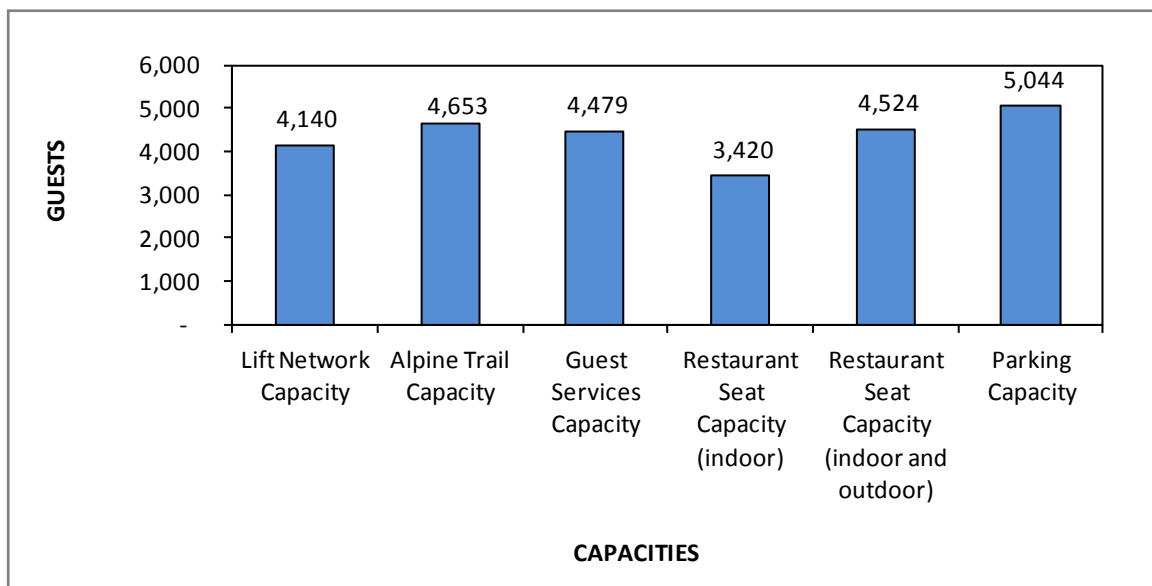
As previously mentioned in Chapter 4, the snowmaking system at A-Basin is approved to cover 125 acres of terrain. Currently, the resort covers approximately 95 acres of terrain with snowmaking. However, nine of those acres currently do not have snowmaking infrastructure installed. A-Basin covers those nine acres by stretching hoses from hydrants in other areas or by pushing man-made snow to these areas with snow cats. It is A-Basin's intention, consistent with their existing approval, to install snowmaking infrastructure in these areas in the future. Refer to Figure 6 for the existing and previously approved snowmaking coverage areas.

In addition to completing Phase 1 and the implementation of Phase 2, A-Basin is studying the need for additional reservoir storage. The existing reservoir is inadequate during periods when conditions allow A-Basin to run its snowmaking system at full capacity. Figure 6 shows an up-mountain reservoir adjacent to the Lenawee lift top terminal and an area for expansion of the existing reservoir. The up-mountain reservoir site has been selected due to the relatively flat topography and presence of a natural depression, adjacency to the existing snowmaking infrastructure, and the potential to gravity feed the existing snowmaking system. Further analysis, site specific planning, and detailed engineering is needed in order to determine the sizing of these improvements.

G. Resort Balance and Limiting Factors

The overall balance of the ski area is evaluated by calculating the capacities of the resort's various facilities, as compared to the resort's CCC. The capacities discussed above are shown in Chart 6.2.

Chart 6.2: Resort Balance – Upgrade Plan



Source: SE Group

As Chart 6.2 illustrates, the implementation of this upgrade plan, will bring A-Basin's facilities to a level adequate to accommodate the current and anticipated growth in skier visitation. The resort has well balanced capacities for the planned CCC of 4,140. As previously discussed, on peak days during adverse weather conditions when outside seating for food service is underutilized, there is a shortage of seating.

H. Alternative Resort Activities

1. Planned Zip Line and Challenge Course

Consistent with the 2011 Ski Area Recreational Opportunity Enhancement Act enacted in November 2011, A-Basin plans on implementing a summer activities operation that would include a series of zip lines starting from the Black Mountain Lodge down to the base area and a challenge course.

As indicated in Chapter 2, the Act specifically provides the Forest Service with authority to review and consider recreational activities and associated facilities in addition to skiing and snow-sports.²¹ Activities and facilities that may, in appropriate circumstances, be authorized in the Act include, but are not limited to, both zip lines and ropes courses.²²

The current concept for the zip line experience can be seen in Figure 8. This concept includes a series of zip lines, a short hike, and wooden bridges to connect the zip line finish/start of three separate sections. The zip lines would be located to the east of the Black Mountain Express and the guests would use that lift to access the first zip line. The zip lines and bridges cross over numerous ski trails and would be operated during the summer and winter seasons. The conceptual zip line layout is likely to be adjusted as further planning and site specific design is performed.

The challenge course is envisioned to be located adjacent to the base area in the tree island with Gracie's Grove, a kid's interpretive area located east of the lower portion of Black Mountain Express. The course could consist of high and/or low elements using a variety of materials including trees, utility poles and steel structures. Low elements take place on the ground or only a few feet above the ground. The high elements of the course would incorporate belay and safety systems using wire rope, friction devices, and climbing harnesses.

A-Basin will develop a more visible role in the alternative recreation marketplace as the operation and implementation of the activities mentioned above are refined.

²¹ Public Law 112-46-Nov. 7, 2011 125 Stat. 539.

²² Ibid. Section 3.

7.

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.

