

**CATALYST ACTION SPORTS CAMP
AT COPPER MOUNTAIN RESORT**

by

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A REPORT

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Abstract

Many mountain resorts lack balance in revenue from season to season. Mountain resorts are most often geared toward, and capitalize on, peak ski season, receiving much less visitation and revenue in the summer season and even more so in the spring and fall. Due to projected climate changes, “increasing temperatures will affect important winter activities such as downhill and cross country skiing, snowshoeing, and snowmobiling, which require snow on the ground. Projections indicate later snow and less snow coverage in ski resort areas” (Karl, Melillo, Peterson, 133). This indicates an even greater need for a shift to year-round attractions for visitors in order to balance the revenue stream of mountain resorts.

The infusion of an all-season action sports camp is a catalyst to generate an increase in year-round visitation and profit for the resort. Examples of action sports include skiing, snowboarding, skateboarding, BMX biking, and mountain biking. When integrating an action sports camp into the existing resort, striving for balance, harmony, and oneness between the existing and proposed is imperative to success. These principals are present in the sports and allow for the connection from the athletes to the landscape. With any proposed development, specifically in mountain environments, potential environmental impacts are an issue, especially at a site where the natural scenic beauty is in such high demand. “It is the resort’s environment that draws the customer” (Schwanke, 119). The relationships between the mountain, resort, camp, and users must be balanced and work in harmony with each other.

Copper Mountain Resort provides an ideal location to implement this strategy. Catalyst Action Sports Camp plays on the tension between the mountain and the human, capitalizing on the balance, harmony, and oneness between them. Campers are connected to the surrounding mountain majesty through directed views, inspiring and exciting them to progress their skills and challenge their fears and become one with the mountain. Catalyst is infused into the existing resort, harmonizing with resort operations and stimulating life in the village in all seasons. Ultimately, Catalyst Action Sports Camp helps balance the revenue stream and provide additional stability given changing climate scenarios.

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MASTER'S PROJECT AND REPORT
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01

INTRODUCTION

DILEMMA

Many mountain resorts are currently out of balance, as they are geared towards the peak ski season in the winter months. Mountain resorts are less vibrant and populated during the off season in the summer months even though the mountain scenery can be as equally breathtaking. During the shoulder seasons, very little revenue is gained compared to other times of the year. Because of the decrease in visitation, retail stores, restaurants, and lodging all receive less revenue during the off season and shoulder seasons. Currently mountain resorts depend heavily on the revenue gained during peak season in order to maintain their business.

Projected climate changes indicate that “increasing temperatures will affect important winter activities such as downhill and cross country skiing, snowshoeing, and snowmobiling, which require snow on the ground. Projections indicate later snow and less snow coverage in ski resort areas” (Karl, Melillo, Peterson, 133). Under this scenario, the success and viability of mountain resorts is in greater jeopardy because of their reliance on peak ski season which is projected to decrease in time (Figure 1.1). The current business model may not be optimal. There is a need for a catalyst to create balance of economics and activities, providing stability to mountain resorts.

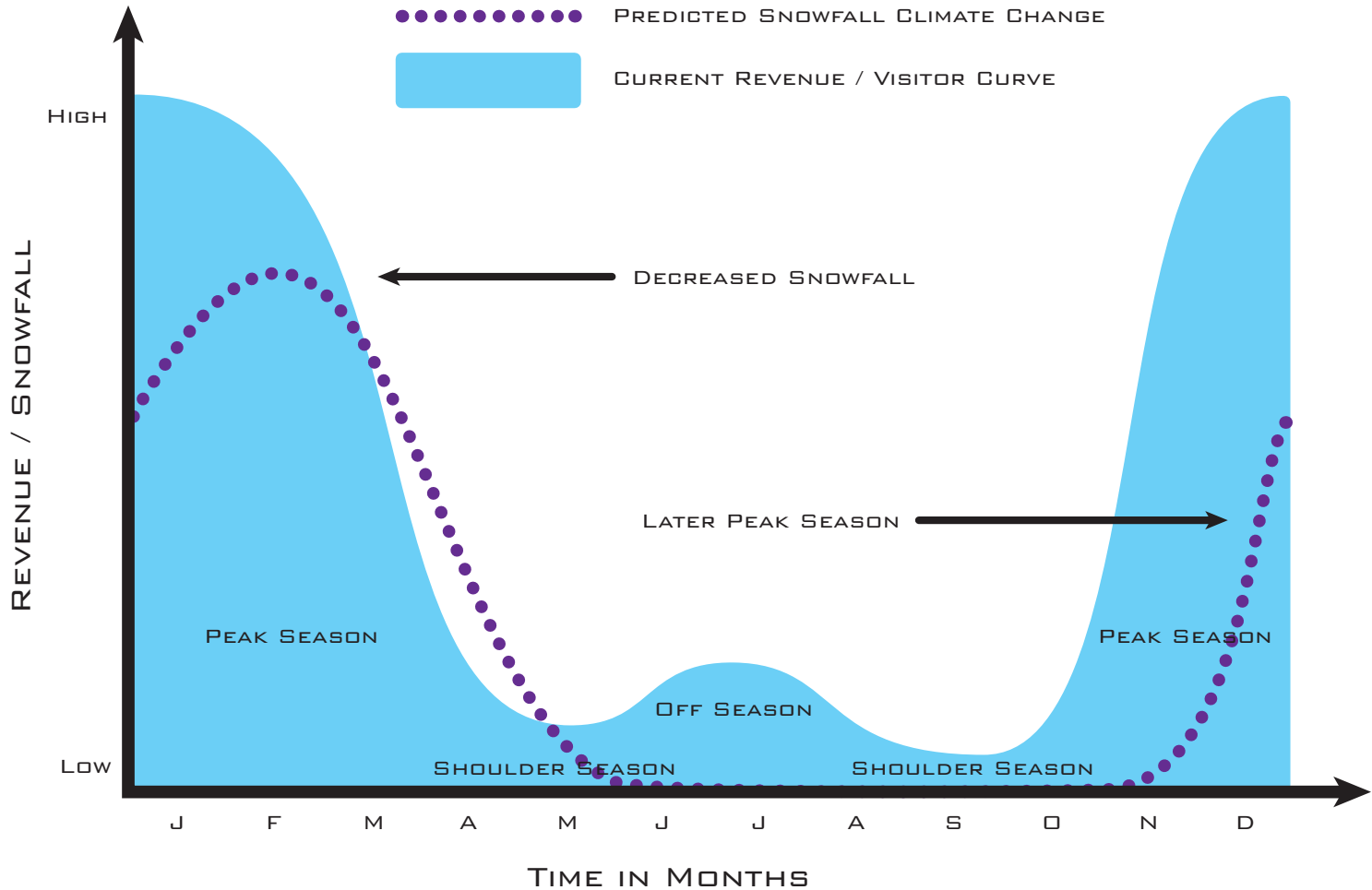
Additionally, mountain resorts are often disjointed in their development, as they have experienced different periods of growth. Many resorts have been developed without regard to the mountain, and with little thought about the total experience of the visitor. Many mountain resorts began as mining towns, thus the need to design for the experience of the user was not primary, rather adaptive to the changing economy typically following a boom and bust cycle. However, the use of these spaces has changed to one of tourism, where revenue is drawn directly from the experience of the visitor. Newer developments should capitalize on the surrounding landscape and focus on the experience of the visitor. Seemingly, the boom and bust cycle of mining

is still present in current mountain resorts, with profits booming during peak ski season and busting during the off seasons. Many resorts have begun to diversify and promote summer programs with mountain biking, fishing, climbing, and other activities. These utilize some aspects of the resort but often guests have to be transported to off site locations, creating tension and separation between where a guest stays and where a guest plays. This limits the amount of interaction and intersections between guests and store windows ultimately effecting sales within the village.

New mountain developments and their emphasis on tourism rely heavily on the influence of landscape architects, planners, and developers. These groups of professionals have the ability to analyze, plan, and design for harmony within mountain villages in a successful way. They are the bridge which connects the guests and the resort to the surrounding environment which is so highly valued. “It is the resort’s environment that draws the customer” says Schwanke (Schwanke, 119). A site where these opportunities exist can capitalize on the environment and create a memorable experience for its guests.

The activities of mountain resorts are also out of balance due to the emphasis on peak season for revenue gain. The focus is on snow sports which the resort caters to. Lessons or camps which mountain resorts offer are often geared toward a single sport or genre of sports, and the winter season. In order to draw visitors to the mountain resort during non-peak seasons, there needs to be more of an attraction which draws the visitors there during those months. Together these imbalances also hinder the resorts’ potential especially during critical off season months.

1.1 UNBALANCED ECONOMICS OF MOUNTAIN RESORTS



THEORY

There is a need for balance within mountain resorts' revenue streams across seasons. A catalyst for balance is the infusion of all-season action sports camp. The introduction of an all-season action sports camp allows a mountain resort to achieve seasonal balance when it is integrated with the resort rather than two separate entities. Action sports include sports such as freestyle skiing, snowboarding, skateboarding, BMX biking, and mountain biking. These sports bring an energetic, youthful atmosphere, highly attractive to much of today's youth and spectators who enjoy watching extreme sports. Campers receive daily coaching during sessions throughout the year, where they have access to state-of-the-art training equipment and terrain for a variety of action sports.

An all-season action sports camp is able to provide varied additional sources of revenue by focusing on action sports, diversifying and adding new guests from the different camps sports markets. In addition to direct revenue from the camp, families of attending campers may also choose to stay at the resort. In this way, value is added to the camp, and provides an indirect economic impact. By creating an atmosphere conducive to action sports comes the possibility of hosting additional competitions, drawing both crowds to the resort and publicity. More guests at the resort results in more potential customers in all seasons. The percentage of returning visitors increases if they are provided a high quality experience and if personal growth occurs in their sport or in connection with the mountain.

SEASONAL BALANCE

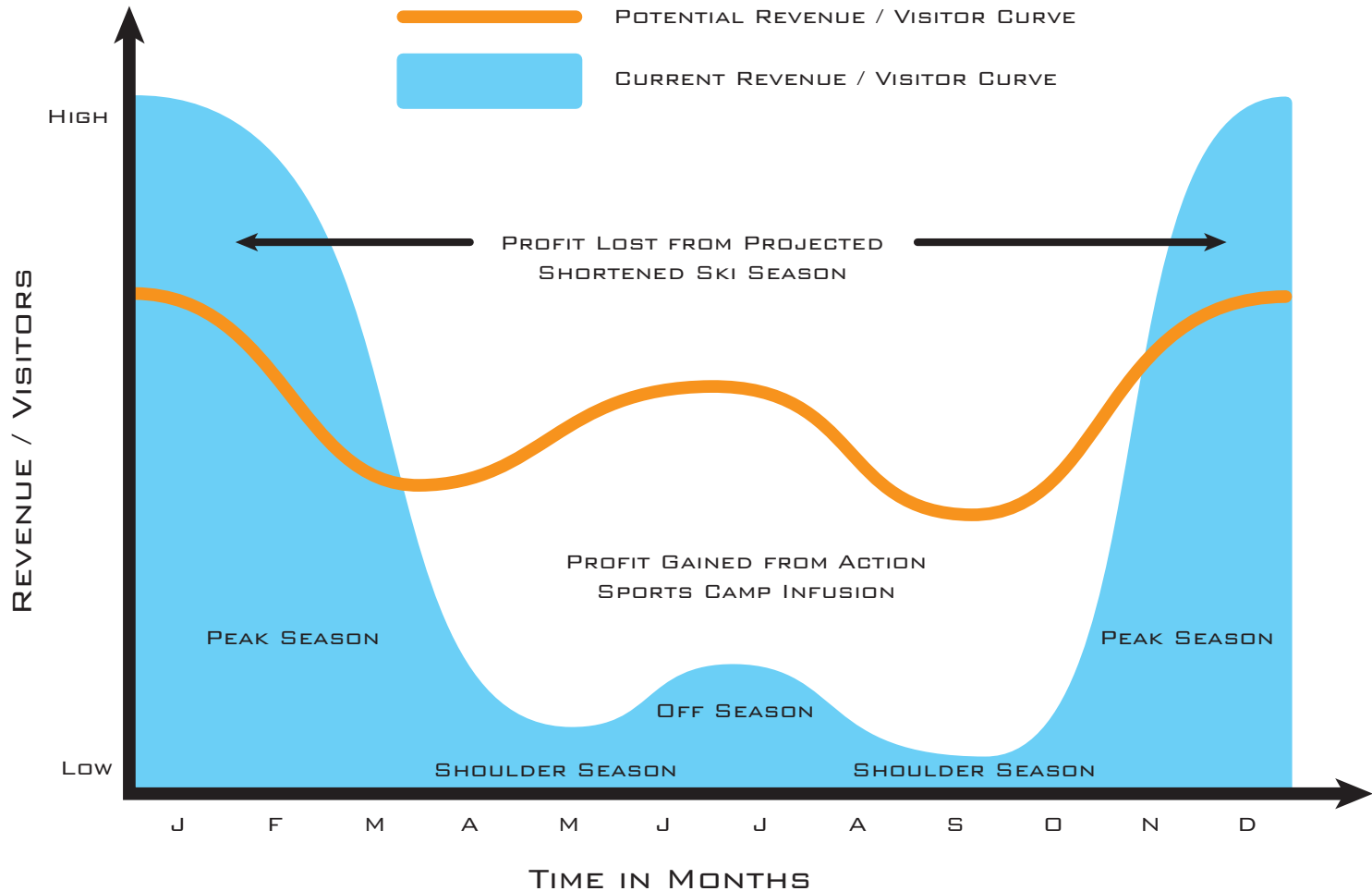
By implementing an all-season action sports camp, additional revenue is able to be brought in during all seasons and the economy of the resort becomes more balanced (Figure 1.2). Programming the camp to be largest in the off seasons increases visitation and revenue in the historic low income time period. Sports including snowboarding and skiing would be able to be offered in addition to skateboarding and bicycle sports with strategic snow farming, snowmaking, and the

development of Snowflex (a carpet-like material which mimics the slip and grip of snow) runs, allowing snow athlete to train indoors as well as on the mountain. In the peak season winter months, the camp focus is on offering primarily snow sports and indoor skateboarding and biking. In shoulder seasons, the indoor facility provides stable conditions, where the outdoor conditions are temperamental. By programming peak camp times during traditional off seasons allows for a greater harmony of camp users and resort visitors during the more crowded peak season as well. Clinics and training sessions for guests and athletes follow a cycle, with indoor training leading to outdoor implementation, followed by more advanced indoor training.

While one time visitors to a resort are positive, repeat visitors are essential. If the action sports camp provides a unique experience to the campers and helps them progress and become one with the mountain, there should be a higher percentage of return visits to the camp to the resort. For campers whose families also stay at the resort, the family is likely to return to the resort during peak season, or may possibly invest in lodging at the resort. Because of the impressionable age of the campers, typically being age 8-17 (windells.com), the opportunity exists to establish brand loyalty with the campers, drawing them back to the resort as their home mountain. Building this community plays to the concept of balance, harmony, and oneness, and is a valuable investment for the resort. As the reputation of the camp and resort improves, other action sport athletes and professionals will inevitably be drawn to the resort.

The success of action sports camps in fostering the growth of future professionals and icons cements itself in the history of camp athletes, influencing fans and younger athletes to follow in their steps. Campers will tell their friends of their experience at the camp, sparking interest in others to attend in the future. A growing reputation can also bring people who do not participate in action sports, especially if they enjoy high energy events.

1.2 ECONOMIC POTENTIAL OF ACTION SPORTS CAMP



CONCEPT

The generation of the concept of balance, harmony, and oneness stems from the relationship between a snowboarder and the mountain. The line of balance, harmony, and oneness of the two entities is represented by the line a rider leaves when carving down a mountain. Switching from edge to edge in the carve requires balance of the rider and a oneness with the terrain, working in harmony together. The balance of the athlete is important because if they are out of balance through a turn, they will lose the grace and beauty of the carve.

One side of the line of balance represents the rider, and with that a range of feelings or emotions which one experiences as they grow in the sport. When starting to progress in their skills, there can be a lot of timidity and the need to overcome ones fears of going faster or higher no matter the skill level of ride. The terrain or mountain on the other side of the line of balance has certain characteristics as well. As the rider begins developing and progressing their skills they begin pushing toward steeper and more difficult terrain which brings new fears and challenges. In the beginning of progression, the terrain can come off as scary or intimidating to the rider.

On the rider's side of the line of balance, their ability to overcome fear and challenges of the "impossible" leads to what is possible for them. When the rider decides to push that line in order to become a more skilled rider, they cross from what they have known to be possible with their skills to what was previously impossible, and progression occurs.

The more a rider pushes that line of balance towards progression, the more knowledge they gain and begin to overcome their fears. Once the rider progresses to a new level, they will find a new respect for what it took to get to that point and for those who have reached that level. There is also a found respect for the mountain and terrain and the new dangers and opportunities it provides. The rider's perspective of the mountain again undergoes a shift from the scary and

intimidating to a majestic and breathtaking place. There is repetition and pattern as a rider sets a goal, overcomes their fears, accomplishes that goal, then sets a new more advanced goal for themselves to accomplish. Ultimately, the mountain becomes a source of freedom for the rider. This transformation can be seen in all skill levels of a rider, whether they are a beginner or a professional, and may be applied to a variety of sports or aspects of life.

In many areas of life there are relationships which exhibit a tension between two entities; between them typically a fine line of balance. One example of this relationship is between mountain and human, with sport acting as the line of balance between the two. Without balance, athletes in action sports have a hard time performing basic functions or progressing. In the realm of snow sports, there is tension between both the literal and figurative mountain and the athlete. Beginner athletes on the mountain have a desire to try a new sport, but many areas of it are intimidating and instill fear in them. Just getting off the ski lift can be frightening or even looking down steep terrain that may be past their skill level. Progression for the human comes with experiences, involves learning and growing, a respect for the mountain, and a desire to push the line of balance and skill limits. When this occurs, they cross the line from what they have known to be possible to what was once impossible, and progression occurs.

Along with this progression of skill, there is a progression of the riders view of the mountain. Fear of the terrain becomes respect for its dangers. While a rider works toward a goal such as performing 360, 720 or even 1080 degree spins, in the back of their mind is the risk of broken bones or even death. The athlete's view of the sport shifts from timidity to one of personal challenge for the risk involved and respect for those with more advanced skills. Their perspective of the mountain also undergoes a shift, from being an intimidating power of natural forces to a majestic environment representative of freedom. There is a harmonious relationship between the athlete and the mountain, and with

progression, they become one with the mountain.

This relationship is applied to Copper Mountain Resort and its surrounding mountains. The infusion of an action sports camp within the resort provides a catalyst for the interaction of athlete and mountain, excelling when the notions of balance, harmony, and oneness are present. Balance is represented by the equal representation and function of the various activities and users of the resort. This means that one function of the resort should not overwhelm or lessen other functions, and all participants should be catered to. Harmony in a mountain resort reinforces the concept of balance. Users of the resort, as they go about their activities, should not interfere or conflict with other users groups but instead should blend with them. Similarly, the resort should be in harmony with the surrounding environment, respecting the natural systems and valuing its beauty. This leads the resort into oneness with its surroundings and also function as a single unit. As with the human to mountain relationship, there may be various amenities of the resort, but they all work together to represent the resort as a whole.

There should be this balance, harmony, and oneness interplay between the external environment and the internal planned and designed spaces. If a resort capitalizes on balancing the natural scenic beauty with the systems of the resort, a holistic experience for the visitor can be achieved. After all, “it is the resort’s environment that draws the customer” (Schwanke, 119). The relationships between the users of the resort should be balanced with their various activities and interests, and also the occurrences of the visitors seasonally. The users of the resort should be connected with the environment throughout the resort.

Mountain resorts operate with peak season during the winter and off season in the summer with the shoulder seasons in spring and fall. In peak season, mountain resorts gain much of their yearly revenue by offering snow sports. Typically, off season offers activities such as mountain biking and hiking to visitors. In the shoulder seasons,

mountain resorts experience their lowest revenue largely due to climatic conditions which are not favorable to either winter or summer sports.

Progression and change within an athlete from fear to respect stems from a catalyst. Their drive, passion, or adrenaline allows for the shift of the rider, and may be promoted by the mountain or peers. Visual cues of the majestic terrain help ignite these catalysts and should be present where the athlete practices. Catalysts for an action sports camp or a mountain resort are that of an off season revenue stream, a new market, and more diversity in their means of profit. These catalysts help a mountain resort to become more balanced economically and develop better harmony with seasonal and economic changes.

1.3 CONCEPT



RELATIONSHIPS

While an all-season action sports camp can provide additional balance between the mountain, resort, camp, and users, the infusion within the fabric of the existing resort can create tension between the camper, other guests, camp businesses, and existing village businesses are resolved. The development impacts of the implementation of the camp are lessened. Utilizing existing infrastructure and blending camp activities into those of the resort. It is important to coordinate camp activities and movements of campers with those of other resort guests and activities to lessen conflicts between the two groups and achieve harmony between them.

Amenities of the camp which can not be integrated into the existing resort, such as housing, dining hall, or camp activity spaces, must be developed in harmony with the environment and the existing resort. By utilizing previously disturbed land or brownfields for the additional development, further clearing of the valuable surrounding landscape is minimized or eliminated. The relationship of users to the mountain should exhibit the desirability of the surrounding landscape to the camp and resort visitors. Framing or accentuating powerful or inspiring views creates a positive experience for visitors and resort businesses as stated by Schwanke; “It is the resort’s environment that draws the customer” (Schwanke, 119). The experience of the action sports camp is also aimed at the growth of the athlete by returning their attention to the mountain with focused views and powerful scenery.

Fluidly blending user groups with each other is critical to the enjoyment of each group. Snowboarders who are attending the camp should be able to mesh with skateboarders at the camp, as well as other athletes. Users of the camp should mesh with traditional visitors of the resort. This involves integrating different forms of movement from pedestrians, to campers skateboarding, to campers riding bicycles. Users of the resort have different needs and requirements of the resort and its operations. A successful design blends the various users and operations so that they work in harmony with one another and minimize potential conflicts, leading to a positive experience for all visitors.

The relationships of activities during the day and night are also important to the perceived energy of the camp and the resort. Campers will be able to train on the superpipe or in the skateparks or dirt jumps during the daytime. When nightfall comes, training is able to move indoors to the Indoor Training Facility or under the lights of at the skateparks and dirt jumps, extending the energy and resort life throughout the length of the day.

The Windells Camp precedent (see Appendix A) provides an example of a successful action sports camp. Gleaned from this study (Figure 1.5), the relationships of camp amenities to each other are identified. Amenities are compared to each other according to their preference of adjacency to the other amenity. By studying these relationships, a harmonious camp can be established and the adjacency preferences may be applied to the project site.

1.4 ENTITY RELATIONSHIPS



1.5 WINDELLS CAMP ADJAGENCY MATRIX

	OFF CAMPUS	RANDOM CAMPUS SPOTS	FIELD	RECREATION ROOM	OUTDOOR ACTIVITY SPACE	EQUIPMENT BUILDING	WOODS/TRAILS	SKATE PARK/PLAZA	INDOOR TRAINING FACILITY	MOUNTAIN	AUDITORIUM	CAFETERIA	DORMS/CABINS
PARKING LOT/ENTRANCE	UNWANTED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	PREFERRED ADJAGENCY	NO PREFERENCE	UNWANTED ADJAGENCY	UNWANTED ADJAGENCY	PREFERRED ADJAGENCY	NO PREFERENCE	PREFERRED ADJAGENCY	PREFERRED ADJAGENCY	UNWANTED ADJAGENCY
DORMS/CABINS	UNWANTED ADJAGENCY	PREFERRED ADJAGENCY	NO PREFERENCE	NECESSARY ADJAGENCY	NECESSARY ADJAGENCY	PREFERRED ADJAGENCY	NO PREFERENCE	PREFERRED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NECESSARY ADJAGENCY	NECESSARY ADJAGENCY
CAFETERIA	NECESSARY ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	PREFERRED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	PREFERRED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	PREFERRED ADJAGENCY	NO PREFERENCE	NO PREFERENCE
AUDITORIUM	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	PREFERRED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
MOUNTAIN	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	PREFERRED ADJAGENCY	NECESSARY ADJAGENCY	NO PREFERENCE	PREFERRED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
INDOOR TRAINING FACILITY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NECESSARY ADJAGENCY	NECESSARY ADJAGENCY	NECESSARY ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
SKATE PARK/PLAZA	UNWANTED ADJAGENCY	PREFERRED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	PREFERRED ADJAGENCY	NECESSARY ADJAGENCY	PREFERRED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
WOODS/TRAILS	UNWANTED ADJAGENCY	NO PREFERENCE	PREFERRED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	PREFERRED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
EQUIPMENT BUILDING	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
OUTDOOR ACTIVITY SPACE	NO PREFERENCE	NECESSARY ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NECESSARY ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
RECREATION ROOM	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	PREFERRED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
FIELD	UNWANTED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	UNWANTED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
RANDOM CAMPUS SPOTS	UNWANTED ADJAGENCY	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE
OFF CAMPUS	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE	NO PREFERENCE

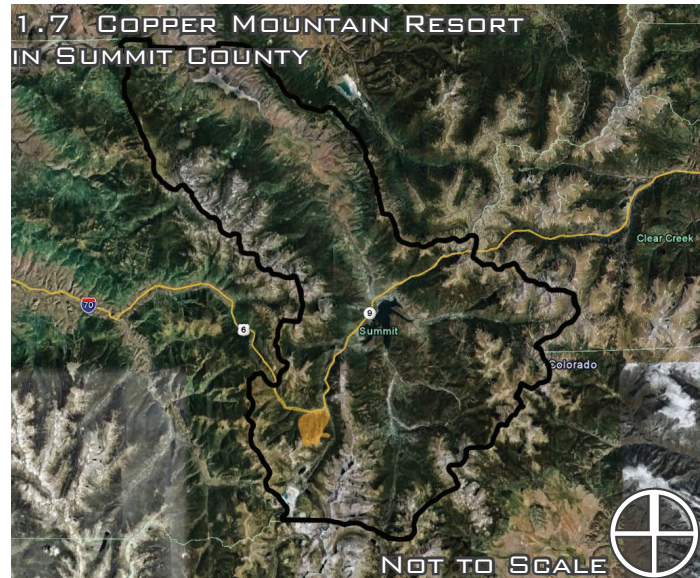
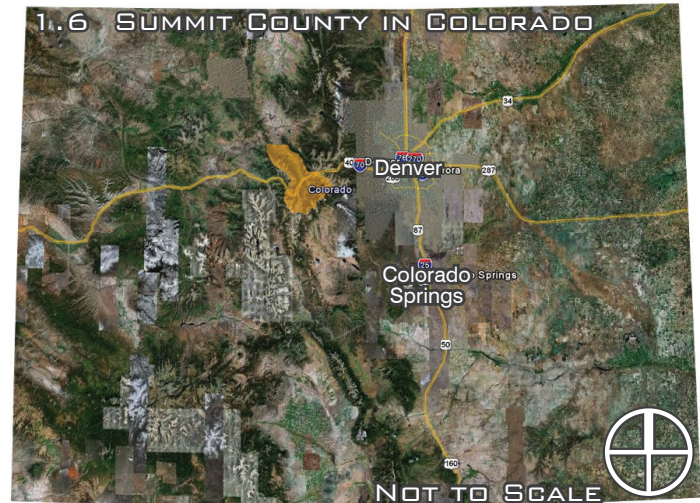
SITE

Copper Mountain Resort provides an ideal opportunity for the infusion of an all-season action sports camp. Copper Mountain Resort is located in Summit County, Colorado, the premier ski county in the state. Other major resorts such as Breckenridge and Keystone are located in Summit County and provide available athletes who may attend the camp. In the peak season, Summit County is a major tourist attraction for out of state visitors. Copper Mountain resort is located adjacent to Interstate-70, the major thoroughfare across Colorado. Denver, Colorado is located approximately 75 miles to the east of Copper Mountain Resort, providing a major city which is actively involved in mountain culture, as well as a major airport for out of state visitors.

Copper Mountain Resort has recently implemented a resort master plan which highlights inspiring views of the adjacent Ten Mile Range. Building corridors frame breathtaking avalanche chutes along the face of the range. Building facades in those corridors are also well designed, as they provide a great amount of exposure and attention to the retail stores and views from guest lodging.

Working in harmony with the natural systems, the drainage in the villages at Copper Mountain Resort is directed to the lake in the heart of Center Village. The lake supplies water for activities such as summer bumper boats and kayaking and winter ice skating, as well as water used for snowmaking.

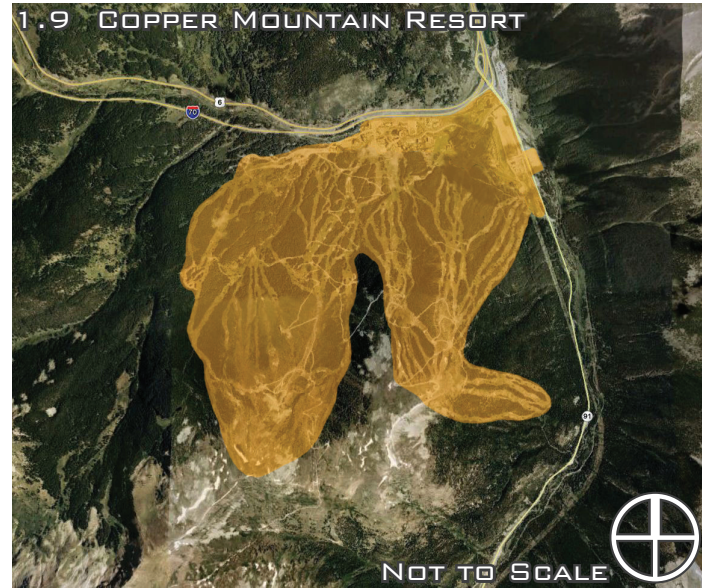
Copper Mountain Resort provides excellent connections of its guests to the mountain, a key quality for the infusion of a mountain action sports camp. It is important to constantly return campers thoughts and focus to the mountain they desire to conquer to build excitement and inspiration. Capitalizing on this excitement and inspiration is a catalyst for progression, the campers will develop a respect and reverence for the mountain and terrain as they gain experience and knowledge.



