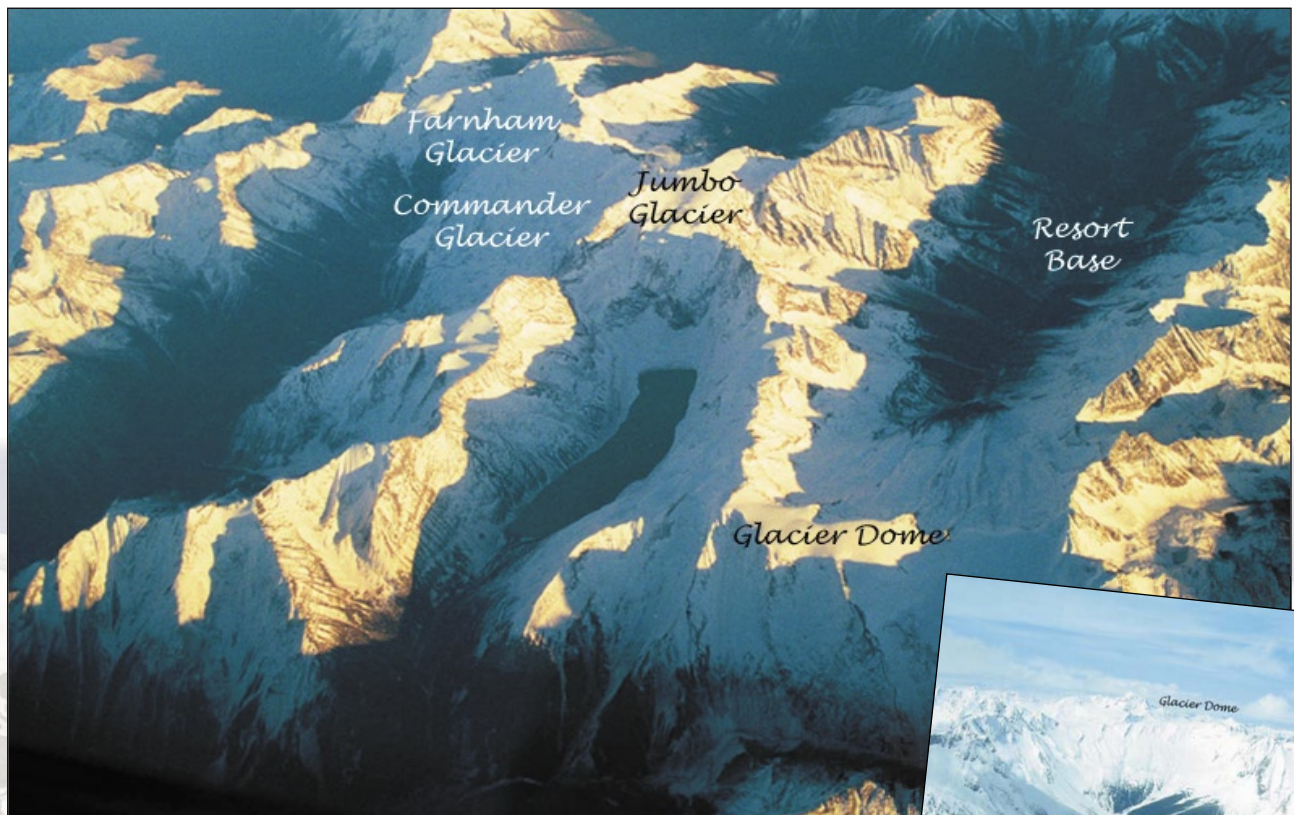


JUMBO GLACIER RESORT MASTER PLAN

Executive Summary



EXECUTIVE SUMMARY

Jumbo Glacier Resort Master Plan

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Note: *This executive summary is intended to provide an overview of the proposed Jumbo Glacier Resort project and a summary of the 2010 Master Plan. The Master Plan is the culmination of twenty years of research, design, planning and study. It outlines the vision for what is designed to be the prime skiing and sightseeing destination in North America.*

More detailed information is available from the complete Master Plan documents filed, with provincial authorities, and from Pheidias Project Management Corp, the prime consultant and project designer.

*Additional project information, including the complete Master Plan, may be downloaded from the project website: **www.jumboglacierresort.com***

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LIST OF ABBREVIATIONS

AAC	Allowable Annual Cut
ATV	All Terrain Vehicle
B.C.	British Columbia
CASP	Commercial Alpine Ski Policy
CBT	Columbia Basin Trust
CCC	Comfortable Carrying Capacity
CODA	Calgary Olympic Development Association
COFI	Council of Forest Industries
CORE	Commission on Resources and the Environment
CRTC	Canadian Radio-television and Telecommunications Commission
DEM	Digital Elevation Model
DFO	Department of Fisheries and Oceans (Government of Canada)
DRAA	Design Review and Approval Authority
EA Act	Environmental Assessment Act
EAO	Environmental Assessment Office
GDP	Gross Domestic Product
JGRPAR	Jumbo Glacier Resort Project Assessment Report
KKTC	Ktunaxa/Kinbasket Tribal Council
KBLUP	Kootenay/Boundary Land Use Plan
LUCO	Land Use Co-ordination Office
LWBC	Land and Water British Columbia Inc.
MoF	Ministry of Forests
MoT	Ministry of Transportation
MSR	Ministry of Sustainable Resources
N/A	Not Applicable
OCP	Official Community Plan
p/h	persons per hour
PWC	Purcell Wilderness Conservancy
R.C.M.P	Royal Canadian Mounted Police
RDEK	Regional District of East Kootenay
SAOT	Skiers At One Time
SF	Single Family

SFP Slocan Forest Products
SNTC Shuswap Nation Tribal Council
TLC Land Conservancy of British Columbia
TSA Timber Supply Area
WMA Wildlife Management Area

1. INTRODUCTION

This executive summary is intended to provide an overview of the proposed Jumbo Glacier Resort project and a summary of the 2005 Master Plan submission. The Master Plan is the culmination of twenty years of research, design, planning and study. It outlines the vision for what is designed to be the prime year round skiing and sightseeing destination in North America.

The Master Plan has been prepared following the issuance of an Environmental Assessment Certificate by the Environmental Assessment Office of the Province of British Columbia in fulfilment of the requirements of the *Commercial Alpine Ski Policy* (CASP) of British Columbia.

The section numbering of this executive summary generally reflects the section numbering of the Master Plan.

More detailed information is available from the complete Master Plan documents, filed with provincial authorities, and from Pheidias Project Management Corp, the prime consultant and project designer. Additional project information, including the complete Master Plan, may be downloaded from the project website: www.jumboglacierresort.com



Jumbo Glacier and the Lake of the Hanging Glacier (August, 2005).

1.1 A VISION FOR A COMPLETELY NEW MOUNTAIN ACCESS IN NORTH AMERICA

Recent history and numerous studies and policy documents, including the *BC Resort Strategy and Action Plan* have shown that there is a ready-made international market for a new year-round destination alpine resort in Western Canada. Such a resort must be of the highest skiable terrain quality, offering the skier and visitor year round terrain, favourable snow and weather conditions, and access facilities that match or surpass the best of Europe.

It must capture the vision and the promise that nurtured North American resorts such as Jackson Hole,¹ Wyoming, in the 1950's and infuse it with a more contemporary reality. Moreover, it must

¹ Jackson Hole was the dream of a European ski resort transplanted in America; it was cared for by Austrian

provide an experience of such a calibre that it will be spoken of with the same awe as heli-skiing in the Bugaboos or vacationing in Zermatt, Switzerland.

The proponent group is confident that by providing access to the natural beauty and splendour of British Columbia's high mountains in a unique manner for North America, Jumbo Glacier Resort will thrive, and will become another international winner for the local tourist industry. It truly has the potential of expanding the international exposure of British Columbia's mountains,² especially in view of the worldwide exposure that will accompany the 2010 Olympics.

1.1.1 Vision Statement

To provide the only North American lift access to high-alpine glaciers and mountains for year-round skiing and spectacular sightseeing via a boutique-sized, high quality resort designed in an authentic mountain character in accordance with sustainable development principles and designs, and supported by a First Nations heritage theme.

1.1.2 Origins and Interpretation of the Vision

The vision for the ski area was developed in concert with the attributes of the project site, namely: a favourable climate, high quality and abundant natural snow, access to high alpine glaciers for year-round skiing and sightseeing, and the largest all-natural snow vertical drop in North America.

The plan is to gain access to the best terrain for sightseeing and alpine skiing on the continent and to create a destination for year-round skiing and snowboarding with unique sightseeing experiences, including a superior ski and snowboarding school.

1.1.2.1 The Physical Components

The project consists of several interrelated components: a Glacier Dome gondola and viewpoint, summer skiing and sightseeing at Glacier Dome and at the Jumbo-Commander-Farnham major glacier ski area, an integrated pedestrian oriented base area containing hotels, condotels, townhomes, condominium units, single family chalets, supporting commercial facilities (restaurants, retail outlets and tourist facilities), an interpretive centre and environmental monitoring station and a Guest Relations Centre.

ace Pepi Stiegler in the 1950s. It had basically correct climatic and elevation choices and an aerial tram covering an optimal vertical drop was installed in 1966. The village nest was properly placed at the foot of the tram and the higher segment of ski runs included fabulous glacier quality skiing. It had tremendous success, but it has been frozen in the style and facilities of the fifties and sixties. It also was not planned for year round use.

² The project has already received unprecedented international media coverage for a proposed ski resort in British Columbia. It has appeared in the *New York Times*, *Skiing Magazine* (USA), *Ski Magazine* (USA), *Millionaire Magazine* (Italy), *Ski Canada Magazine*, *Outdoor Magazine* (USA), the *Globe and Mail*, the *National Post*, and numerous other national and regional media.

1.1.2.2 Character

The resort will be designed with an authentic mountain style and character drawing from the tradition of the National Parks, with steep or snow-covered sloping roofs and small scale buildings emphasizing the use of natural materials, particularly stone and wood.

1.1.3 A Sightseeing Focus: The Glacier Dome Gondola and Teahouse

The Glacier Dome gondola, together with the aerial tram to Jumbo Glacier, will be the centrepiece of the project. The gondola will rise to 3,000 metres (9,842 feet) to reach a stunning view of the mountains and of the Lake of the Hanging Glacier. Enclosed, modern cabins will provide a pleasant and efficient ride to the top. The gondolas will allow wheelchair access to the mountaintop and will be unique in offering the only view of glaciers from a 3,000 metre (9,842 feet) high mountain top in North America.

At the top of Glacier Dome, visitors will be able to stand behind a glacier parapet to enjoy a view of Jumbo Glacier and of the Lake of the Hanging Glacier immediately below it, as well as a spectacular 360 degree view of mountains and glaciers ranging from Starbird Glacier to the Macbeth Icefield to Horseshoe and Cauldron Glaciers to Red Top Mountain. A teahouse, similar to the one at the top of Kicking Horse Mountain Resort, will be located near the gondola arrival point. There will be no physically disabled accessible mountain viewpoint comparable to it in North America.

1.2 BACKGROUND**1.2.1 Project Origins**

The project proposal has a substantial history – the proponent group recognized a shortfall in terms of year round international destination ski resorts in North America and initiated a study in 1989 to explore the possibilities for a new international calibre mountain resort. Resorts of this nature, such as Zermatt/Cervinia and Courmayeur/Chamonix,³ have flourished in Europe for years (dating from the 1930s, and

³ Zermatt is one of the oldest ski resorts in existence. It gained notoriety in the middle of the nineteenth century as the staging area for the first famous and dramatic ascent to the Matterhorn. It then developed as a mountain climbing and sightseeing centre. By the end of the 19th century, the railway to the Gornergrat, with a spectacular view of the glaciers of Monte Rosa was completed. Soon thereafter it developed as one of the most famous ski areas in the world.

On the Italian side, the previously unknown village of Breuil was renamed Cervinia and equipped with some of the first long aerial tramways of the world in the 1930s. These lifts opened up skiing from the glaciers of the Plateau Rosa and of the Furggen at over 11,450 feet (3,480 meters) to Cervinia at 6,725 feet (2,050 meters). It became a European legend and for many years it held the longest downhill ski race (on the Ventina) ever run. Lift serviced glacier skiing was then introduced to the world.

Chamonix developed similarly to Zermatt. It was originally a staging area for the ascent to the Mont Blanc and for sight seeing, but it did not acquire the early notoriety and attraction of Zermatt, partly because its railways and lifts did not achieve a drama similar to that of Zermatt until the construction of lifts to the Aiguille

even earlier) and continue to draw a large international clientele including a considerable number of American and Canadian tourists and skiers.

For example, the Plateau Rosa, which is accessed from Zermatt and Cervinia, has hosted summer ski training for national teams from the entire world, including the U.S. and Canada. There is nothing comparable in terms of sightseeing and year-round skiing experience in North America.

While prime North American resorts such as Whistler Blackcomb have experienced dramatic growth and continue to draw tourists from distant and foreign markets, smaller regional resorts, especially in the United States, have seen the local ski markets level off or decline. In response to the increased sophistication and demands of the market, many smaller resorts are undergoing or have planned ambitious expansions. These resorts often lack the necessary basic criteria for a year round international destination resort. Many are also located in marginal climatic conditions. If current global warming trends persist, lower elevation resorts may not be able to continue operations in winter.

When the Japanese company that founded Glacier Resorts Ltd., Nikken Canada Holdings Ltd., visited Zermatt in November 1989 and then the Purcell Mountains in April 1990, it became convinced that the dream to bring unique mountain access and skiing to the public in North America was achievable, and it commissioned the study to create the prime mountain resort in North America that is at the origin of this project. It was Japanese investors that first saw the need to offer something special to the general public in terms of skiing on this continent.

It was noted in an earlier study of the British Columbia ski market that "at present the bulk of international skiing by Japanese is being directed towards the European resorts. Most of the North American destined Japanese tourists are presently going to Canada. However, our information was that they are not finding a fully satisfactory experience in Canada because the level of development does not sufficiently meet the quality standards of the Japanese skier."⁴ As well, "the Japanese skier's expectation for winter sports indicates that 27% consider Switzerland, while 21% consider Canada and only 6% consider the U.S.A. While it is not possible to quantify the Japanese international ski market for North American destinations, it is apparent that Canada is perceived as a better winter destination than the U.S."

There are many different views on the status of the ski market. Some experts are concerned of a potential levelling off or downturn in demand. It is difficult to generalize, however, because a homogenous definition of "ski market" does not exist. There are so many radically different "ski markets" that the very notion of putting them together as if they were a single product or clientele is simplistic. Some of the statements that came out of the Mountain Resort Development conference held in Vail in 1992⁵ are notable as well:

du Midi and across La Vallée' Blanche, providing a connection to Courmayeur, at the end of the 1950s.

Courmayeur also began as a staging area for climbing the Mont Blanc. It made a major step forward in the 1930s when trams reaching the Rifugio Torino (elevation over 10850 feet or 3300 meters) were built, providing access to the glaciers of Mont Blanc. The 1950s saw an influx of international tourism with the building of lifts across the glaciers of the Vallée Blanche, which provided a connection to Chamonix.

⁴ Executive Summary of *A Study of the British Columbia Ski Areas and their Market Potential*

⁵ *Mountain Resort Development – Proceedings of the Vail Conference April 18 – 21, 1991*, Page 204,

"While, in my judgement, there is an overbuilding in the ski resort industry, skiers still beat a path to those ski areas that provide an outstanding experience. Thus 'real demand' cannot be separated from the 'quality' of the ski experience... I submit that even if skier-visits nationwide were declining, there is still a case for a new resort. Skier-visit statistics totally ignore that quality of the experience. If a new resort lifts the skiers' spirits to new dimensions, we must support the project.... I submit that for a multi-billion industry our knowledge of the skier-market is stone-aged. We have relied on others to measure our market, we jealously guard our individual statistics, and we embark on a multi-million dollar marketing program, based on targeting consumers who have the 'profile of a skier.'"

Public appetite for new and better tourism experiences is well-evidenced by the rapid growth of Whistler market during the 1990s, a growth that paralleled major infrastructure investments. There are some who maintain that the future of skiing consists in expanding existing resorts, while others note that in British Columbia and in most areas of this continent, continuous expansion of existing resorts would not improve the quality of the experience because the availability of ideal climate, of major mountains and variety of high alpine terrain is lacking at many existing resort locations.

There is a consensus among experts, both in North America and overseas, that there is a strong demand for a new product that will combine skiing of the finest quality with spectacular sight seeing and enjoyment of nature, in the right climatic zone and on major mountains. The recent example of Kicking Horse Mountain Resort, the first new resort in western North America in the last twenty years, witnesses the need for the new generation of mountain resorts in the right climatic zone and with scenery capable of drawing the interest of the travelling public.

Having recognized a demand for development of a new, prime destination resort, the proponent group created by Glacier Resorts Ltd. initiated this project proposal study with the following aims:

- a) to identify possible site locations for the ideal mountain resort project in North America (i.e. ones that meet all of the design criteria outlined in Section 2.1 of this Master Plan that are seen by the approving governmental bodies as being suitable for such a development and are located in an area where its effects on the surroundings can be satisfactorily mediated by proper design and planning); and
- b) to initiate preliminary discussions with the appropriate Government bodies.

While some consideration was given to locations within the United States, the proponent group strongly favoured Western Canada and British Columbia in particular. This bias was based on their enthusiasm for the beauty of the Western Canadian mountain ranges, on their substantial knowledge of and experience with development in Canada (starting at Whistler as early as 1972), and, especially, on the lack of accessible majestic glaciers outside British Columbia.

While there is no shortage of glaciers in North America, there are many factors that lead to a relatively small area for selection. The most desirable latitudes, where climate and sun angles are ideal for a ski resort, limits the choice to a relatively small fascia two to

Author, Ted Farwell

three hundred kilometres north and south of the Canada-U.S. border. In this fascia the coastal mountains are less than ideal for climatic reasons, while the majority of glaciers in the Rocky Mountains, and particularly those that are most accessible, are located in parks or conservation areas. Additionally, the glaciers in the Rocky Mountains are exposed to exceedingly cold and windy winter conditions.

The mountains that are in the best climatic zone are west of the Rocky Mountains, in the Purcell range of British Columbia, because they are protected from the arctic flows by the eastern ranges of the Rocky Mountains and protected from the moist air and stormy conditions of the Pacific by the dry areas of central B.C. and by the Selkirk Range.

Therefore, the study quickly focused on the detailed maps of British Columbia and of the fascia of mountains that lay west of the Columbia trench, the same area where heli-skiing was born, for the same reasons. These assumptions, and the fact that it would be futile to look elsewhere in North America, were confirmed by the expert community, but particularly by Peter Lev,⁶ the renowned mountain guide from Jackson Hole, Wyoming, who was the original lead guide for Mike Wiegele and became a weather and avalanche forecasting expert and one of the original senior consultants for this study.

1.2.2 Tourism Growth in British Columbia

The proponent recognized that one of British Columbia's major strengths – and a prime contributor to the growth of its tourist industry – was its ability to offer visitors an immense expanse of land of incomparable beauty and variety. In the past thirty years, especially since the success of Expo 86 and being selected to host the 2010 Olympic Games, British Columbia's standing throughout the tourist industry has grown substantially. The number of tourist visits per year has grown rapidly. It is now estimated that tourism is the second largest industry of the Province, and its largest employer.