Bowl Skiing/Snowboarding: Skiing and snowboarding in open and broad expanses, generally above timberline. Bowl skiing and snowboarding usually features terrain appropriate for advanced intermediate and expert ability levels.

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Cabin: An enclosed or semi-enclosed compartment used for transporting skiers and snowboarders. The term cabin is commonly used in aerial tramway discussions, whereas the term chair is used to reference the carrier relied upon by fixed-grip and detachable grip chairlifts.

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 up to one-third of a slope's trees, which enables a tree stand to be skied or rode by a larger percentage of a resort's guests.

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.

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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 three 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.

Quarterpipe: A channel constructed in the snow the same as a halfpipe, but consisting of one wall instead of two. It may be shorter in length than a halfpipe and may face downhill or across the fall-line.

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.

Shoulder Seasons: Generally speaking, the spring and fall seasons.

Ski-In/Ski-Out Lodging: Overnight accommodations that are so close to the slopes that guests can conveniently ski, ride, or walk to the resort. Also referred to as slopeside lodging, the prevalence of this type of lodging is considered when a resort's parking and guest drop-off areas are sized.

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).

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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.

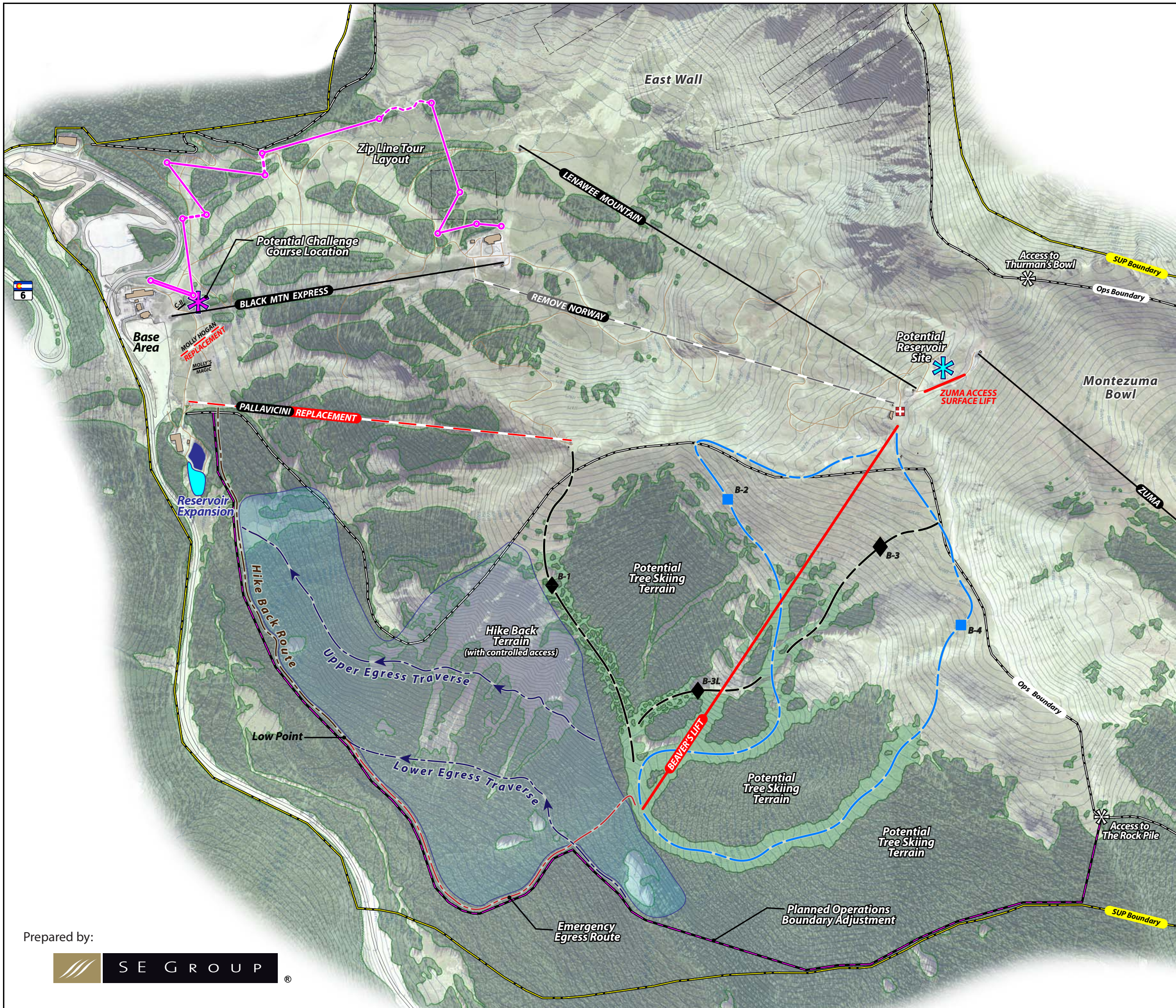
Vertical Transport Feet per Hour (VTF/hr.): The number of persons a lift is able to transport 1,000 vertical feet in one hour. VTF/hour is derived by multiplying a lift's uphill capacity (measured in persons per hour) by the lift's vertical rise (measured in feet) and dividing by 1,000.



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UPGRADE PLAN

2012 MASTER PLAN
FIGURE 8



LEGEND

- | | |
|-------------------------------------|------------------------------|
| Existing Lifts | SUP Boundary |
| Planned Lift Removal | Operations Boundary |
| Planned Lift Replacements | Planned Operations Boundary |
| Planned Lifts | Backcountry Access Point |
| Planned Zip Line Tour | Mountain Access Roads |
| Potential Challenge Course Location | Potential Reservoir Site |
| Existing Trail | Existing Reservoir Expansion |
| Planned Trail Clearing | |

Prepared by:



North

25' Contour Interval