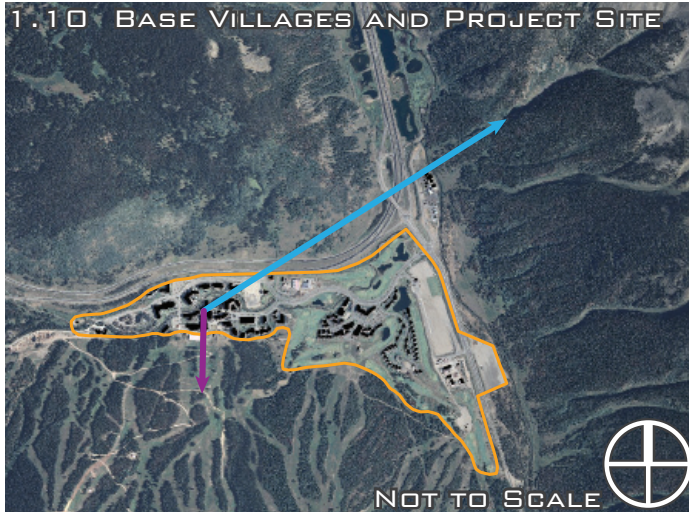
1.8 SITE CONTEXT



1.9 COPPER MOUNTAIN RESORT



1.10 BASE VILLAGES AND PROJECT SITE



1.11 CENTER VILLAGE BUILDING MASSING



CAMP AS CATALYST

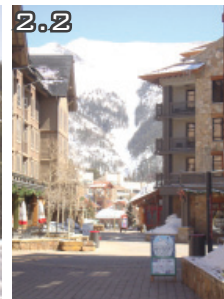
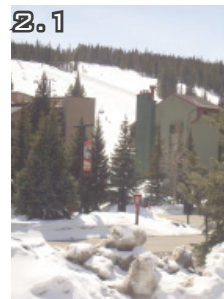
Catalyst Action Sports Camp at Copper Mountain offers campers the ability to progress their skill level and experience in their sport. By attending a camp with focused coaching and advanced facilities, the speed at which an athlete progresses is increased, making the camp valuable to aspiring individuals. From the moment the camper arrives, they experience anticipation, excitement, challenge, and relaxation that will be a highlight of their year, and encourage them to return. Surrounding the campers in a fun and creative environment fortifies their experience with an array of activities and features, as well as other athletes of the same age and same interests. Focused on the surrounding mountain ranges, Catalyst Action Sports Camp returns the camper to the landscape with the notion of being one with the mountain.

Amenities of Catalyst which could not be integrated into the existing resort are developed in harmony with the valuable scenic beauty (Figures 2.1, 2.2, 2.3). Views to inspiring features of the landscape connect the camper in the resort to the mountain (Figures 2.4, 2.5). The development of the camp also speaks to harmony with the environment as designed camp locations sought out brownfields or previously disturbed land (Figure 2.6). This is a priority for the development of additional land because of the value of the surrounding landscape. There is a respect for the mountain and the habitats of the wildlife, and a balance between the ecology and the human development. The amount of development of a mountain resort should not overwhelm or dominate the mountain landscape, but have respect for it.

The Base Camp is developed in the space formerly known as Chapel Parking Lot, a previously disturbed and developed area large enough for the needs of the programmed amenities. Other parking areas and cleared land were considered, but were not as close to the existing amenities and retail spaces or the ski lifts to terrain parks. The Chapel parking transformed into subsurface parking below the Base Camp development and will function for the camp in the off season, and as usual in peak season.

The Base Camp (Figure 2.7) provides housing, the indoor training facility, equipment shop, demo store, video and photo editing and analysis rooms, and skateboard and bike parks. Housing is provided because existing hotel rooms and condos were not suitable for housing campers, as they are high end developments and could be devalued by groups of youth inhabiting them. Also, if campers were to be housed in existing rooms, this could affect potential revenue from guests with different interests and values.

The BMX Complex (Figure 2.7), a camp amenity which also requires a large area not achievable in the area of the Chapel Parking Lot with other Base Camp facilities, developed just east of the Base Camp. This cleared land is adjacent to the resort golf course and already disturbed, making it ideal for the additional development close to the Base Camp. The BMX Complex includes dirt jump lines for beginner, intermediate, and advanced riders, as well as seating for campers and spectators. A small amount of parking is included to satisfy the requirements of the amenity. This location also introduces a connection from Center Village to East Village, as there was previously no connection for pedestrians.



BASE CAMP

CAMP ENTRY

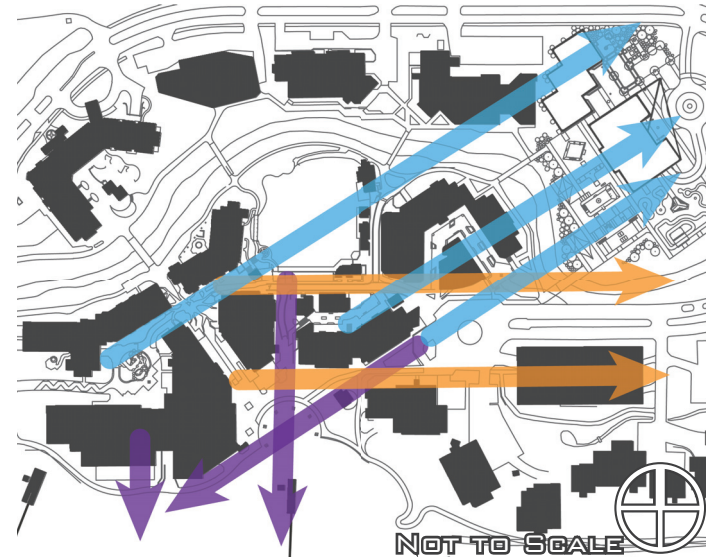
As a camper approaches Copper Mountain Resort on Interstate 70, their anticipation builds during the drive through the valley and the slopes come into view, signaling their arrival at Copper Mountain Resort. Taking a right onto Copper Road, the camper passes the BMX Complex and sees athletes working to get better and soaring high on the advanced line of jumps, Growing anticipation and excitement for the upcoming week. The camper follows the curve and sees the Indoor Training Facility.

Entering Base Camp on the drive off Copper Road (Figure 2.9), the camper comes upon the roundabout. Here, they are able to be dropped off under the protruding tensile roof that transitions the camper from the vehicle to the camp. The driver is able to then exit the roundabout or enter the subsurface parking. As the camper crosses the entry court to the Indoor Training Facility, they look ahead and see through the transparent façade to the atrium and beyond. Projections of videos and banners of action sports stars and gear build excitement. Beyond the atrium they see the training zone and campers learning new aerial maneuvers on the trampolines and they can't wait to get started.

2.4 SITE CONTEXT



2.5 EXISTING VIEWS IN CENTER VILLAGE



LEGEND



VIEWS TO SUPERPIPE



VIEWS TO NORTH CHUTE



VIEWS TO SOUTH CHUTES



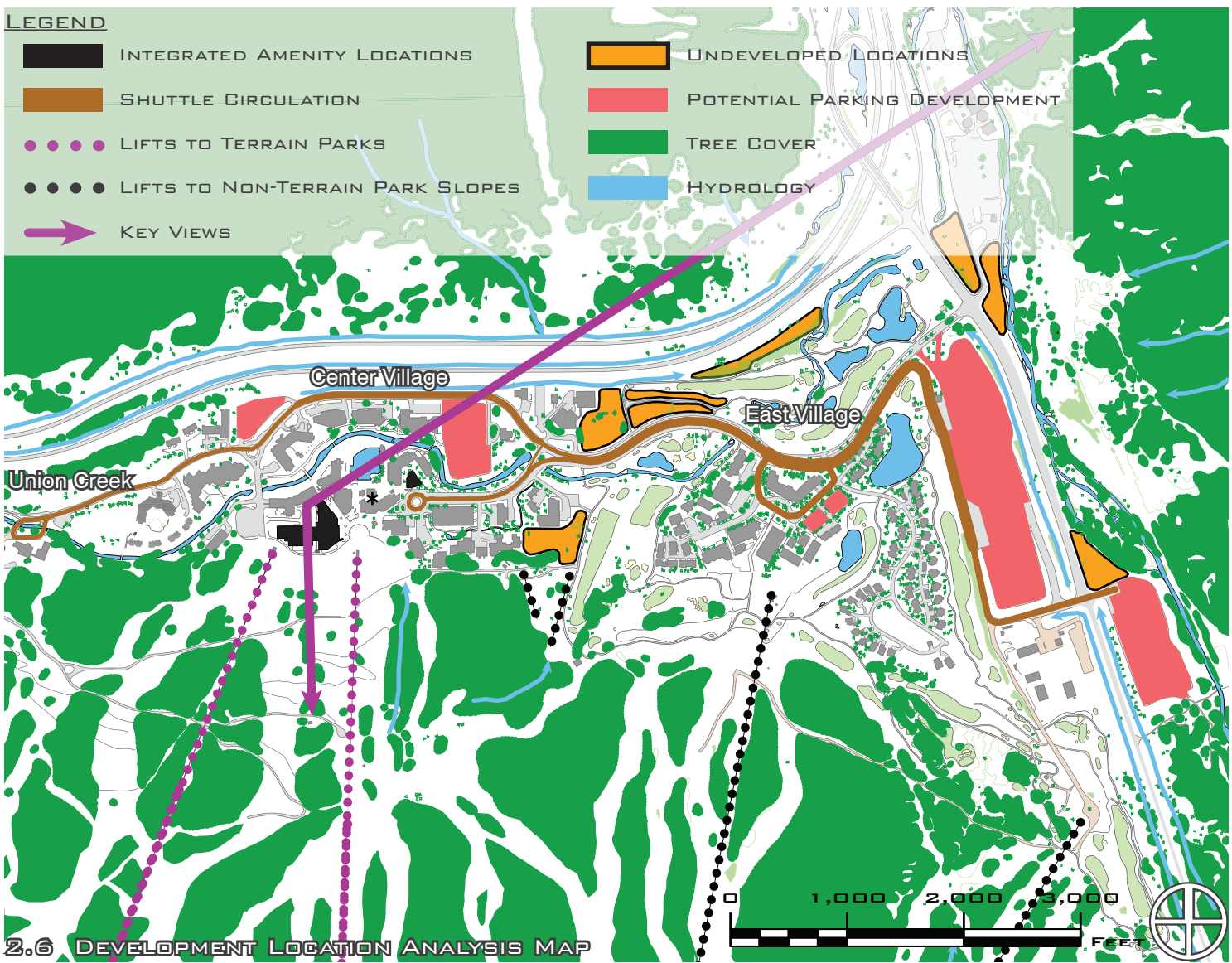
BUILDING MASSES



PROPOSED BUILDINGS

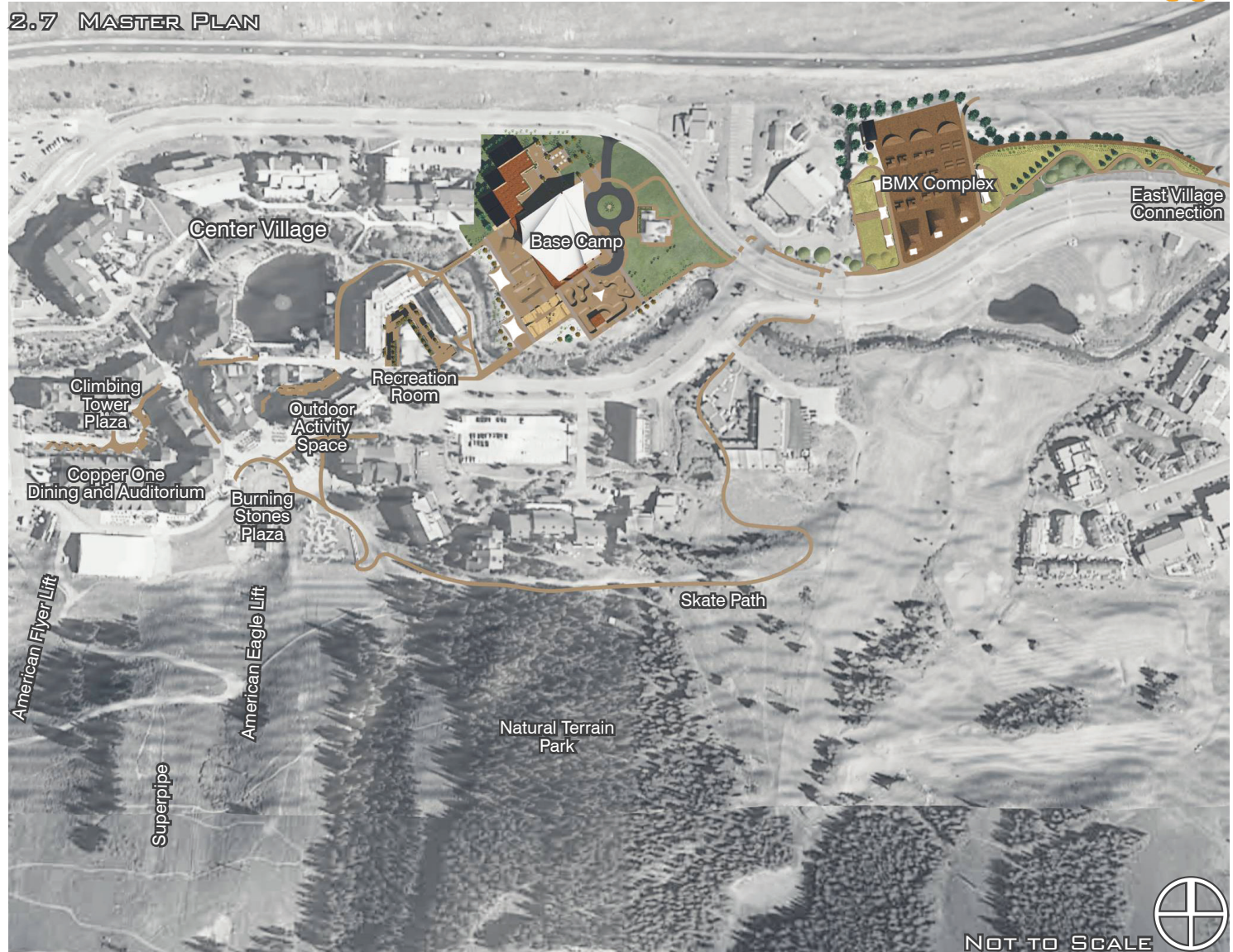
LEGEND

- INTEGRATED AMENITY LOCATIONS
- SHUTTLE CIRCULATION
- LIFTS TO TERRAIN PARKS
- LIFTS TO NON-TERRAIN PARK SLOPES
- ➔ KEY VIEWS
- UNDEVELOPED LOCATIONS
- POTENTIAL PARKING DEVELOPMENT
- TREE COVER
- HYDROLOGY



2.6 DEVELOPMENT LOCATION ANALYSIS MAP

2.7 MASTER PLAN



INDOOR TRAINING FACILITY

Campers check into Catalyst in the atrium of the Indoor Training Facility (Figure 2.11). The white tensile roof extends the space upward and feels light and luminescent while imitating the surrounding mountain peaks. Views to the mountain and training elements lie in every direction, including skateboard mini ramps up on the second floor and the multi-story ramps for Snowflex runs; clues to what Catalyst has in store for the camper during the upcoming week.

After checking in, campers are encouraged to explore the grounds before they meet with their suitemates and staff. Adjacent to the atrium is the camp and equipment store, where visitors and campers can purchase camp clothing and retail items, and demo or rent an awesome new model of equipment to test out during the week. In the stores, campers can't resist the eye-catching t-shirts. Further down are video and photo editing and analysis rooms as well as the camp office. In addition to the latest state-of-the-art gear at the store is the high tech equipment shop for tuning and maintaining equipment. Who doesn't get excited at the possibility of trying a new piece of equipment, or having top notch equipment available to try a new sport during free time. At the shop, and part of the camp learning curriculum, campers learn the proper technique to maintain their equipment and keep it running smooth.

Beyond the atrium, stores, and shops is where it all starts. The lower level training zone includes street skate elements and opens up to the outdoor skateboard and bike terrain with three large garage doors. Campers move freely from inside to outside, adding to the open feeling of the Indoor Training Facility and promoting freedom of movement. Beyond the skateparks, campers glimpse views of the superpipe on the slopes above Center Village, tempting their desire to learn and progress.

Up the stairs on the second and main level of the training zone are the trampolines, tumbling mats, mini ramps, and Snowflex runs energized with aerobic activity. This is the space where the real progression of skills occurs, as campers are coached to push their

limits and gain the knowledge of maneuvers. The light and airy tensile roof makes it seem as though athletes are reaching the clouds on jumps, making campers anxious to jump off the ramps into the foam pit, elevating towards the roof as they boost into the air. At night, the fabric roof lights up from the inside with projected light shows, graphics, and animations beckoning excitement and energizing the space.

Also on the second level are more video and photo editing and analysis rooms where coaches review campers' runs and teach action sports photography and videography while surrounded by glass directing campers focus towards the superpipe for inspiration. These rooms are where campers will receive their video analysis from coaches so they can see themselves and learn from their mistakes. Through this space is access to the deck, complete with moveable tables and chairs. A camper can walk onto the deck and look out over the skateparks, watching a group of campers attempting new tricks. At the edge of the skateparks runs Ten Mile Creek providing some freshness and coolness in the summer, with Center Village laying the foundation for the superpipe on the slopes. The deck bridges across the north walkway and provides access to the rooftop patio of the Housing building.



2.9 PLAN OF BASE CAMP



2.10 ARRIVING AT CATALYST ACTION SPORTS CAMP



2.11 PLAN OF INDOOR TRAINING FACILITY



TRANQUIL SIDE

The Base Camp is divided by movement and focused view corridors into a tranquil side and a training side. The northern corridor (Figure 2.13) delineates this separation of relaxation and energy. The boulder and tree lined walkway focuses the eye on Ten Mile Range to the avalanche chutes or back to the superpipe. The boulders and trees seem to emerge and concentrate like remnants of a previous avalanche, creating open areas like where you'd stop and rest or camp on a hike or climb. The boulders and trees are drawn into the tranquil side of Base Camp to frame views in the various spaces as well as to help shield the cool northwest wind.

The boulders and trees emerge from the Housing building, its form directing views towards the avalanche chutes of Ten Mile Range and its roof mimicking the mountain peaks. These views represent the untouched, purity of the landscape. As a camper wakes up in the morning, they are able to peer out of the window towards these views and gain inspiration to start the day. Beyond the entry plaza is a grassy field, which a camper may utilize for their morning stretching routine or to relax or after their training.

This plaza space welcomes campers as they return from their daily training like a mountain meadow welcomes a tired hiker, and likewise transitions them to the Indoor Training Facility. Campers can rearrange tables and chairs in this space to their liking and use it to spend time with others, promoting conversations about progress and highlights of the day. Friendships grow around the glow of fire basins while roasting smores or hot dogs for an evening snack and warming up on a cool mountain evening. Moveable furniture makes the space adaptable and allows for easy snow clearance.

The steps lead campers up to the second terrace of the plaza, where various staged activities occur throughout the week. Programmed free time allows for painting, drawing, or games. The third terrace includes seven hot tubs for campers to relax in after a hard day of training. While soaking in the warm water, campers reflect on their

day much like the moonlight on the avalanche chute, or are inspired by the artful play of light or movie on the illuminated Indoor Training Facility roof. A third terrace enthralls campers with a cascading waterfall water feature down the face of the boulders, beginning a stream which culminates in a small pool. This flow mimics the distant flow of water down the avalanche chute, coming to rest in a reflection pool. The sound of trickling water is soothing to the ear and is calming to the space.

The rooftop of the Housing building is accessible from the interior of the building or from the bridge from the deck of the Indoor Training Facility. This space allows a camper to escape the high energy of the rest of the camp and to rest. On the roof are additional fire basins surrounded by lounge chairs. Set sculpture pieces provide a foreground for the view to Ten Mile Range, terraces, and bosque of trees below. Here, campers may reflect, meditate, or loosen up on stretching mats as they take in the scenery. One can't escape the majesty of this landscape. The second story of the Housing provides a screen from the northwest wind, calming the space.

2.12



2.13 MOVING TOWARDS CENTER VILLAGE AND THE SUPERPIPE



TRAINING SPACE

Along the southern side of the north corridor (Figure 2.15) are the hardscape outdoor training spaces, with views to the superpipe visible above Center Village. Outside of the Indoor Training Facility, skateboard and BMX campers are training on the different sections of skateparks. The hardscape training area is divided into sections providing for a variety of skateboarding and BMX styles and ability levels. Campers and coaches gather and watch the action underneath the deck of the Indoor Training Facility. Parents and other visitors line the edges on family day cheering and interacting with campers as they demonstrate all they have learned, proudly showing their progression.

The north skatepark is designed for the street skateboarding style present in the LaFayette Skate Plaza precedent (Appendix B), providing a variety of elements one would encounter when skateboarding or biking in the urban context. Elements are provided for a variety of skill levels, with some on or adjacent to stair sets, and others on safer bank areas. Here campers ride a variety of elements, from rails and hubbas to manual pads, ledges, and gaps to challenge themselves and progress as a rider.

South of this skatepark is a more traditional skatepark design. A small roll provides beginner elements where less experienced campers can gain confidence and more advanced riders show their stuff. Adjacent to the roll is a lowered plane, with banks carrying riders from base Camp ground level to the bottom. Around this bowl are varying elements to challenge a variety of campers. More advanced riders work on a large stair set with rails and hubbas, while less experienced riders learn on elements located on the bank. Elements in this section of the skatepark work together to avoid conflict of rider movement on both planes, and as campers travel from one plane to another.

Further to the south, campers are provided mini ramps and larger competition ramp styles. The beginner mini ramp consists of two transitions to learn the basics. The next ramp system includes a roller

and a spine between the two ends. The largest ramp system involves a larger spine and tabletop where experienced riders can test their skills and push their limits.

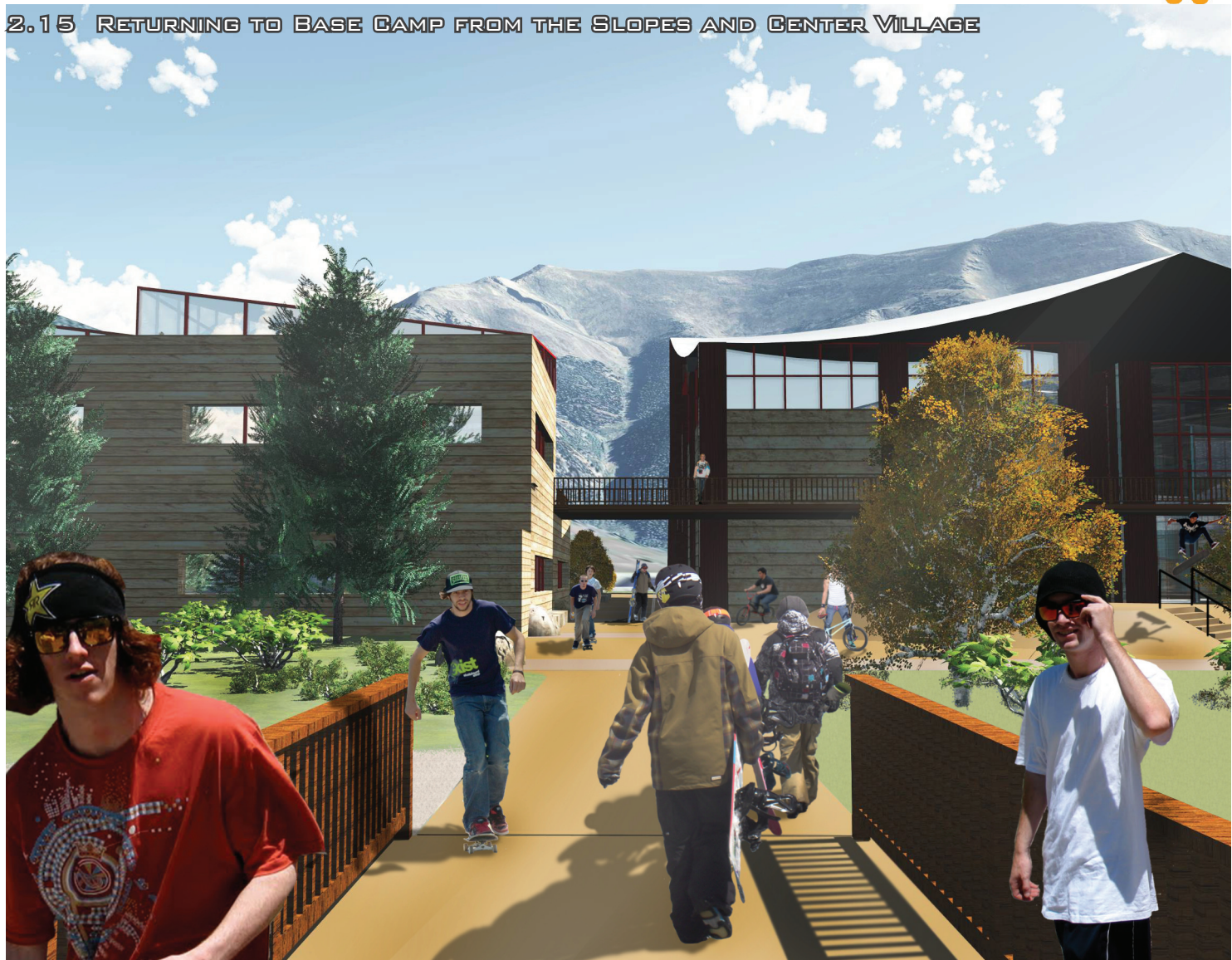
During training, shade plazas provide periodic rest. Shade plazas provide campers this refuge in two locations. The northern shade plaza is on axis with the transparent band through the Indoor Training Facility, aligning distant views of the avalanche chute, and back toward the runs and the superpipe. The southern shade plaza offers views as well and welcomes campers and visitors from Center Village entering Base Camp on the southern bridge. The tensile shade structures mimic the Indoor Training Facility and speak to the forms of the mountain. These shade structures originate from the idea of skate plazas in the LaFayette Skate Plaza precedent (Appendix B) and provide for the comfort of all users of the space, whether spectators or athletes.

East of the skateparks is the transition park, where skateboarders and BMX bikers ride bowls. Three sections of bowls provide terrain for beginner, intermediate, and advanced riders, with varying depths and combinations. In the center of the bowls a coach and camper shade structure includes seating which faces the three bowl sections. Here, campers may receive instruction from coaches while watching a rider navigate the bowl.

2.14



2.15 RETURNING TO BASE CAMP FROM THE SLOPES AND CENTER VILLAGE



ONENESS WITH EXISTING RESORT

The Base Camp of Catalyst Action Sports Camp relates to the existing resort development of Copper Mountain, tying the two entities together. Providing a more contemporary feel, the building aesthetics tie to those of Center Village and follow the style of mountain architecture (Figure 2.16). In Center Village, gridded paving patterns cue pedestrians to spaces for circulation (Figure 2.17). This concept carries through the Base Camp with banding. In the locations of banding, there is less active use such as in the Tranquil Plaza. Areas on the edges of banding, or which break the banding, delineate more active spaces, such as skateparks, signaling transition or entry into an area where campers should be more aware.

Another aspect drawn from the existing resort is the paving colors (Figure 2.18). While paving at Base Camp is a smooth trowel finished concrete conducive to skateboarding, the color palette imitates the grey and brown of Center Village's unit pavers. The finish limits glare and strain on the eyes of the campers as they attempt difficult maneuvers and put their focus into riding. The albedo effect created with paving colors results in more heat absorption, aiding in both snowmelt and drying the space to get campers on the features sooner.

2.17 GRID PAVING PATTERN



2.16 ARCHITECTURAL STYLE



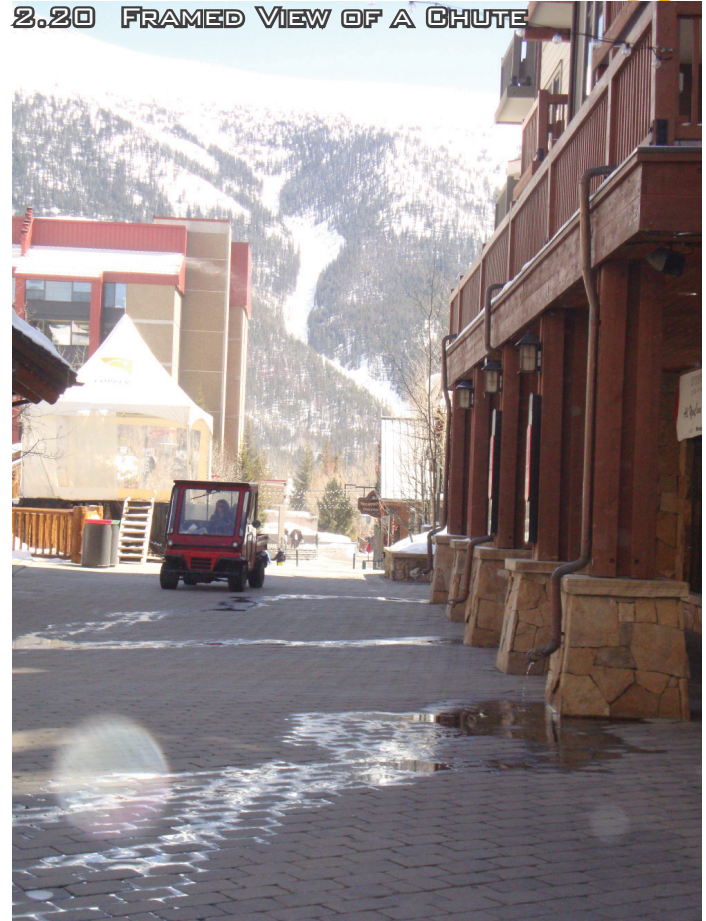
2.18 PAVING COLORS



2.19 FRAMED VIEW OF AVALANCHE GHUTE



2.20 FRAMED VIEW OF A GHUTE



BMX COMPLEX

The BMX Complex is sited on the main entry drive to the resort and Catalyst Base Camp entry (Figure 2.22). Campers travel to this space for their training or for free time from either the Base Camp or the skate path. Other visitors access the BMX Complex from the east parking. As people come upon the complex from either direction, they are met with mounding landform, representative of the foothills of mountains. This notion builds to larger forms on either side of the dirt jump lines. The entries to these spaces are eroded into the landform, opening up the entry space and include sculptural elements, telling the story of the mining history at Copper Mountain.