To accommodate and entertain the increasing numbers of visitors, great progress has been made in providing tourist facilities of all kinds. British Columbia can now boast a number of high quality hotels, golf courses, ski areas, etc. to serve a variety of requirements. However, relative to its landmass, and the scale of American and international tourism, British Columbia still has a paucity of tourist orientated facilities with which to attract and satisfy the traveller. This will become even more obvious as we approach the 2010 Winter Olympics through which British Columbia will attract worldwide

⁶ Peter Lev is an important and enthusiastic backer of Jumbo Glacier Resort. He has been a mountain guide for 43 years and has had first ascents in the Tetons, Colorado, and Alaska, including the first ascent of the East Buttress of Mount McKinley and climbs on Half Dome and El Capitan. He is a veteran of seven Himalayan expeditions, including Dhaulagiri, Nanda Devi, Chulu, Nun, and Pik Lenin in the Pamirs. He is an avalanche and weather expert and has combined climbing with skiing in North America, Europe and Asia. Peter Lev in winter 2002 skied from Glacier Dome with Troy Jungen of Golden, B.C. a famous extreme skier. The event was noteworthy because Peter Lev was the first man to climb the north face of Mount Robson from the base of the mountain and Troy Jungen was the man who skied down the north face of Mount Robson. Peter Lev and Dan Griffith later in the same year skied Commander Glacier with Oberto Oberti, Alan Calder of the Environmental Assessment office and a group of photographers and filmmakers. Although Peter Lev is now retired, he still considers the skiing that will be provided by this project as the crowning achievement of his consulting career.

attention.⁷

In B.C., primarily three names capture most of the international clientele – Vancouver, Victoria and Whistler – and despite tourism growth in other regions such as the Okanagan and the Kootenays, only these locations can claim to attract a substantial out-of-country clientele. Banff and Lake Louise, Alberta, also attract a significant international visitors.

An alpine resort that is focused on year-round glacier sightseeing and skiing, combined with the nearby recreational activities available at Panorama and in the Columbia Valley, will add a new dimension to the British Columbia tourist economy. The sight of the Lake of the Hanging Glacier from Glacier Dome may even surpass Lake Louise in terms of beauty, and will be a new dramatic attraction on the B.C. tourist map.⁸

In Europe, the famous Mer de Glace is easily accessible by lift from both Chamonix in France and Courmayeur in Italy. In fact, it is possible to cross it and enjoy its incredible view suspended in the sky in tiny gondolas that are small enough to remain nearly invisible to the unaided eye from below. In Switzerland, the Jungfrau is accessible via one of the most famous underground railways in the world, which climbs the mountain inside a tunnel to open to a spectacular view of the Aletsch Glacier and surrounding peaks from the top station. In contrast, while B.C. has equally large and spectacular glacier sights, they are largely inaccessible to the average individual.

1.2.3 Skiing in British Columbia

The ski industry has been one of the more visible areas of tourist-related growth in British Columbia in recent years. Given the immense expanse of mountains and the length of the winter season, it is a natural and obvious catalyst for winter travel, helping to strengthen what had previously been a low tourist season. Through excellent press coverage of the many exciting skiing opportunities in British Columbia, the international skier is fast becoming aware of the opportunities that are available in our province.

With the exception of a couple of notable examples, namely Whistler Blackcomb (despite its low elevation and climatic challenges) and heli-skiing, British Columbia and North America in general still does not have a tourist product comparable to the best of Europe, in terms of year round alpine resorts.

Skiing is still a relatively new experience for North America when compared to Europe. International interest in skiing in British Columbia (as well as the growth of the tourist industry generally) can accelerate⁹ because of its favourable location with respect to the

⁷ In addition, the absurdity of continuing to train Canadian athletes on glaciers in Europe and South America, despite the abundance of glaciers in our own backyard, will likely become even more apparent to Canadian and international observers.

⁸ The resort will not be visible from, and will not intrude into or provide access to the drainage of the Lake of the Hanging Glacier.

⁹ There is a current debate on whether the skiing population has levelled off and whether the aging of the population in the industrialized world is having an effect on the number of active skiers and snowboarders. This is not a debate that would have an impact on the proposed resort since it would cater particularly to an

rest of the industrialized world. From an historical point of view, British Columbia enjoys a geographic position that is similar to Switzerland's during the railway age. Tourism by railway started in industrialized Europe at the end of the last century and Switzerland is conveniently located in the centre of Europe. This was when the Gornergrat Bahn (a steep, narrow gauge railway from an elevation of 5,250 feet (1600 metres) to 10,800 feet (3,300 metres) of Zermatt) was built. Current advances in airplane and airport technologies now position British Columbia's resorts with equal travel time to the world's population centres as the European train systems did for the Swiss Alps over a half century ago. This is a unique historical time for British Columbia.

North Americans still do not have a tourist product comparable to the best of Europe, in terms of year round alpine resorts. Only the inability to compare, due to lack of exposure by most people in North America, makes the loss appear to be less significant. It is true that the market success of Whistler appears unbeatable and it is not unusual to hear Europeans at Whistler ranking it proudly as the best in the world, but one has to meet the millions of visitors, and repeat visitors, at the top of the Gornergrat Bahn or of the Klein Matterhorn of Zermatt, for example, to truly compare.

In terms of numbers, to have a perspective of the market, the American market is estimated at some 55 million skier days per year. Colorado exceeds 11 million skier days. British Columbia, even though it has the greatest skiing potential on the continent, is achieves about 55% of Colorado's skier visits. B.C. is also a net exporter of tourist dollars. There is not good reason why the ski industry should be larger in Colorado than in British Columbia. B.C. has better access, elevations and mountains, and the proposed project would help reverse the trend and create a better ski destination for B.C., offering the powder snow and the views that currently only heli-skiers can enjoy.

1.2.4 Summer Skiing

In summer, Jumbo Glacier Resort will provide up to 700 m. (2,200 ft.) vertical of skiing and access to four large glaciers.

Glacier Dome has a top station elevation of 3,002 metres (9,850 ft.) and provides a summertime skiable vertical drop of 518 metres (1,700 ft.). Commander Glacier has a top station elevation of 3,291 metres (10,800 ft.), and provides a summertime skiable vertical

international market niche that is not affected in the same manner as a regional ski resort.

However, it should be noted that the skiing population is primarily determined by three factors: 1) the population growth of the market area, 2) the economy of the market area, and 3) the development of new and more exciting facilities in the market area.

The third point is often overlooked. Skiers become tired of skiing always in the same places, of using aging facilities and generally of the lack of new and rewarding experiences. This may create a levelling off and even a decline in the use of lifts. It might be happening again even at Whistler, where especially for the local clientele the social life is becoming a stronger magnet than the downhill experience. Another factor is the large segment of strong intermediate skiers, especially among those getting older, who become tired of the icy moguls typical of so many established ski runs. This kind of skier would have no problem negotiating a wide open, packed but soft ski run, even if steeper. It is a point that is often forgotten when looking at statistical data. It may make the difference between keeping a large segment of the skiing population active or not, and it is one of the reasons why the better ski resorts are making large investments in grooming ski runs, even when fighting adverse climatic conditions.

drop of 762 metres (2,500 ft.). Jumbo Glacier adjoins Commander Glacier, adds another 128 metres (420 ft.) of vertical drop, reaching 3,419 metres (11,217 ft.), and increases the amount of skiable summer terrain.¹⁰

For residents of the West Coast, summer skiing opportunities presently exist at Blackcomb¹¹ and Mount Hood¹². Both areas, however, suffer from low altitude, humid and variable West Coast climate and very limited skiable areas and facilities. The variable climate makes these resorts unattractive internationally, while the small size of the facilities makes the resorts easily saturated in terms of clients. Of these two locations, only Mount Hood operates throughout the summer. Blackcomb closes at the end of July. The success of both locations, despite their shortcomings, indicates that, even locally, there would be a stronger demand for summer glacier skiing if it were available at a more focused, glacier-orientated resort. In Europe one must look at the success of Passo Stelvio, in Italy, or of Les Deux Alpes, in France, to realize what can be offered for summer skiing. The models of Zermatt¹³ (with summer skiing on the Plateau Rosa) and of Courmayeur (which offered summer skiing on La Vallée Blanche) are more in keeping with the smaller and more tasteful scale of alpine resort that is proposed for the Jumbo Valley and its mountains and glaciers.

1.2.5 Project Fundamentals

1. Tourism is an industry of great potential for immediate economic growth and job generation in B.C. The public has indicated that these are important provincial objectives.
2. Southeastern B.C.'s temperate climate and unique mountains and glaciers give it a competitive advantage for mountain-oriented tourism that is not replicated elsewhere on the continent.
3. Skiing is the most important area of future growth for commercial tourism in B.C. The province has a record of continuous growth of skier days, however, skier days in B.C. are

¹⁰ As is evidenced by comparing these figures with those of Whistler Blackcomb (which offers a partial summer season) and Mount Hood (which offers limited, non-glacier summer skiing), the proposed summer season vertical drop would place the proposed resort in a class by itself in North America.

¹¹ At Blackcomb, Horstman Glacier, latitude 50 degrees 5', longitude 122 degrees 50', is reached after riding two quad-detachable chair lifts, a bus, and finally a third quad-detachable chair lift. Bad weather means riding chairs in the rain. Two T-Bar lifts, Showcase and Glacier, covering a vertical drop of 485 ft. (148 meters) and 672 ft. (205 meters) respectively, serve a small area of some 45 hectares (112 acres), cordoned into separate runs for the various groups holding training camps. The top elevation is 7,642 ft. (2330 meters) and the maximum useable vertical drop is less than 984 ft. (300 meters).

¹² Mount Hood features on-mountain accommodation with 60 rooms and an additional 9 bunk-bed rooms, near the base of the chair lifts. Two double chair lifts give access to Palmer Glacier, latitude 44 degrees 40', longitude 121 degrees 40', which ranges between an elevation of 8,544 and 7,013 ft. (2605 and 2138 meters), with a vertical drop of 1,532 ft. (467 meters).

¹³ Zermatt has large ski areas extending above 9,840 ft. (3,000 metres) elevation. The huge winter skiable terrain ranges from Klein Matterhorn at 12,530 ft. (3,820 metres) to the village base at 5,314 ft. (1,620 metres). It is possible to ski into Italy, dropping from 12,530 to 6,724 ft. (3,820 to 2,050 metres), on the majestic glaciers of the Plateau Rosa, with a summer vertical drop of 2,890 ft. (881 metres) on the Swiss side and of 3,258 ft. (993 metres) to Cime Bianche (at 9,275 ft. or 2,827 metres) on the Italian side in early summer. Main access is by fast aerial trams. Latitude is 46 degrees.

still about one half (1/2) of what they are in Colorado, despite greater potential in terms of skiable terrain.

4. Skiing needs a location where the natural beauty of the mountains is an attraction, the climate is right and snowmaking is not a necessity.

5. Glaciers are an advantage because in the right climate and elevation not only do they guarantee snow in winter, but they also allow skiing in the summer, creating a year round season. The Jumbo Glacier Project is near the centre of a group of majestic glaciers at an elevation of 3,000 metres (9,842 feet) and above. Jumbo Glacier and Commander Glacier meet at a saddle at 3,400 metres (11,155 feet). The Canadian Alpine Ski Team has requested to train on these glaciers in summer.

6. Locations are limited because large areas of mountains and glaciers have been set aside for parks and conservation areas, often in the most scenic and accessible locations. It is necessary, therefore, to select a location that is not pristine and not designated for protection. In this context, it is important to understand that the C.O.R.E. provincial land use plan confirmed the project and designated the area as one that has “very high recreation and tourism” values.

7. Proximity to infrastructure is also necessary to keep costs within a manageable range and to allow a variety of activities in the region nearby. The proposed location was formerly a sawmill site and has an existing road. It is only 36 kilometres (22 miles) from Panorama, B.C.

8. The Jumbo Creek Valley is the only area in North America that fulfils all of these requirements. In addition, Jumbo Mountain and Glacier Dome are a world-class sightseeing destination.

9. Jumbo Glacier Resort will be unique in North America. Access to major glaciers is not offered anywhere on the continent except by means of helicopter. It will make access to glaciers affordable. This project will begin to modify the current situation where the majority of North Americans never see the spectacular scenery from the top of the western mountain ranges.

10. The Jumbo Glacier Resort concept is to achieve a year-round facility focusing on sightseeing and a different kind of skiing in the mountains, bringing a new experience of nature to the majority. Seeing the unique mountains while being on them will be the ultimate experience. Access by means of lifts to majestic glaciers in one location on the continent is the next threshold of mountain tourism experience. This project is the Jungfrau project of North America, one century later.

11. The project was described by the Executive Director and Deputy Minister of the Environmental Assessment Office as being “in the broad public interest in that it provides significant economic benefits to government and the region.”¹⁴

¹⁴ See item 10 of the *Recommendations of the Executive Director and Reasons for Recommendations* (for an Environmental Assessment Certificate) included as Appendix 1-B.

1.2.6 Planning Context

This Master Plan is a result of a number of planning exercises and processes that span a period of more than twenty years. It has achieved the following approvals and milestones:

- Acceptance of the Formal Proposal to pursue the project under the *Commercial Alpine Ski Policy* (CASP) of B.C. (1991);
- Signing of an Interim Agreement with the Province and achievement of sole proponent status in the area defined as the “Study Area”¹⁵ following a public process and formal Proposal Call (1993);
- Completion of the Commission on Resources and the Environment (CORE) land use public review process which identified the Jumbo Glacier ski resort development as an acceptable land use of the upper Jumbo Creek valley (1995), subject to the EA Act;
- Submission of five volume report including summaries of studies and preliminary Master Plan (1995) prepared according to CASP as a formal application under the EA Act as requested;
- Official transition of the project proposal into the *Environmental Assessment Act* approval process (1995);
- Entry into the second and final stage of the *Environmental Assessment Act* review process (1998);
- Submission of a thirteen volume *Project Report* including a *Master Plan Concept* (2003) to the EA Office as required;
- Completion of *Environmental Assessment Act* (EA Act) review process (2004), and
- Attainment of a provincial Environmental Assessment Certificate under the EA Act for the project (2004).

¹⁵ Original “Study Area” map is included in Appendix 4-C.

2. THE SITE

2.1 SITE CRITERIA AND DETERMINATION

2.1.1 Planning, Design and Geomorphologic Objectives

In order to meet the design objectives, the site must meet the following criteria:

1) It must have easy access from local, regional and continental population centres, and be within reasonable proximity to a major airport, allowing for timely and cost effective connections.

2) The site should be located within a range of impressive, picturesque mountains blending the sporting experience with the sightseeing experience.

3) It must have lift access to glacier supported snow fields that can allow year-round ski runs. In British Columbia, this means glaciers located at an elevation of around 3,000 metres (9,800 ft.).

4) It must have superb climatic conditions, suitable for full operation of a ski resort in winter as well as glacier skiing in summer. The criteria for evaluating the suitability of the climate include:

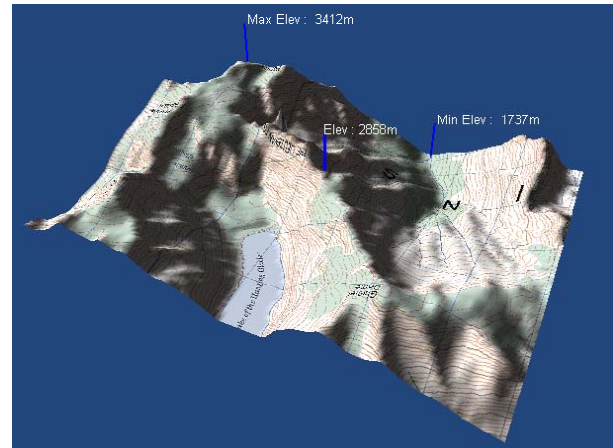
- Exposure to wind;
- Exposure to fog cover on the mountains;
- Average number of sunny days;
- Temperature range, both winter and summer, and
- Type of precipitation and its frequency (rain or snow, and what kind of snow).

5) The skiable terrain must feature sufficient steepness of slope and vertical drop to allow a variety of challenging runs, while still accommodating a majority of beginner and intermediate runs.

6) The site should be located at an elevation where snow conditions from base to peak can be relied upon to provide excellent quality winter skiing without being augmented through the use of snow making facilities.

8) The site should provide a setting that can support and nurture development of a fully functioning resort base – a centre with its own character and style that would offer tasteful and quality amenities and a variety of overnight accommodation.

9) The site should be located within easy driving distance from the National Parks to provide



tourists with additional nearby areas to explore.

2.1.2 Environmental Considerations

1) The site must be located in an area where the proposed modifications would not be so disruptive as to affect the ecological balance of the valley. This is essential for the success of the resort, for its natural appeal is a primary ingredient of its attraction. Again, this is also exemplified in Europe, where the delicate and incremental approach of many Swiss villages has substantially maintained the habitat and the ecology of the valleys. This is in contrast to other more radical and mass oriented developments, such as Sestriere/Cesana, in Italy, or some of the French resorts, which have profoundly altered even the appearance of the landscape, with negative results.

2) It is important that the proposed resort be designed as a "green resort"¹ to the greatest extent possible. This approach embraces the notion that a human settlement can be of a scale and of a design that can be in harmony with nature. It entails utilizing careful design methods to minimize environmental impact.

2.2 LOCATION

2.2.1 Site Location

The proposed site is focused on the Jumbo Mountain and Glacier Dome massifs, which are the best destinations in North America both for year-round skiing and sightseeing. Jumbo Mountain is located in the Purcell Mountains of British Columbia at latitude 50 degrees, 24 minutes and longitude 116 degrees, 34 minutes. Its elevation is 3,419 metres (11,214 ft). Glacier Dome is located at latitude 50 degrees, 26 minutes and longitude 116 degrees, 37 minutes. Its elevation is 3,000 metres (9,850ft).

¹ From a technological point of view this is a new concept involving delicate techniques to maintain the ecological balance around a settlement. However, in this study we have made several references to the European Alps, and we should note that in Switzerland, Austria and in the Dolomites region of Italy, in particular, there are examples of small settlements that evolved over centuries while maintaining an enviable ecological balance.