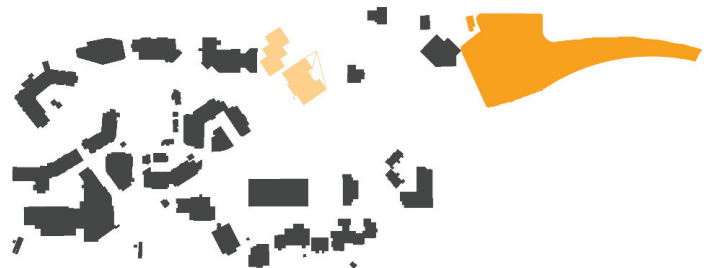
The “foothills” provide elevated spectator seating for great views of the dirt jump lines. The viewing area has a spectacular backdrop to the foothills and the campers (Figure 2.23). Tensile shade structures shade these spaces with similar forms to those of Base Camp, reinforcing the idea of the mountain form. Again, the provision of shade structures stems from the philosophy of skate plazas, where the comfort and amenities of spectators and pedestrians is just as important as the space for athletes. Not as apparent, but just as important to the comfort of those in the space and especially riders on the terrain, the landforms work to push crossing wind upwards. By reducing and redirecting the wind, the microclimate of the space becomes more comfortable and safer for the riders, specifically on the advanced jump line where riders fly high in the air and vulnerable to crosswinds which could push them off course and lead to dangerous consequences. Winds are also controlled by means of tree massing to the north, which visually and audible helps to separate the space from Interstate-70.

Campers of all ability levels can excel on their own jump line, progressing from beginner, to intermediate, to advanced jumps. At the start and finish of the three lines, campers and coaches look on under smaller shade structures and get a drink of cool refreshing mountain water. Maintenance requirements for dirt features necessitate specialized design. In the northwest corner of the complex, a

maintenance and storage garage houses machinery and tools for shaping and maintaining the lines. Also directly adjacent is a recycled water tank for reclaimed water for working with the dirt and creating a desired hard pack for quality riding.

Visitors entering from East Village or the BMX parking area will inevitably return in that direction. Along is the path which continues from the BMX Complex to East Village, directed views turn toward the mountain and away from it, mimicking the tension created when one is not focused on the mountain and loses balance. This tree line separates the noisier space of the BMX Complex from part of the existing golf course, respecting other visitors to the resort. The guiding tree rows along this path block the cold northwest wind as pedestrians travel along this route, creating a comfortable journey on cold windy days. On the north edge of this space, shrub plantings shield the visitor from a maintenance path for the golf course.

2.21



2.22 PLAN OF BMX COMPLEX



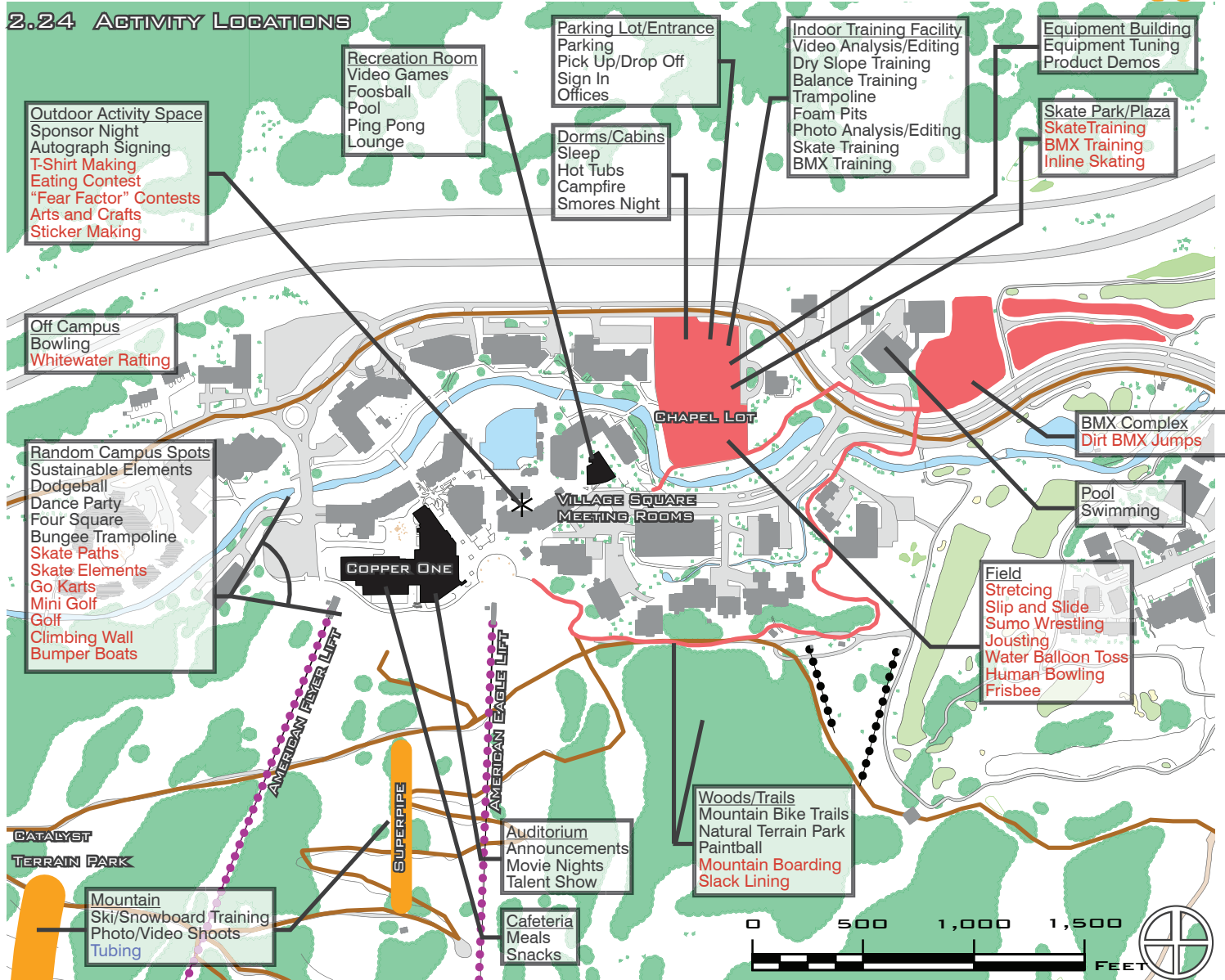
NOT TO SCALE



2.23 ENJOYING A BMX TRAINING SESSION



2.24 ACTIVITY LOCATIONS



RESORT UNITY

The development of the Catalyst Action Sports Camp aims to be infused with the existing village at Copper Mountain Resort. Achieving this goal requires a multi-faceted approach. The degree of camp integration is seen as proportionally related to the amount of natural space required to develop the remaining amenities. Therefore the more amenities integrated into the existing village, the less scenic beauty is destroyed and developed on. Another positive aspect of camp integration is that combining the existing resort and the camp results in a more unified composition, working together to provide a unique experience for the campers as well as the other visitors to the resort. Most importantly infusion increases potential customers at the village shops. Figure 3.1 illustrates the planned connections and integrated camp uses within the existing village.

3.1 PLAN OF CENTER VILLAGE INTEGRATION



INTEGRATION OF CAMP AMENITIES

DINING CENTER AND AUDITORIUM

The Dining Center and Auditorium are both located in the most active location of Center Village, at the Copper One building. The Copper One building is located at the base of the American Eagle and American Flyer lifts (Figure 3.3), and is the primary lunch location for visitors during peak season. It is also adjacent to Burning Stones Plaza where many of the resorts activities are staged.

Campers visit the Dining Center for all three meals of the day, increasing pedestrian traffic everyday camp is in session. Snow sport athletes will eat breakfast in the first group, followed by the dry land athletes who skateboard and bike. Lunch is held as a break from the campers training sessions to enjoy great food and rejuvenate for the second half of the day. At video analysis of the days learning, campers head back to the Dining Center for dinner. Campers choose from various food vendors in the village geared to satisfy the taste buds of all.

The Copper One building was chosen as the location for the Dining Center based on several factors. One of which was its capacity to serve the influx of campers and staff in addition to resort visitors. During peak season, while the resort is busiest, the camp will host roughly 75 campers and 45 staff at one time. In the off season, the resort visitors decrease, allowing the camp to expand, hosting approximately 150 campers and 75 staff. Campers eat in two groups to reduce the dining space required and match existing available space. Campers of similar sports can build camaraderie with their peers and continue building friendships with those who they are training with. At Copper Mountain Resort, there were two locations which suited this need as well as providing food services; Copper One in Center Village and Copper Station in East Village.




The relationship of the patio of the Copper One to the American Flyer lift, the primary ski lift which services the terrain parks

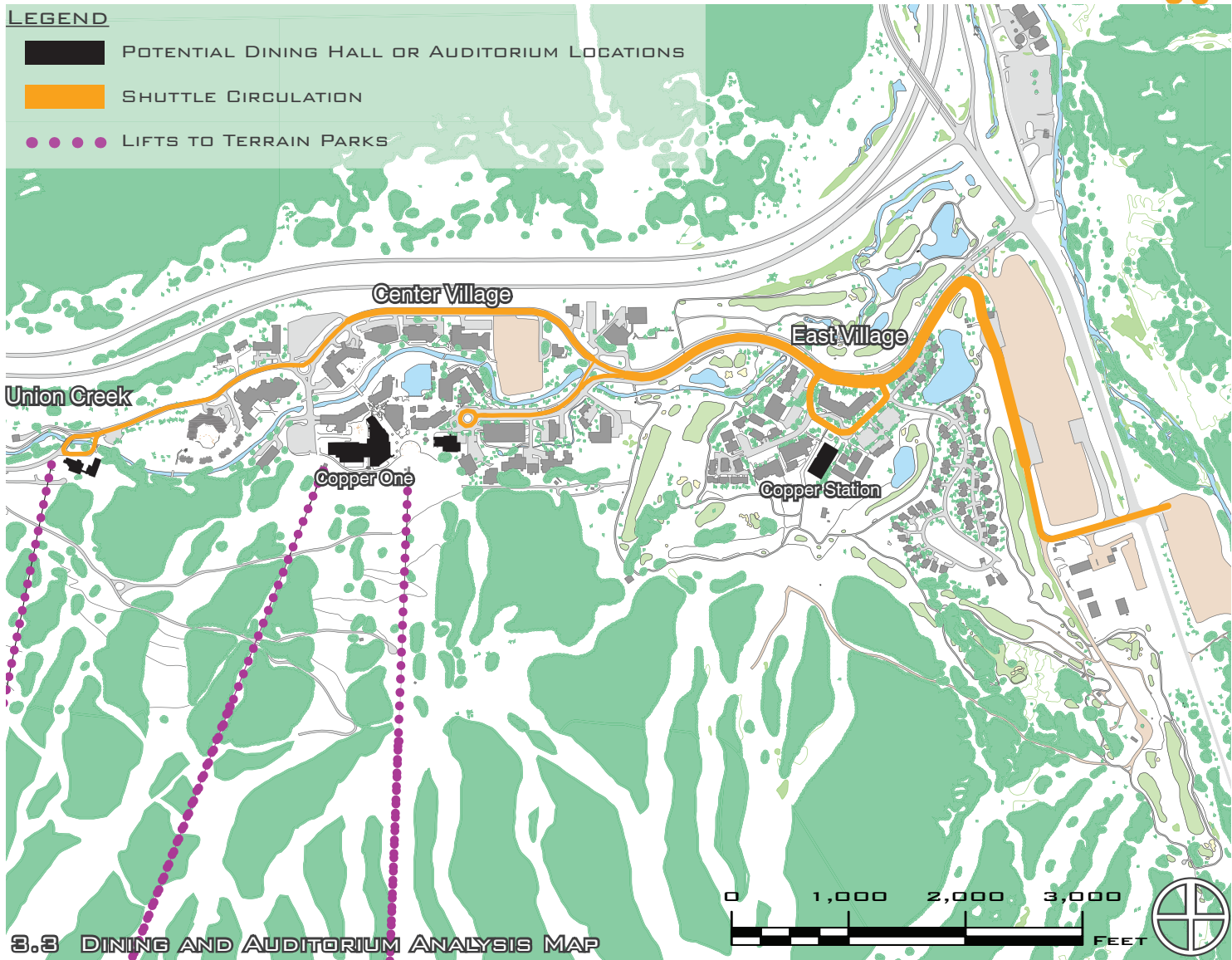
for the campers, also engages campers with the mountain. As the campers eat meals, the views from inside and the patio highlight the superpipe, and rouse excitement, anticipation, or inspiration (Figure 3.4, 3.5). Copper One is also adjacent to the Climbing Tower Plaza, and is easily accessed from the Base Camp by the Outdoor Activity space and Village Square Plaza. Campers can engage these spaces to skateboard or bike before or after a meal in the Dining Center.

The Auditorium, also in Copper One, is where campers meet for their morning announcements, first the dry land athletes, followed by the snow sport athletes. Announcements provide campers with important information for the day, a preview of the programmed activities of the day, and introduce sponsors and special guest coaches or professionals. News of a camper's favorite rider visiting for the day and providing instruction and interaction spurs excitement and enthusiasm. Following dinner, the auditorium hosts activities where campers further connect with each other, watch movies, or participate in skits during the talent show.



LEGEND

-  POTENTIAL DINING HALL OR AUDITORIUM LOCATIONS
-  SHUTTLE CIRCULATION
-  LIFTS TO TERRAIN PARKS



3.3 DINING AND AUDITORIUM ANALYSIS MAP

As campers receive their announcements immediately before or after breakfast, it is ideal to locate the Auditorium in such close proximity (Figure 3.6). With both the Dining Center and Auditorium in the same building, campers have only one location to travel to before they begin their training session. This also aids staff in guiding their group of campers to the correct location with less hassle and confusion.

Similarly to the Dining Center, utilizing the Copper One building strengthened its relationship to the ski lifts which serve the terrain parks. As campers finish their meals or announcements and exit the building, they immediately find the base of the lifts. When snow sport campers return for lunch, they are able to ski or ride right to the dining patio and enjoy their meal while watching big air in the superpipe. Other athletes are able to travel through the Outdoor Activity Space and Village Square Plaza on their way between Copper One and Base Camp enjoying the skateboard features along the way and directed views of the mountain.

3.4 DINING IN COPPER ONE



3.5 PATIO DINING AT COPPER ONE LOOKING AT THE SUPERPIPE



3.6 CONGREGATING IN THE AUDITORIUM FOR MORNING ANNOUNCEMENTS



RECREATION ROOM

After the daily training and video analysis, campers need a spot to hang out and unwind. The Recreation Room provides this atmosphere and is a place where campers can intermingle with athletes of other sports and grow in their friendships (Figure 3.12). The Recreation Room provides many activities for campers to enjoy including ping pong, billiards, foosball, video games, and action sports movies. Campers can lounge on one of the comfortable couches and enjoy a snack or drink from the small camp store.

The Recreation Room is located in Village Square Plaza, formerly the Village Square Meeting Rooms. This space was selected for this purpose due to its suitability for this type of amenity, as well as its adjacency and proximity to other amenities. The requirements for the Recreation Room are fairly unrestrictive, as many spaces can be transformed to provide this amenity. However, the Village Square Meeting Rooms location provides an ideal amount of space and perfect location. As campers enter the Recreation Room, they will descend to the foyer before entering the main rooms, giving a secret underground location feel to the space (Figure 3.7).

The Recreation Room is located across the bridge over Ten Mile Creek, but close to the heart of the Base Camp. In this location, it is easily accessed by campers travelling from Base Camp, as well as from other amenities in Center Village. Campers returning to Base Camp from dinner in the Copper One building are able to stop by the Recreation Room during their free time and meet up with friends. Should a camper decide to return to the Recreation Room later in the evening, perhaps after some time in the Indoor Training Facility or skateboarding at the Base Camp, they just cross the creek to Village Square Plaza where moveable and permanent skateboard and bike elements provide campers with a skate spot outside of the Recreation Room and excitement along the way.

3.7 EXISTING FOYER OF THE VILLAGE SQUARE MEETING ROOMS

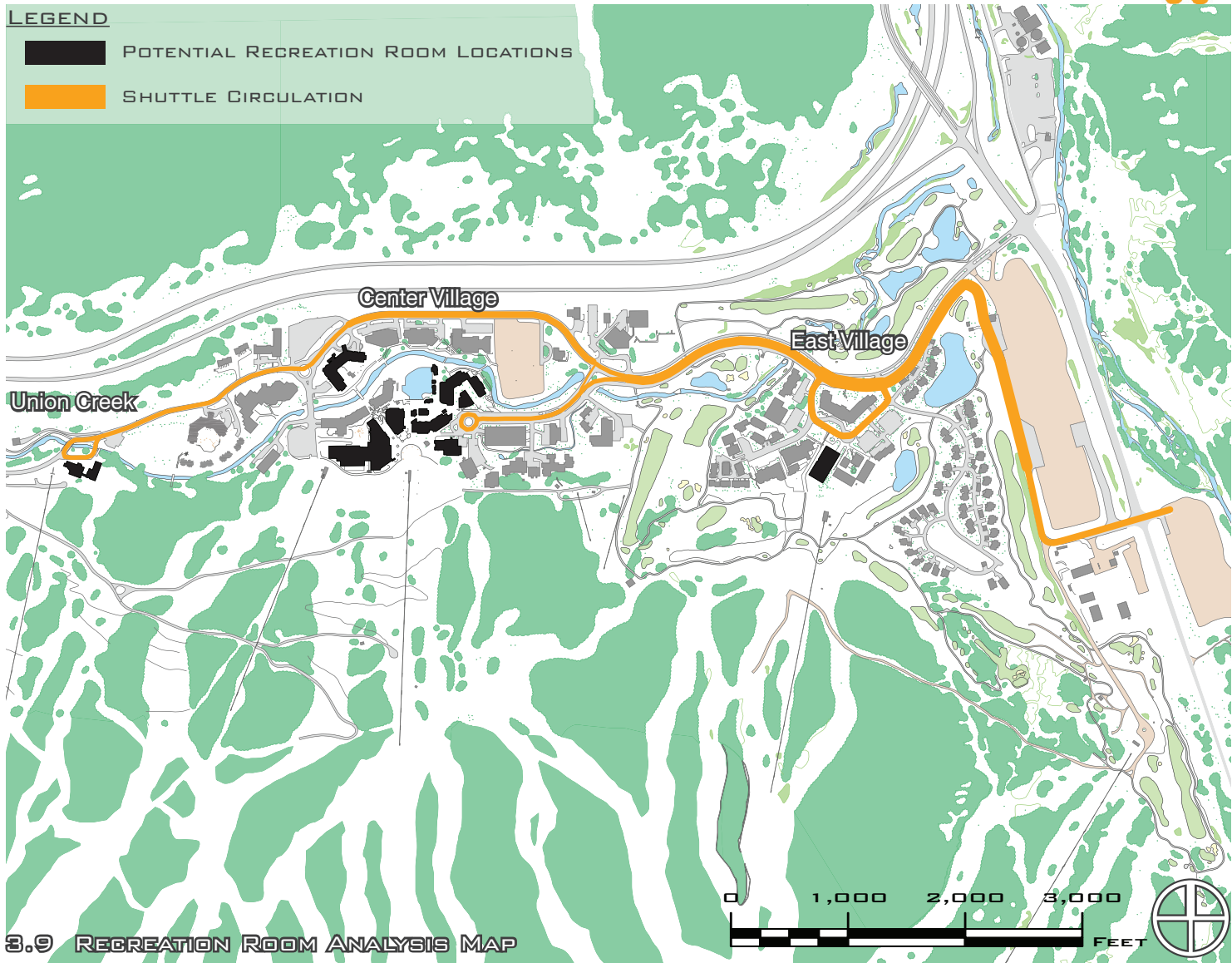


3.8



LEGEND

- POTENTIAL RECREATION ROOM LOCATIONS
- SHUTTLE CIRCULATION



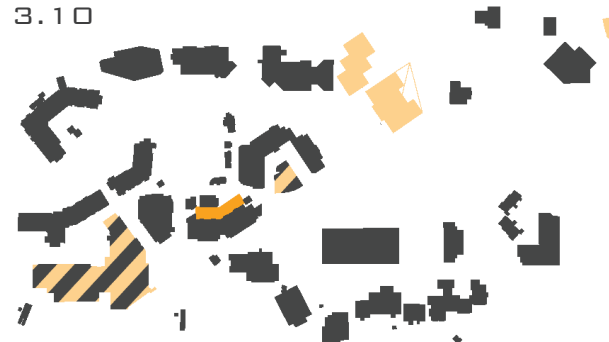
3.9 RECREATION ROOM ANALYSIS MAP

OUTDOOR ACTIVITY SPACE

For activities which are not daily aspects of a camper's schedule, the Outdoor Activity Space in Center Village is an adaptable space which may host events. Campers can participate in t-shirt making, painting, eating contests and much more. Industry companies can use this space for giveaways and sponsor nights, where they can promote their company and spend time with campers (Figure 3.13). These types of activities mainly require space to set up materials and for campers to participate. When the Outdoor Activity Space is not in use, campers on their way to or from the Dining Center and Auditorium can enjoy the moveable skate and bike elements in the space, as it is located along the primary pathway for camp circulation. The space is surrounded by buildings, creating a nook for the camp activities and the feeling of their very own space within the village.

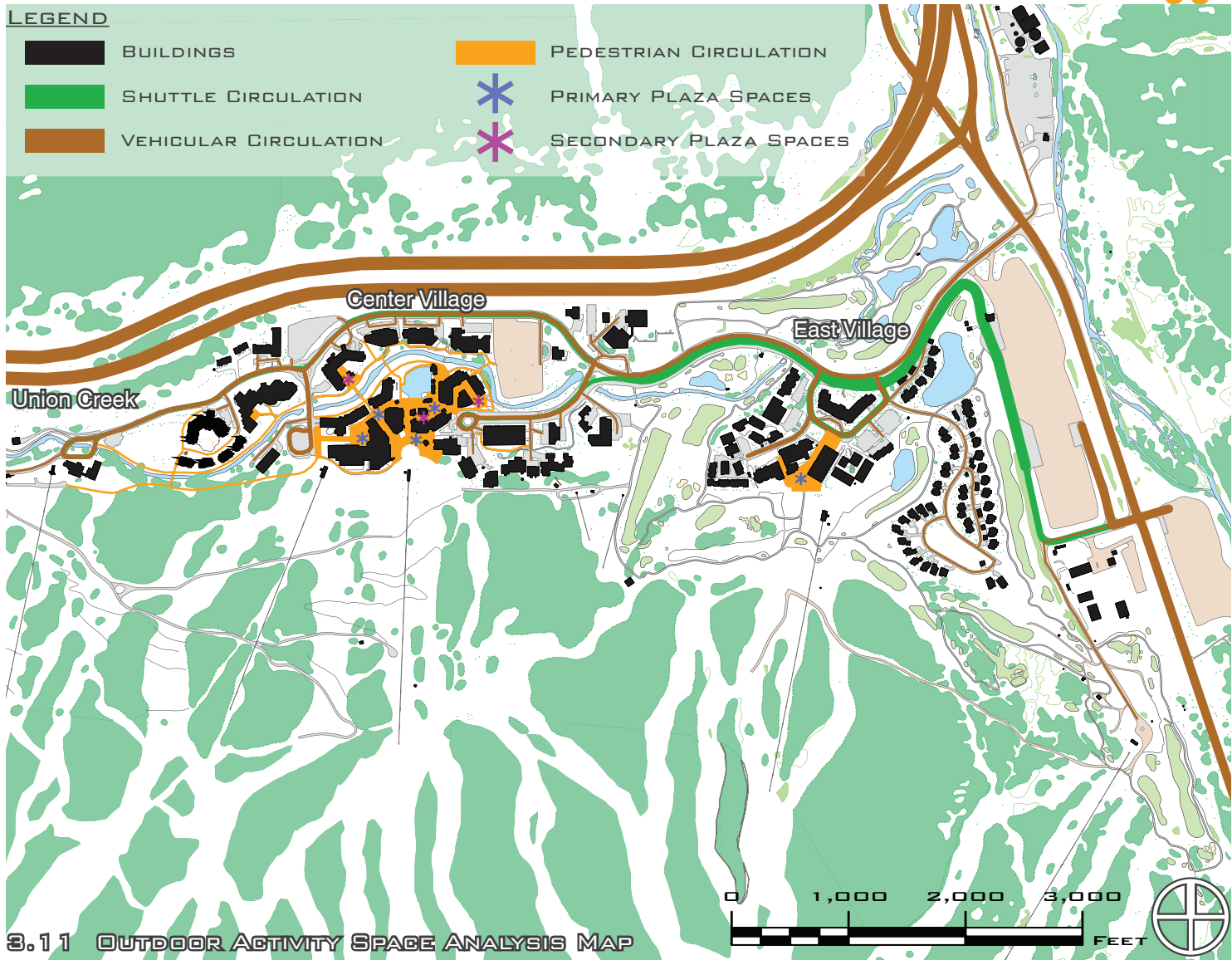
This multi-purpose space location was chosen because of proximity to resort pedestrian and vehicular service circulation patterns (Figure 3.8). The Outdoor Activity Space is located along the main path of travel for campers in order to provide sensible access to the space. Existing resort visitor pedestrian circulation was also an important element to consider because of the use of this space for activities and casual action sports by the camp. The Outdoor Activity Space is in an area where there is little existing pedestrian movement compared to other corridors of the village, so conflict between the campers and other resort guests is minimal.

Campers travelling from Base Camp pass through Village Square Plaza before arriving in the space and pass between two skateable sculpture pieces. Beyond this gateway, campers find benches, fun boxes, manual pads, and transition banks. At the end of the corridor, a set of stairs leads the camper toward the center of the village and the Dining Center and Auditorium where they can perform one last trick.



LEGEND

- BUILDINGS
- SHUTTLE CIRCULATION
- VEHICULAR CIRCULATION
- PEDESTRIAN CIRCULATION
- PRIMARY PLAZA SPACES
- SECONDARY PLAZA SPACES

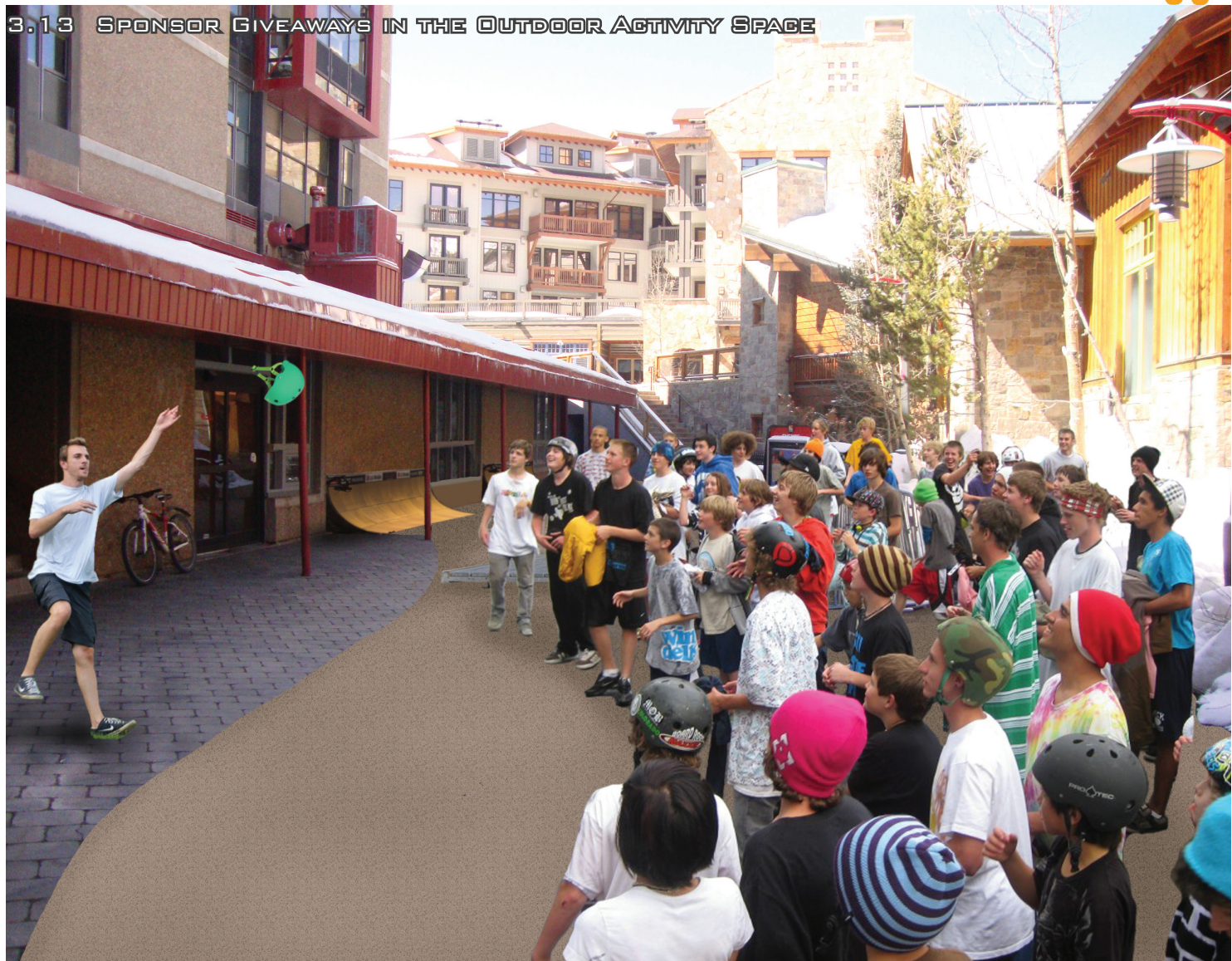


3.11 OUTDOOR ACTIVITY SPACE ANALYSIS MAP

3.12 BUILDING FRIENDSHIPS IN THE RECREATION ROOM



3.13 SPONSOR GIVEAWAYS IN THE OUTDOOR ACTIVITY SPACE



SKATE PATH AND NATURAL PARK

A skateboard and bike path connects Center Village to the BMX Complex, completing a loop of roughly one mile (Figure 3.16). Campers skate this path and discover elements for all ability levels just off the main thoroughfare. As campers wind in and out of trees, boulders, and other natural features, a feeling of exploration and nature touches them. This new path also connects to existing mountain bike trails, extending campers to all bike routes around the resort.

Just to the south and upslope of the trail, when campers enter a stand of trees a natural terrain and freestyle park for snow athletes during peak season and mountain bikers during the off season (Figure 3.14). The thinned trees upslope of this space aid access to the natural park while maintaining a hidden feel. Runs are cut in the stand of trees, each with its own skill level assigned for campers. The materials from the cleared trees and landscape are recycled to produce the features within the space. Ski and snowboard elements in the winter act as mountain bike elements in the summer. Campers can also participate in paintball within the space, utilizing the freestyle elements and trees as bunkers.



3.14 NATURAL PARK FEATURE AT POWDERHORN RESORT



3.16 EXPLORING THE SKATE LOOP THROUGH THE WOODS



BALANCE WITH EXISTING RESORT FUNCTIONS

When amenities of the camp are integrated into the existing resort, a balance needs to be maintained of the camp and the resort. The camp's presence can not overwhelm or dominate the existing resort functions, but must respect them and be unified with them. This is achieved by maintaining and extending the positive aspects of the resort to create a positive experience for all guests.

At Copper Mountain, building corridors frame the powerful views of avalanche chutes on Ten Mile Range (Figure 3.18), and connect the visitor inside the resort to the greater landscape. The camp draws from this design move, orienting its visitors to both views of the avalanche chutes and the superpipe on the slopes. Retail facades within the village are highly designed to attract customers and display products (Figure 3.19, 3.21). This is vital to revenue and maintaining the vitality of the resort, as guest strolling along the village are drawn to these stores. Camper routes to and from amenities are designed to energize lesser used spaces and avoid conflicts with existing high traffic areas.

Drainage in Center Village is integral to resort operations and activities. Unit pavers in the village allow runoff to filter into subsurface drainage which is directed to West Lake, an artificial reservoir (Figure 3.20, 3.22). Harvested water is utilized not only as an attractive lake amenity, but for snowmaking operations on the mountain, and activities including bumper boats, kayaking, and ice skating. These aspects of the resort are unaltered, and exhibit a balance between the mountain, resort, camp, and users.

3.17 EXISTING VIEW OF SUPERPIPE



3.18 EXISTING VIEW CORRIDOR



3.19 RETAIL FACADES



3.20 DRAINAGE IN CENTER VILLAGE



3.21 RETAIL FACADES



3.22 WEST LAKE



STORMWATER TREATMENT LOCATIONS

Runoff and drainage on the site is important and handled to minimize downstream pollution, erosion, and other negative effects.

At Copper, a few sustainable stormwater elements were implemented with the re-design of the villages and overall the way in which water is used on the site is well thought out. All drainage from the site is taken to the reservoir so that it can be reused for snowmaking purposes on the mountain. West Ten Mile Creek, which runs adjacent to the lake also receives some drainage and proceeds down the valley toward the town of Frisco and Lake Dillon (Figure 3.23).

Surface drainage on the mountain slopes and on the sloped areas within Center Village drains toward corridors and open spaces. When runoff enters drains, it is piped to its destination. Drainage in the village is directed towards West Lake (Figure 3.24), and other drainage is directed towards Ten Mile Creek. These sub-surface drains are represented in the analysis map of the drainage flowing to the reservoir (Figure 3.25). The diagram indicates that village spaces drain to the reservoir, and is not indicative of drain locations or sub-surface piping.

Following the lead but striving for greater environmental harmony, the Base Camp surface drainage on camp grounds and in vegetated areas flows into and through best management practices, or BMP's. These include bioswales, check dams, vegetated swales, and rain gardens, which filter, clean, and reduce flow velocity. Locations for suitable stormwater BMP's are highly visible by visitors to the resort, and the inclusion of signage provides an opportunity to educate the public on these various methods enforcing the concept of harmony.

Drainage in the skateparks is collected through drains and is filtered and reused in restrooms and in the Housing and Indoor Training Facility. At the BMX Complex, drainage is filtered through BMP's and then temporarily stored for maintenance on the dirt jump lines.

3.23 WEST TEN MILE CREEK RUNS THROUGH CENTER VILLAGE



3.24 WEST LAKE PROVIDES WATER FOR SNOWMAKING OPERATIONS



LEGEND

■ INTEGRATED AMENITY LOCATIONS

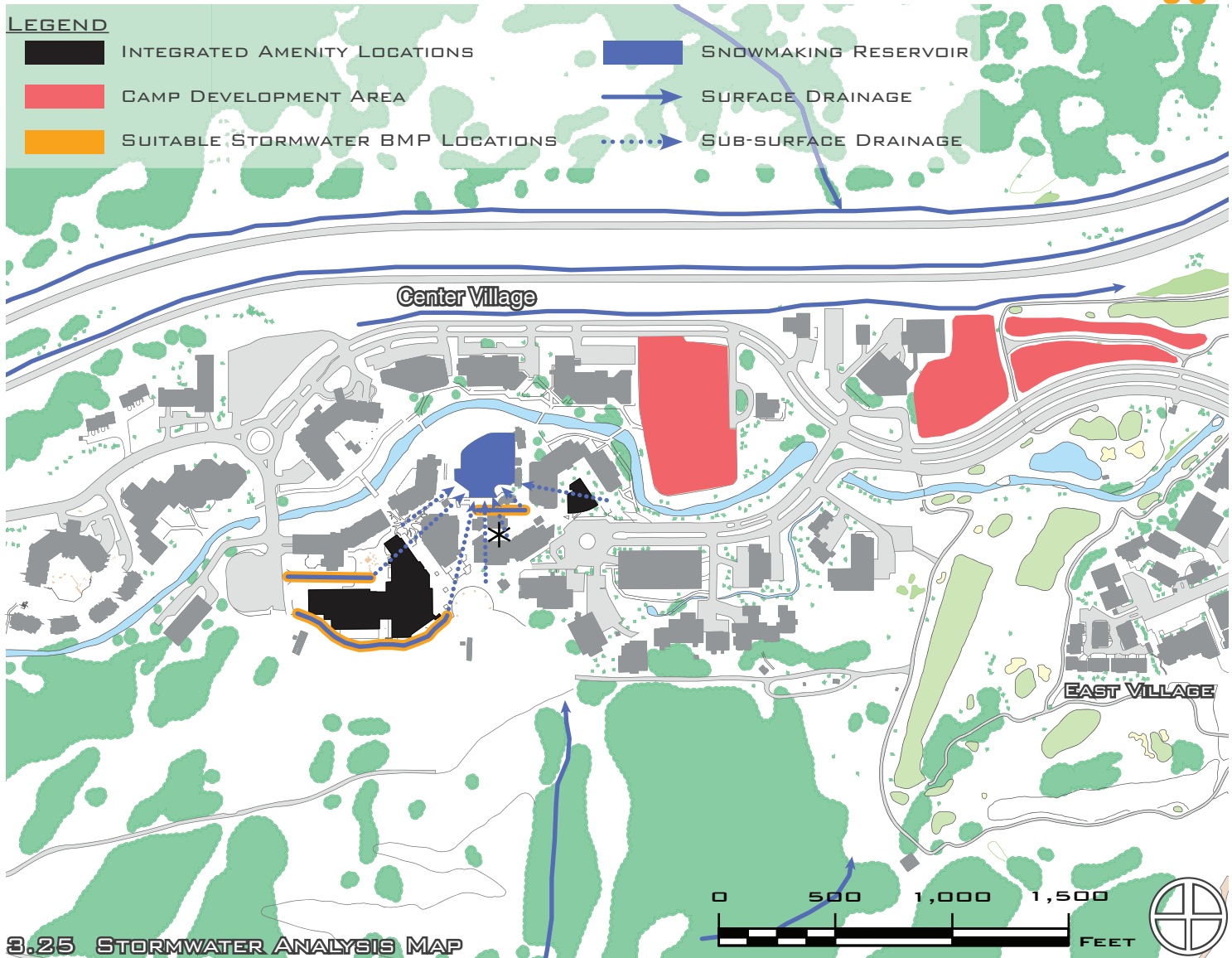
■ CAMP DEVELOPMENT AREA

■ SUITABLE STORMWATER BMP LOCATIONS

■ SNOWMAKING RESERVOIR

→ SURFACE DRAINAGE

⋯→ SUB-SURFACE DRAINAGE



3.25 STORMWATER ANALYSIS MAP

RENEWABLE ENERGY LOCATIONS

The development of additional camp facilities adds additional energy need at Copper Mountain Resort. By implementing forms of renewable energy with the new development, some of that extra need can be negated.

Solar panels are integrated on some roofs of buildings. The implementation of solar panel available roofs which receive full sunlight ensures solar offset of energy demands. The undeveloped locations previously highlighted for possible development of the camp are also suitable solar panel locations. These areas are unused and mostly clear of vegetation making them suitable for either solar panels or wind turbine placement (Figure 3.27). The areas which are suitable for wind turbines have minimal obstructions to wind to their north or west.

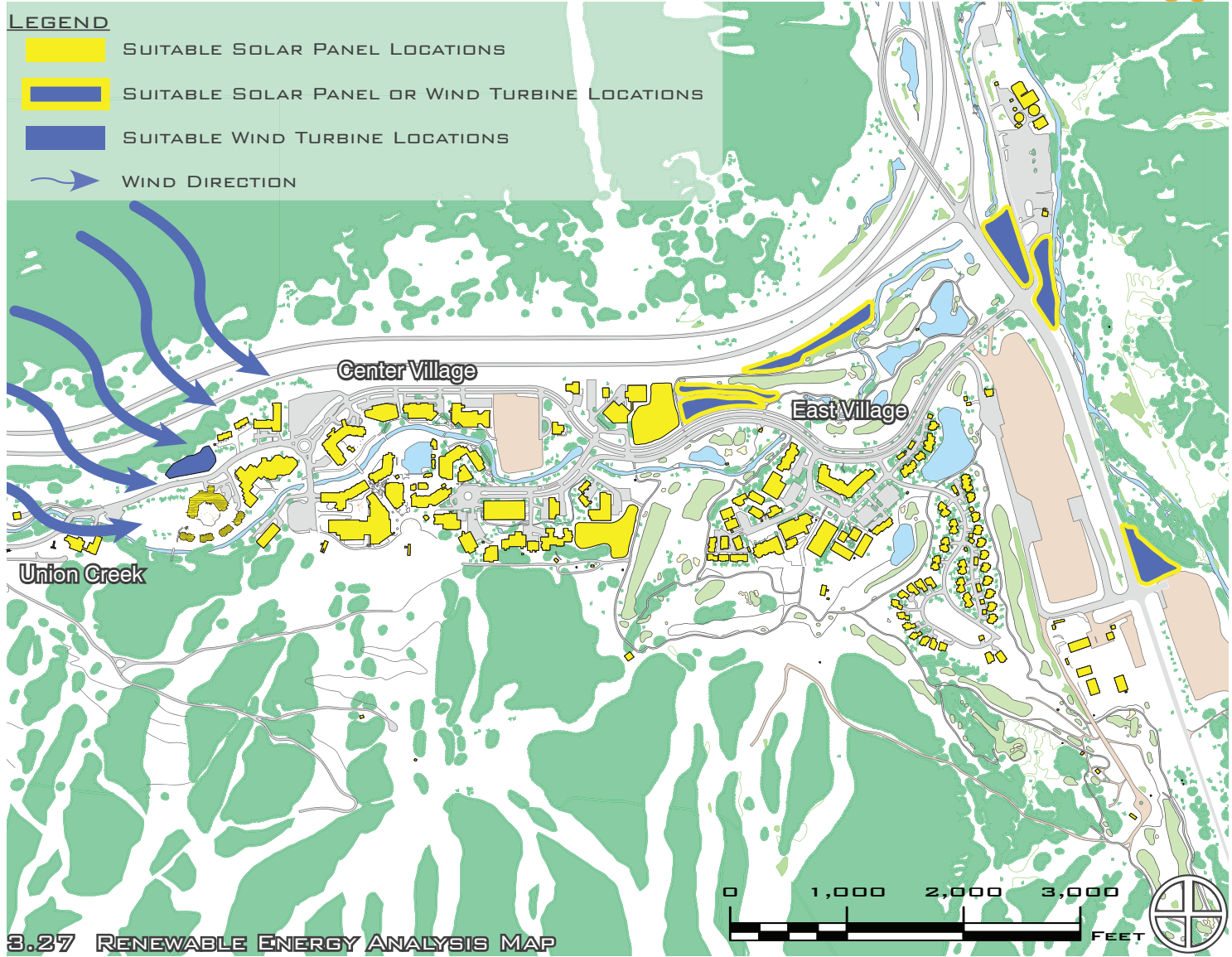
Winds at Copper Mountain Resort typically blow from the west or northwest. The velocity of the wind can be a factor, and depends on the turbine used. Winds usually average less than 10 miles per hour, though gusts can increase greatly.

Where there is doubt about the implementation of wind turbines because of inconsistency of wind speeds, solar panels may be the better option. A draw for wind turbines is the generally more aesthetic appeal of a turbine to a solar panel. Solar panels may also become covered in snow, and an increase in maintenance would be required to clear them (Figure 3.26). However, either case allows for the display of renewable energy to the visitors of Copper Mountain Resort, and provides an opportunity to educate and achieve balance

Within the camp developments, renewable energy offsets demand by design. The aspect of the roofs of the Housing Complex and the Indoor Training Facility are oriented to the south for optimal solar gain. The implementation of solar panels provides energy to these facilities and will also power exterior lighting in the evening. On the Housing Complex, are rigid solar panels and on the Indoor Training Facility tensile fabric roof, flexible photo voltaic cells are implemented.

3.26 SOLAR PANELS ON SHUTTLE STOP, COVERED IN SNOW





SNOW STORAGE LOCATIONS

Copper Mountain Resort's Summit County location makes it a special winter sports resort with an annual average of roughly 280 inches of snow per year. While this is awesome for the mountain and snow sports, this much snow in the village poses challenges of pedestrian movement and access at the base of the mountain.

Where and how cleared snow is stored is critical to resort function (Figure 3.28, 3.29). As noted earlier, the reservoir in Center Village is utilized for snowmaking purposes on the mountain, and drainage from the village is directed to the reservoir and stored. The locations of cleared snow are important to this function because when temperatures warm and snow melts, runoff can be used for snowmaking and extend the ski season. Cleared snow is located in areas of the village and camp which drain into the snowmaking reservoir (Figure 3.30).

In addition, these piles of cleared snow can be utilized for snow action element obstacles. Locating the cleared snow near camp circulation routes is preferred, so that there is less work to move the snow to create fun features. Action elements located near the slopes of the mountain are also able to use snow from the slopes or snow produced by nearby snowmaking guns. Should snow storage locations in the village need to be opened in the future, that snow may be moved to the base of the slopes where snow clearing is not necessary. All skate paths and skate elements are cleared and stored by the time significant snowfall comes, minimizing maintenance issues and creating a smoother more harmonious operation.

In the areas of camp development, cleared snow can be stored and used for creative action elements within the spaces. When temperatures rise, runoff is incorporated into the stormwater BMP's located on site. During winter months, snow storage on these areas is located at the outer limits of the camp on the vegetated areas. This allows the concrete to be skateable as soon as possible at Base Camp. At the BMX Complex, snow clearance is more complex with the jump

3.28 SNOW STORAGE SITE ADJACENT TO THE RECREATION ROOM LOCATION



3.29 POTENTIAL SNOW STORAGE LOCATION OPPOSITE OF ABOVE PICTURE



LEGEND

■ INTEGRATED AMENITY LOCATIONS

■ CAMP DEVELOPMENT AREA

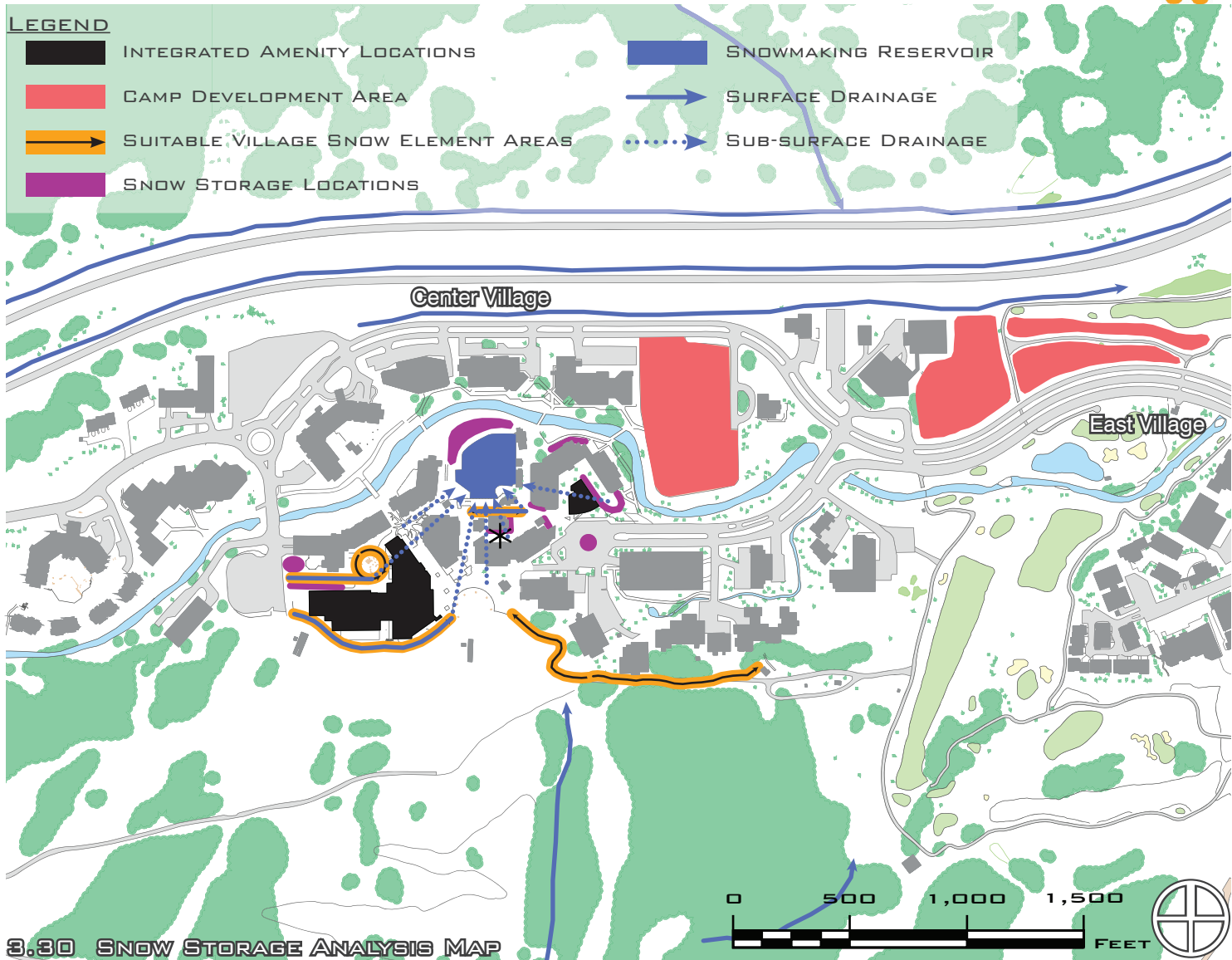
→ SUITABLE VILLAGE SNOW ELEMENT AREAS

■ SNOW STORAGE LOCATIONS

■ SNOWMAKING RESERVOIR

→ SURFACE DRAINAGE

⋯→ SUB-SURFACE DRAINAGE



8.30 SNOW STORAGE ANALYSIS MAP

USER HARMONY

The social aspects of the Catalyst Action Sports Camp are important considerations in blending into the existing resort. How users of the camp interact with each other and how users of the camp infuse with other visitors to the resort partially determines the success of the camp and its ability to help sustain Copper Mountain Resort. The varying speeds and movement of pedestrians, skateboarders, and bikers need to work together to form a cohesive flow. Also, the different needs of campers, coaches, and spectators need to be addressed for full value of the place by all parties.

VILLAGE CIRCULATION

CAMP DENSITY

Everyday campers travel to and from the various amenities of the camp. The density of camp amenities is important to the unity of the camp (Figure 4.1). If the amenities are scattered throughout the resort, campers would spend a lot of time travelling between them, losing time in camp programmed activities, devaluing the experience. While fusion means crossing paths more often with resort visitors and increased potential conflict zones, integrated amenities provide additional traffic for resort businesses. The Dining Center, Auditorium, Outdoor Activity Space, and Recreation Room, are all located in Center Village along with the Base Camp and Housing Complex.

As campers travel amongst these amenities, their circulation follows an axis connecting the primary avalanche chute on Ten Mile Range and the superpipe. These landmarks connect campers to their destinations through a single primary corridor. At the terminus near the dining and auditorium are the American Eagle and American Flyer ski lifts to access the terrain parks on the slopes. This axial relationship provides an easy connection for the camper's daily routine.

LEGEND



CAMP AMENITIES



BUILDING MASSES

4.1 CAMP DENSITY



NOT TO SCALE



CONFLICT ZONE MITIGATION



As campers travel in the existing village to their destination, it is imperative that they are in harmony with other resort guests. In peak season, this will be less of a problem, as campers will walk to their destination due to snowy conditions. In the off season, Skatelite which is a material used for skateboarding surfaces, will be laid down throughout the village to allow campers to skateboard to their destination. The locations of skateboard pathways avoids conflict zones with resort visitors to ensure harmony between the two user groups (Figure 4.2). Broadly, the Skatelite locations avoid areas where pedestrians gather or enter buildings or exterior spaces.

Analysis of the LaFayette Skate Plaza precedent study identified potential options for circulation between skateboarders and pedestrians. While the setting of a resort and a park space are different, fundamental principals from LaFayette Skate Plaza were applied. Where intersections occur between paths, the skateable surface is enlarged, providing additional room for skateboarding campers and resort pedestrian to maneuver with each other. Pedestrians were noted to generally follow the same line or path through a space, as were skateboarders. Therefore, in tighter corridors the Skatelite surface denotes pedestrian paths and skateboarder paths.

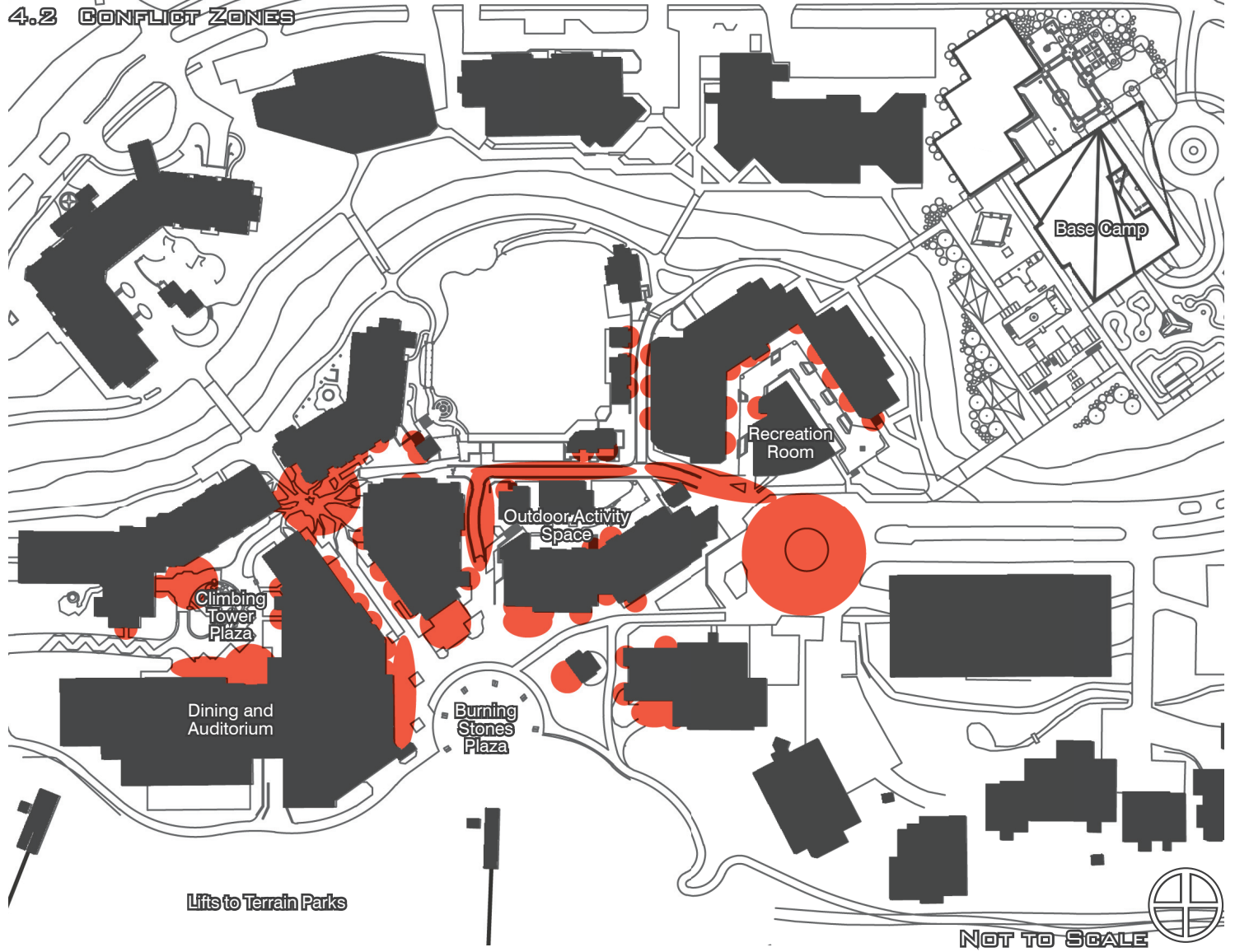
The primary conflict zones at Copper Mountain Resort are the locations of doorways and entrances to buildings. At these locations, pedestrians exiting a building immediately enter a space and do not have the ability to survey their surroundings for travelling skateboarders. The location of the path limits the number of doors encountered by campers and moves campers to opposite sides of these entry and exit spaces. This gives ample time before they reach a skateboard path and blend into the circulation. Another potential location for conflict zones is the dining patios, mostly centered around Burning Stones Plaza. These spaces have a gridded paving pattern indicating an area of decreased movement or activity. Also in Burning Stones Plaza is the bungee trampoline area, also denoted with gridded paving. Within the Climbing Tower Plaza, lines for the Climbing Tower can also spill into the corridor,

resulting in a conflict zone for passing skateboarders. Campers are coached to respect these conflicts to maintain balance. Generally areas of large amounts of pedestrian traffic are avoided in the plan, including the space around the shuttle drop-off location and the corridor from West Lake to Burning Stones Plaza. Finally, slopes where skateboarders will pick up speed are avoided because of the decreased ability of a skateboarder to slow or stop their equipment.

LEGEND

	CONFLICT ZONES
	BUILDING MASSES

4.2 CONFLICT ZONES



Lifts to Terrain Parks

NOT TO SCALE

SKATE PATHS

Skate paths throughout Center Village connect campers to the amenities integrated in the resort. The existing resort groundwork consists of unit pavers, which are rough and disjointed, resulting in a skateboarder not being able to travel well over that surface. These paths are modified with a layer of Skatelite being laid overtop the pavers in the designated locations. Skatelite has a thickness of one quarter inch (1/4”), and does not pose a problem should a skateboarder travel off the edge of the path or for ADA access in the village (Appendix C - Materials).