Exhibit 2.1: Location Map

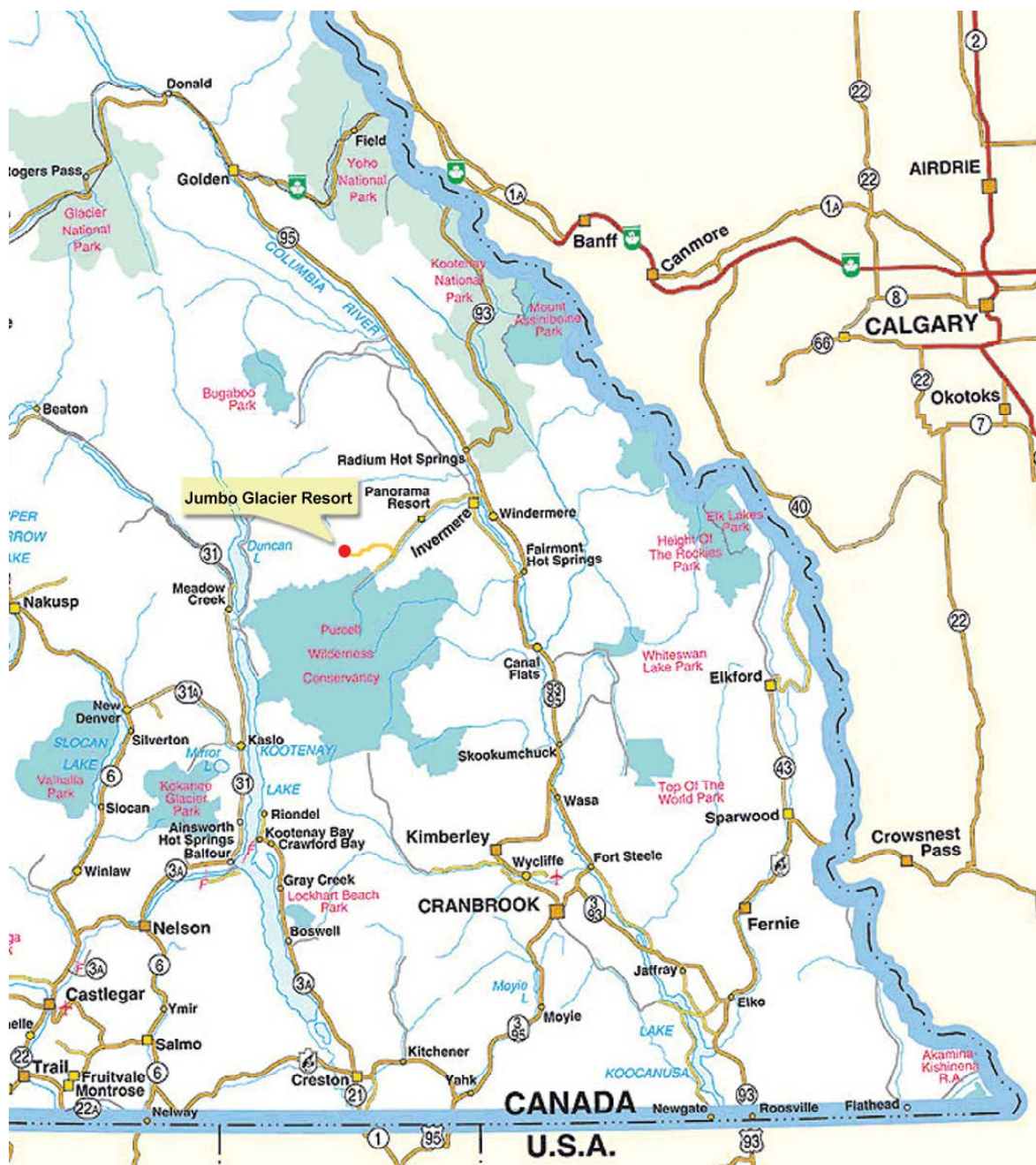
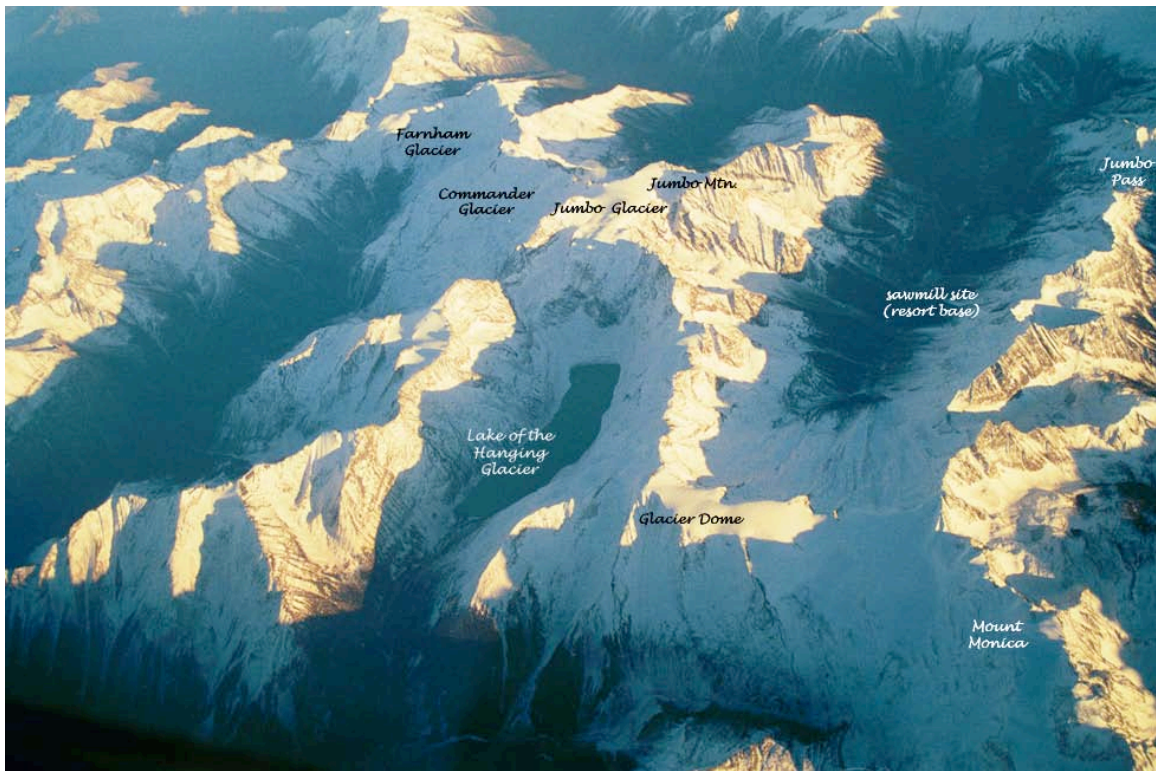
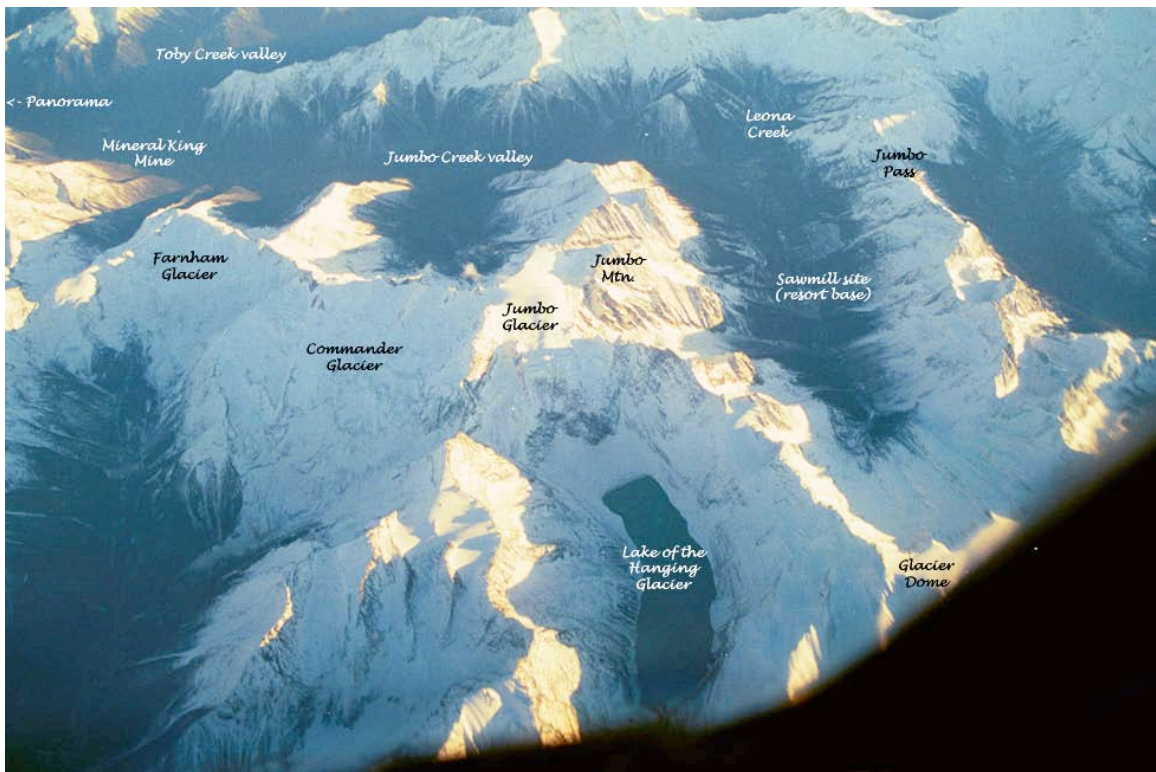


Exhibit 2.2: Study Area – Aerial Photos



2.2.2 Resort Base Location

The Jumbo Mountain massif can be accessed by way of two major valleys, Jumbo Creek valley (Jumbo Creek being a tributary of Toby Creek, which is in turn a tributary of the Columbia River) and Horsethief Creek valley (Horsethief Creek being a tributary of the Columbia River). Both valleys have been harvested in proximity to the site, and consequently both have forestry roads running through them.

As noted above, the most favourable access route is through Jumbo Creek, with a resort base located at the abandoned sawmill site in the upper Jumbo Creek valley. A few of the benefits associated with this location are as follows:

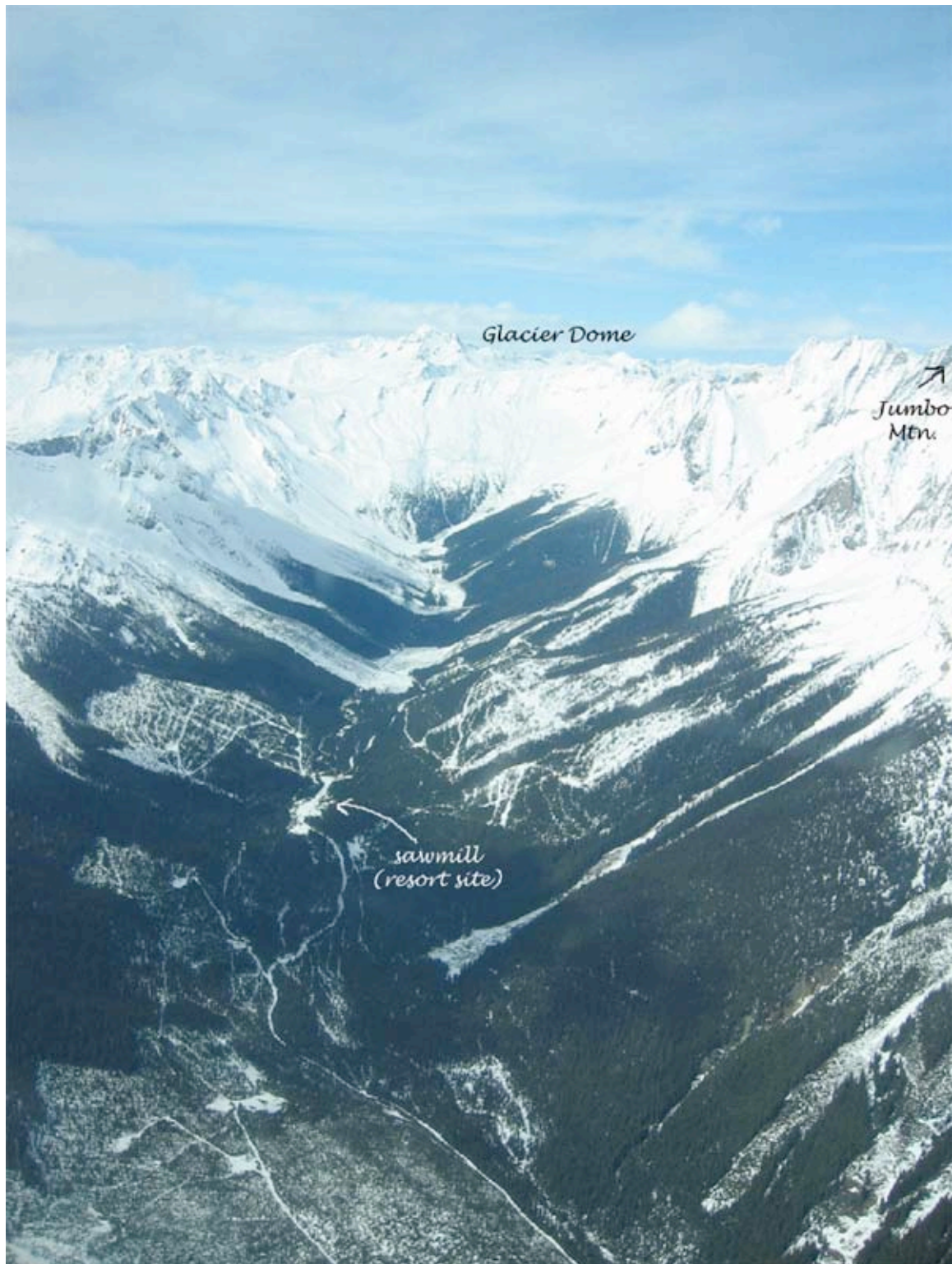
a) The proposed skiable terrain encompasses the areas accessed by both Glacier Dome and Jumbo Mountain. The Glacier Dome area will be an ideal initial ski development area, providing both skiing and sightseeing year round; it is also capable of making Olympic level summer ski training possible in Canada for the first time. The ultimate experience, however, will be offered by accessing Commander Glacier from Jumbo Mountain. The altitude and the view from the summit will be on a par with the most famous locations in the Alps, and **will place the Purcell Mountains in British Columbia on the world tourist map**. The Jumbo Mountain access into the Farnham Creek drainage would also provide easy access to Farnham Glacier to the East.

b) In order to properly service both Glacier Dome and Jumbo Mountain from the resort base (and thus create a synergy between activities within the resort and on-mountain activities), it is important that the resort base be within the Jumbo Creek valley. The existence of the well-developed road to Panorama, of the lesser-developed road to the Mineral King Mine site and of the improved forestry road to the proposed resort site, will facilitate easier access during the early construction stages, and will reduce the amount of new road construction required.

c) The proposed resort site will offer unique benefits to the existing resort at Panorama, which will soon reach its maximum bed base of approximately 7,000 beds. It is often the case that two resorts along the same road become mutually supportive. This has become apparent in many cases, particularly in the Whistler and Blackcomb example.

d) The location on the south side of Glacier Dome, with a length of open valley floor stretching to the south will help the resort capture the greatest extent of summer and winter sunlight possible. From a resort planning perspective, a sunny southern exposure is ideal. Yet this situation is rare for a ski resort in North America. Many existing ski resorts are located at lower elevations and in poorer climates for skiing that preclude them from being located on the south side of mountains. In the upper Jumbo Creek valley, the south side is ideal, with proven outstanding skiing conditions and with two and a half to four metres of dry snow accumulation on the valley base in winter.

Exhibit 2.3: Resort Base Location – Sawmill Site



2.2.3 Base Elevation

The elevation of the resort base is approximately 1,700 metres (5,577 feet). This elevation, combined with the weather patterns in the area, helps to keep snow cover at the resort base site well into spring.

For comparative purposes, the approximate base elevations of other ski resorts have been shown below.

Table 2.1: Resort Base Elevations – Various Ski Resorts

Ski Area	Base Elevation
Aspen, U.S.A	7,900 ft./ 2,409 m.
Chamonix, Fr.	3,378 ft./ 1,030 m.
Courmayeur, It.	4,015 ft./ 1,224 m.
Gstaad/Reusch-Diablerets, Switz.	3,608 ft./ 1,100 m.
Jackson Hole, U.S.A.	6,311 ft./ 1,924 m.
Jumbo Glacier Resort, Can.	5,577 ft./ 1,700 m.
Kicking Horse Mountain Resort, Can.	3,900 ft./ 1,190 m.
Lake Louise, Can.	5,450 ft./ 1,662 m.
Mount Bachelor, U.S.A.	5,800 ft./ 1,768 m.
Panorama, Can.	3,600 ft./ 1,098 m.
Snowbird, U.S.A.	8,000 ft./ 2,439 m.
Sunshine Village, Can.	5,440 ft./ 1,660 m.
St. Moritz, Switz.	6,088 ft./ 1,856 m.
Whistler Blackcomb, Canada	2,214 ft./ 675 m.
Zermatt, Switz.	5,314 ft./ 1,620 m.

2.3 ACCESS

2.3.1 Road Access

Access to the site is gained from the Columbia Valley region. The valley supports a number of residential and recreational facilities, and therefore has a substantial transportation network in place.

The main traffic corridor through the region is Highway 95, which connects with Highway 3 from Vancouver to the south, and with Highway 93 to Calgary and Edmonton to the north. Highway 93 also gives access to Banff National Park and Kootenay National Park. Approximately 4,000 vehicles per day access Kootenay National Park from Highway 93 during a peak summer day. All three roads are part of a first class inter-provincial highway system. Calgary, the closest major city, is approximately 332 km (208 miles) from the proposed site.

The distance from the proposed resort base site to Invermere is approximately 50 to 60

kilometres (31 to 37 miles).

Table 2.2: Comparative Driving Distances for British Columbia Resorts

Resort	Nearest Town/ Distance	Nearest Major City/ Distance
Jumbo Glacier Resort	Invermere / 54 km	Calgary / 332 km
Apex	Penticton / 33 km	Vancouver / 400 km
Big White	Kelowna / 55 km	Vancouver / 440 km
Silver Star	Vernon / 22 km	Vancouver / 409 km
Sun Peaks Resort	Kamloops / 50 km	Vancouver / 370 km

2.3.2 Air Access

The proposed resort can be accessed easily via the existing international and regional airways system. Transoceanic flights presently land in Vancouver, Seattle, Calgary and Edmonton. Calgary International Airport is the nearest international and transoceanic airport. Cranbrook, B.C. and Spokane, Washington are important regional airports in relative proximity to the site.

From Calgary to the Jumbo Creek resort base location it will take approximately four hours by car through the Banff and Kootenay National Parks.

An ambitious expansion program for the Cranbrook Airport is currently underway and is expected to be completed in the near future. The runway will be lengthened to 9,000 feet from the current 6,000 feet to accommodate wide-body international charter flights. Ground handling capabilities will be enhanced accordingly and passenger amenities expanded considerably. The Cranbrook Airport is now known as the Canadian Rockies International Airport.

Fairmont Hot Springs Airport, with a runway length of 1,830 metres (6,000 feet), is currently served only by private and charter flights. Invermere also has an airport, with a runway length of 915 metres (3,000 ft).

2.4 GLACIERS

The experience of standing in the rarefied air above the snow on mountaintop glaciers will be a unique feature characterizing this project, together with the views of the majesty of glaciated mountaintops. In addition to the sightseeing and the experience of being in a special and awe-inspiring environment, the snow covering the glaciers year round is of special importance to sports such as skiing and snowboarding.

Glaciers have survived to our day following the end of the last Ice Age because they are located in areas of greater snow accumulation than elsewhere, due to latitude, elevation and climate. Glaciers promise superior skiing conditions in winter, and the opportunity to ski substantial terrain also in the summer, creating a year round opportunity.

Due to their high elevation, the glaciers in the Purcells offer a sun experience and atmosphere that is similar to that of Colorado and Utah, and because of the permanent snow and challenging peaks, they also offer a true mountain top exhilaration that is missing in the more rounded landscape of the central U.S. mountains. In the summer, when the sun is almost vertical to the glaciers, the experience is often compared to that of a beach. The conditions are ideal for ski schools, and Olympic calibre ski training. Perhaps this is why in Europe, Passo Stelvio, Les Deux Alps and the Austrian glaciers have become popular and even legendary summer destinations for skiing.