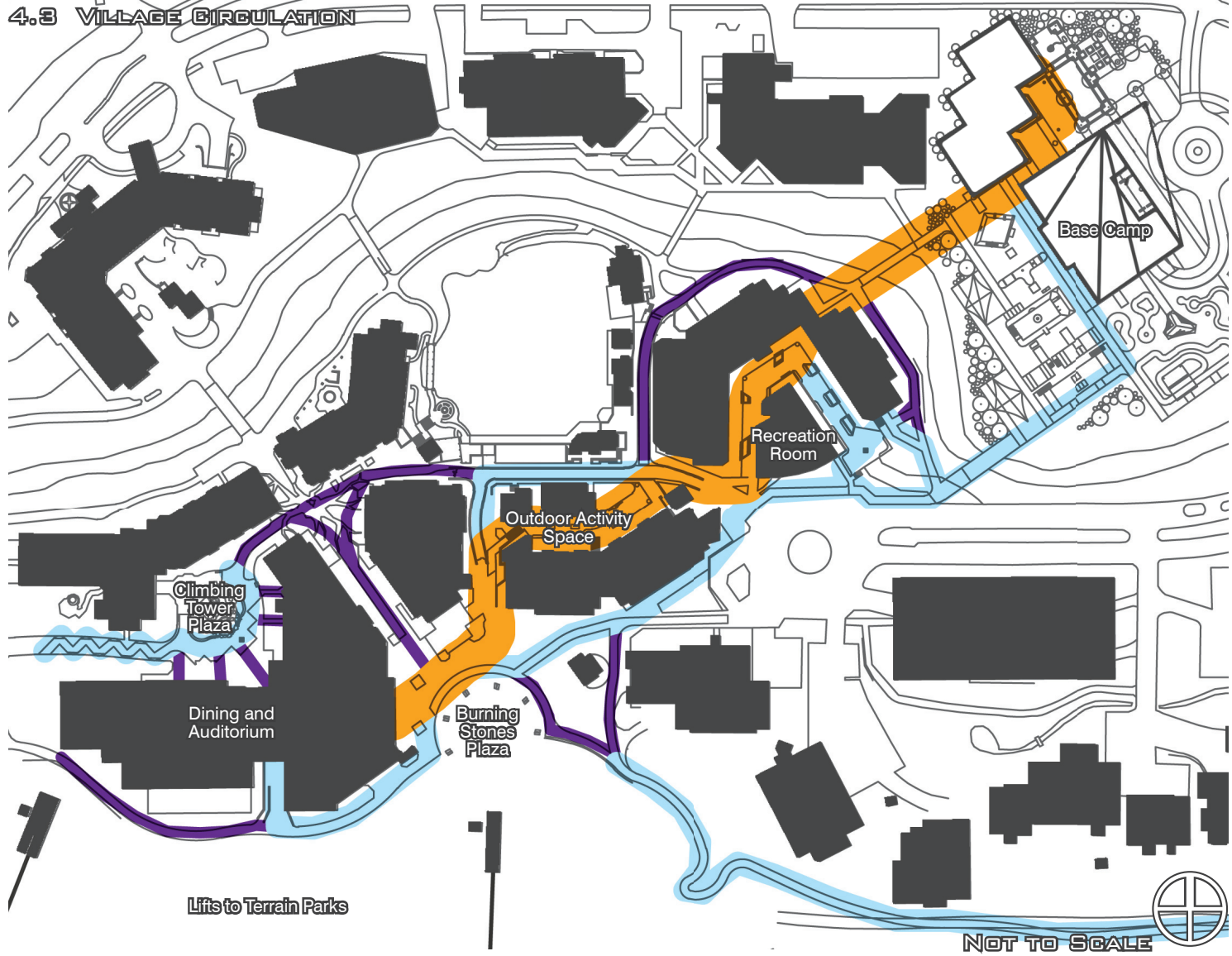
There are several benefits of using Skatelite as opposed to installing a permanent trowel finished concrete path, mostly lying with the temporality of Skatelite. Skatelite can be picked up and stored, exposing the existing unit pavers underneath. Should a subsurface utility need to be fixed or replaced, unit pavers allow for easy access to the issue, and will not require any cost for materials as they can easily be replaced after the work is done. Filtration to the subsurface drains leading to West Lake is also retained, resulting in more water to be able to be used for snowmaking operations. Once peak season begins and snow starts to fall, the Skatelite will be picked up and stored. This will help preserve the material, and will make for easier maintenance of clearing snowfall within the village. Finally, should a layout or path not work well with the fabric of existing resort visitors, the path can easily be reconfigured. This also allows for the expansion of paths if need is present.

Because of the cost of Skatelite, paths of primary use of the camp will be installed first, followed by the next frequently utilized spaces. The primary path for campers travels from Base Camp to Village Square Plaza, then through the Outdoor Activity Space to Burning Stones Plaza and the Copper One Building (Figure 4.3). The next frequently used pathways include corridors adjacent to the primary path and the remaining Center Village Skate Spots. The last phase of implementation of the skate paths fills out the remainder of the delineated pathways, avoiding the conflict zones with resort visitors.

LEGEND

	PRIMARY CIRCULATION
	SECONDARY CIRCULATION
	TERTIARY CIRCULATION
	BUILDING MASSES

4.8 VILLAGE CIRCULATION



Lifts to Terrain Parks

NOT TO SCALE

VILLAGE SKATE SPOTS

Within Center Village are locations where a camper may stop and skateboard or bike for a short time either as part of a learning session or as they pass through the space to another activity. These skate spots are centered around the integrated amenities within the village. By being located in close proximity to integrated amenities, they are most closely joined with the camp. Outside of the closest ring of proximity, skate paths connect amenities to each other. The furthest ring of proximity represents the possible boundaries of the camp (Figure 4.5).

Skate spots introduce creative skate elements into the space, similar to those found in the LaFayette Skate Plaza precedent study. The elements introduced in Center Village differ from those at Lafayette in that they are moveable, creating better harmony with the resort's climate. The elements may be removed during the peak winter season to create more room for pedestrians as well as to make the clearance of snow easy. Another positive aspect of moveable elements is that they are flexible to the desires of the campers in the space. These skate spots also include benches and elements which make viewing these areas comfortable to the spectator, integrating other users of the resort into the same space.

The Village Square Plaza incorporates a skate spot outside of the Recreation Room (Figure 4.6). Existing planters in the center of the corridor help to separate pedestrian space and skateable space. The pedestrian space lines the fronts of the retail stores, while the skateable space borders the sides of the Recreation Room. Benches are added on the sides of the planters, providing seating. When the benches are clear of people on the skateable side, they may be used as an action element for skateboarders and bikers. On edges of the space, banks and transitions are included while leaving room for snow clearance in the winter. Other elements such as boxes or pyramids in the space are able to be moved to rearrange lines for tricks. In times of snow, these elements may be removed and stored for easy snow clearance.

Campers enter the Climbing Tower Plaza from either the Copper One building where the Dining Center and Auditorium are located, or from the northeast corridor into the space (Figure 4.7). Much of this area is skateable except in patio spaces and the conflict zone where lines are run to support the Climbing Tower activities. The service drive to the west is sloped, and gives campers a great snake run. The design slows skaters entering the space and prevent them from taking a straight line down the slope. As skateboarders enter the plaza space, they are directed away from the conflict zone of the dining patio. In this skate spot, minimal action elements are added, as it can periodically be busy with pedestrians and service vehicles. Elements such as benches, banks, and pyramids are moveable for easy snow clearance and the access for service vehicles.

LEGEND



4.5 AMENITY PROXIMITY



NOT TO SCALE



4.6 SKATING WITH FRIENDS IN VILLAGE SQUARE PLAZA



4.7 MOVING THROUGH CLIMBING TOWER PLAZA



COACHABILITY OF AMENITIES

Training zones for campers who are not snow athletes consists of the street style area, park style area, transition area, and dirt jump lines for bicycles. The skate spots located throughout Center Village are not utilized for designated instruction during training times. Snow sport training zones on the mountain are maintained by the terrain park manager of Copper Mountain Resort and are deemed appropriate for camp activities

Areas where campers receive instruction and training are conducive to the coach's ability to interact with their group of campers. Coaches have access to most areas of the training zones from all sides in order to view and instruct campers during runs. Coaches also have ample room adjacent to features to instruct their group of campers. One coach works with a maximum of 10 campers. In the transition areas, there is a minimum of 10 feet of deck space around the edge of bowls to provide for riders entering and exiting the bowls, riders waiting their turn, and general circulation (Whitley, 2009). Coaches can easily take runs through the terrain to demonstrate a certain technique or maneuver, with the campers observing and taking note. Campers have space to get a good view, and the coach has room to enter and exit the terrain.

Views into the terrain are important for coaches who are evaluating campers and providing helpful instruction. Coaches good vantage points for this purpose, benefiting campers. Campers waiting to make a run are also able to learn from watching others attempt the maneuver. Views to other terrain features are also important, as coaches can direct the camper's attention to more skilled lines or groups for observation. The campers can then apply that concept to what they are learning. Differing skill levels of terrain are separated to eliminate beginner and advanced riders crossing paths and endangering themselves and others, while adjacency of skill levels is provided.

Inspiration for the campers during training is useful as a motivator. Coaches are able to direct campers to various inspirations around and within the training zones if they are frustrated with a trick or technique. The goal is to aid in motivating the camper to keep trying and to not give up. Inspiration comes in the form of images of tricks or professionals, certain phrases or quotes, or the mountain scenery which surrounds the camp.

SPECTATOR VIEWING

During the week, campers learning activities will draw spectators who want to watch them train or show off their skills. These spectators may be visitors to the resort who happen to stop by during the week, or parents who come to delight in what their child has learned on family day.

At Base Camp, random visitors of the resort are kindly asked to respect the Base Camp through signage in order to prevent cluttering and crowded corridors where campers will be travelling on skateboards and bicycles. Parents and guests are allowed in the camp at the end of the week for family day so campers can display their newly acquired skills and tour them around the camp. If pedestrians choose to walk between Center Village and East Village along the perimeter path of Base Camp, they may stop and watch the campers or settle into one of the two shade plazas on the west side of Base Camp. The BMX Complex is more open to all guests for viewing the dirt jump lines, though the jumps are strictly for campers and camp guests only. It is recommended that spectators remain out of the dirt jump lines, and to exercise caution should they travel between the lines. The landforms are provided as spaces where spectators gather to view the jumps and to gain a perspective across the complex.

Vantage points for spectators are vitally important. Clear spectator views of what is being performed builds excitement and passion for riders and their sports. The two shade plazas on the west edge of Base Camp provide views of much of the skateparks. Campers, coaches, and guests gain access to the deck of the Indoor Training Facility where they overlook the skateparks, or sit in the shade at tables underneath the deck. The landforms at the BMX Complex enhance the views for all users across the dirt jump lines. Seating on top of the landforms is provided, as well as built into the side of the slope oriented towards the jumps. Acting as a backdrop for the terrain, distant views of Ten Mile Range or of the slopes above Center Village are given.

VIDEO AND PHOTO ABILITIES

Photography and film play a large role in action sports, as these are means for an individual to represent themselves and for companies to market their product. This is valuable for the camp for promoting itself to future campers, and for the campers to promote themselves or to show their friends and family their experience at Catalyst. Providing for photographers and filmers also opens the possibility of including a film and photo camp, where campers will learn various documentary techniques for shooting action sports and scenery, then apply computer technology produce a finished product.

The video and photo analysis rooms in the Indoor Training Facility are where photography and film campers can edit their collection in coordination with the video analysis session of athletes with their coaches. These rooms on the second floor of the Indoor Training Facility provide elevated views of the skatepark areas. These rooms also access the deck of the facility, where photographers and filmers can gain a better perspective of Base Camp, and can shoot aerial views of the skateparks (Figure 4.8).

Much like the coachability of a space, photographers and filmers are provided access to most areas of the training zones. Photographers and filmers can either work by themselves or if being trained as part of the camp, in small groups. Video and photo campers are energized to shoot throughout the resort, providing additional marketing for village businesses..

Views for photographers and filmers also require different needs than those of coaching. Photographers and filmers are encouraged to explore unique angles and perspectives to stretch their abilities. Desired views will vary from artist to artist based on their preferences. Views to elements are available from adjacent locations as well as distant perspectives. Sometimes the need for a shot requires a photographer or filmer to enter the terrain, in which case they will coordinate with a coach and communicate how they will work together.

Inspiring shots are present throughout the camp, keying elements with distant views of the landscape. Inspirational imagery which is included for the action campers may also serve to act as inspiration for the photographers and filmers and be displayed in marketing materials and on the Indoor Training Facility roof.

4.8 WATCHING TRAINING IN THE TRANSITION PARK



COMFORT

Comfort for all users of the space is important for the enjoyment of guests. In the summer, shade is vital to a pleasing environment. Campers and coaches need a place to rest that is shaded when they are training and coaching for a few hours at a time during the week. Three tensile shade structures within training zones serve the skatepark locations. At the BMX Complex, each dirt jump line is accompanied by a shade structure. Spectators are provided shade as well as they relax and watch the campers. At Base Camp, the shade plazas on the west edge of the skateparks provide a cool spot on a hot afternoon. At the BMX Complex, the tops of the landforms include shade structures situated over seating elements.

Under the shade structures at the shade plazas at Base Camp, moveable tables and chairs provide flexible seating for campers, coaches, and spectators that can be adjusted to their liking. In the transition park, seating for campers and coaches is provided underneath the shade structure on the steps in the center of the bowls. Here, coaches can gather their group of campers and give instruction and direct them to views of the terrain, while campers can rest and rehydrate. Shade structures may also be utilized for cameras during inclement weather. At the BMX Complex, seating for spectators, coaches, and campers is provided on top of the landforms, as well as built into their slopes facing the jumps. Campers and coaches will most prominently utilize the shade structures at the start and finish of the dirt jump lines for seating, where there is also space for water carts.

The campers are also provided access to the roof patio atop the Housing complex (Figure 4.9). This rooftop patio is meant as a space where campers can escape the business of the rest of the camp and take some time to themselves. Lounge chairs let campers lay back and take in the sunlight, while shade can be found in the nooks of the second story of the building. Fire basins provide warmth during chilly nights or in the winter months.

As campers unwind, they can gaze into the fire, look at the sculptures, see campers jump into the foam pit during evening training at the Indoor Training Facility. Views encourage campers to reflect upon the avalanche chutes in the distance and their personal mountains and goals to overcome in the week, as well as to gain a respect for the terrain. There is also space for laying out a stretching or yoga mat, and campers can loosen up, reflect on the day, or meditate and focus on their goals.

From the patio, campers can also look down upon the housing plaza, including the hot tub plaza and the stone water feature on the highest plane of terraces. Campers are able to soak in the hot tubs after a long day of training before heading to bed, rejuvenating them for another day. At the stone water feature, campers can sit in the space and listen to the babbling sound of running water, imitating a mountain stream.

4.9 · RELAXING ON THE ROOF PATIO OF THE HOUSING COMPLEX



CONCLUSION

SUMMARY

The Catalyst Action Sports Camp at Copper Mountain Resort relies on the principal concept of balance, harmony, and oneness. This concept is a means to creatively express the framework for evolving a mountain resort to capitalize on diversified tourism. Every aspect of the project strives to achieve these three terms in form and in function to provide the opportunity for campers and guests to become one with the mountain.

The concept of balance, harmony, and oneness is something that may be applied to other mountain resorts if stretched or manipulated, but is indicative of Copper Mountain Resort. Other mountain resorts vary in their strengths and weaknesses, and focus of excitement and activity. While the application of the theory began in conceptual stages as a goal to fit all mountain resorts, it was realized that there is not one solution for the introduction of an action sports camp at all mountain resorts. Each resort's unique qualities bring different set of challenges and opportunities. However, the framework of providing an action sports camp to combat economic imbalance and predicted climate changes remains the same. The creative expression of balance at Copper Mountain Resort is the true catalyst and defines place.

Copper Mountain Resort provides a well designed base village which ties the visitor to the mountain. The development of Catalyst Action Sports Camp capitalizes on that notion. Many aspects of the design of Catalyst Action Sports Camp focus views to excite or inspire the visitor and camper. At Copper Mountain Resort, the building corridors frame views to the avalanche chutes on Ten Mile Range. The camp development joins in this concept, focusing on some of the same avalanche chutes as well as views back towards the superpipe on the slopes for inspiration for the campers. Using the avalanche chute as a point to array regulating lines, the design of the camp all focuses back to this one point of the relationship of the human to the mountain.

Catalyst Action Sports Camp measures up to the precedents found in Appendix A in several ways. In regards to Windells Camp, the plan for Catalyst is able to relieve the tension of camp separation from the snow training terrain and other local amenities. Where Windells has to bus campers to the mountain, Catalyst integrates them into the existing resort village and stations them within walking distance of all amenities of the camp and resort. This also allows Copper Mountain Resort to host campers' families during camp sessions. Catalyst provides many of the same amenities as Windells, including all of those which were deemed necessary or a high priority for an action sports camp; the primary difference plays out during the daily routine of the campers. While the daily schedule is also similar, Catalyst campers move about the resort and camp, and are constantly directed toward views of the mountain or terrain which challenges and rewards them. This allows for a boost of motivation and perhaps a deeper reverence for the majesty and intricacy of the environment or landscape. Windells' separated from mountain, is less able to connect its campers to those opportunities within the landscape and must work to inspire or motivate campers in other manners.

Catalyst draws from the precedent of LaFayette Skate Plaza in its integration of skate paths and skate spots into the existing village. While LaFayette is located in a park setting and varies from the resort context, the circulation and elements were able to transfer to Catalyst. LaFayette guided the determination of conflict zones with other users of the resort enabling harmony in integration. In the areas where skate spots are developed in the Copper Mountain Resort, introduced elements are similar to those found in LaFayette. However, due to weather patterns, those elements at Copper Mountain Resort are able to be removed for snow clearing purposes, while this is not a concern in Los Angeles where LaFayette is located.

There is harmony in the way in which the camp blends with the existing resort. Amenities are integrated into the existing resort

to reduce the need for additional development. The infusion of the Dining, Recreation Room, and Auditorium speak to this, as campers are integrated throughout the existing resort in their daily activities. These locations were analyzed to determine the most suitable space for each amenity for itself and its relation to other aspects of the resort. Skateboard paths connecting camp amenities are designed to avoid conflicts with pedestrian circulation and allow for campers to travel freely to and from these locations. Skateable paths avoid locations where stairs, building egress, or existing gathering spaces to minimize conflict with other visitors. Integration and harmonious design capitalizes on key features of the resort, such as well designed retail facades and innovative village drainage to be utilized for snowmaking purposes.

The Catalyst Action Sports Camp concept and designs are versatile in that they provide, offering snowboarding, freestyle skiing, skateboarding, and BMX biking as its main sports. The camp allows for beginner, intermediate, and advanced athletes to attend the camp and be able to progress their skills. While a camper trains for their primary sport, they are also able to experience other sports and activities the camp offers. The manner in which these different sports and skill levels interact is fluid and aims to achieve the maximum enjoyment for the visitor.

What makes Catalyst Action Sports Camp relevant is its significance to Copper Mountain Resort. Copper will receive more guests, publicity through additional events, word of mouth, magazines, and videos. In time, growth in its reputation among fans of the sports and professionals as a premier training ground for action sports athletes and will leverage more growth. The future stars of these sports may be groomed at Catalyst, tying their fame to the resort, compounding success stories and popularity into tourism and revenue. Due to the all seasons aspect of Catalyst, revenue will also be increased, balancing the revenue stream of the resort, making it more stable in rough economic times and in the face of a changing climate.

The significance of Catalyst Action Sports Camp for attending campers is that their progression comes from a balanced environment in their sport because of the training facilities, coaching, and connection to the mountain which one does not usually receive. This challenges them to break through their limits and achieve that next level of what may have been impossible for them. Campers will get to meet and interact with professionals and renew their love for the sport. They will develop a new respect for difficulties and physics involved in their respective sport and the terrain. Most of all, they can have a memorable and positive progression and experience drawing them back to the resort.

This concept of integration of an action sports camp into an existing resort has significance for other mountain resorts. Should a resort choose to incorporate a camp, Catalyst can serve as a precedent to successfully achieve their goals especially in the realm of connection of guests to the landscape. By doing this, a resort sets itself apart from competitors and creates a place where one can become one with the environment.

The significance for landscape architects is that we are the bridge that connects the landscape to the experience of the guest. We have the ability and knowledge to plan and program spaces in a way which is beneficial to all parties and is respectful of the environment.

Because Catalyst offers similar amenities to other premier camps, but is able to infuse them into the village, where other camps do not, this increases overall energy and life at the resort which is attractive. While many of the activities outlined in the Program Description in Appendix B were included, some were not able to be provided. This is primarily because of spatial constraints. In the breakdown of activity priorities in Appendix B, all activities under Necessity and High Priority were included. Priority activities which were unable to be included were the diving boards due to the existing pool facility, and the go karts,

which were relocated to develop the Base Camp over the temporary track on the Chapel Lot. Preferred activities which were not included were ultimate frisbee, sand volleyball, tetherball, horseshoes, basketball, bowling, and whitewater rafting. These amenities were not developed due to spatial requirements or because they were included as potential off campus activities. These elements could be looked at within the existing village developments.

Phasing of the Catalyst Action Sports Camp is seen as three phases. The first phase consists of all of the necessities, including housing, dining, and the base camp. This provides campers with a location to eat, sleep, and train. By developing these amenities first, Catalyst Action Sports Camp is able to begin hosting campers as soon as possible, thus generating revenue to help support the development of future phases. The second phase involves the development of the BMX complex, providing additional training grounds for bikers, and a connection from Center Village to East Village. This addition draws a new niche of campers to Catalyst and expands the revenue stream and resort reputation. Phase Three involves the transformation of the Village Square Meeting Rooms into the Recreation Room. Also included is the development of the Village Square Plaza skate spot, located just outside the Recreation Room. The fourth and final phase consists of the introduction of the skate paths in the village connecting the amenities, as well as the skate path which loops from Center Village to the BMX complex. Also in the fourth phase are the village skate spots at the Outdoor Activity Space and Climbing Tower Plaza. These elements help energize the resort during all seasons but especially in shoulder and summer off seasons.

The significance of this project may be great for the future of Copper Mountain Resort, but importantly for the progression of action sports as well. With Catalyst, Copper Mountain Resort will have the opportunity to host major action sporting events, gain publicity, sponsorships, television, and other mass media coverage. As Catalyst's

reputation grows nationally and globally, Copper Mountain Resort will receive more visits from tourists and professionals, increasing revenue.

Catalyst Action Sports Camp will be able to draw from the vast Colorado action sport population, develop, and nurture future stars and celebrities of the sport. New stars bring recognition to the camp as their starting place and will increase the camps popularity, ultimately growing and sustaining Copper Mountain Resort as a business, which is in direct correlation to the amount of visitors the resort receives. The creative expression of balance, harmony, and oneness to the framework of an action sports camp results in an attractive and successful project that provides a unique experience for Copper Mountain and Catalyst Action Sports Camp guests.

FUTURE RESEARCH

The true economic viability of the Catalyst Action Sports Camp requires and in depth market study. Because the need for an all-season action sports camp is to generate enough revenue in the off season summer months to maintain the business of the resort, an analysis of the cost and revenue would be valuable. This may include the direct costs of construction, maintenance, operations, and staffing, as well as the revenue of camp and associated family visitors. Indirect costs and revenue could then be projected. Indirect costs and revenue would potentially include additional competitions, publicity, establishing brand loyalty, and reputation of the resort and the camp.

The growth of the camp over time is one aspect which could be further explored. As Catalyst Action Sports Camp and Copper Mountain Resort gain popularity, more demand than planned for could be placed on the resort and the camp. More campers per session would mean a need for more staff and places to house them and campers. Catalyst should aim for growth which maintains the individual attention given to each camper and studies on precedents maintain the 1:10 ratio of coach to campers. How Catalyst may expand amenities and activities should be studied as the camp is implemented. With the development of new training strategies and technology, Catalyst will inevitably need to grow and adapt to achieve balance.

Many of the spaces in the Catalyst Action Sports Camp have generic names which describe the space they serve. This is intentional for this project, so as to make the locations and functions more clear to the audience. For example, the Outdoor Activity Center and Climbing Tower Plaza are rather bland and do not speak to an action sports community. Branding and sponsorships will likely play a large role in an action sports camp, and the opportunity presents itself to name a space after a company sponsor of the camp, adding additional revenue streams. Further progress of this project would determine potential branding of each space for a more exciting feel to the amenities.

RESEARCH AND INFORMATION NEEDS

One difficult challenge was available research materials on the subject of action sports. This may be because action sports and their popularity are relatively new compared to conventional design topics, therefore there is little written about the design, management, and guidelines for action sports. Also, as their popularity is fairly new, the image that they impress on the public and scholarly individuals is just beginning to emerge. Skateboarding, for example, has formerly been seen as an activity for juveniles and trouble makers. There would be no design for these sorts of activities because it was discouraged. However, though events such as the Summer and Winter X-Games, action sports have made a shift to the mainstream and are some of the most popular sports among youth. Largely, the information gained was web based and non-published, as well as a decade of experience in action sports.

SKATEPARK DESIGN

The design of skateparks posed more challenges than anticipated in the layout and design of the elements. With little experience skateboarding, it was more difficult to understand the flow, movement, and spacing required for a comprehensive skatepark. From a landscape architects viewpoint, the project provides basic components such as lighting, material types, aesthetics, views, varying terrain skill levels, varying terrain styles, and associated amenities. However, the combinations of skateboard and bicycle features into a holistic design provide a unique challenge.

It would be wise to enlist a consultant for the design of the skatepark features, and to collaborate with potential coaches and professionals to create a unified design for the camp. These consultants could consist of firms or individuals who specialize in skatepark design, such as California Skateparks, or Site Design Group. These companies mainly consist of individuals who have a background in skateboarding and biking, and who have taken their passion to the design realm to provide communities with quality action sport spaces.

REFLECTION

Growing up my entire life in Colorado, I have come to love winter sports, especially snowboarding. Starting out skiing, I made the switch to snowboarding over 10 years ago and it has grown into one of my most passionate interests (Figure 5.1). The trouble or tension was that snowboarding has been a winter only sport in most of Colorado so my summer months were spent in anticipation of the first snowfall of the winter. During summer downtime I picked up the sport of longboarding, which is essentially skateboarding, but mimics the flow of snowboarding more and concentrates on speed and carving more than on tricks as a skateboard allows (5.2). This connection illustrates how interest in other action sports emerges. For me it has developed a respect for other action sports and athletes.

Longboarding though the city also provided insight into the aspect of travel and integration of skateboarding in a community. This is where the concept of skate plazas and skate spots were discovered. Because I found many places where it is illegal to skateboard, I value this form of transportation. An opportunity exists to allow skateboarders to integrate into the community which could strengthen it and provide more vibrance to certain spaces. This idea was carried out in the village skate spots of Village Square Plaza and the Climbing Tower Plaza.

While in search for an internship during my 4th year of college, I was in contact with Gary Worthley of LandWorks Design Inc., who had worked on several ski resort projects, including Copper Mountain Resort. During the project development process over the summer prior to my 5th year, I began thinking about my interests and what I would like to work on for my capstone project. The answer became clear, that it should involve action sports in some manner. The difficult part was finding a substantial need for a place to incorporate a year-round snowboard camp. Through work in the fall semester, the project was refined to an all-season, multi-disciplined action sports camp as I discovered the potential impacts of climate change.

Once that figurative mountain was conquered, the development and progression of the driving concept presented itself. As the concept transformed and was refined, intimidating alterations of the design also presented themselves. Through those challenges, I gained a respect for the mountain of work landscape architecture and design. The catalyst through those scary moments to motivate and inspire me was the vision of the final product to the connect to the landscape. By keeping my focus on that goal, the hard work to get to that point happened.

At the beginning of my design process, much of the work was research and project definition oriented. When the time finally came to put marker to trace, I was eager to get down some of the detail ideas that had manifested during the fall semester. While this helped in the design process, I should have began with forming the concept, to guide how the form and function of the design was worked out. Returning a solid concept and introducing it in the middle of the design process stymied balance. Thankfully, the struggle to let go of some of the major aspects of the design and to start fresh through a conceptual lens made the project and the result a more unified design both in the camp development and in the existing resort.

Within the design process, my philosophies surfaced in loops of evaluation as I moved between project phases. These staples of my philosophy are creativity, sustainability, and marketability. Reflecting on this project, each of these points were developed and carried out. Creative and well thought out ideas were developed to make the connection for the camp to the mountain and to achieve balance. Sustainability was addressed both economically as well as environmentally. Economically, the result of the infusion of Catalyst Action Sports Camp will help to sustain Copper Mountain Resort through predicted climate changes, and will also lengthen the life cycle of the existing infrastructure. Environmentally, Catalyst aims for balance, providing opportunities for renewable energy and smart stormwater

strategies. The marketability of Catalyst is well developed, in that its concept and goals are attractive to resort developers and the camp itself is attractive to youth and adults alike.

This Masters Report in my 5th year in the College of Architecture, Planning, and Design at Kansas State University represents my advancements in the skills of Landscape Architecture. Through the progress of this project, I have been able to challenge myself as a designer, while being able to explore an area of which I have significant interest. I have become more balanced in my skill set as a landscape architect and in the way that I think about a design issue,

In the end, I was able to develop a project which I am proud of. Having the action sports background and the knowledge about other action sports camps, I can honestly say that I would invest in Catalyst Action Sports Camp and attend sessions should the opportunity present itself. This is for several reasons I believe are common draws for others to choose Catalyst over other similar action sports camps. For me, having a camp close to home in Colorado is important. I would enjoy Catalyst because of its connections to the mountain. I can see myself on a walk back to Base Camp from the slopes, my focus directed to the avalanche chutes on Ten Mile Range and reveling in the majesty of the place.