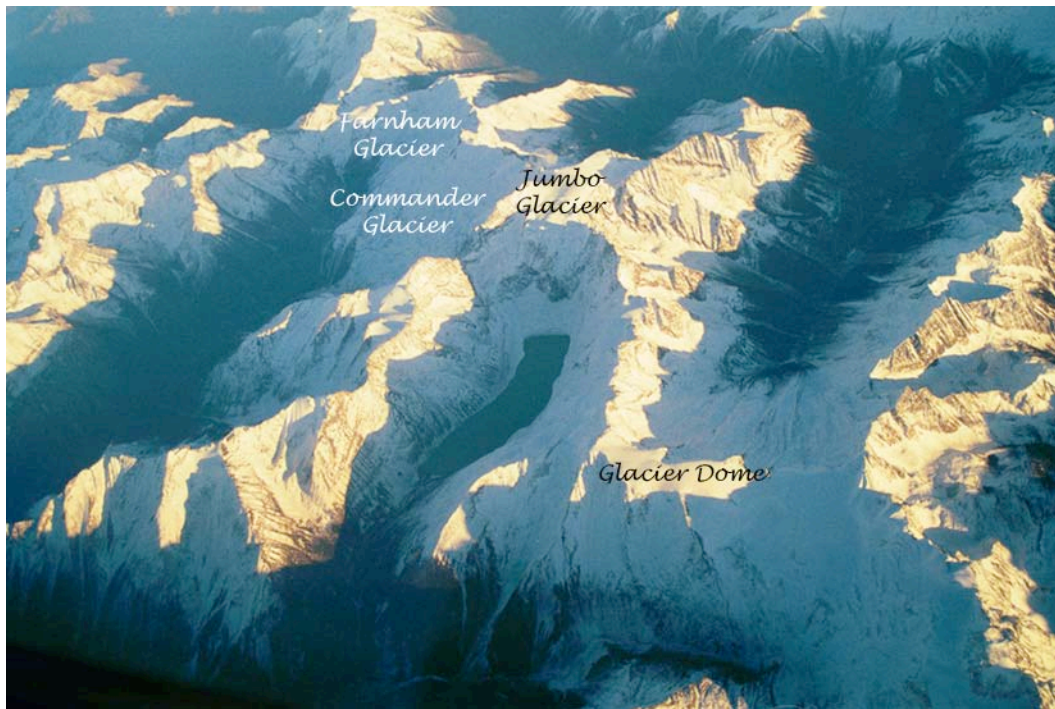
Ski resorts should ideally be located at high altitudes where natural snow is abundant – near glaciers especially. This safeguards against the possible impacts of short-term climate change at lower elevations and less favourable latitudes and mitigates the impact that many current resorts have on current energy consumption by eliminating the need for snowmaking.

2.4.1 Access to Glaciers

Three glaciers, Glacier Dome, Jumbo Glacier, and Commander Glacier can be accessed directly from the proposed resort base site. Access to the fourth glacier, Farnham Glacier is available from three directions and will be provided initially from the Horsethief drainage by forestry road for summer skiing. All of these glaciers will eventually be reached by lifts from the resort base location in the Jumbo Creek Valley, and will provide year round skiing opportunities.

As noted before, access to these glaciers will give the proposed development the distinction of being the only ski resort in North America that can compare favourably with European resorts with access to major glaciers, such as Zermatt, Chamonix or Courmayeur, and provide unsurpassable views.

In addition to giving access to the above noted glaciers by ski lifts, the development can function as an ideal base of operations for helicopter skiing. In fact, the existing heli-ski company has been considering moving its base of operations to this area since the early 1990s, and in the past it has made an application for a heli-ski lodge in the Jumbo Creek valley. This would allow easy access to the other surrounding glaciers, thereby adding another exciting dimension to the recreational opportunities offered by the resort. The heli-ski activities and the proposed resort are ideally suited to complement each other.

Exhibit 2.4: Overview of Glaciers**2.4.2 The Warming Trend and Glacier Retraction**

Glacier retraction is a reality that is evident throughout North America, including the Purcells. Anyone who has visited the Columbia Icefields in Jasper National Park, for example, can observe a retreat that is typical of most glaciers. However, visitors to the Columbia Icefields typically only see the toe of the glaciers, where the retraction is most visible and where the ice surface is exposed in the summer. Similarly most hikers visit glaciers in the summer and only see the bottom of glaciers where the growth of the moraines and the retreat of the ice are most visible. The part of the glaciers that is most interesting for skiing, however, is **the accumulation area, which is at the top and is covered with snow both in summer and winter.**

The health of a glacier is dependent on a balance between the snow that falls in the accumulation area and the ice below that melts from ablation. The growth or decrease of glaciers is often more dependent on the amount and type of precipitation than on small temperature variations. In fact, it is not clear whether the warming trend will continue and increase the retraction of glaciers in general, or whether it will increase precipitation to the point that some glaciers may expand rather than contract. For example, in the mountains of the Coastal Range of B.C. winter precipitation in the form of snow is so massive that glaciers continue to exist at elevations as low as 2,000 metres (6,562 ft.), like Horstman Glacier at Blackcomb, even if the climate is warmer than in the Purcell Mountain range, where glaciers are almost 1,000 metres (3,281 ft.) higher in elevation, ranging between elevations of 3,400 metres (11,155 ft.) and 2,600 metres (8,530 ft.). A warming trend could increase precipitation and snowfall in areas that are hard to pinpoint but that could easily include the higher elevations of the interior of B.C.

A major reduction in size, or the complete disappearance of the collection area of major high-elevation glaciers in B.C., to the point where they would not be skiable, would entail a cataclysm that is currently not foreseeable and not forecasted by scientists. The collection area for Glacier Dome and Jumbo, Commander and Farnham Glaciers will not change substantially in the foreseeable future; this has been confirmed by the expert advice that the proponent has received from Dr. Michael Maxwell and from Peter Lev,² among the many qualified members of the project consulting team.

2.5 CLIMATE

Among the site selection criteria, climate is of critical importance. Climatic conditions in the area are very favourable for both skiing and sightseeing – in summer and in winter. Heli-ski operations have been established here because of the exceptional microclimate. The local operators report that on average they experience only six days per winter of closure for heli-skiing due to bad weather conditions. In addition, Jumbo Glacier Resort will be one of the few resorts in British Columbia able to offer outdoor skating in natural conditions for the entire winter season.

As a comparison, bad weather data from resorts such as Whistler is not published, but one would estimate the days of heavy precipitation or poor visibility may approach half of the season for the Whistler region.

The Pacific Coast has a generally moist climate with a large number of heavy weather disturbances. At the other extreme, the plateau leading from Alberta to the Rocky Mountains is generally dry, wind swept and may be extremely cold. However, Alberta is called "sunny Alberta" because of its large number of days with clear or partially clear skies. Jasper and Banff National Parks, which are on the mountainous border between British Columbia and Alberta, receive a fair quantity of snow in proportion to their altitude but are closest to the dry and windswept Alberta climate. The Columbia River Valley is again relatively sunny and dry. By moving westward into the Purcells, one enters into a glacier and snow country that has the best of both worlds. The Purcells receive the last large precipitations originating from the Pacific Ocean but are protected from the bitter cold winds from the northeast and Chinook winds from the south while still having a large number of days with clear or

The subject study area focuses on the valleys of Jumbo Creek and of Horsethief and Farnham Creeks, which are in an ideal location for skiing. These valleys are in the last mountain ranges that receive heavy snowfalls from Pacific storms, are in a drier climate than the coastal ranges, are protected from the bitter cold of the Rockies and enjoy the clear skies that are so typical of Alberta, without being subject to devastating (for skiing) Chinook winds. Only a few kilometres to the east snow precipitation substantially decreases.

² Peter Lev is an important and enthusiastic backer of Jumbo Glacier Resort. He has been a mountain guide for 43 years and has had first ascents in the Tetons, Colorado, and Alaska, including the first ascent of the East Buttress of Mount McKinley and climbs on Half Dome and El Capitan. He is a veteran of seven Himalayan expeditions, including Dhaulagiri, Nanda Devi, Chulu, Nun, and Pik Lenin in the Pamirs. He is an avalanche and weather expert and has combined climbing with skiing in North America, Europe and Asia. Peter Lev in winter 2002 skied from Glacier Dome with Troy Jungen of Golden, B.C. a famous extreme skier. The event was noteworthy because Peter Lev was the first man to climb the north face of Mount Robson from the base of the mountain and Troy Jungen was the man who skied down the north face of Mount Robson. Peter Lev and Dan Griffith later in the same year skied Commander Glacier with Oberto Oberti, Alan Calder of the Environmental Assessment office and a group of photographers and filmmakers. Although Peter Lev is now retired, he still considers the skiing that will be provided by this project as the crowning achievement of his consulting career.

almost clear skies.

2.5.1 Valley Microclimate

The site has been carefully selected for its extraordinary climatic conditions in terms of snowfall, sunshine and predictability.

The upper Jumbo Creek valley is a closed-ended south facing alpine valley. Its southern exposure results in a maximum possible number of winter sunshine hours. The majority of ski resorts in British Columbia, including Panorama, Kicking Horse and Whistler Blackcomb are situated in north or northeast/northwest facing valleys, resulting in fewer winter sunshine hours.

The Columbia Valley is in a dry area that accumulates minimum amounts of snow in winter. Invermere and surrounding area, even when the lake freezes, seldom has more than a dusting of snow on the ground. Panorama is also in a dry zone and depends heavily on snowmaking for its operations.

Moving westward from Panorama into Toby Creek, snow accumulation begins to appear at the confluence of Jumbo and Toby Creeks, at the old Mineral King site. Ground snow accumulation in this area is typically in the half-metre range in winter. Travelling west along Jumbo Creek, snow accumulation increases gradually up to the point where the valley turns north into the upper Jumbo Creek valley. Snow accumulation on the ground rises to two-and-a-half metres (8.2 feet) and goes up to four metres (13 feet) in the upper portion of the valley. The existence of glaciers at this location gives a clear historical indication of the snowfall pattern: precipitation arrives from the west and climbs over the Purcells as the last mountain range; glaciers are located at the eastern boundary of snow accumulation. Beyond the glacier boundary line precipitation quickly decreases and then disappears. The confluence of Jumbo and Toby Creek is near the glacier boundary line.

The peaks of Karnak Mountain and of Jumbo Mountain are at the 3,400 metres (11,152 ft) elevation, giving access to the highest glaciers in the area. Base snow levels ranging from 2.5 to 4 metres (8 to 13 ft) are normal in the Upper Jumbo Creek Valley. R.K. Heli-Ski reports an average annual snowfall of 7.5 to 11 metres (25 to 36 ft).

Snow conditions are reportedly fairly constant and have a generally superior nature. Poor weather is less frequent and less stormy in this region than along the Pacific Coast, but when clouds arrive they still discharge a generous snowfall. When the weather clears conditions are prevalently calm and dry allowing for renowned powder snow conditions, which may remain undisturbed for a large portion of the season. In locations subject to sudden warming and cooling, such as Fernie and Whistler, powder conditions may last only a few days, as there is a continuous cycle of warming and cooling, with even rain and subsequent frost following a snowfall and sunny days.

2.5.2 Climate Change & Global Warming

Climate change may be one of the most compelling reasons for this project. Recent statistical data on temperature in the Northern Hemisphere and in Western Canada tend to confirm a climatic warming trend and potentially an acceleration of this warming trend, now being discussed particularly as a concern in the urbanized areas of Western Europe. It is difficult to

predict the consequences in detail for Western Canada and for the microclimate of the Columbia Valley and of the Purcell range. The potential effect of the warming trend is discussed also in the glaciology section (see Sections 2.4.2 and 2.4.3) of this Master Plan report.

The most significant aspect of a warming trend for the Jumbo Glacier Resort project is that a change of a few degrees may substantially alter the conditions of the ski industry in Western Canada. It may render snow making uneconomic or ineffective and force skiing to occur only at higher elevations. **If ski resorts at lower elevations were to become inoperable, a project like Jumbo Glacier Resort, with a base elevation of 1,700 metres and a top elevation of 3,400 metres, could become the only place in B.C. where it will be possible to ski on a consistent and economical basis.**

The United Nations sponsored a World Conference on Sport and the Environment, in Turin, Italy, on December 2 and 3, 2003 at which it was stated: "The call for ski resorts with snow reliability is the main argument for the current boom in concept studies to open up high mountain regions, or, in other words, climate change is the reason for opening up high mountain regions for tourism."

Ski resorts in B.C. already depend on snowmaking and are at 1,200 metres elevation or lower. This is too low to be assured of good quality snow and the avoidance of rain in winter.

2.6 LAND USE³

2.6.1 Existing Land Use

The present condition of the land in the Jumbo Valley is that of a substantially logged valley, showing traces of mining, of sawmill activity and of major forest fires. It has a wild and rugged scenic character, with many views of majestic mountain peaks. It is Crown land within the Windermere Provincial Forest and is within a "Rural Resource Zone." Available information, however, indicates that due to high elevation climatic conditions, it has little or no agricultural value.

Three areas designated as *use, recreation and enjoyment for the public* (UREP) are found near the proposed resort. The lands around the Lake of the Hanging Glacier are designated as such. A second UREP exists on Farnham Creek. The confluence of Jumbo and Toby Creeks is designated as a map reserve because of its role as an access point to a large area with recreational potential, particularly near Earl Grey Pass and at the headwaters of Toby Creek. Toby Glacier is one of the most impressive areas in the region, in the heart of the Purcell Conservancy. For the majority of British Columbians, however, Toby Glacier and surrounding areas are not accessible. Their remoteness would require a major expedition for urban dwellers.

Present uses of the land in and around the Jumbo Creek drainage, in addition to mining exploration interests and some ongoing logging activity, include general recreation, hiking,

³ Traditional Use and First Nations information is discussed in Section 7: First Nations of the Master Plan. Please see also Section 7 of this *Executive Summary*.

heli-skiing, snowmobiling, ski touring, guide and outfitting, and trapping. The proposed land use will add skiing in designated locations, tennis and a highly compact resort base, which will comprise hotels, ancillary commercial facilities, vacation apartments, townhouses and single family chalets.

2.6.2 Regional District

The lands for the proposed development are situated in areas F and G of the Regional District of East Kootenay (RDEK.). The RDEK is one of twenty-nine regional government units formed by the Province of British Columbia to provide local government services to unincorporated areas. The RDEK occupies the Province's southeast corner, sharing boundaries with Alberta and Montana. The northern boundary of the Region falls between the community of Spillimacheen and the Town of Golden and borders on Kootenay National Park. The Region occupies 17,092 sq.m (27,568 km²) which represents 3.2% of the Provincial land area.

The present zoning of the proposed development lands is "Rural Resource Zone" (A-1). Development of the proposed resort would be dependent upon a rezoning or on the creation of a Mountain Resort Area adopting the Master Plan as the Official Community Plan and zoning regulatory document.

2.6.3 Provincial Land Use Planning

2.6.3.1 The TIDSA Study

The project area has been under consideration and study for more than twenty-five years. Its tourism and ski resort potential was also previously identified in *The British Columbia Rocky Mountain Tourism Region*, a study prepared under the auspices of the *Tourist Industry Development Subsidiary Agreement* (TIDSA) for the Governments of British Columbia and of Canada and printed in 1982.

The TIDSA studied called for "feasibility investigations be undertaken to determine the suitability of the terrain in the Stockdale and Jumbo Mountain areas in the upper reaches of Toby and Horsethief Watersheds for the establishment of two international class alpine ski resorts."⁴ It noted that the resorts should be established following the substantial development of Panorama and that the "resorts would be planned to provide quality food, accommodation and services to a high-expenditure international market. Opportunities for summer recreation would require special investigation, but consideration of high alpine vacations tied to interpretive values of the area are proving to be an emerging market."⁵

⁴ Section 6.4.2.6., *The British Columbia Rocky Mountain Tourism Region*; TIDSA, 1982.

⁵ *ibid.*

2.6.3.2 The CORE Land Use Review and East Kootenay Land Use Plan

The B.C. government established the Commission on Resources and the Environment (CORE) in 1992 to develop a land use strategy for the province. The CORE land-use review process was set in motion for the Kootenays in 1993 and consideration of the Jumbo Glacier Resort project under the *Commercial Alpine Ski Policy* (CASP) was postponed at that time pending the completion of the CORE commission's land-use plan for the Kootenay region. Members of the Jumbo Glacier Resort project team participated in the Commercial Tourism caucus at the East Kootenay CORE Table and a representative of the proponent was named as a member of the Land Use Designation Committee.

CORE was a structured public process, during which the Jumbo Creek project was specifically discussed several times; at one point Local Government Table members put forward a motion, unanimously carried, in support of the future processing of the application. The CORE *East Kootenay Land Use Plan* resolved the land use issue by clearly permitting the use of the valley for the type of resort proposed subject to the *Environmental Assessment Act* review process. Specifically, recommendation 75 reads:

The commission recommends that:

75. The approval process for a resort development in Jumbo Creek include an environmental assessment under the provincial Environmental Assessment Act.

This assessment should identify potential impacts and mitigative measures to address impacts prior to development approval. The process should also include public involvement to ensure that all values and perspectives are fully considered in a final decision. If this development proposal is approved, it should include a condition that no road access linking the East and West Kootenays through Jumbo Pass will be permitted.⁶

Following the proponent's objection⁷ to the recommendation regarding the introduction of the new EA Act process, Commissioner Stephen Owen promptly wrote a letter⁸ to the Minister of Environment, Lands and Parks and to the Minister of Employment and Investment, clarifying that a public process such as CASP would be considered equivalent and that the Commissioner did not intend to require a new process.

⁶ Page 110, *East Kootenay Land Use Plan*, CORE, October 1994.

⁷ In September 1993 the proponent had requested and obtained assurance in writing from the Province that should the CORE process result in a favourable land use decision, the proponent would be allowed to resume and complete the CASP process without delay, and the project would not be subject to any new and untried review processes. Further discussion of the history of the approval process during this time period is found in Section 8.5.1 of the Master Plan.

⁸ Included as Appendix 8-L to the Master Plan.

The Commissioner wrote:

This recommendation assumes that the environmental assessment process under the *Environmental Assessment Act* will be:

- Imminently available to begin reviewing proposals
- Efficient in providing a one-window review within strict time limits, and
- Effective in providing public participation and the consideration of the full range of values that may be affected by the proposed development.

We have since been advised that the design and detailed operational procedures of the environmental review process have not yet been finalized and that the recommended EAA assessment for the Jumbo Creek development proposal would not likely commence for some time. **In the circumstances we would have no objection with the assessment of this proposal proceeding under existing project review processes, so long as they met the conditions of efficiency and effectiveness mentioned above.**

[emphasis added]

2.6.3.3 Coalition for an East Kootenay Solution Land Use Plan

CORE was an innovative and controversial planning process that was supposed to be driven by public consensus, but that did not satisfy the majority of participants because it appeared to give a slanted view of public input favouring minority advocacy groups.

As a consequence an alternative report that documented their opposition was prepared. This report was presented as the *Land Use Plan by The Coalition For An East Kootenay Solution*, published in March 1995.

The report confirmed the decision at the East Kootenay CORE Table that the Jumbo valley should not only be designated for tourism resorts as highest potential value, but that it should be designated for Integrated Use as well.

2.6.3.4 Kootenay/Boundary Land Use Plan – Implementation Strategy

The CORE Commission's Land Use Plan became a basis for the June 1997 *Kootenay/Boundary Land Use Plan – Implementation Strategy*. In the *Implementation Strategy*, the management objectives for the Jumbo-Upper Horsethief SRMZ are specified for the following values: commercial tourism; access management; recreation; general biodiversity; and ungulates. A ski resort development would be acceptable provided it is compatible with other recognized values. These values were reviewed during the Environmental Assessment Act process which resulted in an Environmental Assessment Certificate for the project.

The *Implementation Strategy* was concentrated on the impacts that may be generated by the forest industry and there was no evaluation of the abundant information

available regarding the environmental data collection on the Jumbo Creek drainage and on the tourist industry potential of that drainage.

2.6.3.5 Kootenay Boundary Higher Level Plan

The *Kootenay Boundary Higher Level Plan* serves as a basis for the implementation of the Forest Practices Code. The *Higher Level Plan* “brought into force ten legal objectives that provided direction on biodiversity emphasis, old and mature forests, Caribou, Green-up and patch size, grizzly bears and connectivity corridors, consumptive use streams, enhanced resource development zones (timber), fire maintained ecosystems, visuals and the forest economy.”⁹ The *Higher Level Plan* provides direction to the *Implementation Strategy*.

The *Higher Level Plan* contains little information regarding the resort industry and tourism, which could complement forestry and mining as a vital and sustainable industry for the Province. An example of this inadequacy is map 9.1, *Scenic Areas*, which might have some use for the forest industry, but is useless for the tourist industry. It excludes all scenic areas that include high mountains, which are one of the biggest attraction of the Purcell Mountains, currently accessed primarily by helicopter and consequently little known to the general public.

This Master Plan reflects a level of planning and information that greatly augments the generic statements of the *Kootenay/Boundary Land Use Plan – Implementation Strategy* and *Kootenay Boundary Higher Level Plan*.

2.6.3.6 Resort Policy: CASP and the BC Resort Strategy

In addition to being confirmed by the CORE land use review process and being in compliance with existing land use policy, as discussed above, the Master Plan also responds to provincial environmental, economic, and tourism policy including the *Commercial Alpine Ski Policy* (CASP) and the *BC Resort Strategy*. The project's response to policy and the *BC Resort Strategy* is discussed in Section 8.4 of the Master Plan.

⁹ <http://srmwww.gov.bc.ca/kor/hlp/main.htm>

3. THE ENVIRONMENT

3.1 INTRODUCTION

The Environment section of the Master Plan is derived from the studies undertaken for the Environmental Assessment Act review process and presented in the *Project Report*; it outlines the proponent's commitment to sustainability and includes a summary of the full audit of environmental issues, including a description of baseline environmental resources, an environmental impact assessment and mitigation measures, and a proposed monitoring program to reduce any potential impact during construction and operation of the resort. Comprehensive Environmental Management Plans are also included in the Master Plan.

Detailed descriptions of baseline aquatic and wildlife resources, potential impacts and mitigation measures are provided in the appendices and reports prepared by ENKON Environmental Ltd., Norecol, Dames and Moore Inc., and AXYS Environmental Consulting Ltd., including:

- Biophysical Habitat Mapping (Appendix 3-A)
- Wildlife Resources (Appendix 3-B)
- Fisheries Resources (Appendix 3-F)
- Grizzly Bear Population Survey In the Central Purcell Mountains, British Columbia (Appendix 3-E); and
- Grizzly Bear Cumulative Impact Assessment (Appendix 3-D).

3.1.1 A Commitment to Sustainability

Tourism is the largest and fastest growing economic sector in the world and has significant environmental, cultural, social, and economic impacts, both positive and negative. If undertaken responsibly, tourism can be a positive force for sustainable development, conservation and environmental protection, and can provide unique opportunities for awareness raising and enhancing support for conservation. If unplanned, tourism can be socially, culturally and economically disruptive, and have a devastating effect on fragile environments.

The proponent is committed to incorporating sustainable economic, social, environmental and inclusive practices in the planning, construction and operation of the proposed Jumbo Glacier Resort. The proponent embraces sustainability because it is integral to the vision of the proposed resort, it is a global reality, local community visions have incorporated it and the citizens of British Columbia expect it.

The proponent has placed priorities on minimizing waste, conserving water, ensuring efficient use of energy, and developing facilities with environmental sensitivity in mind.

The proponent is committed to embracing the economic and social components of sustainability in order to ensure balanced decision making, a long-term view of the area, community inclusiveness, equity and a healthy community. Sustainability will be integrated into all aspects of the resorts operation through its commitment, planning, implementation,

monitoring and reporting.

The approach to sustainability is based on six key principles. The principles define the values and beliefs that form the basis of Jumbo Glacier Resort's sustainability.

3.1.1.1 Sustainability Principles

- **Ecological Limits** – Society must live within the earth's capacity to sustain life.
- **Interdependence** – Economic and social prosperity are dependent upon one another and the natural environment.
- **Long-term view** – Today's decisions and actions must not compromise the choices available to future generations.
- **Inclusiveness** – Participation by all people must be promoted and decisions must be based on input from key stakeholders.
- **Equity** – People must be empowered to live sustainably and resources must be used fairly and efficiently in order to meet basic human needs.
- **Healthy Communities** – Community health and quality of life is integral to global and local sustainability.

The proponent intends to meet this commitment to sustainable environment, economic and social practices through the following:

Environmental Stewardship

- Conserving resources
- Preventing pollution
- Protecting and enhancing natural systems

Economic Opportunity

- Maximizing economic opportunity
- Supporting international trade and investment
- Advancing social equity through economic opportunities
- Strengthening community and stakeholder partnerships

Social Responsibility

- Communicating openly and consulting with stakeholders
- Promoting diversity, community involvement and cultural heritage
- Helping to increase the public's understanding of sustainability

The proponent will conduct further detailed environmental studies as required (e.g., as part of the design and approval process). Some of the attributes of the overall environmental program and resort design will include:

- Compact facility plans;
- Facility design and construction practices that incorporate environmentally-friendly practices;
- Policies to minimize Green House Gas emissions in accordance with Canada's commitment to the Kyoto Protocol;

- A solid waste management policy which strives to minimize resort wastes; and
- Environmental education to raise awareness for staff, suppliers, residents, and visitors.

3.2 ENVIRONMENTAL MANAGEMENT PLANS

Environmental management plans have been prepared to further reduce any potential impacts from the resort development. The individual plans address mitigation, management plans and monitoring for Jumbo Glacier Resort. The management plans previously submitted to the Environmental Assessment Office and included in the Master Plan are:

- Erosion and Sediment Control Plan
- Water Management Plan
- Solid Waste Management Plan
- Liquid Waste Management Plan
- Drainage Control/Stormwater Management Plan
- Non-point Source Waste Discharge Control Plan
- Vegetation Management Plan
- Grizzly Bear Management Plan
- Air Quality Management and Monitoring Plan
- Spill Contingency Plan
- Terms of Reference for Environmental Monitoring
- Additional Monitoring Plans

3.3 GRIZZLY BEARS

The project's potential impact on Grizzly bears was given prominent consideration during the Environmental Assessment review process. The following overview prefaces the Grizzly Bear Management Plan included in Section 3.8 of the Master Plan. It includes a summary of the Environmental Assessment Office's review of the project's potential impacts on Grizzly bears as well as the proponent's responses and commitments to mitigate and minimize impacts on Grizzly bears.

3.3.1 Overview

Grizzly bears are blue-listed species in British Columbia. According to the British Columbia Ministry of Environment, a blue-listed species "Includes any ecological community, and indigenous species and subspecies considered to be of special concern (formerly vulnerable) in British Columbia. Elements are of special concern because of characteristics that make them particularly sensitive to human activities or natural events. Blue-listed elements are at risk, but are not Extirpated, Endangered or Threatened".¹

¹ <http://srmwww.gov.bc.ca/atrisk/red-blue.htm>

While Grizzly bears are not endangered or threatened, particularly in the Central Purcells, where the government has reported a healthy population that is at 93% capacity and is sufficiently stable to permit hunting in locations such as the Purcell Wilderness Conservancy, Grizzly bears were a key issue of concern during the *Environmental Assessment Act* review process for the project. It is the proponent's intent to design and manage the project in a manner that will minimize its impacts on Grizzly bears.

A summary of the Environmental Assessment Office's (EAO) review of the project's impact on Grizzly bears is included in the EAO's *Jumbo Glacier Resort Assessment Report*² (pages 55-59):

Background

The potential impacts of the Project on Grizzly bears, a blue-listed species, was a key issue in the EA review process that came to symbolize land use concerns of many review participants.

The objective of the additional studies required by the Specifications was to ensure that a thorough understanding of the potential impacts of the proposed development on Grizzly bears was obtained, and that any viable options to prevent or mitigate any adverse effects were identified and analyzed.

The phases of study needed to complete the assessment of the impacts of the Project on Grizzly bears and Grizzly bear habitat were: a) identification of Grizzly bears and Grizzly bear habitats (presence, absence, limiting factors), both existing and potential; b) collection of hair samples from Grizzly bears for one season for purposes of genetic analysis; c) identification of probable impacts (direct, indirect and cumulative) of the Project on those resources; and d) identification of measures to prevent impacts and minimize those which cannot be prevented.

In addition, monitoring the impacts, their prevention and mitigation, with modification as necessary, if plans are not effective to achieve the expected results, would be required should the Project proceed.

The Project Report (Volume 3, Section D.3(C), pages D-150 to D-193) contains the additional information on Grizzly bear resources required to complete the EA review. The proponent conducted several new studies to collect the additional information, including a Grizzly bear population survey (November 1999), a habitat suitability assessment (July 2002) and a cumulative effects assessment (CEA) (December 2003).

The key finding of the CEA was that, **in the absence of any measures to mitigate impacts on Grizzly bears**, the Project would **increase the risk of Grizzly bear mortality by 2.6% to 3.8% and reduce habitat effectiveness by 1.7% to 3.1%** within the 3,977 km² study area (89% of the Central Purcell GPBU).

On the basis of these and other studies and in response to concerns expressed during earlier phases of the EA review process, the proponent made the following

² included as Appendix 8-C to the Master Plan.

project design modifications, in part, to address potential impacts on Grizzly bears:

- 60% reduction in the size of the CRA; and
- the removal of project components on the west side of Jumbo Valley and in lower Jumbo Creek (an area identified as being more frequently visited by Grizzly bears).

In addition, the proponent proposed a Grizzly Bear Management Plan (see Appendix 3-C) to address onsite impacts, including strategies to prevent or minimize bear problems (e.g., garbage management, access road management, education) and to deal with problem bears. The proponent also proposed a program of monitoring and adaptive management that includes continued hair sampling and DNA testing to assess changes in Grizzly bear numbers and distribution in response to project construction and operation, and to help manage the Central Purcell Grizzly Bear Population Unit (GBPU) with greater precision.

[...]

Agency review comments

The lead review agency for this issue was WLAP. Additional review comments were received from the SRM, the Ministry of Energy and Mines (MEM), MOF, the RDCK, and the KKTC, particularly in relation to any potential access restrictions in adjacent drainages.

The proposed Project is located in the 4,619 km² Central Purcell GBPU, one of 49 GBPU's in the Province designated as 'viable' under the Grizzly Bear Conservation Strategy. **This designation means that the population is stable and sufficiently productive to permit some hunting. The current population estimate of the Central Purcell GBPU is 150 bears. WLAP estimates that this population is currently at 93% of habitat capability (163 bears) and that would have to decline by 41% (i.e., to less than 81 bears) to be designated as 'threatened'.**

WLAP currently classifies the risk of human-caused mortality in the Jumbo Creek valley as "moderate". Although Jumbo Creek valley contains highly suitable Grizzly bear habitat, the effectiveness of this habitat is reduced somewhat by the existing level of human disturbance (existing access road, hiking trails, forestry activity and a backcountry hut).

WLAP determined that in the absence of any mitigation, the Project would result in significant impacts to Grizzly bears, both in terms of mortality risk and habitat effectiveness (including habitat fragmentation) within and outside Jumbo Valley. However, **the risk of mortality and loss of habitat effectiveness within the CRA would be substantially reduced by application of measures described in the proponent's Grizzly Bear Management Plan.** Within the CRA, areas opened for ski run development and for managing risk of wildfire will assist in offsetting the loss of habitat effectiveness, particularly when coupled with management of human activities to prevent disturbance of bears attempting to use these foraging areas. Implementation of the proponent's Outdoor Recreation Management Plan would further reduce mortality risk in, and immediately adjacent to, the CRA by managing human activities in a manner that will avoid human disturbance of, and contact with, bears.

WLAP suggested the proponent pursue partnership arrangements with local forest tenure holders and government to improve habitat effectiveness within and adjacent to the CRA through incremental silviculture projects (thinning and spacing of young forest stands), deactivation of unnecessary (redundant) roads, and strategic harvest of merchantable timber. Reduction of the density of active roads in adjacent drainages by strategic deactivation (i.e., strategic actions to keep open only those roads that are needed for active resource extraction or to serve existing recreational tenures and existing levels of public use), in consultation with other tenure holders, will further reduce risk of mortality and loss of habitat effectiveness.

Based on the information available, including the CEA, WLAP has determined that there is a low risk that the Project would result in a reduction of the Grizzly bear population of such significance that the population in the Central Purcell GPBU would become threatened. This determination considers that:

- proposed mitigation for the area within and immediately adjacent to the CRA are fully applied; and
- the proponent will maintain their proposed monitoring program, and will adjust their mitigation programs to the fullest extent possible if resort-related impacts to Grizzly bear populations or habitat use are evident.

WLAP confirmed that wholesale restriction of motorized access to drainages adjacent to the CRA is neither a desirable, nor required, approach to off-site mitigation of cumulative impacts on Grizzly bears. Access management of this type would represent extraordinary measures that are not necessary to adequately manage the GPBU. It would be difficult, expensive, and extremely controversial to implement such measures over the lifespan of the Project (i.e., indefinitely).

WLAP further identified concerns regarding potential impacts from increased future activities (above existing levels) in Jumbo Pass and adjacent areas over time, whether the Project proceeds or not. Increased recreational traffic may evolve from new trailheads and/or points outside of the CRA. WLAP identified the need for government to carefully manage the Jumbo Pass and Glacier Creek areas. For its part, the proponent has committed to discourage employee and visitor use of Jumbo Pass and to not enter into any agreements for recreational activities, with the exception of agreements with R.K. Heli-Ski and the existing guide/outfitter, without LWBC's approval. LWBC has committed to consult review agencies (including WLAP) on applications for commercial recreation tenures outside the CRA. Further, the proponent committed to consult with the KKTC and the Shuswap Indian Band before entering into any agreements for recreational activities within the CRA. WLAP would be invited to participate on a Grizzly Bear Management Committee established to oversee implementation of the proponent's Grizzly Bear Management Plan.

proponent response and commitments

The proponent reiterated for agencies that the proposed mitigation does not include wholesale restrictions to motorized access in adjacent drainages and that the mitigation proposed the Grizzly Bear Management Plan will be adequate to mitigate the impacts. In response to WLAP's request, the proponent clarified that they do not intend to provide helicopter-based recreation activities. In addition, the proponent clarified that the treed areas of Jumbo Creek and Farnham watersheds to be cleared for runs and/or lifts (and to offsetting the loss of habitat effectiveness) to be 287 ha

and 134 ha, respectively.

With respect to the monitoring and adaptive management, the proponent proposes that the implementation of the Bear Management Plan be overseen by a Grizzly Bear Management Committee with a reporting structure to be determined in consultation with WLAP. In response to WLAP's request for clarification, the proponent expressed a willingness to discuss alternatives to partial funding by the resort management for a local Conservation Officer service. The proponent is committed to monitoring to identify impacts and to responding to monitoring results to address any impacts detected.

The proponent has committed:

- to achieve and maintain Bear Smart community status (101).
- to implement, at its own cost, all mitigation measures and provisions for preventing or minimizing bear problems within and immediately adjacent to the Controlled Recreation Area, as outlined in the Project Report (102).
- to implement, at its own cost, all measures and provisions for managing problem bears within and immediately adjacent to the Controlled Recreation Area, as outlined in the Project Report (103).
- to monitor the potential direct and indirect effects of the Project on the Central Purcell Mountains Grizzly bear population through genetic testing to predict, detect, and assess any change (if any) in Grizzly bear numbers and distribution. The monitoring program is to include field collection of hair samples from Grizzly bears within the area of direct and indirect impacts before construction, at the end of each phase of construction and at appropriate intervals in the following 10 years, or until such time as the Ministry of Water, Land and Air Protection determines that it is no longer required (104).
- to implement (in consultation with the Ministry of Water, Land and Air Protection and Land and Water BC Inc.), at its own cost, an adaptive management program, as outlined in the Project Report, to evaluate the success of measures for mitigating impacts to Grizzly bears. The adaptive management program will include the identification of performance measures and targets, a decision protocol for the adjustment of mitigation programs to the fullest extent possible when resort-related impacts to Grizzly bear populations or habitat use are evident, and a mechanism for resolving adaptive management disputes (105).
- to establish and participate in a Grizzly Bear Management Committee to oversee implementation of the Grizzly Bear Management Plan as proposed in the Project Report, including a monitoring and adaptive management program and associated management practices (decision protocol, reporting, and a dispute resolution mechanism) (106).
- to pursue arrangements with local forest tenure holders and government to improve habitat effectiveness within and adjacent to the CRA through incremental silviculture projects (thinning and spacing of young forest stands), deactivation of unnecessary roads, and strategic harvest of merchantable timber (107).
- to make every effort to achieve the desired mitigation, in regards to Grizzly bear cumulative impacts, with strategies that will not alter the present access enjoyed by various special interests (108).

- to strive to achieve no net impact by implementing the Grizzly Bear Management Plan and by supporting or implementing additional measures identified and agreed to by Land and Water BC Inc. and the Ministry of Water, Land and Air Protection (109).

Conclusion

Based on the information and commitments provided, the EAO is satisfied that the proponent has identified and assessed the potential impacts of the Project on Grizzly bears (both in terms of mortality risk and habitat effectiveness, including habitat fragmentation) within and outside Jumbo Valley and can implement appropriate measures (e.g., garbage management, outdoor recreation management, adaptive management) to avoid or address any potential significant adverse effects.

[Emphasis added.]

The Grizzly Bear Management Plan, partially summarized for master planning purposes and for ease of reading, is included in Section 3.8.2 of the Master Plan. The complete Grizzly Bear Management Plan, including detailed references and mapping is included as Appendix 3-C to the Master Plan.

4. SKI AREA AND RESORT BASE PLAN

4.1 CONCEPTUAL OVERVIEW

4.1.1 Objectives

The purpose of this section of the Master Plan is:

- To generate the preliminary design for the ultimate ski area, sight-seeing and mountain resort destination in North America;
- To outline a development plan and vision that will facilitate a prompt project start including the realization of the only North American location for summer ski training, a needed facility following the Vancouver 2010 Winter Olympic Games;
- To confirm the sustainability and viability of the development in accordance with the *Project Report*; and
- To update the 2007 Master Plan and the *Project Report*, as necessary.

The studies carried out over the last twenty years and summarized in this Master Plan have determined the optimum model of development that would create an economically viable and environmentally sustainable recreational resort dedicated to a unique mountain experience in North America and this report sets out below the ultimate development potential and targets for the area as required under the *Commercial Alpine Ski Policy* (CASP) updated and renamed as the *All Seasons Resort Policy* (ASRP) in 2005. In view of the fact that this Master Plan was essentially prepared and reviewed prior to the ASRP, the text may not be revised to reflect the new policy name, except where this Master Plan has been updated.

4.1.2 The Concept

The project proposal is a result of the original undertaking on behalf of Nikken Canada Holdings Ltd. to find a location with the best terrain, climate, access, and environmental suitability for year-round skiing and sightseeing in order to compete with or surpass the best of the European Alps and of the world. This approach is unique in North America, where the majority of existing resorts began as spin-offs or afterthoughts – many originated as company-run lifts that were built on the outskirts of mining or forestry settlements, typically providing access only the lower portions of mountains in less than ideal locations for skiing.