Being so interested in action sports, I began with a drive to cultivate them into the landscape architecture profession. Without being able to research and work with a project that I was so invested in, the long process would have been much more difficult. This project has provided a quality experience for time management, design process, and design challenges. These experiences are something that I will be able to bring into my future career as a landscape architect, and will allow me to be a valuable asset to my firm and my clients.

5.1 SNOWBOARDING AT COPPER



5.2 LONGBOARDING IN THE SUMMER



REFERENCES

REFERENCES

- California Skateparks. Upland, CA, Available from www.californiaskateparks.com (accessed: December 2, 2010).
- Community. Merriam-Webster Online Dictionary. <http://www.merriam-webster.com/dictionary/community> (accessed December 2, 2010)
- Copper Mountain. 2010. Available from www.coppercolorado.com (accessed December 2, 2010).
- Dorward, Sherry. 1990. *Design for Mountain Communities: A Landscape and Architectural Guide*. New York: Van Nostrand Reinhold.
- Dunn, Chris. 2006. *Finding Summer Success for Mountain Resorts*. Urban Land.
- Dyrdek, Rob. in Rob Dyrdek/DC Shoes Skate Plaza Foundation [database online]. 2009 [cited October 28 2009]. Available from <http://www.robdyrdekfoundation.org/>.
- Experience. Merriam-Webster Online Dictionary. <http://www.merriam-webster.com/dictionary/experience> (accessed December 2, 2010)
- Farr, Douglas. 2008. *Sustainable Urbanism: Urban Design with Nature*. Hoboken, New Jersey: John Wiley & Sons, Inc.
- Gastil, Raymond W., and Zoe Ryan. 2004. *Open: New Designs for Public Space*. New York: Van Alen Institute.
- Harris, Charles W., and Nicholas T. Dines. 1998. *Time-Saver Standards for Landscape Architecture: Design and Construction Data*. 2nd Edition ed. Columbia: McGraw-Hill Publishing Company.
- Holtzman, David. 2006. *Mountain Resorts Grow Up: As Mountain Resorts Morph from Ski Areas into Year Round Destinations, they Face Affordable Housing Shortages and other Growth Challenges*. Urban Land.
- Karl, Thomas R., Jerry M. Melillo, and Thomas C. Peterson. 2009. *Global Climate Change Impacts in the United States*. New York, New York: Cambridge University Press.
- Kessler, Kristina. 2007. *Winds of Change*. Urban Land.
- Kozloff, Howard. 2006. *Ten Trends Affecting Mountain Resorts*. Urban Land.
- Lawson, Fred R. 1995. *Hotels and Resorts: Planning, Design, and Refurbishment*. Oxford: Butterworth-Heinemann Ltd.

- Microclimate. Merriam-Webster Online Dictionary. <http://www.merriam-webster.com/dictionary/microclimate> (accessed December 2, 2010)
- Peralta, Stacy. 2002. Dogtown and Z-Boys, ed. Jay Wilson. Vol. DVD Sony Pictures Classics (accessed October 28, 2009).
- Poirier, Desmond. 2008. Skate parks: A Guide for Landscape Architects and Planners. Master of Landscape Architecture., Kansas State University.
- Renewable Energy. Dictionary.com. Dictionary.com Unabridged. Random House, Inc. [http://dictionary.reference.com/browse/renewable energy](http://dictionary.reference.com/browse/renewable%20energy) (accessed: December 2, 2010)
- Schwanke, Dean. 1997. Resort Development Handbook. Washington, D.C.: Urban Land Institute.
- Spangenthal-Lee, Jonah. Art vs. Skateparks. in Index Newspapers, LLC [database online]. Seattle, WA, 2007 [cited November 14 2009]. Available from http://slog.thestranger.com/2007/08/art_vs_skateparks.
- Vivoni, Francisco. 2009. Journal of Sport and Social Issues 33 (2) (May 2009): 131-47, <http://jss.sagepub.com/cgi/reprint/33/2/130> (accessed October 28, 2009).
- Vivoni, Francisco. 2009. Spots of Spatial Desire: Skateparks, Skateplazas, and Urban Politics. Journal of Sport and Social Issues 33 (2): 130.
- Vivoni, Francisco. Taking Back the Streets: Skateboarding, Direct Action and Urban Unrest. 2006 [cited October 28 2009]. Available from http://www.abubaca.be/userFiles/files/documentenbank/studenten/taking_back_the_streets.pdf.
- Whitley, Peter. 2009. Public Skatepark Development Guide: Handbook for Skatepark Advancement. 2nd ed. International Association of Skateboard Companies, Skaters for Public Skateparks, Tony Hawk Foundation.
- Windells Camp. 2010. Available from www.windells.com (accessed December 2, 2010).



APPENDIX

WINDELLS CAMP

Source: information and images from windells.com unless otherwise noted

LOCATION

Sandy, Oregon, 39 miles east of Portland, Oregon at the base of Mt. Hood

PROJECT TYPE

All-season action sports camp

SIZE

53 acres of campus, plus 1 mile of on slope training grounds

DATE DESIGNED

Founded in 1991, and continually expanding to meet the demands of current action sports trends

PROJECT BACKGROUND

Windells Camp is one of the premier action sports camps, especially for snowboarding and skiing. Most of the big names in the sports of snowboarding, skiing, and skateboarding have come through Windells Camp. Skateboarder Ryan Sheckler won a major contest and new truck after 4 years at Windells Camp. He was 13 years old. Snowboard icon Shaun White was a camper from ages 6 to 12 and went on to win 2 Olympic gold medals. In fact, every snowboard Olympic medalist in snowboard halfpipe, all 23, have gone through Windells. Windells caters their facilities towards the progression of their campers, from beginners to advanced and pro riders. Along with their coaching techniques, the facilities at Windells are often at the leading edge of training advancements, with the results to show.

SITE CONTEXT

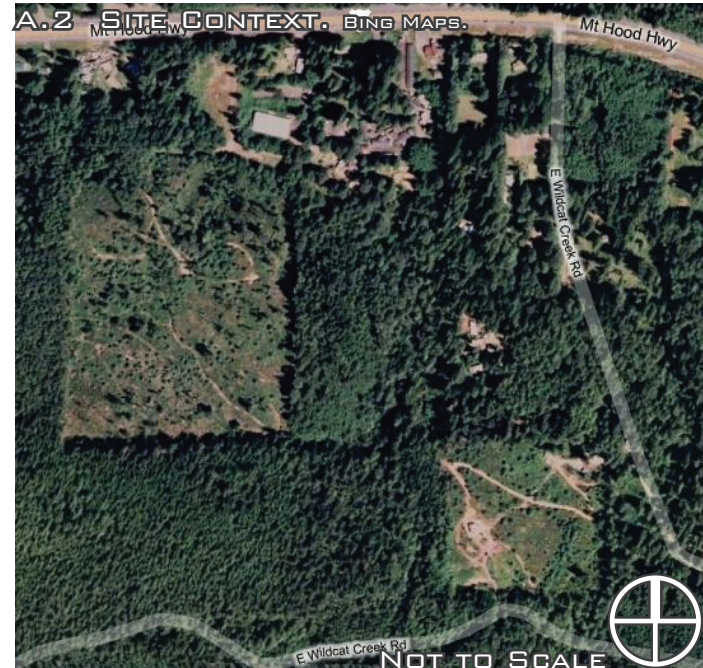
Windells Camp is located along Highway 26, Mt. Hood Highway. There is no development adjacent to the camp. Windells has

forested areas surrounding their campus, which they utilize for mountain bike and BMX bike trails. The campers are driven to the on slope training areas by counselors in the camp's buses.

A.1 UNIQUE TRAILS



A.2 SITE CONTEXT. BING MAPS.



DAILY SCHEDULE

- 7:00 Wake Up: Counselors in each cabin will wake campers
- 7:15 Breakfast: Kitchen Crew serves up hot meals in Windells Delicatessen
- 8:00 Morning Announcements: Get information on daily activities, weather, safety, visiting pros, product demos and what's next
- 8:10 Depart for the Mountain/Skate Trip: Load into sponsored vans
- 9:00 Structured Coaching: On slope training with a packed lunch
- 3:30 Return to Campus: Free time to relax, take care of equipment, or hang out with fellow campers
- 5:00 Video Review: Campers meet with their coach and watch video footage from the day of themselves riding
- 5:30 Dinner: Kitchen Crew serves up hot dinner in Windells Delicatessen with a different theme each night
- 7:00 Activity Time: Campers are free to participate in an array of activities offered
- 7:30 Skate Clinic: Structured skate lessons focusing on different techniques each night
- 8:00 Sponsor Night Contests: Fun contest activities hosted by sponsors
- 9:00 Bonfire: Relax by the fire and roast smores
- 10:00 Return to Cabins: Campers come back to assigned cabins and prepare for bed

10:30 Lights Out: Campers get rest for another day

Analysis/Synthesis

This daily schedule gives the campers a large amount of time to be on the slopes, learning techniques and receiving coaching for their sport. Campers make and bring their own lunch to bring with to the mountain with them so a trip back to the campus is not necessary. Some of the rest of the afternoon involves their video review, where they can see how they performed. Most of the camper's free time comes after dinner, and in the winter, darkness will have fallen but the campus is illuminated.

A.3 ON SLOPE TRAINING



ACTIVITY AND AMENITY INVENTORY

The following list of activities is provided by Windells Camp. These activities are then grouped by similarity of their probable location. Looking at the list of activities offered, amenities were inferred which would serve as a location for those activities. Amenities are listed, followed by their activities.

Parking Lot/Entrance: parking, pick up/drop off, sign in, offices

Dorms/Cabins: sleep

Cafeteria: meals, snacks

Auditorium: announcements, movie nights, talent show, rap battle

Mountain: ski/snowboard training, photo shoots

Indoor Training Facility: dry slope training, balance training, trampolines, foam pits, video analysis and editing, indoor skate and BMX training

Skate Park/Plaza: skate clinics, BMX park, inline skating

Woods/Trails: mountain bike trails, dirt BMX jumps, mountain boarding, paintball

Equipment Building: product demos, equipment tuning

Outdoor Activity Space: eating contest, zombie face painting, arts and crafts, t-shirt making, sticker making, sponsor night, autograph signing, painting

Recreation Room: video games, Guitar Hero, foosball, pool

Field: Slip and Slide, sumo wrestling, water balloon toss, marshmallow eating contests, smores night, campfire , jousting, human bowling,

zombie night

Random Campus Spots: sand volleyball, tetherball, horseshoes, burp contests, dodgeball, basketball, knockout, dance party

Off Campus: go karts (adults only), sushi nights (adults only), Portland outings (adults only), bowling, whitewater rafting



A.5 SLEEPING QUARTERS



A.7 DINING HALL



A.9 VIDEO GAME LOUNGE



A.6 SNOWFLEX AND AIR BAG



A.8 SKATEPARK



A.10 TRAMPOLINES AND FOAM PIT



CAMPUS LAYOUT

Windells Camp does not make available a campus map, therefore online mapping websites (Figure A.2) provided adequate imagery to determine a layout, however there is significant tree cover shielding many details. Windells provides a video tour of their campus however, and clues to the campus layout and some details were determined or inferred from this.

Analysis/Synthesis

The following adjacency matrix shows probable amenities derived from the activities offered and their inferred relationship to each other. Orange areas show a necessary adjacency, blue areas show a preferred adjacency, and purple shows an unwanted adjacency. Unmarked areas are an indication of no preference of adjacency. Necessary relationships often involve operations which work together to make the camp more efficient, such as the skate park being close to the equipment building for maintenance and equipment needs. Unwanted relationships stem from the need for safety of the campers, like separating skateboarding from vehicle circulation. The attractions that would bring non-campers to the camp, like the skatepark or trails through the woods, are also unwanted near the entrance in order to keep the camp for the campers only and to keep vandalism at bay.

A.12 OUTDOOR SNOWFLEX RUN



A.13 SKATE TRAILS



A.14 OUTDOOR DINING AND HALFPIPE IN BACKGROUND



A.11 BMX DIRT JUMP LINES



A.15 ADJACENCY MATRIX

	OFF CAMPUS	RANDOM CAMPUS SPOTS	FIELD	RECREATION ROOM	OUTDOOR ACTIVITY SPAG	EQUIPMENT BUILDING	WOODS/TRAILS	SKATE PARK/PLAZA	INDOOR TRAINING FACILIT	MOUNTAIN	AUDITORIUM	CAFETERIA	DORMS/CABINS
PARKING LOT/ENTRANCE	Unwanted Adjacency	No Preference	No Preference	No Preference	Preferred Adjacency	No Preference	Unwanted Adjacency	Unwanted Adjacency	Preferred Adjacency	No Preference	Preferred Adjacency	Preferred Adjacency	Unwanted Adjacency
DORMS/CABINS	Unwanted Adjacency	Preferred Adjacency	No Preference	Necessary Adjacency	Necessary Adjacency	Preferred Adjacency	No Preference	Preferred Adjacency	No Preference	No Preference	Necessary Adjacency	Necessary Adjacency	Unwanted Adjacency
CAFETERIA	Necessary Adjacency	No Preference	No Preference	No Preference	Preferred Adjacency	No Preference	No Preference	Preferred Adjacency	No Preference	No Preference	Preferred Adjacency	No Preference	Unwanted Adjacency
AUDITORIUM	No Preference	No Preference	No Preference	Preferred Adjacency	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	Unwanted Adjacency
MOUNTAIN	No Preference	No Preference	No Preference	No Preference	No Preference	Preferred Adjacency	Necessary Adjacency	No Preference	Preferred Adjacency	No Preference	No Preference	No Preference	Unwanted Adjacency
INDOOR TRAINING FACILITY	No Preference	No Preference	No Preference	No Preference	No Preference	Necessary Adjacency	Necessary Adjacency	Necessary Adjacency	No Preference	No Preference	No Preference	No Preference	Unwanted Adjacency
SKATE PARK/PLAZA	Unwanted Adjacency	Preferred Adjacency	No Preference	No Preference	Preferred Adjacency	Necessary Adjacency	Preferred Adjacency	No Preference	No Preference	No Preference	No Preference	No Preference	Unwanted Adjacency
WOODS/TRAILS	Unwanted Adjacency	No Preference	Preferred Adjacency	No Preference	No Preference	Preferred Adjacency	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	Unwanted Adjacency
EQUIPMENT BUILDING	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	Unwanted Adjacency
OUTDOOR ACTIVITY SPACE	No Preference	Necessary Adjacency	No Preference	No Preference	No Preference	No Preference	Necessary Adjacency	No Preference	No Preference	No Preference	No Preference	No Preference	Unwanted Adjacency
RECREATION ROOM	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	Unwanted Adjacency
FIELD	Unwanted Adjacency	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	Unwanted Adjacency
RANDOM CAMPUS SPOTS	Unwanted Adjacency	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	Unwanted Adjacency
OFF CAMPUS	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	No Preference	Unwanted Adjacency

NECESSARY ADJACENCY
 PREFERRED ADJACENCY
 UNWANTED ADJACENCY
 NO PREFERENCE

CREATIVE FEATURES

Windells Camp has several examples of how action sports can be creatively performed. One of the draws for many participants to action sports is the individuality that it carries. There is always an encouragement for thinking outside of the box and doing things differently. The following pictures show ways in which this can play out.

A.16 TREE TRAILS



A.17 "NATURAL" ELEMENT



A.18 SKATE AREA SNOW



A.19 BOX SWING



Darcy Bacha
photography.com

CONCLUSIONS ABOUT WINDELLS CAMP

The reputation of Windells Camp and the way in which it is run is desirable and should serve as a framework for this project. The experience the camper receives while at camp should make them want to return year after year, or even more frequently with multiple sessions in a season. The daily schedule provides a model for the experience at Windells Camp, and offers a great insight to start planning the daily experience at Catalyst. The list of activities provides a base for which to analyze the fitness and balance of activities included at Catalyst and Copper Mountain Resort. Inferring the locations and relationships of activities is useful for creating a program and discovering opportunities at Copper Mountain Resort, using the adjacency matrix as a guide for the spatial relationships that should be created. Finally, a look at the creative features of Windells Camp spurs challenges of creative elements with the integration aspects of the Copper Mountain resort site. Windells Camp is located in a remote area from any other development, most likely because of the space needed for the amenities. The vision of Windells may also have been to provide an isolated camp for more private, focused training and to create a more natural camping type of experience in the woods. This creates a tension between what the campers learn at their base camp and the on slope application, with campers needing to be bused to the slopes. Catalyst alleviates this with its infusion into Copper Mountain Resort and applies the framework from Windells to the camp development.



LAFAYETTE SKATE PLAZA

Source: information and images from californiaskateparks.com unless otherwise noted

LOCATION

On the southwest corner of LaFayette Park, slightly northwest of downtown Los Angeles, California

PROJECT TYPE

The first Rob Dyrdek Foundation Safe Spot Skate Spot

SIZE

10,000 square feet

DATE DESIGNED

Opened in February 24, 2009 as a design/build by California Skateparks

PROJECT BACKGROUND

“Safe Spot, Skate Spot is a program developed by the Rob Dyrdek Foundation to support legal and safe skate spots for communities interested in developing legal skateable terrain for their skateboarders. Based from the skate plaza concept, the Safe Spot, Skate Spot program will provide an alternative option for communities with limited budgets or space restrictions to develop real street skating locations.” (robdyrdekfoundation.org)

A.24 MANUAL PAD



A.25 STAIRS AND HANDRAIL

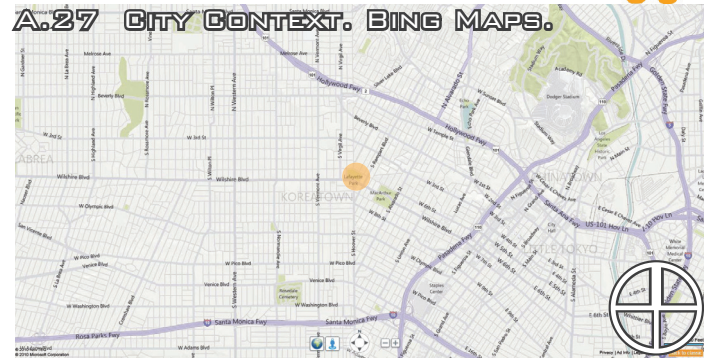


SITE CONTEXT

LaFayette Skate Plaza is located in LaFayette Park, which contains a few basketball courts, a soccer field, and two tennis courts across the street. The park is along Wilshire Blvd., a major roadway in Los Angeles. There is a small university adjacent to the park, along with a few unidentified buildings and parking areas. To the north are residences which the park may serve.



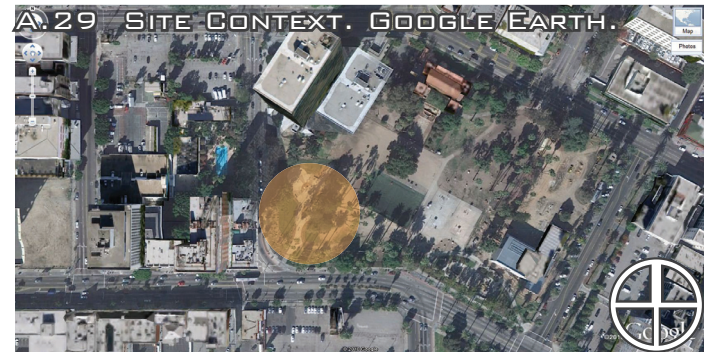
A.27 CITY CONTEXT. BING MAPS.



A.28 COMMUNITY CONTEXT. BING MAPS.



A.29 SITE CONTEXT. GOOGLE EARTH.



SKATE PLAZA VS. SKATE PARK

The LaFayette Skate Plaza separates itself as a skate plaza rather than a skate park. This is due to the aesthetics of the space and the style of skating. Contrary to skate parks, skate plazas can function as plazas in a park or city and are typically a more enjoyable space to spend time in. Shaded areas and landscaping encourage non-skaters to stop by and watch for a while or to spend their lunch break in the area. Skate parks on the other hand are mostly concrete with little shade and are generally exclusive to skaters. Also, their locations are often isolated away from other activity hubs of a city. The elements in the LaFayette skate Plaza are geared towards street skateboarding, which is the primary style of skating in a skate plaza. These items may be found in urban settings and typically consist of benches, handrails, and other similar features. Skate park skating is oriented towards more vertical movements and bowls, although a street section may be included. The LaFayette Skate Plaza does not include any transitions to vertical maneuvers or any bowl features, instead promoting the street style skating. There is a tension created here, as skateboarders who may want to skate these vertical elements will have to travel elsewhere. At Catalyst, these popular street elements are included in a skate plaza, and are adjacent to other parks catering to different styles of skateboarding and biking. In order to balance amenities for differing desires.

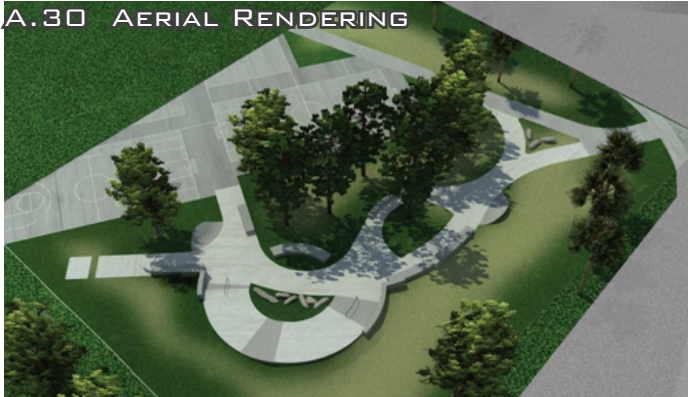
A.31 LANDSCAPE ELEMENTS



A.32 PLAZA SPACE



A.30 AERIAL RENDERING



SITE ELEMENTS

The LaFayette Skate Plaza has several skate elements which I can draw from for my project. These elements include: benches, banks, ledges, manual pads, staircases, rails, ramps, walls, a “skateable star” feature, and a potential (future) stage location. The skateable star stems from the assistance of the Carl’s Jr. Chain in funding the project, thus their logo was implemented as a skate feature. This allows for creative branding, advertisement, and can even be considered skateable art. Also incorporated into the design are trees, shrubs, flowers and boulders, which work to make the skate plaza a more pleasant location to skate rather than a traditional skate park. Features such as benches and ledges provide seating and a place to rest in occasionally shaded areas while also serving as skate features for the plaza when available.

Elements such as the skateable star lend to the creative aspect of integrating elements into a space. Where Windells Camp is strictly oriented towards action sports, LaFayette Skate Plaza incorporates various user groups. Therefore, features like benches or ledges are skate elements which are integrated, but also serve a purpose for the other users. At Catalyst, element integration within the existing resort aims to serve all users, with skateable benches and

A.34 BENCH



A.33 STAIRS, RAIL, AND LEDGE



A.35 CARL'S JR. SKATEABLE STAR



CIRCULATION

In the LaFayette Skate Plaza there is skateboard circulation and pedestrian circulation. Skateboard circulation dominates the site, with minimal pedestrian circulation. Skaters move mostly with the flow of the pathways, lining up for their maneuvers on the obstacles when they are available. Skaters will start at the top of the elevated section and perform maneuvers down the stairs or on the rails, coming into wider portions of the plaza pathway. Pedestrian circulation is more sparse, with their movement along the paths most likely toward the edges. Pedestrians are drawn more to the seating elements where they can rest in the shade and watch others skate. At Copper Mountain Resort, the infusion of skate paths avoid conflicts with pedestrians. Analysis of conflict zones delineated where skate paths and locations of skateable elements should be placed. Pedestrians stay on the lower paths and do not go up the stairs to the elevated section unless they are photographing or filming a skater. There are no seating elements or other draws on the upper tier for pedestrians to travel up the stairs. Adjacent to the skate plaza are basketball courts, separated by a grassy area. Pedestrians entering the park from the corner entry that want to use the basketball courts easily walk to the courts on another path to avoid congesting the skate plaza.

A.36 CIRCULATION

SKATE



PEDESTRIAN



PRIMARY

SECONDARY

TERTIARY



CONCLUSIONS ABOUT LAFAYETTE SKATE PLAZA

Several concepts from the LaFayette Skate Plaza apply to this project. The idea of a skate plaza vs. park is one thing that I can use as a basis for the experience of my project. This can help determine the program elements that will be included. A skate plaza on the campus of an all season action sports camp, possibly with some elements from a skate park, can help to make the campers stay more memorable and enjoyable, as the designed space is more enjoyable to be in. Campers have the opportunity to be engaged in action sports in most places of Copper Mountain Resort, or can be spectators under shade elements, relaxing on nearby seating. As campers migrate between activities, there may be opportunities to implement skate plaza elements, or skate spots, along the way. The typologies of skate elements can provide ways in which this may be done. Learning from the circulation of the LaFayette Skate Plaza, a more balanced approach is desired, meaning skate spots wider than Lafayette, or spacing the elements further apart. Looking at where skaters might jump down stairs or grind a rail is critical to making sure they do not fly into a gathering space and cause injury. Also, providing comfortable viewing spots of the skate elements allows non-skaters to relax and watch skaters do their thing.



B

APPENDIX

CATALYST PROGRAM

The program details the amenities planned and designed for the Catalyst Action Sports Camp at Copper Mountain Resort. The development of the project program is based mainly on the precedent of Windells Camp and the amenities that support activities provided for their campers. Program activities for campers are grouped together by their common use or need of a space.

Each group will address any goals, facts, concepts, needs, and problems appropriate for the function, form, economy, and time of the program element to help achieve balance with the resort and the camp. Because this project strives to integrate amenities into the existing village, it is necessary to determine the program elements' harmony, balance, and fitness at Copper Mountain Resort. Knowing the program elements allows analysis of the existing site to determine what can and cannot be integrated. Critical investigation of program elements within the existing village context lends itself to the possibility of use of some elements by multiple groups not involved with the camp, maximizing the functionality and profitability.

NUMBER OF CAMPERS AND STAFF

Summer: 150 campers (ages 6-17) and 75 staff members (including maintenance, counselors, office staff, coaches)

Winter: 75 campers and 40 staff members

Male/Female Ratio: roughly 2/3 male, 1/3 female (windells.com)

Additional Notes: based on success of camp, numbers may grow and a coach to camper ratio should stay roughly 1:5-10 (windells.com). Program elements should be planned for possible expansion if the camp does grow

PARKING LOT/ENTRANCE

Activities Involved: parking, pick up/drop off, sign in, offices, go karts

Size: at least an additional 225 parking stalls and office space for 5-10 staff members

Requirements: must include 7 ADA stalls for every 200-300 stalls (Harris and Dines, 240-8)

Additional Notes: go karts formerly located on the Chapel Lot in the summer are able to be relocated to another parking lot, as the track can be incorporated onto paved or dirt lots as space allows in each season. Parking should have access to the existing shuttle service.

DORMS/CABINS

Activities Involved: sleep, relaxation, community building

Size: 150 beds in the winter and 75 in the summer for campers, 75 beds in the winter and 40 in the summer for staff members

Requirements: males separated from females, and grouped by ages, with counselors assigned to groups

Additional Notes: a housing complex was created as opposed to integrating campers into existing condominiums. This allows for the existing condos to fill their rooms with guests who would typically pay a higher price for the room rather than the camp bundle. Also, the quality of the rooms in condos would be at risk due to the influx of energetic youth and are not well suited for the camp

CAFETERIA

Activities Involved: meals, snacks

Size: seating for 225 additional people, though meals may be divided into groups

Requirements: meals to be provided for breakfast, lunch, and dinner. Lunch may be made during breakfast for on slope training if campers are far from cafeteria.

Additional Notes: campers will eat breakfast and lunch in two group in order to minimize the additional space required. Snow athletes will eat breakfast while dry land athletes will receive their morning announcement, and then they groups will switch. During lunch, the two groups will eat separately with snow athletes taking the first shift. Campers will all eat dinner together to allow athletes to develop friendships across disciplines. Snacks and drinks are available to purchase throughout the day in several locations throughout the camp

AUDITORIUM

Activities Involved: announcements, movie nights, talent show

Size: seating for 225 campers and staff members

Requirements: able to accommodate microphones, projector, screen, and preferably a stage area

Additional Notes: movie nights may also be projected on the outside of the Indoor Training Facility across from the Housing Complex and the passive plaza space when weather permits

MOUNTAIN

Activities Involved: ski/snowboard training, photo/video shoots, tubing

Size: Copper Mountain has six terrain parks of varying difficulty levels which will be utilized by campers in all seasons (select parks in the fall and summer) and by traditional visitors from November-April.

Requirements: lift access to terrain parks in all seasons

Additional Notes: views and connection to the mountain are important for the experience of the camp. Visual connections to runs or elements such as the superpipe allow coaches to refer to the mountain during instruction. Campers can view aspects of the mountain as inspiration or a way to get motivated. Having a close physical connection to the mountain allows for greater harmony and oneness of the camp, mountain, and user.