Jumbo Glacier Resort is focussed on the mountains and the alpine experience. All the critical components, ranging from the non-contrived layout of the resort core, to the intentionally low Comfortable Carrying Capacity (CCC) of its proposed lift system, to the bed-unit calculations and skier to terrain ratio have been considered with the goal of creating the best alpine experience both for skiing and for sightseeing, while providing safe and affordable access to the average Canadian and world traveller to high alpine glaciers.

Prior to this proposal, the only way to access high alpine glaciers in North America was via helicopters or serious mountaineering expeditions. **The average Canadian has never had the opportunity to see and experience the spectacular vistas and high-mountain**

glaciers that cover a large extent of western Canada.

The project site has a unique ski development potential due to its high elevations and terrain, both in terms of vertical drop and expanse. Access to several glaciers and a huge skiable terrain of over 10,000 acres (4,050 ha.) is possible. A 1,715 metres (5,626 feet) vertical drop, in natural snow and well above the rain line in winter is proposed. This constitutes the largest lift-served vertical drop (and we must emphasize that this is above the natural snowline) on the North American continent to date. In terms of skiable terrain, the quality of snow and the continuity of slope, this can be described as one of the most impressive skiable vertical drops, not only in North America, but also in the world. The availability of terrain of this kind manifests a dramatic mountain resort environment for the proposed project.

The combination of statistical facts in terms of elevations and vertical drop, together with its climate, indicate that Jumbo Glacier Resort will become a unique and well-known international high alpine and glacier sightseeing attraction.

This project is designed to create an enjoyable sightseeing, sporting and learning experience in a high mountain setting, with much sunshine and enough powder snow to allow easy skiing on groomed runs on glaciers, then on high alpine terrain, and among the trees to the valley base. The experience will be complemented by supporting commercial facilities and opportunities for overnight accommodation that will be governed by well conceived and up-to-date conservation guidelines.

The resort is not only expected to be a regional destination, but it is also expected to attract people from further away – from the rest of the continent and from overseas.

The project was characterized as being in “the broad public interest” by the Executive Director and Deputy Minister of the B.C. Environmental Assessment Office in her final recommendations for an Environmental Assessment Certificate (see Appendix 8-B).

4.1.2.1 Glaciers and Summer Skiing

Up to 700 m. (2,200 ft.) vertical of glacier skiing will be available in mid-summer. This is equivalent to the winter vertical of many regional destination ski resorts in North America.

Glaciers are indicative of historical snowfall patterns and high alpine glaciers are a guarantee for snow. In Europe, the focus of skiing has had to move to higher altitudes due to a series of warmer and/or drier winters and also due to more rigorous demands on snow by skiers using high capacity lifts. Glaciers are one answer to guaranteed skiing. Unfortunately, particularly in North America, the more common answer is to use snowmaking devices. The latter consume considerable quantities of energy and resources and have added dramatically to the cost of many ski area operations; in fact, it is the design team’s contention that unnatural snow and congestion have distorted the original enjoyment and image of skiing.

Exhibit 4.1: Summer Skiing on Farnham Glacier



Canadian National Ski Team training on Farnham Glacier in July 2003.



4.1.2.2 Sightseeing

The Canadian Rockies have attracted large numbers of sightseeing visitors for more than a century and the National Parks in North America have a storied history. However, in contrast with Europe and other locations in the world, easy access for sightseeing to high alpine glaciers has never been provided in North America.

Development of the most spectacular sightseeing journeys in the Alps dates back to the turn of the twentieth century when Europe's mountain recreation industry was initially created. Construction of the Jungfrau Bahn in Switzerland for example, began in July 1896, and 14 years later, after a Swiss industrialist spent 14.9 million Swiss Francs of that time, access to the "Top of Europe" at 3,454 m (11,332 ft) was inaugurated. Today, the Jungfrau Bahn is running at capacity without a developed glacier skiing component. The restaurant, view terraces, ice caverns and sled rides on the glacier are immensely popular despite an extravagant CAN\$175.00 fare to ride the Jungfrau Bahn, with a four-hour round trip from Interlaken. Being the highest of the glaciers in the area, and being as impressive in terms of viewpoints and location as its European equivalents, the Jumbo Glacier massif is a primary target for viewing and non-skiing activities.

Today, due to the evolution of aerial tramways, any kind of alpine transportation requirement can also be met by a less costly aerial tramway or gondola. Trams and gondolas also offer a minimal visual impact, especially in high-alpine environments, and are the most suitable solution in the steep terrain characterizing the Purcell Mountains. By careful layout of lifts, it is possible to integrate sightseeing and winter sports. Some examples where sightseeing via aerial tramways have been a strong success are at Grouse Mountain in Vancouver, in Switzerland (Klein Matterhorn), in France (Chamonix-Aiguille du Midi), and in Italy (Courmayeur, Point Helbronner and Vallée Blanche).

4.1.2.3 Legendary Winter Skiing

Jumbo Glacier Resort will offer some remarkable ski runs exceeding the norm in variety and vertical drop. They are likely to become known as the most scenic and challenging descents accessible to downhill skiers in North America. The ski runs from the top of Jumbo Mountain over Commander Glacier to Farnham Creek will compare well with anything available in Europe, or elsewhere in the world, because of the superior snow conditions, particularly at the lower elevations, as well as the spectacular scenery, the vastness of the runs and skiable vertical drop.

4.1.2.4 The Resort Base

The resort base will be created at a former sawmill site that provides access to Glacier Dome and the Jumbo Mountain massif. The location offers excellent sun exposure in a southerly orientation and it is the highest point in the Upper Jumbo Creek Valley that is completely protected from avalanche paths.

The central and guiding concept is to create a resort with two functional nodes at each end of the resort, developed in three major defined phases, while eschewing the

densely packed, overbuilt look that so often occurs in new developments.

A phased, slow rate of growth, emanating from three different development starting points is planned and will be more in keeping with the historical way in which mountain accommodation has developed and will result in a higher quality of design and development, less construction disruption, and a more human scale. To assist this process, it is intended that all development in the area be under one overall architectural guideline and control system, as detailed in the Design Guidelines.

The gradual growth of the resort will also allow a step-by-step identification of the real needs for on-site staff accommodation and to plan it progressively according to the development of the resort, although both the expected requirements and potential expansion are addressed in this Master Plan. An important component of the resort base will be the Interpretive Centre, which will become also an Environmental Monitoring Station for the development. It is planned that First Nations that will be partners in the development will staff both the Interpretive Centre and the Environmental Monitoring Station, which will provide a yearly audit of the environmental progress of the resort.

4.2 SKI AREA PLAN

4.2.1 Ski Area Classification

According to the *Commercial Alpine Ski Policy (CASP)*¹ mountain resorts can be classified into six different types:

- Community Ski Areas;
- Urban Ski Areas;
- Regional Ski Areas;
- Regional/Destination Ski Areas; and
- Destination Ski Areas.

A sixth classification, "Other Types of Ski Areas" is also considered. These are described as "Remote, low density ski area development serviced by ski lifts, and snowcats and/or helicopters". Because of its low-density year round skiing concept, the Jumbo Glacier Resort project falls in between the concept of "Destination Ski Areas" and "Other Types of Ski Areas".

The new guidelines for the updated *All Seasons Resort Policy* have not substantially changed classifications and Jumbo Glacier Resort remains in a class by itself, being by far the best ski area proposal ever presented in the Province of B.C.

¹ see *Guidelines to Alpine Ski Area Development in British Columbia* (1996); available online from: <http://lwbc.bc.ca/02land/tenuring/skiing/> Please note that the *Guidelines to Alpine Ski Area Development in British Columbia* are currently being redrafted; a new document, *All Season Resort Guidelines* prepared by Brent Harley and Associates is currently being circulated in draft format.

4.2.2 Controlled Recreation Area (CRA)

The Controlled Recreation Area (CRA) is the area enclosing all the ski runs and the skiable terrain surrounding the mountain resort. It is an important planning definition because it determines the extent of the area to be covered under the Licence that grants the tenure comprising the ski area where skiing by means of mechanical lifts is permitted. The CRA is an area substantially contained in the Study Area, defined in the Interim Agreement between the Province and the proponent, but it is not the same area. The Study Area is the area identified by the proponent in the Expression of Interest and the Formal Proposal originally filed under CASP in 1993, in order to study and submit a Master Plan. During the project review and the final planning studies the CRA replaces the Study Area as the area of interest for the project proposal.

4.2.3 Ski Slope & Lift Planning

4.2.3.1 Ski Trails, Capacity, & Ski Run Classification

A large number and wide range of ski runs are possible on the Glacier Dome, Upper Jumbo Valley, Jumbo Glacier, Commander Glacier and Farnham Glacier areas. As is typical of the higher collection areas of glaciers and high alpine terrain consisting of moraines, gentle slopes generally represent the terrain of the area. Steep terrain, however, can also be readily found. The preponderance of ski runs will be in the easy to intermediate range of difficulty, with an initial planned breakdown of 30% beginner, 50% intermediate and 20% expert, along the lines of the 1995 Master Plan. Extreme skiing will also be possible in several locations.

The proposed low density of this project fits well with the observations contained in the new CASP *All Season Resort Guidelines* currently being drafted for Land and Water BC. With regards to ski trail capacity, the following excerpt is particularly relevant:²

...it should be noted that the preferred and acceptable skier/rider densities have decreased considerably in recent years (for all skill classes). The advent of shaped skis -- combined with snowboarding's relatively easy learning curve -- has enabled a larger number of riders to negotiate steeper and more adventuresome slopes sooner and with greater control than ever before. In other words, what was considered "experts-only" terrain ten years ago is now accessible to a much broader segment of the skiing population. The result: faster speeds, more congestion and a greater potential for collisions.

The issue of what is acceptable, what is expected, and what is desirable, should be given careful consideration. All destination skiers expect a low-density skiing experience. Resorts that wish to cater to a powder skiing experience need to keep the density even lower. Urban skiers may still be willing to put up with higher densities in exchange for the convenience

² *ASR Draft Guidelines*, (June 26, 2005); page 48.

created by ease of access -- but this too is changing fast.

Some North American ski resorts have utilized techniques such as a pod analysis to assist in lift planning. A pod analysis of uniformly skiable terrain is valid to size the potential of most lifts by category of users, but it overlooks a year round use concept of lifts and makes it difficult to justify straight access to the mountaintops of large mountains. Yet the mountaintops typically provide access to some of the best ski pods (although not necessarily in a continuous fashion to the bottom, requiring trail connections) and have multiple functions, particularly in view of the interests of non-skiers and skiers alike in enjoying spectacular views from the mountaintops.

Providing access to a mountaintop via a single lift can open up large skiable areas to a relatively small number of skiers in an economical manner. Low skier density is as prized by skiers as are scenic views. This is the design concept that made Kicking Horse Mountain Resort possible. Where it is feasible to access more than one mountaintop from a resort, a limited number of long lifts can provide access to a huge skiable terrain and a large variety of ski pods for skiers of various ability.

Trail planning is done in conjunction with lift layout, and in this project it will be carried out to provide for low density skiing in keeping with the overall project concept. Low density and relaxed skiing will also be an important consideration in future marketing for people looking for more low-key holidays and the relaxation of locations such as Jumbo Mountain.

4.2.3.2 Vertical Drop and Base Area Elevations

The proposed site can accommodate a large variety of runs of great vertical drop. The entire vertical drop is well above the natural snow line, which is approximately at 1,200 m (3,940 ft), below Jumbo Valley, and near Panorama. A vertical drop of about 1,320 m (4,331 ft) exists from the top of Glacier Dome at approximately 3,020 m (9,908 ft) to the resort base at approximately 1,700 m (5,577 ft) elevation. The effective vertical drop from Glacier Dome to the valley base covered by the proposed gondola is in the order of over 1,000 m (3,280 ft).

The biggest vertical drop will be found on the Jumbo and Commander glaciers combination, with spectacular runs beginning at 3,415 m (11,204 ft) elevation on Jumbo Glacier and running down Commander Glacier to the Farnham Creek base at 1,700 m (5,577 ft) or below. This will be the largest natural snow vertical drop (1,715 m or 5,626 ft) in North America³ and one of the most impressive ski runs or *pistes* in the world.

The elevation of the resort base in the Jumbo Creek valley is well above the natural snow line and eliminates any need for snowmaking. This relatively high base elevation, combined with the weather patterns in the area, ensures a significant amount of snow cover in winter at the proposed base location, and provides an ideal

³ The recently announced expansion plans for the Mt. Mackenzie ski area near Revelstoke call for an impressive vertical drop near that of Jumbo Glacier Resort. However, at Mt. Mackenzie the base elevation is only 609 m (1,998 ft) – compared to Jumbo Mountain's base elevation at 1,700 m (5,577 ft) – with the consequence that at Mt Mackenzie a large part of the lower mountain is subject to rain and has a very short season..

climate for health and relaxation both in winter and in the summer.

Table 4.1: Vertical Drops – Various Ski Resorts

Ski Area	Vertical Drop
Aspen, USA	3,267 ft./996 m.
Chamonix, Fr.	9,223 ft./2,812 m.
Courmayeur, It.	6,560 ft./2,100 m.
Davos, Switz.	4,212 ft./1,284 m.
Gstaad/Reusch-Diablerets, Switz.	5,347 ft./1,630 m.
Jackson Hole, USA	4,139 ft./1,262 m.
Jumbo Glacier Resort	5,577 ft./1,700 m.
Kicking Horse Resort, Can.	4,085 ft./1,245 m.
Klosters, Switz.	5,423 ft./1,653 m.
Lake Louise, Can.	3,250 ft./991 m.
Lake Tahoe, USA	3,600 ft./1,097 m.
Mount Hood, USA	2,500 ft./762 m.
Panorama, Can.	3,800 ft./1,160 m.
Sestriere/Cesana, It.	5,905 ft./1,800 m.
St. Moritz, Switz.	4,750 ft./1,447 m.
Sunshine Village, Can.	1,870 ft./ 570 m.
Vail, USA	3,451 ft./1,052 m.
Val d’Isere, Fr.	4,593 ft./1,400 m.
Whistler Blackcomb, Can.	5,280 ft./1,609 m.
Zermatt, Switz.	7,216 ft./2,200 m.

4.2.3.3 Comfortable Carrying Capacity (CCC) & Skier Skill Levels

Because of the high alpine terrain and the type of ski experience proposed in this project, **a low CCC is at the basis of the design for accessing the glaciers of the Jumbo Mountain area.**

CASP states “the CCC is defined as the optimum number of skiers that can utilize the resort per day, while being guaranteed a pleasant recreational experience without causing a decline in the quality of the physical and sociological environment.” Sophisticated planning based on the experience of the areas developed in the Alps over a century propose the successful model pioneered at Kicking Horse Mountain Resort in Canada, for the first time in the year 2000, where the lifts are planned for a total mountain experience.

Accessing the mountaintop and providing the opportunity to ski the whole mountain with one lift is an important component of the experience. In this type of planning the CCC may be deliberately below the maximum targets of CASP in order to provide the type of mountain experience that the CASP numbers originally were not designed to provide.

Because the major lifts will include a percentage of sightseeing riders who are not skiers (even in winter) it is assumed that this will require a downward adjustment in the loading efficiency of the lifts in order to allow comfortable loading for skiers and non skiers alike.

Finally, in determining the Comfortable Carrying Capacity (CCC) it has been assumed that the initial skiing public will be composed of a majority of low intermediate skiers, but not as low as the CASP formula of 10,000 ft (3,050 m) vertical demand per day would assume. The vertical demand per day on average has been assumed to be initially in the 4,000 metres per day growing to a possible high average of 5,000 to 7,000 metres per day with the progressive development of the market and of the skier public.

4.2.3.4 Ski Lift Planning Overview

A conceptual ski area lift plan has been proposed. The mountain planning process will require more field time along actual lift and trail alignments, which will be carried out when the survey of the lift lines will be done before construction. The vision for the project and of the ski lift plan is to create a low-density skiing experience. In other words: to make vast amounts of terrain available to a smaller number of skiers. A lower capacity lift design that encourages the dispersal of skiers to different mountain access points has been favoured.

4.2.3.4.1 Fixed Grip and Detachable Lifts

Many North American ski area owners take pride in advertising detachable lifts. Although there are several successful ski areas that have stayed with fixed grip lifts, the norm today is to build detachable lifts offering less than 10 minute rides while most of the shorter lifts, especially lifts for teaching or for high-altitude skiing, remain fixed grip. There is another school of thought, however, that suggests that detachable lifts are preferable for the convenience of beginners, and in this project, the current planning envisions detachable lifts for the convenience of beginners.

For reasons of economics, terrain, maintenance and a design philosophy that stresses access and a low-density, high quality skiing experience, the majority of the initial lifts will be fixed grip lifts. Rolling surfaces at the departure point may be installed to allow greater rope speeds.

More specifically, the choice of initially installing low-capacity lifts has been made for the following reasons:

- Providing access to the four large glaciers and unparalleled viewpoints for both year-round skiing and sightseeing is the primary and fundamental aim of the project;

- In order to allow comfortable loading for skiers and non skiers alike, a downward adjustment of the loading efficiency of the lifts is warranted;
- Comfortable Carrying Capacity (CCC) that is dispersed over a large area makes it possible to access a greater amount of terrain from a smaller resort base – this is particularly true in the opening phases of the project;
- A smaller resort base is desirable and viable: 15 years of process have shown that approximately 5,500 visitor beds is a threshold that is acceptable under the EA Act;
- 5,500 visitor beds are a realistic response to the skier market for this location;
- A smaller resort base in this unparalleled location makes a high-end, boutique type resort possible, creating a better cachet and **a very unique brand**, and generating a better return on investment;
- A small CCC dispersed over a large area ensures low density on the ski slopes, mimicking the heli-skiing or cat-skiing experience and ensuring “epic” snow conditions throughout the winter season, particularly in this climate and location, and
- The use of fixed-grip lifts such as T-bars to provide access to uniquely spectacular locations and ski terrain such as Jumbo Glacier and Glacier Dome will prove acceptable to even the most jaded of skiers; the success of cat-skiing operations in B.C. as well as the success of some European locations such as Passo Stelvio and Les Deux Alpes in summer demonstrates that access to spectacular terrain trumps technology, especially when there is no direct competition.

4.2.3.4.2

Surface Lifts

Shorter lifts, such as T-Bars and platter lifts, are the most proven installations on glaciers, and they will be proposed for this project. In Europe, newer lifts including major chairlifts have been installed on glaciers on pivoting and roped towers, but this is an expensive mode of transportation and it will not be necessary for the small number of skiers and for the type of skiing experience for which this project is designed and planned.

4.2.3.4.3

Beginner Ski Lifts/Ski School Lifts

Various beginner ski area locations are being considered for ski school use. A beginner ski area next to the resort is being considered in the area to the immediate west and north of the initial daylodge and a larger ski school and beginner area is designed to open in Phase Two near the centre of the resort, facing East. Another location may be on the southern slopes of the resort at the Glacier Dome gondola (lift 1.3) mid-station and at the mid-station of the gondola (lift 2.3) that will be the first section of the lifts to Jumbo Mountain. A year-round beginner ski area is planned to be located at the top of Glacier Dome and of Jumbo Glacier. The glacier ski areas are expected to be serviced by surface lifts while the mid-mountain and lower mountain beginner ski areas will be serviced by detachable quad chair lifts.