INDOOR TRAINING FACILITY

Activities Involved: dry slope training, balance training, trampolines, foam pits, photo/video analysis and editing, indoor skate and BMX training

Size: roughly 25,000 square feet

Requirements: large garage door for moving and updating equipment, studio rooms for photo and video analysis and editing

Additional Notes: the garage doors also allow for maneuverability of campers on skateboards or bikes from the inside to the outside. The Indoor Training Facility can also be open to the public for a fee when camp is not in session, where all ages can use the facility under the supervision of the camp

SKATE PARK/PLAZA

Activities Involved: skate training, BMX training, inline skating

Size: roughly 40,000 square feet

Requirements: needs to include features for all levels of riders in street, park, vert, and bowl styles

Additional Notes: space separates the different riding styles as well as varying difficulties to maintain safety between skill levels. This also provides coaches the ability to direct attention to more experienced campers and for campers to have a goal to work up to throughout the week

WOODS/TRAILS

Activities Involved: mountain bike trails, dirt BMX jumps, mountain boarding, paintball, slack lining

Size: unspecified length of trails, roughly 10,000 square feet of dirt jumps

Requirements: trails should include and link to existing dirt trails where possible. BMX dirt jump lines should be separated by skill level and be oriented in a north-south direction to prevent solar glare

Additional Notes: The BMX Complex facilitates the dirt jump lines separate from the existing mountain bike trails on the slopes of the mountain. These trails link to the natural terrain park space as well as the skate path loop. The natural terrain park is usable by mountain bikers in the summer, and by snow athletes when there is adequate snow. Paintball may be incorporated into the natural terrain park area during off and shoulder seasons.

EQUIPMENT BUILDING

Activities Involved: product demos, equipment tuning

Size: roughly 2,000 square feet

Requirements: space to store demo equipment for campers, as well as stations to teach campers how to wax and tune snow equipment and fix and maintain skateboards and bikes

Additional Notes: incorporated into the ground floor of the Indoor Training Facility, accessible from the atrium

OUTDOOR ACTIVITY SPACE

Activities Involved: eating contests, "Fear Factor" contests, arts and crafts, t-shirt making, sticker making, sponsor night, autograph signing

Size: roughly 1,000 square feet of clear space

Requirements: should be private to camp and

Additional Notes: space is able to adapt to various camp activities, and is a skate spot when no activity is in session, having Skatelite laid down and moveable elements

RECREATION ROOM

Activities Involved: video games, foosball, pool, ping pong, lounge

Size: roughly 1,000 square feet

Requirements: able to accommodate several stations of video game consoles and televisions

Additional Notes: provide places where campers can hang out and relax inside or outside on a porch type setting

FIELD

Activities Involved: Slip and Slide, sumo wrestling, jousting, water balloon toss, campfire, smores night, human bowling, ultimate frisbee, stretching

Size: roughly 3,000 square feet

Requirements: free from obstacles such as trees or fire pits and should have well kept turf grass

Additional Notes: located across the passive plaza from the Housing Complex near the entry to the Indoor Training Facility

RANDOM CAMPUS SPOTS

Activities Involved: skate paths, sustainable elements, sand volleyball, tetherball, horseshoes, dodgeball, basketball, dance party, four square, mini golf, golf, climbing wall, bungee trampoline, bumper boats, go karts

Size: varies

Requirements: skate paths are to incorporate mainly street style elements as well as smaller park elements and connect destinations of campers, providing balance of the camp within the existing resort. These paths can weave in and out of trees and should avoid major pedestrian gathering spaces and crossing major circulation patterns. Sustainable elements should be implemented wherever possible and necessary

Additional Notes: some activities would be able to serve as public amenities at times such as mini golf, climbing wall, bungee trampoline, and bumper boats. Golf is an amenity offered by the resort that a camper might sign up for

POOL

Activities Involved: swimming, hot tub, diving boards

Size: roughly 1,000 square foot pool, seven large hot tubs

Requirements: lifeguards on duty at all times

Additional Notes: hot tubs are located outside of the Housing Complex for campers to relax in at the end of the day. The Lodging Check In and Athletic Club contains a pool which may be utilized by the camp, and is located between the Base Camp and the BMX Complex

OFF CAMPUS

Activities Involved: bowling, whitewater rafting, skate trips (activities not within the Catalyst camp boundaries)

Size: N/A

Requirements: campers parents will need to sign waivers and permission forms before weekly sessions

Additional Notes: amenities may not be available due to the time of year or it may not be desirable to take campers off campus for liability or insurance purposes. Camp administration will further determine extent of off campus activities

PROGRAM ELEMENT RELATIONSHIPS

The adjacency matrix shows the desired relationships between program elements which inform overall site layout and aid decisions on the specific locations of each element. Orange areas show a necessary adjacency between two elements for better experience of the campers and efficiency of the camp. Blue areas are a preferred adjacency of the elements, and purple areas are an unwanted adjacency. Adjacency may be unwanted in some areas due to safety or vandalism. Unmarked areas indicate no preference in the relationship of the two program elements.

Necessary Adjacencies

Necessary adjacencies, as stated, are important to the experience and efficiency of the camp, promoting a harmony between users of the resort. Necessary adjacencies for the parking lot and entrance of the camp relate to the check in and housing. The parking lot and entrance should serve as a transition from offsite access to the grounds of the camp. As campers arrive, they will need to check in before proceeding to the camp quarters and opening events.

The dorms or cabins should also be close to the parking lot and entrance so that campers can easily unload their belongings. Dorms or cabins should be adjacent to the recreation room, outdoor activity space, auditorium, and cafeteria if possible. The recreation room is a place where campers can spend free time and relax in the evenings. Once campers return from the slopes or training, they can participate in activities in the outdoor activity space after returning equipment to their rooms. Following the daily schedule, campers wake up every day and begin with breakfast followed by announcements, so adjacency between these three amenities is desired. Following morning announcements, campers would return to their dorms to dress and grab their equipment for their training. This relationship fits with the concept of balance, harmony, and oneness of the camp.

The cafeteria should be adjacent to access points or existing distribution of delivery services so that food and service vehicles can

easily pick up or drop off items without having to navigate throughout the campus and resort.

The woods and trails have an obvious adjacency to the mountain in order to link mountain bike trails to existing trails on the mountain.

The indoor training facility has a necessary adjacency to the equipment building, woods and trails, and the skatepark or plaza. The indoor training facility is a place where campers can work on their skills in conjunction with their on slope training. It also serves as a place where they can tune and maintain their equipment and immediately test it, or get product demos and trials. Woods and trails adjacent to these facilities allow for bikers to go from the indoor facility to the park to the trails and dirt jumps. This creates a hub of action sports features, with a connection of the indoor training facility, skatepark or plaza, woods and trails, and the equipment building. Storage of campers' equipment also takes place in the Indoor Training Facility, easily accessible in the mornings before training.

The outdoor activity space needs to be adjacent to the random campus spots so that activities such as eating contests and t-shirt making are close to campus. Exceptions to this adjacency may be skate paths and sustainable elements, which should be near the outdoor activity space, but also spread throughout the resort.

Differences in the adjacencies between the summer and winter depend primarily upon the need for campers to travel between amenities. The pool or hot tubs are desired to be close to the housing in the winter months, but are not as much as a priority in the summer months. Adjacency is preferred in the winter between the housing, cafeteria, recreation room, outdoor activity space, indoor training facility, and the auditorium primarily

Unwanted Adjacencies

Unwanted adjacencies are addressed mainly to protect the safety of the campers, staff, resort, visitors, locals, and the property of the camp and resort. The parking lot and entrance should not be adjacent to the skatepark or plaza. This is to help the security of the space. Vandalism, whether it is graffiti or physical damage to the features, is unwanted and can be dangerous. The action sports elements are the main draws of the camp, and thus need to be kept in top condition. Other action sports elements such as the indoor training facility and equipment building can easily be locked, but the skate park or plaza is open, requiring sufficient lighting and surveillance. Locating these spaces towards the interior of the camp will also help in security.

Other unwanted adjacencies involve program elements' relationship to off campus. These are the skatepark or plaza, woods or trails, open activity space, and random campus spots. The skate park or plaza is unwanted near off campus because of the aforementioned reasons of vandalism. It would be best to have the woods and trails where campers may be off paintballing or biking as close to the campus and base villages as possible. This is primarily for the camper's safety and also for the need to connect trails to existing trails of the resort. Therefore, these spaces should be located between the campus and the area of the mountain utilized by the resort.

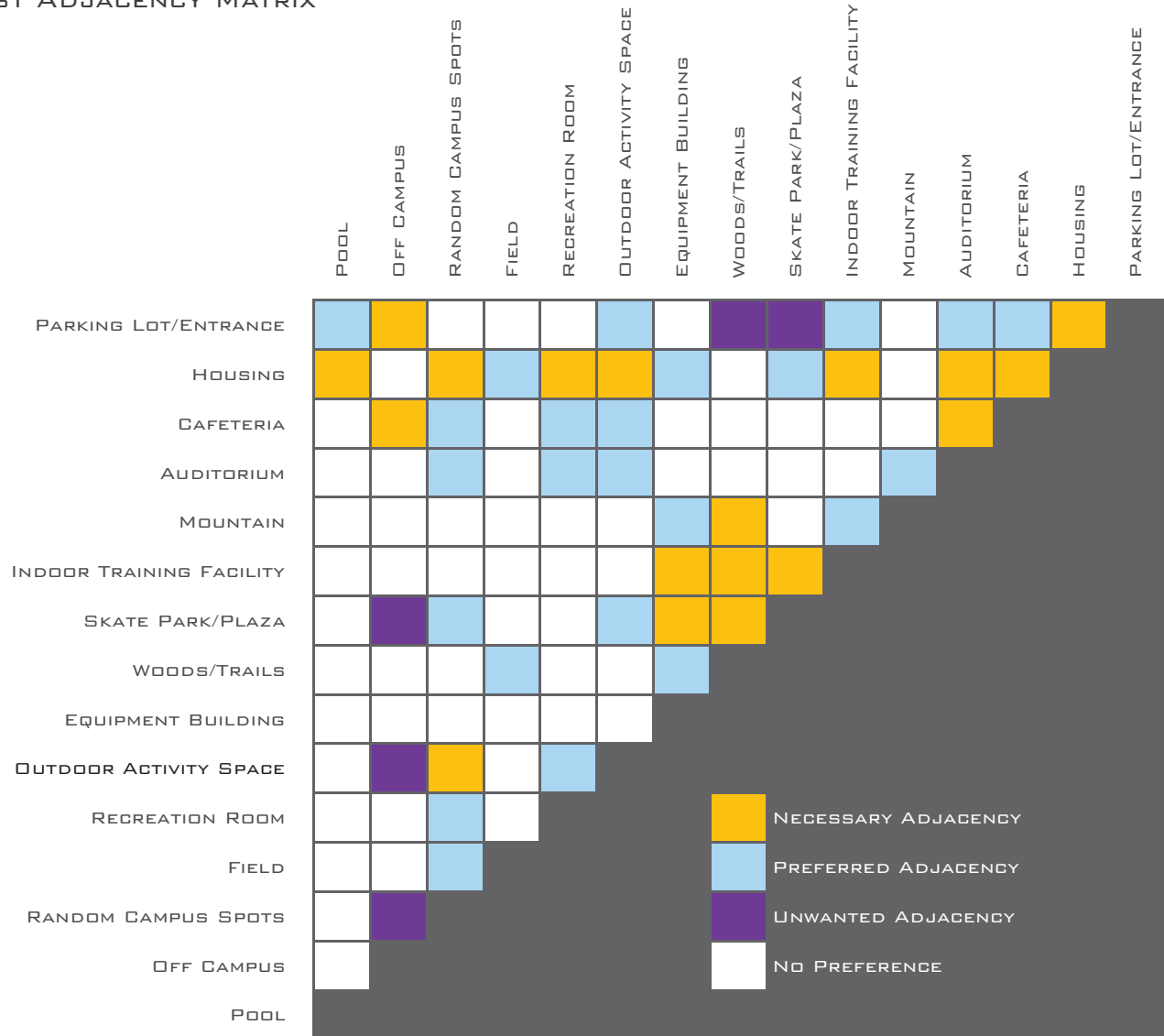
The open activity space should be surrounded by uses of the camp for it to act as a common space for campers and to be within close proximity of other amenities. This space is to be mostly exclusive for campers and their activities. The random campus spots include several amenities for use by the campers as well as the resort. Therefore these amenities should be integrated into the spaces of the resort and kept minimally to the outer edges of the base villages. An exception may be the use of sustainable elements, which may address stormwater and the creek, or wind and solar energy opportunities.

B.1 CATALYST ADJACENCY MATRIX
SUMMER

	POOL	OFF CAMPUS	RANDOM CAMPUS SPOTS	FIELD	RECREATION ROOM	OUTDOOR ACTIVITY SPACE	EQUIPMENT BUILDING	WOODS/TRAILS	SKATE PARK/PLAZA	INDOOR TRAINING FACILITY	MOUNTAIN	AUDITORIUM	CAFETERIA	HOUSING	PARKING LOT/ENTRANCE
PARKING LOT/ENTRANCE		UNWANTED ADJACENCY				PREFERRED ADJACENCY		NECESSARY ADJACENCY	NECESSARY ADJACENCY	PREFERRED ADJACENCY			PREFERRED ADJACENCY		UNWANTED ADJACENCY
HOUSING	PREFERRED ADJACENCY		PREFERRED ADJACENCY		UNWANTED ADJACENCY	UNWANTED ADJACENCY	PREFERRED ADJACENCY		PREFERRED ADJACENCY	PREFERRED ADJACENCY			UNWANTED ADJACENCY	PREFERRED ADJACENCY	
CAFETERIA		UNWANTED ADJACENCY				PREFERRED ADJACENCY							UNWANTED ADJACENCY		
AUDITORIUM					PREFERRED ADJACENCY										
MOUNTAIN							PREFERRED ADJACENCY	UNWANTED ADJACENCY		PREFERRED ADJACENCY					
INDOOR TRAINING FACILITY							UNWANTED ADJACENCY	UNWANTED ADJACENCY	UNWANTED ADJACENCY						
SKATE PARK/PLAZA		UNWANTED ADJACENCY	PREFERRED ADJACENCY			PREFERRED ADJACENCY	UNWANTED ADJACENCY	UNWANTED ADJACENCY							
WOODS/TRAILS		UNWANTED ADJACENCY		PREFERRED ADJACENCY			PREFERRED ADJACENCY								
EQUIPMENT BUILDING															
OUTDOOR ACTIVITY SPACE		UNWANTED ADJACENCY	UNWANTED ADJACENCY	PREFERRED ADJACENCY	PREFERRED ADJACENCY										
RECREATION ROOM			PREFERRED ADJACENCY												
FIELD															
RANDOM CAMPUS SPOTS		UNWANTED ADJACENCY													
OFF CAMPUS															
POOL															

NECESSARY ADJACENCY
 PREFERRED ADJACENCY
 UNWANTED ADJACENCY
 NO PREFERENCE

B.2 CATALYST ADJACENCY MATRIX WINTER



ACTIVITY PRIORITIES

In order to help make decisions of what program elements and activities to include should there be limited space for integration and development, activities were placed in four groups based on their value to the camp. These groups are necessity, high priority, priority, and preferred. Activities which are a necessity need to be included for the success of the camp and are the structure of the program. Activities assigned as a high priority mostly strengthen the camp’s ability to provide action sports training for its campers. A high priority helps to enhance the camper’s experience, providing activities for them to do after their on slope training. Preferred activities also enhance the experience of the camper, and are mostly random events organized by the staff members.

Necessity

Parking	Parking Lot/Entrance
Pick Up/Drop Off	Parking Lot/Entrance
Sign In	Parking Lot/Entrance
Offices	Parking Lot/Entrance
Sleep	Dorms/Cabins
Meals	Cafeteria
Announcements	Auditorium
Ski/Snowboard Training	Mountain
Video Analysis/Editing	Indoor Training Facility
Equipment Tuning	Equipment Building
Skate Training	Skate Park/Plaza
BMX Training	Skate Park/Plaza
Skate Paths	Random Campus Spots
Sustainable Elements	Random Campus Spots
Mountain Bike Trails	Woods/Trails

High Priority

Snacks	Cafeteria
Dry Slope Training	Indoor Training Facility
Balance Training	Indoor Training Facility
Trampoline	Indoor Training Facility
Foam Pits	Indoor Training Facility
Photo Analysis/editing	Indoor Training Facility
Skate Training	Indoor Training Facility
BMX Training	Indoor Training Facility
Dirt BMX Jumps	Woods/Trails
Product Demos	Equipment Building
Sponsor Night	Outdoor Activity Space

Priority

Photo/video Shoots	Mountain
T-Shirt Making	Outdoor Activity Space
Autograph Signing	Outdoor Activity Space
Video Games	Recreation Room
Foosball	Recreation Room
Pool	Recreation Room
Ping Pong	Recreation Room
Lounge	Recreation Room
Campfire	Field
Smores Night	Field
Stretching	Field
Go Karts	Random Campus Spots
Swimming	Pool
Hot Tub	Pool
Diving Boards	Pool

Preferred

Movie Nights	Auditorium
Talent Show	Auditorium
Tubing	Mountain
Inline Skating	Skate Park/Plaza
Mountain Boarding	Woods/Trails
Paintball	Woods/Trails
Slack Lining	Woods/Trails
Eating Contest	Outdoor Activity Space
“Fear Factor” Contests	Outdoor Activity Space
Arts and Crafts	Outdoor Activity Space
Sticker Making	Outdoor Activity Space
Slip and Slide	Field
Sumo Wrestling	Field
Jousting	Field
Water Balloon Toss	Field
Human Bowling	Field
Ultimate Frisbee	Field
Sand Volleyball	Random Campus Spots
Tetherball	Random Campus Spots
Horseshoes	Random Campus Spots
Dodgeball	Random Campus Spots
Basketball	Random Campus Spots
Dance Party	Random Campus Spots
Four Square	Random Campus Spots
Mini Golf	Random Campus Spots
Golf	Random Campus Spots
Climbing Wall	Random Campus Spots
Bungee Trampoline	Random Campus Spots
Bumper Boats	Random Campus Spots
Bowling	Off Campus
Whitewater Rafting	Off Campus



APPENDIX

PLANT PALETTE

It is important to determine suitable plant materials for implementations into Copper Mountain Resort. Any spaces within the existing resort that introduce new planting areas should maintain the same vegetative character as the current palette in order to achieve a cohesive design. Planting areas which are in the new camp development area should also retain the same plant palette as the existing resort for these same reasons.

Vegetation can help to control the microclimate of spaces within the resort, making for a more comfortable experience for the visitor to that area. In the warm summer months, shade is desired and can be achieved through the use of deciduous or evergreen trees. In the winter however, sunlight is often desired as shaded areas become bitter cold and ice is prominent. In the winter, deciduous trees would be desired for the same location over evergreen trees because they lose their foliage and allow sunlight to enter the space more prominently.

Shade cast onto buildings in the winter can also pose an issue, with the building cooling off and requiring more heating to be used. Ideally, deciduous trees would be located on the sides of the buildings so that they can allow sunlight to fall on the building in the winter and will help to shade and cool the building in the summer. This is another sustainable measure in which vegetation can help reduce costs and energy to a site.

Another factor to consider when working with mountainous microclimates is the presence of wind in the space. In the summer, a slight breeze may be desirable. In the winter, any wind movement results in the wind chill effect, dropping the temperature drastically and making an outdoor space uncomfortable to be in. In this case, evergreen trees are preferred, so that their presence of foliage in the winter provides a windblock for that space.

Copper Mountain Resort has a mixture of evergreen and deciduous trees and shrubs used throughout the site. The plant palette for the resort is given on the opposite page. Following this plant palette will help to ensure the cohesive vegetative aesthetic of the site and will provide a unity between the existing resort and new development for the camp.



TREES

Abies concolor
 Acer glabrum
 Alnus tenuifolia
 Betula fontinalis
 Malus spring snow
 Picea engelmannii
 Picea pungens
 Pinus aristata
 Pinus contorta latifolia
 Populus angustifolia
 Populus tremuloides
 Populus tremuloides
 Pseudotsuga menziesii

SHRUBS

Amelanchier alnifolia
 Betula glandulosa
 Caryopteris x clandonensis 'blue mist'
 Chrysothamnum nauseosus Albicaulis
 Cornus stolonifera
 Jamesia americana
 Juniperus communis
 Juniperus sabina "Scandia"
 Perovskia atriplicifolia
 Potentilla fruticosa
 Prunus besseyi
 Rhus cismontana
 Rhus trilobata
 Ribes alpinum
 Rosa woodsii
 Salix monticola
 Salix purpurea nana
 Sambucus pubens
 Symphoricarpos oreophilus
 Syringa vulgaris

White Fir
 Rocky Mountain Maple
 Thinleaf Alder
 River Birch
 Spring Snow Crabapple
 Engleman Spruce
 Colorado Blue Spruce
 Bristlecone Pine
 Lodgepole Pine
 Narrowleaf Cottonwood
 Quaking Aspen
 Quaking Aspen
 Douglas Fir

Saskatoon Serviceberry
 Bog Birch
 Blue Mist Spirea
 Tall Blue Rabbitbush
 Red Twig Dogwood
 Waxflower
 Common Juniper
 Scandia Juniper
 Russian Sage
 Bush Cinquefoil
 Wester Sand Cherry
 Rocky Mountain Sumac
 Three-leaf Sumac
 Alpine Currant
 Native Pink Rose
 Yellow Mountain Willow
 Dwarf Arctic Willow
 Red Berried Elder
 Mountain Snowberry
 Common Purple Lilac

GRASSES AND GROUNDCOVERS

Achillea millefolium
 Aquilegia caerulea
 Arcostaphylos uva-ursi
 Artemisia frigida
 Deschampsia cespitosa
 Mahonia repens
 Common White Yarrow
 Rocky Mountain
 Columbine
 Kinnickinnick
 Fringed Sage
 Tufted Hairgrass
 Creeping Colorado Holly
 Native Grass Hydroseed

PLANTING BED SEASONAL FLOWERS

Aquilegia "Crimson Star"
 Aquilegia alpina
 Aquilegia caerulea
 Aster alpinus
 Deschampsia cespitosa
 Epilobium fleischeri
 Eschscholzia californica
 Linum perenne
 Lupinum "Minarette"
 Papaver alpinum
 Crimson Star Columbine
 Alpine Columbine
 Rocky Mountain
 Columbine
 Alpine Aster
 Tufted Hairgrass
 Alpine Willowherb
 California Poppy
 Blue Flax
 Dwarf Lupine Mix
 Alpine Poppy

MATERIAL PALETTE

It is important to provide the right materials for action sport athletes to train on. The right material will allow for the most potential of a feature, and will also minimize the risk of injury. The wrong materials will disrupt an athlete's focus on their maneuver, and may lead to an injury. The following materials are the primary materials for snow sports, skateboarding, and BMX biking. Because of the creative nature of the action sport genre, the options for accessory materials are endless, allowing athletes to use elements in a new way.

SNOW SPORTS

The main surface of course for skiing and snowboarding is snow. Snow can be sculpted and shaped to provide ramps, jumps, superpipes, and many other features. It is also the "concrete" which holds and supports other features on the mountain. These other features may include elements made of steel, such as rails. Boxes and wall rides are typically made with a surface of lexan, which provides a low amount friction to slide on. A relatively new surface to the snow sport world is Snowflex. This is a carpet like material which mimics the slip and grip of actual snow. Snowflex provides the ability for athletes to train indoors when conditions are not suitable outside.

SKATEBOARDING

Skateboarding's main surface is concrete. Nearly every outdoor skatepark in the world is composed of concrete. The way in which the concrete is applied is very important. The concrete should have a troweled finish with control joints placed in locations which will not interfere with approaches of maneuvers. The joints should be sawn at 1/8" wide to provide a smooth surface to skateboard on. Steel is used for coping on the edges of obstacles to aid in maneuverability of a skateboarder. Street obstacles should have a square coping, while transition areas should have round coping of 2 3/8" diameter which protrudes 1/4" from the face. Steel is also used for handrails and similar features. The material Skatelite is utilized for indoor parks primarily, but is also able to be manufactures for outdoor applications. Skatelite is 1/4"

thick, and is utilized for the skateboard paths in Center Village. Elements such as halfpipes are also comprised of Skatelite. (Poirier 2008)

BMX BIKING

BMX biking's material palette is similar to skateboarding, as many times they share the same space within a skatepark. Concrete is the primary surface and should follow the same specifications as skateboarding. However, due to the larger diameter wheels of a bike, they are more versatile of the terrain they can travel over, which includes the unit pavers located in Center Village. Steel coping and rails are also the same specifications as skateboarding, but include a steel face on the transition applications to prevent damage from the pegs to the concrete. Skatelite is also utilized in the same manner as skateboarding, with indoor features and elements such as halfpipes. BMX bikers stand out from skateboarders in that they also include the niche of riding on dirt jumps. These jumps should be well packed to provide a solid and stable surface to perform on.



C.4 LEXAN



C.5 STEEL



C.6 SNOW



C.7 WOOD



C.8 STEEL



C.9 SKATELITE



C.10 CONCRETE



C.11 SKATELITE



C.12 CONCRETE



C.13 STEEL



C.14 DIRT



D

APPENDIX

DESIGN PROCESS

My personal design process consists of four categories: time, task, path, and philosophy. These four categories help to define the way in which I will approach my project and the order in which I will address each task. These categories are interrelated, and thus are best shown in combination.

TIME

The orange bar at the top of the graphic provides a timeline of the school year and the duration of my work on my project. At the top of the red lines are dates for when certain tasks of my project are estimated to be completed. The blue bands show when my holiday breaks are and when work on the project will slow.

TASK

At the bottom of the red lines are the general tasks to be completed as I move along in the process of my project. They are joined with their approximate dates to be completed by the red line and therefore are chronologically ordered along the timeline. Since the blue bands represent holiday breaks, I will have time to make site visits, and during Christmas break I expect to revise some of my work.

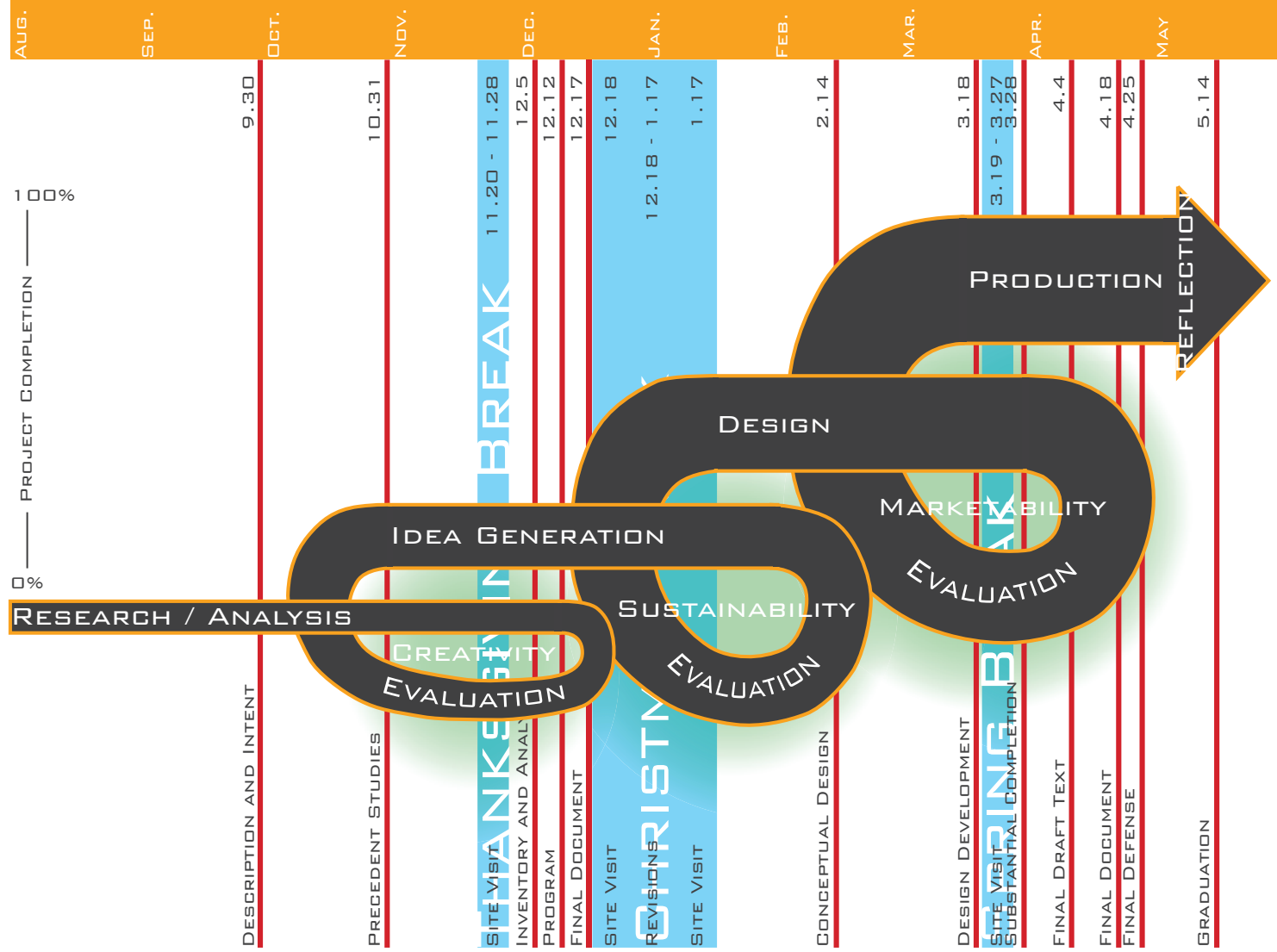
PATH

The path of design is depicted by the grey arrow. There are five primary elements to my design path. I begin with research and analysis of my site, which lasts for the straight portion of its section in the path. This is followed by Idea Generation, Design, and Production, with reflection following the completion of the project. These straight portions overlap each other to show where I will be thinking about two different elements of my project at the same time. My process path involves loopbacks or evaluations of what I have completed to that point. A project is dynamic and is always evolving, so a reevaluation is necessary to stay on the right path. As the project progresses upwards, the project completion approaches 100%.