4.2.3.5 Summer Skiing and Ski Training

Summer skiing will be available on Farnham Glacier, Jumbo/Commander Glaciers, and Glacier Dome. Up to 700 m. (2,200 ft.) vertical of glacier skiing will be available in mid-summer on Jumbo/Commander Glaciers. This is equivalent to the winter vertical of many regional destination ski resorts in North America. Glacier skiing at Jumbo Glacier Resort, especially in summer, will have no valid skiing comparisons on the North American continent.

The Canadian Alpine Ski Team and CODA have undertaken summer ski training on Farnham Glacier since the summer of 2003. A number of ski runs and training courses in the 500 m. vertical range are available on Farnham Glacier.

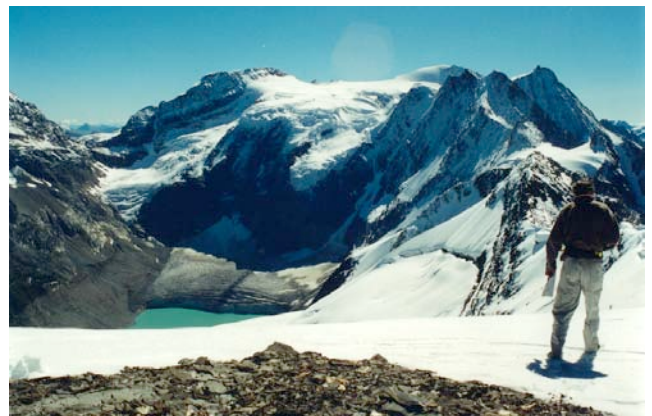
Glacier Dome offers an equal, and in some respects superior, summer skiing opportunity as Farnham Glacier. Initiating an Olympic training program at Glacier Dome instead of on Farnham Glacier may allow an easier, earlier and more economical start, especially if it can be timed to begin near the same time as the first phase of the Jumbo Glacier Resort project. Unfortunately the start of the project has been delayed and CODA chose to start training Canadian skiers on the Farnham Glacier side.

4.2.4 On-Mountain Facilities**4.2.4.1 Initial Daylodge**

An initial daylodge will be located at the north end of the sawmill site in the upper Jumbo Creek valley. The daylodge may be attached to a condotel building that is planned as a first entry of the First Nations in the hospitality business at the resort. The building will be located at the base of the first chairlift (Chairlift 1.1 and Building A2 of the Master Plan).

4.2.7.2 Glacier Dome Teahouse

The Teahouse located at the arrival point of Glacier Dome gondola (Lift 1.3) will likely be the most important building of the opening phase of the project. Following the overwhelming success of the Eagle's Eye Restaurant located at the top of the gondola at Kicking Horse Mountain Resort near Golden it is expected that this facility will become a major attraction and a world famous destination, the high point of a must do trip from Banff National Park.



The Teahouse is planned to be similar in size to the Eagle's Eye building at Kicking

Horse Mountain Resort and will feature a balcony or terrace open to the view of Jumbo Glacier and the Lake of the Hanging Glacier below. It will be positioned with foundations deeply set in the rock on the southern slope of the mountaintop. It will be designed so that no part of the building will be visible from the hiking trail leading to the Lake of the Hanging Glacier, from Horsethief Creek, an easy task, as the Glacier Dome rocky outcrop is not visible from the trail. It will offer a view of the southern end of the lake below the ice fall, a view of Jumbo Glacier and a 360° view of the mountains and glaciers around it. The spectacular view to the south east (see below), however, exposing the southern rim of the lake and Jumbo Glacier, will be the most prized view of the project, and will make the Teahouse the project's most important mountain top facility.

4.3 RESORT BASE AREA PLAN

4.3.1 Planning and Development Principles

The planning model should work aesthetically with more genuine forms, without the need of whimsical imitations which tend to become "fake" and distasteful over time, and which produce an architectural burden that can be unnecessarily costly with the danger of becoming empty in an economic downturn. Planners who look for the European appearance easily overlook that the pleasant appearance of the European village is the complex product of a real response to culture and need over time, which is reflected in the meaningful architecture that forms the pretty picture.

It is also important to add that the Whistler model, for example, would be a wrong economic example for this project, because Whistler depended heavily on a successful resort village as a drawing card in addition to skiing due to its low elevation and less than ideal climate. The ski resort that is being proposed at Jumbo Glacier will depend on skiing and its unique views, not on the resort's entertainment capabilities, for its drawing card and its success. People may go to Whistler for a shopping and entertainment experience, but this will not be a prime need for the proposed resort, where travellers will come to ski and to see great mountains and the glaciers.

The Jumbo Glacier Resort base, like the mountains surrounding it, will try to be "real" and genuine, developing in a logical linear growth that will avoid exposing the public to crossing construction areas to go from one built place to another. It will start with the development of a daylodge, and construction will move forward establishing sleeping accommodation where it is possible to ski in and out, with exposure to sun and views, and establishing the first nucleus of vacation homes in such a way that they will become the end and the first plaza of a small pedestrian stroll of shops and restaurants that will become a convenient centre for the resort. The centre of the stroll will be anchored by the activity of a hotel, and the growth of the heart of the resort will be timed to coincide with hotel construction, with each hotel creating a plaza in front of it.

The Master Plan drawings, design guidelines and conceptual sketches illustrate how the planning vision will unfold over time.

4.3.2 Resort Base Vision and Overview

The vision for the resort base evolved over many years, and was based on the experience of other projects, studies of other resorts, travel, and input from public and project team meetings. The vision is that of an authentic mountain village inspired by the construction tradition of the Rocky Mountains, continuing with coherence the successful themes initiated in the National Parks architecture.

Construction of the resort will begin near the sawmill site area.⁴ The initial daylodge will be located just to the north of the sawmill site below Jumbo Mountain. This is an optimal location for skier movement and transfer. The daylodge will provide all the initial day skiers' and visitors' services, including a restaurant, guest relations and room reservations office, ticket office, ski rental shop, first aid station, ski patrol, ski school, gift shop, washrooms, and lockers.

A condotel facility near the daylodge with a First Nations interpretive theme has been proposed as a First Nations' joint venture, initially to be attached to the daylodge, but in the final plans leading to the Impact Management and Benefits Agreement the First Nations development area has been expanded and located at the southern end of the resort development area. The condotel might still be an initial investment in the project by First Nations, at the same time as the public utility company that will provide water, sewer and potentially other infrastructure services. First Nations opportunities are discussed in greater detail in Section 7 of the Master Plan and have been defined in the Impact Management and Benefits Agreement.

Following the completion of the first phase, a new expanded daylodge, a dayskiers' parking area and a new development nucleus will be built at the opposite end of the resort south of the sawmill site, where the departure of the gondola to Jumbo Mountain will be located. All dayskier parking will be located at the south end of the resort following the second phase start. This major parking area will also be placed underground in the final phase of the project, with buildings above it.

Buildings that will form a gateway to the resort will be constructed in the Second Phase. The gateway will consist of a building group arching over the road, with a clock tower on one side, marking the entry into the resort (building B9). The second phase will complete the road to the future main underground parking that will form the central platform for the construction of the third phase and of the central square. This road will lead to a smaller square in front of the hotel that is planned for the second phase and which would be the major building of that phase.

Completion of the third phase will see the construction of a major hotel at the centre of the resort. The hotel will face a main shopping square and an open air skating area that is planned for the centre of the square. This will be a traditional alpine square, a cheerful location that will become a public gathering area for informal encounters and social events. The third phase will also see the development of the pedestrian nucleus and pedestrian focused street network at the centre of the resort, as well as the construction of an expanded day parking

⁴ The sawmill site has become a relatively frequently used ski run terminus for heli-skiers, following the glading of ski runs that was done in the early and mid 1990s. Incidentally, the Formal Proposal for Jumbo Glacier Resort was submitted in 1991 and it demonstrates the suitability of the location as a ski in and ski out area.

area and daylodge facilities at the southern end. An underground structure is planned for the expanded parking area in the final phase in order to minimize snow removal work and to screen its appearance from the view of skiers and sightseers enjoying the mountains above the resort. This will also allow a densification of the resort with overnight accommodation built over top of the parking area.

The resort base will be pedestrian oriented and will also be an exceptionally convenient place from which to access the mountains for skiing. Ski runs from both sides of the valley will lead directly to the resort base and the resort will be the ultimate focus for all lifts. In winter, a significant snow base will cover Jumbo Creek, which will allow easy skier transfer between the two sides of the resort. The entire resort is expected to offer ski in/ski out access.

The Master Plan includes architectural conceptual plans and a rough volumetric outline of buildings. The resort will be compact to minimize its footprint in the valley. Height will be limited for most buildings to three to four storeys, except for some of the condominiums and the hotels in the heart of the resort, which may rise to six seven or eight stories depending on the steepness of the rooflines and the building's architectural massing. The hotels will be able to stand out among the other buildings with a stronger presence, without overpowering the rest of the resort. The resort is designed to allow the riparian areas to remain as open space, recreating a natural setting.

The preliminary design will focus on creating compulsory building envelopes, character through mandatory guidelines, and a mandatory building sequence determined by the design phases.

4.3.2.1 Pedestrian Zones and Minimization of Automobile Traffic

The resort core is intended to be a pedestrian zone. Automobile access at the resort will be limited in order to preserve the mountain character of the area. Most automobile parking and all the day skiers' parking will be out of the way of the resort pedestrians. It is intended that automobile traffic in the resort nodes will not be permitted except for loading and unloading for overnight visitors so that a pedestrian character is maintained.

Additional visitor transportation may be made available by means of small electric shuttles or minibuses like those used in Zermatt, Switzerland. People will be able to reach the resort core on skis, and to walk from one end to the other, due to the smallness of the area.

4.3.2.2 Ski In/Ski Out

The entire resort base area, including the single family chalet area, is designed to be a ski in/ski out area. Initial ski trail alignments, including dispersal trails around the resort base, are outlined in the CRA drawings included in Schedule A. More detailed planning of ski in/ski out trails and ski ways will occur prior to construction.

4.3.2.3 Shuttle Buses

A shuttle bus for skiers and sightseers will connect the resort base area with the

Glacier Dome gondola lift base. Current planning calls for year-round operation. A shuttle bus for employees, skiers and sightseers will connect the resort base with Panorama Mountain Village and Invermere. Mini-bus shuttle service within the resort core at buildout may be provided by electric, or alternative clean energy powered mini-bus, such as those currently operating in Zermatt or Saas-Fee Switzerland.

4.3.2.4 Heli-plex facility

At the beginning of the first phase it is hoped that the local heli-ski company will start heli-skiing operations from a heli-plex proposed for the opposite side of the creek from the sawmill location, near the proposed area for individual chalets vacation homes, which will be located along the line of an existing logging road on the west side of Jumbo Creek.

4.3.2.5 Resort Size

The plan for the resort core, excluding the chalet sites and the heli-plex area will cover less than 28 hectares (69 acres). The chalets and the heli-plex development area will be dispersed in a forested setting covering less than 51 hectares (126 acres). The entire development area, including the chalets, will cover less than 104 hectares (257 acres) of land, entirely in the centre of the logged area around the sawmill site. The resort is planned to be completely self-contained as if it were a ship in the mountains, and could be completely fenced, if needed, to isolate it from wildlife.

This proposal is expressly designed as a high-quality, highly planned “boutique” destination resort. It does not qualify for the “mega resort” denomination. Size has been a long-misunderstood issue related to this proposal, and the geographic name of its location, "Jumbo", has led to more than a little confusion in the past. The name Jumbo refers to the glacier and to the mountain, rather than to the project, although numerous other geographical features in the area have been named after the mountain, including Jumbo Pass, Jumbo Creek and Jumbo valley.

By comparison the following table outlines the size and base development areas of a few well known B.C. resorts:

Table 4.2: Size Comparison of Existing and Proposed Destination Ski Resorts in British Columbia

Ski Resort	Bed Units	Base Area (including all residential lots) (ha.)	Controlled Recreation Area (ha.)⁵
Jumbo Glacier Resort (proposed)	6,250 (proposed at full buildout)	104	5,926
Panorama	7,084 (approved)	336	816
Sun Peaks	23,342 (approved)	288	4,400
Whistler Blackcomb	52,500 (official)	12,950	18,950
Big White	14,800	361	3,139
Melvin Creek/ Cayoosh (proposed)	14,186 -16,800 (proposed at full buildout)	70 - 90	2,100
Garibaldi at Squamish (proposed)	Approx. 23,000 (proposed at full buildout)	910	3,500

Source: Data compiled by Pheidias Project Management and Ministry of Environment, Lands and Parks

⁵ Including resort base area.

4.3.2.6 Architectural Theme and Growth Rate

The resort's architectural design will be inspired by the genuine tradition of rustic architecture of western Canada and the National Parks, emphasizing the use of natural materials, particularly wood and stone, in their real architectural functions will be emphasized.

Building heights will remain low – they will be kept to what is permissible under the B.C. Building Code for low-rise wood frame construction, possibly over one storey of concrete construction for the commercial ground floor. It is planned that two hotels may reach a greater height, up to six or eight storeys, but that they will be designed with sloping roofs in the style of mountain architecture, according to the design guidelines.



The resort will be designed to avoid the loose and overbuilt look that so often occurs in new developments. Various stages within the phasing will determine resort growth according to the speed of economic development. The planned, slow rate of growth, emanating from three different development areas and the single family chalet areas will be more in keeping with the historical way in which village development has occurred in Europe, and will result in a higher quality of design and development.

To assist this process, all development at the resort will be under one overall architectural guideline and control system. The anticipated slow development pace will greatly increase the possibility of creating something more natural and true to the mountain character that is expected for the resort.

Exhibit 4.2: Conceptual View of Resort Base at Full Buildout



4.3.5 Accommodation Units

4.3.5.1 Condotel Units

Condominium units will be the main type of vacation homes in the resort core. The word *condotel* is utilized to indicate that preferably these units will become part of a rental management pool run by the resort and become similar to hotel units in the manner in which they are operated.

They may become part of a condominium rental pool or be part of some form of timeshare or fractional ownership program, or be simply owned. The form of ownership will be market driven, but the developer expects a good portion of the condominium unit purchasers, certainly over 50%, to make their units available for the resort rental pool.

The form of the buildings will be generally three or four stories, with two possible exceptions being as high as six stories. They will be similar in appearance and conveniences to hotel suite units. The design will be in the National Parks heritage tradition and in accordance with the Design Guidelines.

4.3.5.2 Townhouses

Townhouses will also be condominium units, but they will be ground orientated vacation homes of two or three stories, designed in wood and stone according to the design guidelines and the National Parks heritage theme of the resort.

4.3.5.3 Single Family Chalets

Single Family Chalets will be developed on individual lots along the logging road to the west of the abandoned sawmill site, distributed over the remaining visible clear cut on the western shoulder of the drainage, and will be developed according to mandatory design and landscaping guidelines that will recreate the forest, concealing the houses among the trees. Ideally, the chalets may be traditional alpine log homes, or will be stone and timber buildings in the same National Parks heritage tradition of the resort, but on a smaller scale.

The chalet lots are intentionally large. Larger lots enable larger buffer zones between chalets and make it possible to retain a larger forested area thereby causing a smaller visual impact on the landscape. The larger lots will also provide better value to prospective purchasers.

4.3.5.4 Hotels

The resort will have an abundant number of condominium units that will be utilized for fractional ownership and rental pools in a variety of ways, delaying the need for the development of pure hotel space until the later phases of the project.

4.3.5.5 Staff Housing

On-site staff accommodation will be provided for 90% of the resort's full time staff, which at completion, translates into 750 Bed Units of staff housing. The gradual growth of the resort will allow the progressive identification of the requirements for on-site staff accommodation that will be constructed in accordance with the development of the resort. Accommodation that will be utilized for staff housing in Phase 1 will be converted to vacation homes when staff housing built in Phase 2 and 3 will be added.

4.3.6 Commercial Space

The resort will develop the entire spectrum of commercial and service facilities that are needed by tourists, similar to resorts such as Panorama or Sun Peaks.

Commercial activity at a nascent destination resort is the most difficult to develop economically. Initially it has to be subsidized by the developer. At Jumbo Glacier Resort, the advantage will be that the clientele will not be drawn for commercial reasons – such as the “village” entertainment or the shopping experience – and it is not crucial to the resort's success how much and how quickly its commercial space will be developed.

In this respect it is important to grasp correctly the type and size of project being proposed. Earlier comments have compared this project to Whistler, but the Whistler model is incorrect for a number of reasons. Firstly, the resort size at buildout will be less than one-tenth that of Whistler, and commercial and service uses would be proportionately smaller. More importantly, however, we must note that the climate, the mountains, the glaciers and the activity focus will make Jumbo Glacier Resort very different. The proposed resort will not focus its market attraction and financial success on lifestyle, fashion and commercial entertainment, where it may not compete with the larger centres advertised across the continent as such, but it will focus on the quality of the year round skiing, of the climate, and on the the beauty of the mountains and their glaciers, which make this project the premier mountain ski resort in North America. The proponent group believes that these are more lasting and more valuable attributes to market, and that the Jumbo Glacier Resort brand will be truly unique and outstanding. The projections for commercial and service activities are based on what is expected to be a preliminary reasonable response to the appropriate needs in the planned growth of this type of resort, which will bring resort design concepts to a new level.

4.3.7 Interpretive Centre and Environmental Monitoring Station

The resort is planned to start with an interpretive theme in the interior design of the initial daylodge. Opportunities will be taken throughout the development period of the project to generate further interest in interpretive aspects. An emphasis will be placed on communicating the history of the First Nations and assisting the First Nations as hosts in their traditional lands.

As the project develops, a dedicated building will become the Interpretive Centre (building B9) and will have a variety of functions assisting the First Nations in asserting their presence, from a formal museum area to a centre for guided tours and various booking facilities, including managing and renting the resort tourist accommodation to be developed by the First Nations, such as the first condotel to be developed next to the first daylodge.

As currently planned, the Interpretive Centre building will also house the Environmental Monitoring Station, which will be expected to be managed jointly by the First Nations and by the resort's Safety Management personnel and to produce information and yearly reports on the environmental conditions of the valley and the surrounding region. The baseline information produced in the studies to date will be the initial step in an on-going data collection and environmental monitoring program.

4.3.8 Place of Worship

A prominent location has been assigned for a place of worship in the Master Plan. It is expected to be developed in cooperation with the religious community in the region in order to facilitate the development of a place of worship acceptable to skiers and visitors. This has been conveniently located both for winter and summer pedestrian access. Due to the small size of the overall development, it is expected that it will serve primarily as a skier's chapel for the various Christian denominations that will probably represent the majority of the anticipated visitors. It may be available also for other religious services to the extent that it may be possible in order to serve the entire spectrum of religious services.

4.3.10 Design Guidelines and Design Control

The intent of the Design Guidelines is to provide direction so that the architectural concept and execution of each building will be in keeping with the standards and with the overall plan for the Jumbo Glacier Resort.

The Design Guidelines (included as Schedule B to the Master Plan) will not restrict or confine the freedom of the designers and builders, but rather ensure that the architectural concept and execution of each building is in keeping with the basic standards and with the overall plan that the developer and its designer have set for the resort. To ensure the appropriate year round aesthetic character and environmental and conservation objectives at the base area of the resort, a high level of care in the landscaping and servicing details will also be called for.