PHILOSOPHY

I have three staples to my design philosophy by which my project is influenced. As Research and Analysis moves to Idea Generation, my Research and Analysis are evaluated around my philosophy of creativity when I begin Idea Generation. Idea Generation is evaluated around my philosophy of Sustainability as I move on to Design. Design is evaluated around my philosophy of marketability as I begin production of my final product.

D.1 DESIGN PROCESS



E

APPENDIX

LITERATURE MAP

The following literature map organizes the literature pieces of literature as they relate to aspects of the project. Within the literature, the text often speaks to related or tangential aspects of the project. These have been organized into two main concepts, Sustainability and Community, which the project is derived from. Both concepts have two subdivisions. Sustainability is seen as relating to the environment as well as of the economy. Two forms of community are those of action camps and tourism. All subdivisions and aspects related to Sustainability are blue, while those related to Community are orange. Aspects are organized roughly by their relation to each other and the subdivisions.

Literature is placed into the map location by which subdivision and aspects it relates to the most. Design for Mountain Communities: A Landscape and Architectural Guide is the main source for the project and speaks in part to all categories, therefore is placed near the middle.

LITERATURE REVIEW

OPEN: NEW DESIGNS FOR PUBLIC SPACE BY RAYMOND W. GASTIL AND ZOE RYAN

This book takes the reader through a series of “roundtable discussions” in which various individuals’ dialogue about a subject is recorded. There are five of these discussions: Challenging Public Space, Open Systems, Memory and the City, Information Environments, and Leisure and Politics. The book then goes on to present various case studies, which are divided into seven categories. These projects are “innovative public spaces” which “are indicative of the challenges that are being met by cities around the world” (p. 7). Gastil and Ryan try to look at “what is and isn’t working, and how ‘24/7,’ ‘innovation,’ ‘adaptive reuse,’ ‘process,’ ‘urban landscape,’ and ‘public’ and more than catchwords, but integral to unprecedented opportunities” (p. 9).

The sections that provided useful information from were three of the roundtable discussions. The first one, talking about Challenging Public Space, involves Stan Allen, Andrea Kahn, Anne Pasternak, and Mark Robbins. One topic that comes up is that of indeterminate spaces, where one space can have multiple functions. Allen gives the example of the library steps at Columbia University. “It supports very formal activities such as graduation and then during the spring they set up flea markets in the same space...But it also functions very well as an informal day-to-day space; people sit out in the sun eating their lunch” (p. 13). This is one of the goals of my project, to find or create spaces which can be utilized for different uses at different times of the day. He goes on to say that there are small factors which can help to create these types of spaces when used correctly. “Its orientation, where it’s located on campus (all of the important paths on campus cross through it), its generous dimensions, and even some very immediate, material questions” (p. 14). Part of what makes a space indeterminate is how open to a variety of uses the space is, and how people see that space and make use of it. This says to me that for a space in Copper to be able to support a variety of uses, there cannot be too much control over what goes on in that space. There can of course be control over certain

days or times, like when Columbia has their graduation, but for much of the time, the space is free to be discovered as a new place for someone. An individual will enter the space and determine how they would like to use it.

The second roundtable discusses Open Systems with Andrew Darrell, Craig Schwitter, Peter Slatin, Bart Lootsma, Anuradha Mathur, and Elizabeth Mossop. This discussion blends three broad topics of public space, environment, and transportation. One aspect of the discussion which was useful was Darrell’s statement that “density is much less ecologically damaging than sprawl” (p.15). This is particularly useful to my project because of the forest surrounding Copper Mountain Resort. This environment is the primary draw for visitors to the site. With further development of the resort, sprawl would result in the loss of some of that draw. So aside from being environmentally responsible, it is also a good idea economically to aim for increasing density of the site and in my case, working to integrate the camp as much as possible. Mathur later provides an example of how open space can have different uses by season, with some reservoirs in India. “In drought season, people play cricket in them. It becomes what I call a maidan. You extract clay from tank (reservoir) beds for statues for certain ceremonies which go through the dry season. In the wet season, they are submerged back into the reservoirs” (p. 16). To enhance the practicality of an all season action sports camp, spaces need to be able to be used in all of the seasons. This will help to allow for the best experience of the campers and for the resort to gain as much use out of its amenities as it can. Darrell adds later that “once you start to link them up to each other, then the spaces that were created initially as parks or public spaces for a particular community, all of a sudden become part of a transportation network” (p. 16). Relating this statement to the project, it is important that as campers migrate from their daily activities in different locations, their movement creates a flow of circulation. As they go from place to place, the use of a car in the villages is not available, so alternative transportation is necessary. Due

to the nature of the camp, many campers may choose to skate, bike, or just walk to their destination. If the destination is far and they have gear to haul to that place, a shuttle is an option for the campers to take. Part of the project is creating a memorable experience for the campers along these transportation networks.

The third roundtable discussion is of Memory and the City, involving Diana Balmori, Craig Barton, Marion Starr Imperatore, Max Page, James Sanders, and Gwendolyn Wright. This discussion is important because of the power of a memorable space or experience. In order to help the revenue of the resort, the experience of a camper needs to be a very positive one which sticks with them. This will hopefully attract them and/or their families to return to the resort, or at least through word of mouth allow the camper to spread a positive reputation about the camp. There are many factors of the camp that may make it memorable, but this discussion touches on how a space can stick out in someone's mind. Balmori gives three facets of a space that make it memorable. "The value of the temporary...the changing relationship of inside and outside...and how movement through space is a way of creating public space" (p. 18). Barton states later that "there is an element of spontaneity to these places and events that is memorable" (p. 18). These elements provide a memorable space a challenging and opportunistic way of creating a series of spaces that will leave campers with addictive memories. It is hard to plan for spontaneity because once it is planned, it is not spontaneous. The question arises of how spontaneity can be accommodated and be successful? Relating back to the first roundtable presented, an openness of the space allows for a more indeterminate space, thus more of a change for spontaneity.

HOTELS AND RESORTS: PLANNING, DESIGN, AND REFURBISHMENT BY FRED R. LAWSON

Lawson writes this book as a guide to the development of a hotel or resort. Different characteristics of hotels and resorts are given, including mountain resorts. Different characteristics of hotels and resorts that need to be considered are then broken down in depth including items such as organization and marketing, building plans, and public facilities. The sections with which I find useful are the characteristics of mountain resorts, and then the information on building plans.

Much of the text included regarding mountain resorts is about siting a resort. As the project is already at a determined resort, Copper Mountain Resort, some of this text is irrelevant. However, a few helpful thoughts for any additional development that may result from my project were available. Lawson states that "steep gradient paths and continuous slopes must be avoided and ski trails should not cross road traffic routes (except in tunnels or over bridges)" (p. 84). Here, he is referring to skiing directly from hotels to the base of the mountain. While this may apply to those campers who ski, it is impractical for snowboarders to travel across flat areas to the base, so close proximity or a transportation system from the lodging to the lifts is desired. In the summer months, skateboarding or biking paths should follow Lawson's guideline. The less a camper has to push or pedal uphill for an extended length, the better. Lawson also lists several trends for mountain resorts and hotels, one of which is that "concern over the environmental damage of high altitudes and bleak summer appearance tend to favor lower, traditional village-style developments" (p.84). Combine this with "most resort 'master plans' favor high concentration of buildings in the style of traditional mountain villages to minimize encroachment on the surrounding landscape" (p. 84), and it makes sense to aim for complete integration of the camp into the existing resort developments. The value of the surrounding landscape is high for a mountain resort, and the more that it can be retained, the better it will be

for the resort. Any additional development should attempt to integrate into the resort, combining space uses for all seasons. “The summer season is important for commercial viability and provision must be made for dual use of central areas” (p. 84).

This next section regarding building uses, Lawson covers a few topics that can apply to the project. When Lawson talks about siting a building, he mentions that views to key attractions are important for the desirability of a place. Where there are limited views, such as in the center of a village at Copper, “compensatory attractions (garden views, recreational focuses) should be provided” (p. 135). These attractions could be a number of things, from retail opportunities to integrating a skate and bike path in a space. Also influencing the space is “the orientation to sun, shade, and prevailing winds” (p. 135). These three factors heavily influence the microclimate of a space and depending on how they are used, can make a space attractive or undesirable. This is especially true for the high altitude mountain environments, where a space can become very chilling when shaded and open to the wind. While the text does not go into how these factors specifically should be used, other supporting text does.

Finally, Lawson addresses parking and traffic in a way which provided useful thoughts to the project. To accommodate all parties of traffic, the traffic circulation for “guests, non-resident visitors, employees, coach and bus parking...and for the goods and service vehicles” (p. 142) needs to be considered. How these different systems work together and where their parking is staged in relation to the existing shuttle system is important to consider. Lawson goes into basement or underground parking. “Basement parking is expensive... the cost ratio of completely underground parking, under buildings, with mechanical ventilation, sprinklers, and two passenger lifts, is 13.0 x surface parking” (p. 144). While the cost may be high, this should be weighed as a possibility against the potential of expanding into the native surroundings. While Copper currently has adequate parking, much of this is surface parking adjacent to the base villages and with shuttle access. With a foreseen small amount of brownfield land to add

any additional development to, creating underground parking may be a feasible option.

RESORT DEVELOPMENT HANDBOOK BY DEAN SCHWANKE

This book looks at many aspects of developing and designing a resort. Beginning with an overview, the Schwanke moves on to talk about the Resort Market Analysis, Feasibility Analysis and Financing, Land Use Planning and Product Design, Operations and Management, Case Studies, and finally Trends and Outlooks. There are two sections that I found important to the project. They are the Feasibility Analysis and Financing, and the Land Use Planning and Product Design sections.

The Feasibility Analysis and Financing section includes a helpful site selection and analysis part, where many site analysis items are presented in a checklist. This checklist breaks down the process into several divisions that cover most of a site for a general project. These sections are Mapping, Topography, Soils, Drainage, Vegetation, Land Use, Regulations, Transportation/Circulation, Utilities, Public Services/Conveniences, and Other Features (p. 86). This checklist will be helpful in determining what inventory items to consider in order to perform an analysis of Copper Mountain Resort. Some of the items on the checklist would not apply or are irrelevant, such as the reputation of a school district or a subdivision ordinance.

The Land Use Planning and Product Design section was the most useful section of the book. Schwanke says that “one of the primary objectives of resort planning and design is to create a sense of place...in the end, however, the process calls for creating a style or theme” (p. 111). This idea was useful in that one of the goals for my project is to create a memorable experience for the campers, leaving them wanting to return to Copper Mountain. The idea of an integrated camp and multi-use spaces can be done in a unique manner will aim to fit in with the existing style and theme of the resort. Schwanke goes on to say later that “it is the resort’s environment that draws the

customer” (p. 113). This statement helps to strengthen the idea that the surrounding natural spaces of the resort need to be retained, enforcing the integration of the camp into the existing resort parameters. While this integration is being thought out and designed, the positioning of uses will be key to the success of both the camp and the resort. For each space and activity, the location should “provide each use with a high-quality view or access to an amenity while creating rational relationships among uses” (p. 114). This importance of the proximity and adjacency of uses can lead to an adjacency matrix, detailing which spaces should be located near each other and which should not. This will be one of the more important aspects of the project, especially as campers may be walking, skateboarding, or biking to their destination as they go about their daily schedule. Mountain considerations are discussed, listing several factors that should be taken into consideration including sun orientation, slopes, and wind.

The Land Use Planning and Product Design section has a sub-section of Mountain Amenities and Ski Facilities. Schwanke provides an interesting thought when he mentions that “a given area of ski slope supports fewer and fewer skiers as their ability level increases” (p. 149). Considering this thought, introducing an action sports camp will increase the ability levels of its participants, and in theory causing them to spread to better terrain. A way which might help solve this issue is by providing elements in the base villages which cater to a variety of skill levels. The terrain provided by Copper Mountain on the slopes should also look at catering to the various ability levels, so that as a camper increases his or her skills, they have a place to take them and develop them further. Another key to success of a mountain resort is the idea that “the ability to retain snow is almost as important as its snowfall...and wind can be more destructive than the sun, stripping exposed sites bare in hours” (p. 149-150). The use of wind can be helpful in two main ways. Where there is a need for spaces to be clear of snow, such as a group of skateboarding elements, wind should be utilized to help clear the snow, reducing the work of any maintenance worker. Where there is a need for snow, possibly for a contest at the base of the slopes or in the villages, wind can move that snow into drifts

near those locations. This may be tricky to get right, but can save a lot of time and hassle. One last idea Schwanke gives is underground parking. “Many large ski areas such as Beaver Creek in the Colorado Rockies, Park Creek in Utah, and Loon Mountain in New Hampshire have located much of their parking underground, thereby reserving the surface for real estate development. This solution, although expensive, helps create a safer, more pleasant pedestrian environment and cohesive resort village core” (p. 151-152). In addition to saving natural surroundings, the underground parking concept essentially doubles the uses of its space. The wide expanses of cars are hidden from key views and visitors’ cars remain free from snow and the elements. Once again, the positive reasons for underground parking need to outweigh the pricy cost of it.

DESIGN FOR MOUNTAIN COMMUNITIES: A LANDSCAPE AND ARCHITECTURAL GUIDE BY SHERRY DORWARD

Dorward’s writing has potentially been the most useful and influential to my project. Her book covers a broad range of topics related to mountain community design. She breaks down her writing into three parts: Attitudes, History, and Landscape Aesthetics, The Mountain Environment: Natural Determinants of Design, and Applications: Design Tasks and Prototypes. Dorward’s goal for this book is to explore “landscape and architectural design in mountain communities, illustrating how built forms can be made compatible with their natural setting, respectful of their context, and evocative of place” (p. vii). Bits and pieces from most of the sections in the book apply to the project, but the most valuable information comes from her writing about microclimate.

As a sort of base for the principles of mountain community design, Dorward writes that “it is possible to create appealing mountain communities by translating the sensory qualities of the landscape into built forms and to develop more economically viable, functionally diverse mountain communities without violating natural limits” (p. 4).

This statement touches on a few main themes of the project. A way to create a more economically viable mountain resort is to design for functionally diverse spaces, in this case, an all season action sports camp. The sense of place of these spaces can draw from those sensory qualities of the landscape, tying the resort into its surroundings. The further development of a resort should work to stay within the existing bounds and to limit its encroachment of the natural limits. Dorward defines a resort as “a place dominated by temporary lodgings and visitors who come for recreation and entertainment” (p. 13). Separating a resort from a community, Dorward notes that resorts have a “strong interest in retaining the visual quality of the natural landscape in order to preserve a unique sense of place” and that there are “higher income levels and different reasons for being there. The resort population, being transient, seasonal, and more homogeneous, typically holds different attitudes towards autos and different expectations for recreational facilities, scenic quality, building styles, employment, housing, and shopping alternatives” (p. 14). To help strengthen Copper Mountain Resort’s sense of place, building on the current standard and tapping into more of the natural landscape where possible is necessary. Also, the anticipated presence of weekly action sports campers enforces the notion of a transient, homogeneous type of visitor.

Dorward finishes this section with a well thought out basis for design in this environment. “In the mountains, quality design demands creative solutions to the physical constraints of ecology and climate. It demands responses that satisfy people’s needs without degrading essential ecosystems or diminishing the natural beauty that brought them there” (p. 15). A resort can blend into the natural landscape by “designing transitions from the ‘natural’ outside to the ‘urban’ inside the boundaries, and by letting nature – in untouched or in symbolic form – penetrate to the heart of the village” (p. 39). To end the first part of her book, Dorward includes 16 design guidelines to help “enhance those sensory perceptions and encourage response, to create places and sequences of experience” (p. 47)

1. Respect the landscape’s spiritual character.
2. Counteract intimidating scale.
3. Take advantage of views and view lines.
4. Respect visually sensitive scenery.
5. Manipulate the observer’s vertical position in the landscape.
6. Recognize the importance of both movement through the landscape and sequences of experiences and views.
7. Attend to the foreground.
8. Protect the continuity of the ground plane.
9. Preserve natural water features and add more.
10. Interpret time, natural processes, and change.
11. Understand the visual impacts of slope.
12. Take clues to structural forms from the landform.
13. Remember the change of seasons.
14. Create fantasy by means of snow.
15. Take advantage of the sense of hearing.
16. Take advantage of the sense of touch. (p. 47-49)

Perhaps the most valuable was from Dorward’s book was her writing about microclimate and its importance to the success of a space. Microclimate is important because “the way that people perceive the microclimate of a place – whether it is cold or warm, exposed or sheltered – colors the image they retain of its character” and “the microclimatic elements that are most important to human comfort are radiation, air temperature, air movement, and humidity” (p. 62). Learning to design spaces which correctly influence these four elements for a mountain environment for all seasons will be vital to the success of the project. For a mountain resort, it will be more important to warm spaces in the winter than to cool spaces in the summer, however if both can be achieved, that would be optimal. Solar radiation takes into account the angle of incidence, aspect of a slope or surface, shade, and other factors. Along with solar radiation, glare is a related issue and is “cause not by an excess of light but by too much contrast between light and dark surfaces in the field of vision” (p. 63). Solar radiation also affects plant growth and snowmelt, mostly resulting from the aspect of the slope. However, plant growth “can be used as a solar filter to

reduce glare from snow covered ground and as an insulative layer against structures” (p. 66). Where there is the absence of vegetation in key locations, wind can clear snow from spaces which greatly reduces maintenance. Wind is a major factor of microclimate. Dorward gives many ideas on how to deal with wind and the best strategies for its control. She concludes that “the most effective planted windbreak in all seasons is one of mixed tree and shrub species and mixed sizes” (p. 68) and provides diagrams of various windbreaks and their effectiveness. Within the base villages of Copper Mountain Resort, wind should be addressed, especially as campers migrate between the two main villages, where the landscape is more open.

Obviously, as the site is a mountain ski resort, snow will be a factor in the design. Drifting snow from wind patterns can be utilized for snow elements in the base villages, while areas which need to be kept clear can be open to wind to blow the snow out of the space. “95 percent is carried within 1 foot on the ground”, so using this knowledge, air can be channeled through “wall placement, roof configuration, structural wind deflectors, and plantings” (p. 70) to achieve the desired effect. When the snow has settled, its weight is a factor on structural elements if there is a significant amount or it is highly compacted. Once the warmer weather returns in the spring, snowmelt will occur. “It can be accelerated or retarded depending on color, reflectivity, albedo, the specific heat of the building and paving materials, exposure to wind and sun, shading by trees or topography, and convection from structures” (p. 74). Dorward lists design guidelines for site selection, site planning and grading, and for structures and site improvements. These guidelines are a good basis to use for determining design decisions regarding the microclimate of spaces in the resort and in any further development. There will be instances where some guidelines will need to be creatively applied to fit the needs of an action sports camp and the amenities it provides.

Dorward also addresses vegetation in the mountain landscape. “Due to the lack of moisture, typical forest communities of the central Rockies and the Great Basin ranges are among the least

diverse in America’s mountain ranges” (p. 145). The plant palette for Copper should not be too extensive, and will be easy to implement into a design. The manner in which plants are used will help to strengthen the design. “Mountain trees and shrubs can be used to hide, reveal, and frame views in a sequence that entices and stimulates. In mountain scenery, the frame is often essential to focusing attention to a special view” (p. 165). Once again, Dorward provides design guidelines, this time for plant site selection, site planning and grading, planting, and site improvements and structures.

FINDING SUMMER SUCCESS FOR MOUNTAIN RESORTS BY CHRIS DUNN

Dunn’s article briefly describes various ways in which mountain resorts can transform successfully into all season destinations. Providing an array of amenities to the summer visitor will allow for a greater chance that they stay for an extended period of time. In regards to an action sports camp, sessions should be offered in all seasons, with many activities available throughout the week. “Successful summer ski resorts can be organized into two categories: resorts where base villages have been created, and resorts where programming for guests is the focus” (p. 86). In this project’s case, programming will be key for the experience of the campers to provide them a lasting memory. Dunn provides the case study of Smuggler’s Notch in Vermont as a successful year-round ski area. Their goal is to use all of the facilities all year, since an unused building is an economic loss. Therefore the programming at Smuggler’s Notch is intricate. There are things to do for all ages and all interests. “Each group is completely independent and has its own roster of activities.” “There is always something going on in this space, as at all of the resort’s facilities” (p. 87). By implementing an action sports camp which is integrated into the existing resort as much as possible, this goal may be achieved of a space being utilized as much as possible. Smuggler’s Notch charges a fee for everyone who enters the resort in any season, which is atypical. Many resorts do not charge a fee in the summer, and rely heavily on their winter earnings from lift tickets. By introducing an all season action sports camp, a fee will be able to be charged to the campers in any season and will be an asset to the resort’s economy.

TEN TRENDS AFFECTING MOUNTAIN RESORTS BY HOWARD KOZLOFF

Kozloff outlines ten trends of how mountain resorts are changing and revamping their appearance in the future. Some of these trends can be applied directly to the implementation of an action sports camp, while some may need to be modified to apply.

1. Redeveloping Older Resorts
2. Going Upscale
3. Keeping Beds “Hot”
4. Events/Venues for the Younger Crowd
5. Maintaining Community Identity
6. Providing Affordable Housing
7. Public Transit Options
8. Open Space/Parks
9. Regional Resort Planning
10. Intermountain Connections (p. 46-50)

The concept of keeping beds hot can be applied in a way to an action sports camp that is integrated into the resort. Where there is any unused space, there is an opportunity to provide an activity for the camp in that location. This way, there is always something happening in many spaces, and the need for additional development is reduced. The concept of the action sports camp plays to the younger crowd, drawing them to the resort, and hopefully leaving them with a good experience that keeps them coming back. Public transit is applied to the camp in that most of the campers will not have a vehicle, and thus will rely on an alternative form of transportation. This may be through walking, skateboarding, biking, or possibly using a shuttle system.

SKATE PARKS: A GUIDE FOR LANDSCAPE ARCHITECTS AND PLANNERS BY DESMOND POIRIER

Poirier's thesis takes the reader through the strategies and guidelines for designing a successful skate park. His paper is broken up into five chapters. For the purposes of this project, the focus was mainly the Understanding the Elemental Forms of a Skate Park in the Background: Understanding Skateboarding chapter and Site and Skate Specific Design Guidelines located in the Skate Park Design Guidelines chapter. Poirier introduces the reader to the various forms of skateboarding elements that may be included in a design, along with some specifications of how they are to be built. He mentions the necessity of providing enough elements to satisfy the needs of a full range of skill levels. "When designing a skate park, one must consider the needs of kids who can barely turn, and grown men and women who can fly airs out of the deep end of the bowl" (p. 12). The same applies to an action sports camp, whether the sport being developed is skateboarding, BMX biking, snowboarding, or skiing. Providing for the range of skill levels will also reach out to a more diverse group of campers, attracting more revenue for the camp. Poirier provides examples of elements which can be applied at various levels of skill level, and may be adapted to an integrated space in the resort villages. The design of the elements are described in further detail under the Skate Specific Design Guidelines, outlining desired spatial requirements, radii for transitions, and concrete surfacing among others. These will be helpful to create desired skate elements as campers move through the villages. These elements "should have clear lines of sight from every point to the others where a skater might start a run" (p. 64). This is especially true when the faster moving action sports are integrated into a pedestrian zone so that collisions will be minimized or eliminated and safety of all parties is emphasized. Poirier's site specific guidelines include elements such as lighting and shade, and their importance for the maximization and comfort of the skating environment. Lighting is also important for the safety of the users of the site at night, especially as campers will be kids to young adults.

F

APPENDIX

GLOSSARY

ACTION SPORTS CAMP: a camp where kids and young adults attend sessions to develop their skills in various action sports including but not limited to skateboarding, BMX biking, snowboarding, and skiing. During their sessions, campers receive instruction from coaches and professionals to help them learn new skills and techniques. Campers also participate in other activities planned by the camp staff. (Carlson)

ACTION SPORTS CAMPER: a child or young adult who attends an action sports camp and has learned the basics of their sport in order to be ready to learn skills and techniques of freestyle terrain. A camper often stays for an extended period of time, often one to two weeks per session. (Carlson)

ALBEDO: refers to reflectivity and governs how much heat is absorbed through the surface of a mass (Dorward, 72)

ALTERNATIVE TRANSPORTATION: a means of migrating from one place to another without the use of a personal vehicle. This may include walking, biking, skating, or even taking a shuttle. (Carlson)

ASPECT: the compass direction toward which a slope faces (Dorward, 63)

BASE VILLAGE: a cluster of buildings at the base of ski trails on a mountain, consisting of retail, restaurants, condominiums, plaza spaces, and other amenities. (Carlson)

CAMPUS: the grounds and buildings of an organization, business, or school. (Carlson)

COMMUNITY: an interacting population of various kinds of individuals in a common location. (merriam-webster.com)

COPING: the circular metal pipe, concrete lip, or steel square tube that is inserted along the “lip”, or the top of the transition. (Poirier, 81)

DEVELOPMENT: the growth or expansion of a site or program. (Carlson)

DRY SLOPE: a carpet like material which replicates the feel of snow and allows for summer or indoor riding of skis or snowboards. (Carlson)

EXPERIENCE: the fact or state of having been affected by or gained knowledge through direct observation or participation . (merriam-webster.com)

FREESTYLE TERRAIN: obstacles of action sports which allow for maneuvers to be performed, often resulting in the participant becoming airborne or performing a slide, grind, or jib on an obstacle. (Carlson)

GLARE: a by-product of solar radiation, caused not by an excess of light but by too much contrast (Dorward, 63)

Grind: when a skater rides the edge of any object with his/her trucks. (Poirier, 82)

HUBBA: found in skate parks, a hubba is a wall, perhaps a little lower than waist high, that starts at the top of a set of steps. The hubba’s top surface is parallel with the ground at the top of the set, then changes angle to follow the steps, and travels all the way down to the bottom of the set. Popular for sliding and grinding tricks. (Poirier, 82)

IN-RUN: the track or space by which one gains speed before they enter an obstacle to perform a maneuver. (Carlson)

INDETERMINATE SPACES: spaces which are able to support a range of functions at different times of the day or week. (Carlson)

INDOOR TRAINING FACILITY: an indoor space where action sports campers can practice their skills when the weather or conditions do not allow for outside practice. Facilities like this can include a trampoline and tumbling area, skateboard and BMX areas, and dry slope terrain for ski and snowboard development. (Carlson)

JIB: a maneuver of an action sport which involves tapping or stalling one's equipment on or around an obstacle. (Carlson)

LEDGE: a ledge is a wall usually a little lower than waist high that starts at the top of a set of steps and projects straight out as the steps fall. Skaters use this for sliding and grinding tricks. (Carlson)

LINE: a line is a particular path that a skater travels over a given section of terrain. Sometimes the term is used to describe a sequence of tricks that a skater performs in a row. (Poirier, 82)
Line of Sight: what an action sports athlete can see before and during their run through an obstacle. It is important to be able to view the obstacle before beginning the run to make sure it is clear of traffic and safe to approach. (Carlson)

MICROCLIMATE: the essentially uniform local climate of a usually small site or habitat. (merriam-webster.com)

OLLIE: when a skater rolls up a transition and flies above the lip of it but does not grab the board, instead guiding it with his/her feet. The skater turns in mid air and lands on the transition, riding down it. (Poirier, 82)

PEDESTRIAN FRIENDLY: a space or development which caters to the pedestrian on foot, rather than the use of vehicles to travel around the site. (Carlson)

QUARTER PIPE: one side of a half pipe by itself. Used to learn transition ramp tricks in smaller, more confined spaces. (Poirier, 83)

RAIL JAM: a contest for either skateboarding, BMX biking, skiing, or snowboarding which takes place on a small amount of rails or jibs. Rail jams usually have a very small in-run and can take place in any open space. (Carlson)

RENEWABLE ENERGY: any naturally occurring, theoretically inexhaustible source of energy, as biomass, solar, wind, tidal, wave, and hydroelectric power, that is not derived from fossil or nuclear fuel. (dictionary.com)

RESORT: a place dominated by temporary lodgings and visitors who come for recreation and entertainment (Dorward, 13)

RUN: taking a "run" is akin to taking one's turn over a given section of terrain. (Poirier, 83)

SKATE PARK: an area which is developed for recreation of skateboarders, BMX bikers, or inline skaters to practice and perform maneuvers. A skate park is often made almost entirely of concrete, but can also be made of wood. There are rarely landscape elements to break up the concrete expanse. Elements in a skate park may include vertical elements, bowls, and street style elements. Skate parks are often confined to their own boundaries and are sometimes located away from other public spaces. (Carlson)

SKATE PLAZA: a space which is designed to be aesthetically pleasing to the general public, having the appearance of a public plaza or park setting, but includes skateable features. These features, such as ledges, benches, and rails, are primarily oriented towards street skating and provide a legal space for skaters to street skate. (Carlson)

SKATE SPOT: an area which is a popular location to skateboard. Not usually a location developed for skating, skate spots are often creative adaptations from spots in a city such as a bench, ledge, bank, or handrail. Skate spots are usually located around a skater's general location and can be easily ridden to, but are almost always illegal to skate. (Carlson)

SUSTAINABLE: introducing a concept or development to a site in a way which minimizes the impact or improves the condition of the environment, economy, or community. (Carlson)

TERRAIN PARK: a section of a ski slope where obstacles such as jumps, rails, halfpipes, or other features are located for the use by skiers and snowboarders. (Carlson)

TRANSITION: a curved wall like a wave that become almost or completely vertical. Forms the curved walls of ramps and bowls. A bowl is a continuous transition that travels completely around in a circle. (Poirier, 83)

VIEWSHED: what an individual can view from their given point in an environment. Every space should attempt to provide a pleasing view of an object or scene within ones viewshed. (Carlson)

CATALYST ACTION SPORTS CAMP

COPPER MOUNTAIN RESORT