Detailed design guidelines will be finalized prior to registering building schemes on title. The guidelines are intended to help achieve the creation of a high quality alpine atmosphere. Heavy timbers, warm, natural finishing materials, and large interior spaces will be emphasized to combine a grand impression and a warm mountain atmosphere. Authentic style and character will be derived from the successful design tradition of the National Parks architecture (from the mountain lodge tradition to the majesty of the Canadian Pacific hotels). Such a character will reflect a recognized Western Canadian heritage and mountain tradition.

4.3.12 Water Conservation Guidelines

The water conservation strategy for Jumbo Glacier Resort will consider a range of measures at the levels of planning, design, construction, operation and maintenance by the water utility company, as well as public awareness and education. These will include:

- Universal water metering;
- Water accounting and loss control;
- Incentive producing water costing and pricing practices;
- Non-combustible building construction where possible;

- Impounding of runoff and snow melt water;
- Landscape efficiency;
- Water re-use and recycling;
- Landscape efficiency;
- Water system pressure management;
- Water saving plumbing fixtures;
- Water saving domestic/ commercial appliances and building envelope equipment, and
- Water conservation awareness program.

Water Conservation Measures are described in detail in the Water Management Plan included in Section 3.11 of the Master Plan.

4.3.13 Fire Prevention and Control

The resort will create its own fire prevention program leading to a volunteer Fire Department with its own station. The B.C. Building Code and Fire Code will be followed in the resort development. It is planned that there will be a Mountain Resort Association managing the interests of all the independent participants in the development.

The resort is situated in a forested and high alpine environment, and particular consideration will be given to fire prevention and protection. A variety of guidelines to reduce and control the threat of fire will be incorporated into the design and materials used in the resort. These guidelines are included as part of the Design Guidelines and are intended to meet or exceed the BC Forest Service's *FireSmart* standards. They include a consideration of:

- Defensible Space
- Building Location
- Roofing
- Vents
- Siding
- Isolated Structures
- Sprinklers

In addition, a Community Fire Protection Strategy has been prepared and is included as Appendix 9-A to the Master Plan.

4.4 PHASING PLAN AND DEVELOPMENT VISION

The resort will be centred on an abandoned sawmill site and will be designed to develop gradually over a number of phases. Its phased development is an integral part of the concept.

4.4.1 First Phase

The initial base will be located at the abandoned sawmill site at approximately 1,700 metres (5,577 feet) elevation. It will provide access to Glacier Dome for year round skiing and sightseeing. The site will be accessed by automobile and a parking area will form an initial plaza in front of the first daylodge/hotel/condo. It is an excellent resort location in the proximity of Jumbo Creek with a view of the surrounding mountains and an open view of the Leona Creek drainage with its mountains and glaciers to the south. Red Top Mountain and Bastille Mountain frame the picture.

The first chairlift will depart from the resort base, and will provide access to the skiable terrain immediately above the resort. The lift will also provide a connection to the base of another chairlift in the upper Jumbo valley, which in turn will give access to the gondola to Glacier Dome (which will be the centrepiece lift of the resort), as well as allowing skiers to return to the resort base.

The Glacier Dome gondola will be the main focus of the opening phase. It will be a winter and summer attraction for both skiing and sightseeing. Initial planning calls for a moderate capacity lift, which will allow for an economical mid-station. A mid-station will make it possible to ski into the Jumbo Creek drainage from early fall through to early summer. A detachable gondola system of similar capacity may be an alternative lift choice for first phase, postponing the mid-station to a second stage, and allowing for higher speed and future greater capacity. Detailed lift planning will be completed prior to construction.

The Glacier Dome gondola will provide access to a large skiable terrain from a single lift and will cover a significant vertical drop. At 3,020 metres (9,908 ft) elevation, its mountain top station will be the highest ever achieved in Canada with mechanical lifts, and it will offer both unparalleled views and exceptional skiing. The vertical drop from the top of Glacier Dome, at approximately 3,020 metres (9,908 ft), to the resort base elevation at approximately 1,700 metres (5,577 ft), is 1,320 metres (4,331 ft). Even in the opening phase this will be the highest vertical drop in natural snow in Canada.

A teahouse is planned at the Glacier Dome gondola arrival station in order to allow tourists and skiers to enjoy the view from a protected location. A facility similar to the Eagle's Eye Restaurant at the top of Kicking Horse Mountain Resort's gondola, slightly below the mountaintop on the Jumbo Creek side, is planned. Visitors will have access to a parapet that will give a view of Jumbo Glacier and the southern end of the Lake of the Hanging Glacier. It will be an exceptional viewpoint.

The first phase is planned to start with public utility company, a joint venture with the Kinbasket Development Corporation, which will be operating the company that will supply water and sewer to the development and is planning other forms of partnership. First Nations will also provide an interpretive theme to the daylodge and will operate a small Interpretive Centre, which will expand as the project grows.

Resort services will be designed so that they can be built and expanded in phases. The sewer system tertiary treatment plant so that it matches the project's phasing. The emergency power generator may be activated with the same propane source that is planned as a preferred source of energy for the heating system for the resort. The electrical line is planned as an extension of the line to Panorama, following the alignments of the forestry roads, and to supply the initial group of vacation homes to be constructed. Groundwater from the first well will be collected in reservoirs and distributed throughout the resort.

4.4.1.2 Farnham Glacier Summer Skiing Opening Phase

While the general concept for an opening phase that will provide access to Glacier Dome has remained consistent since it was first presented in the *Formal Proposal* of 1991, and in the *Master Plan Concept* of 1995, alternative opening phases have also been considered. An opening phase access to Farnham Glacier is one of the alternatives that has been considered.

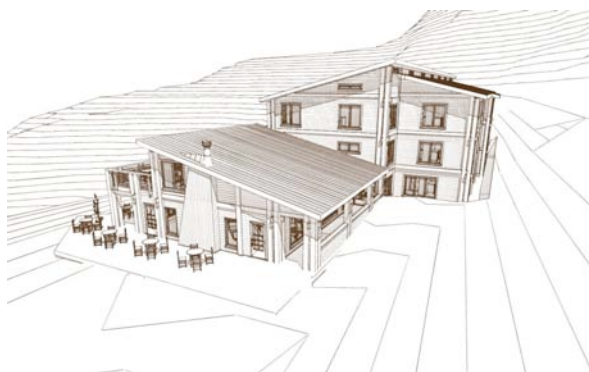
The proponent has been in touch with Alpine Canada Alpin (the national ski team association) over the last ten years and has assisted Alpine Canada Alpin, in conjunction with the Calgary Olympic Development Association (CODA), recently renamed WinSport Canada, to initiate ski training on Farnham Glacier by offering part of the ski area covered in the Interim Agreement at no cost. CODA organized the first training camp on Farnham Glacier in June and July 2003, utilizing helicopter access and snowcats for uphill transportation.

The 2003 CODA sponsored training on Farnham glacier gave physical evidence to the concept of summer skiing on the glaciers of the Study Area outlined in the Interim Agreement with Glacier Resorts Ltd., originally signed in 1993, and which is one of the objectives of the project.

The interest of the Canadian national team in this program has been cultivated by the proponent since the beginning of the project and is now coming to fruition. In the light of these circumstances the opening phase of the project could start as soon as permitted with lifts on Farnham Glacier.

Access by helicopter and lift service by snowcats is not economical or sustainable. Access by means of the forestry road through Horsethief Creek with buses has already been tested. A lodge for overnight accommodation will replace the tent camp, another temporary but costly and unsustainable operation that Winsport Canada is likely to abandon. Providing prompt lift access as proposed will ensure that the athletes have reliable access and evacuation in all weather conditions.

This scenario may modify the opening phase with the installation of a lift on Farnham Glacier. A lodge for overnight accommodation for the ski team and others could then be provided at that location. This modification of the opening



phase may reverse the order of the project for the Farnham Glacier side.

The Farnham Glacier activity has provided the benefit of advertising exposure to the Jumbo Glacier ski area and the project and benefited the Canadian teams. It will be very desirable to continue it. A local ski society, the Kootenay Snow Sports Society, has been formed in Invermere to continue and expand the summer ski training activity not only with the Canadian team but also with skiers of various abilities.

4.4.2 Second Phase

The second phase will open access to Jumbo Mountain and Commander Glacier and will add approximately two thousand seven hundred beds to the resort.

The second phase will start with a new day skiers' parking area towards the south end of the resort base, with a new and expanded daylodge and a new lift in the direction of Jumbo Mountain from the day skiers' parking area. The resort will then begin to grow from the opposite end towards the centre.

The concept of growth from two opposing points is based on the notion that the major hotel should be at the centre of the project and be its final focus, but major hotels tend to be constructed towards the end rather than at the beginning of the project's build-out period. The main hotel and plaza must therefore be planned as if they would be built towards the end of the project, and yet the base area must be designed in a linear progression that avoids leaving open construction areas in the path of tourists. This goal can be achieved by having construction converge towards the centre of the resort from two opposite ends.

A new gondola (lift 2.3) will provide access to the Jumbo Mountain ski area. Its terminus will be in the saddle area South of Jumbo Mountain's peak. The gondola will also provide access to a beginner ski terrain from its mid-station, and a detachable chairlift (lift 2.7) may be provided from the mid-station for beginner skiing and ski school services. It is envisioned that ski school services could be provided from the mid-station in a fashion similar to Whistler at the Whistler Village Gondola mid-station.

An additional beginner lift (lift 2.1), detachable for convenience rather than for speed or capacity, will be installed on the west side of the resort, opposite to the first chairlift. It is expected that snow coverage will allow easy movement from the daylodge and Ski School to this lift in winter. An optional chairlift (lift 2.6) will add capacity for the day skiers and will open up a larger skiable terrain directly above the resort.

Depending on market acceptance, an initial low-capacity tram (lift 2.4) will be installed to provide access to the top of Jumbo Mountain and Jumbo Glacier. The tram would run from the saddle below Jumbo Mountain (the terminus of the gondola – lift 2.3) to the top of Jumbo Mountain. Initial access to Jumbo Mountain and Jumbo Glacier will be for sightseers and ski schooling primarily, particularly in the summer on the glacier saddle connecting Jumbo and Commander Glaciers. The tram will be designed with sufficient redundancies and emergency power capabilities to be able restart operations and to operate safely even in case of loss of power.

4.4.3 Third Phase

The third phase will see the final expansion of the day skiers' parking area and a further expansion of the new daylodge and guest relations facilities. The ski facilities will be completed with the ultimate access to Commander Glacier and the grandest ski area in North America, perhaps in the world. **The combination of scenery, vertical drop and climatic conditions will make the Commander Glacier descent one of the, if not the most desirable ski run or piste in the world.**

A second aerial tram to the top of Jumbo Mountain (parallel to lift 2.4 of Phase 2) will provide increased capacity and additional redundancy for easy and safe return to the resort. The tram arrival station will be in the rock outcrop at the top of the glacier at elevation 3,419 metres (11,217 ft.) in the same station already built for Phase 2. It is expected that at this point of the project the gondola from the resort to the saddle (lift 2.3) that provides access to Jumbo Mountain will be converted to a higher capacity and higher speed gondola.

The top of Jumbo Mountain will provide access to a remarkable glaciated domain – in some respects it will be evocative of the ice-capped mountains of Greenland, but with much better sun exposure and climate. The most spectacular and longest ski run will commence from Jumbo Mountain.

The Cleaver and Jumbo Mountain will be linked in a straight line by a bicable pulse gondola (lift 3.1). This will be a spectacular sightseeing lift.⁶ A second pulse gondola lift (lift 3.5) will run from the toe of Commander Glacier to the top of the Cleaver. This gondola will pass over a series of rock outcrops in the glaciers which will allow the installation of a mid-station that can be utilized as a summer skiing base station.

Skiing on Jumbo Glacier and on upper Commander Glacier will also be facilitated by up to six glacier T-bars. A chairlift (lift 3.7) will serve the lower part of the Commander drainage, below the glacier, on the mountain shoulder that divides Commander from the Farnham basin. From there it will be possible to access two chairlifts and a T-bar to the top of Farnham Glacier (lifts 3.9, 3.10 and 3.11). Lift 3.8, the continuation of the bicable gondola from the Cleaver to the toe of Farnham Glacier, is optional and will not be necessary if the summer glacier skiing component on Farnham Glacier will be reserved to athletes training, and the athletes will arrive with their own chairlift directly from lower Jumbo Creek (lift FT1).

The third phase expansion into Farnham Creek will allow the construction of the Farnham Creek daylodge, assuming that this will not have been built before to accommodate Alpine Canada Alpin as discussed above. Skier access to Farnham Glacier is currently assumed to be limited to access from the Commander Glacier ski area in the winter months, following the

⁶ Pulse gondolas are the most reliable lift type at high elevations. They are more resistant to wind conditions, sudden cable icing, etc. and have lower maintenance requirements. Lift 3.1 is an important sightseeing lift and a pulse gondola provides a much better and more comfortable viewing platform than an aerial tram, for example. Aerial trams are efficient people movers, but are relatively poor sightseeing vehicles. The majority of riders end up standing uncomfortably in the middle of the tram with an obstructed view to the outside. In addition, a slightly longer ride time is not a concern for what will undoubtedly be the most spectacular gondola ride in North America. As an example, the designers are not aware of anyone who has complained about the 40 minute ride time of the Télécabine Panoramic of Mont Blanc. This is the highest gondola lift in Europe and it connects the famous Aiguille du Midi of Mont Blanc with the Helbronner Point in Italy. It offers a spectacular view that has been described as "your own private glacial dream world." It is a pulse gondola lift.

trails connecting the chairlifts, as the proponent expects to define an operational agreement whereby CODA (which is planning to train athletes in winter on the slopes of Panorama, more easily prepared with icing conditions) will utilize Farnham Glacier for summer training of athletes. The lifts leading to the top of Farnham Glacier may be utilized by the athletes training in summer and by the recreational skiers in winter.

As part of the final development, if demand warrants, a gondola in combination with a shuttle bus would be an appropriate option to replace the FT1 chairlift initially expected to serve the needs of summer ski training. This would be subject to a positive review of the study outlining potential impacts on mountain goats required under the terms of the EA Certificate. A gondola, in combination with a shuttle bus, would improve access to and from the Farnham Glacier ski area, and would prove especially convenient for day visitors.

The third phase will see the completion of the services and of the commercial space in the resort as well as of the tourist accommodation. A total of approximately 5,500 tourist beds and 750 employee beds will be constructed. The third phase will take approximately five to seven years to complete. The total project may take between fifteen and twenty years, if there are no major pauses in the development sequence.

4.5 RECREATION COMPONENTS

Jumbo Glacier Resort will be developed as a year round destination resort focused on snow sports and sightseeing. Accordingly, visitors and Columbia Valley residents will have access to recreational activities focused on skiing throughout the year both at the site itself and on glaciers within easy reach of the site.

Sightseeing

Sightseeing will be one of the two primary activities at the resort, and it will consist on access to the viewpoints of Glacier Dome and of Jumbo Mountain. Although this may appear to be limited, it compares well with a location like Jungfrauoch, which draws visitors from the entire world simply to have a view of the glaciers from there. The experience from the two mountain tops, Glacier Dome and Jumbo Mountain, will be unparalleled in North America and will be more than adequate to satisfy visitors from the entire world, as the investors experienced in their visits by helicopter. Wheelchair access to the mountaintops is also planned for this project. As noted above, the average Canadian has never seen the spectacular vistas and high-mountain glaciers that cover a large extent of western Canada. This is one of the few projects in Canada that will be capable of initiating a reversal of Canada's tourism trade deficit.

Skiing and Snowboarding

Skiing and snowboarding will be the main snow sports of the project. The resort is designed to provide convenient ski in/ski access throughout. In winter, the quality and the abundance of natural snow are already legendary. In summer, the resort's major glaciers will be the only place for substantial skiing in North America. Significant snowfalls have been known to occur on Jumbo Mountain and Commander Glacier even in August.

According Peter Lev, a world-experienced mountaineer, heli-ski guide, skiing and climbing instructor at Montana State University, and a member of the Exum Mountain Guides of Jackson Hole, the skiing opportunity provided by this project **may be only described as the best in the world.**

Nordic Skiing

Nordic sports facilities will not be included at Jumbo Glacier Resort, unless a proven public demand will generate the necessary support for a future application. As a response to environmental concerns over the development and cutting of new trails in the Jumbo Valley, initial plans of offering Nordic ski trails, including recreational and racing trails for classic and skate skiing along the Jumbo Creek drainage and up Leona Creek have been withdrawn. Nordic skiing is available at the Beckie Scott Nordic Centre at Panorama Mountain Village.

Heli-Skiing

Jumbo Glacier Resort can function as an ideal base of operations for helicopter skiing. The existing heli-skiing company has been considering moving its base of operations to this area, and reportedly made an application for a heli-ski lodge in the Jumbo Creek Valley in 1997. This would allow more economical access to the other surrounding glaciers, thereby adding another exciting dimension to the recreational winter opportunities offered by the resort. The heli-ski activities and the proposed resort will complement each other.

Snowmobiling

Snowmobiling is not proposed as part of the activities of Jumbo Glacier Resort and the Jumbo Creek drainage already has restrictions regarding snowmobile uses. As of January 1, 1996, the Upper Jumbo Creek valley has been closed to snowmobilers above kilometre 14 in order to avoid conflicts with heli-skiers and other backcountry recreational users. However, numerous unploughed forestry and mining roads are easily accessible and popular with day riders who can park their vehicles at the existing parking lot near the Mineral King Mine site at the confluence of Jumbo and Toby Creeks.

Guided snowmobile tours are currently provided by Toby Creek Adventures Ltd. from Panorama Mountain Village, Fairmont Hot Springs and Radium Hot Springs. Daily transportation from Banff hotels is available and excursions range anywhere from a few hours to a week in duration.

Ski Touring

Ski touring is not one of the activities that are expected to originate from the resort, which is focused on year round downhill skiing and snowboarding, and on sight seeing for the general public.

Jumbo Glacier Resort as a departure point for ski touring is possible, but it is unlikely that it will have a significant attraction for overnight stay for ski tourers. In addition, the departure points at the top of Glacier Dome and of Jumbo Mountain do not appear to provide a significant advantage to reach most ski touring destinations.

Other Winter Activities

Tobogganing in a designated area and open air skating are expected to be popular winter activities. Jumbo Glacier Resort will be one of the very few B.C. resorts to feature open air ice-skating at its resort base through winter.

Mountaineering

Mountaineering will not be actively encouraged at Jumbo Glacier Resort, but the resort will be open to mountain guides who may wish to operate independently at the resort in the tradition of the resorts in the European Alps such as Chamonix and Zermatt. Unlike at the European resorts, guiding to nearby

mountains is not expected to be a significant activity because of the larger distances involved, the rugged terrain to cross and the type of urban clientele expected at the resort, a clientele that is not trained for extended mountaineering trips and for outdoor overnight accommodation. The focus of the resort will be on sightseeing from the lift accessible mountaintops and on year round skiing, with rest and physical recreation offered as complementary activities at the resort.

Golf

Golf will not be provided at Jumbo Glacier Resort. Award winning Greywolf golf course at Panorama Mountain Village, which is 36 kilometres away, will be the nearest golfing facility.

Hiking

A single hiking trail is planned for the resort. It will connect the resort to the Glacier Dome gondola, and will utilize the low part of the winter gliding trail connecting the ski runs to the resort. The hiking trail will allow visitors to hike to and from the Glacier Dome gondola base, or from the valley base to the top of Glacier Dome. The top section of the trail will be on snow. The resort will not facilitate and will actively discourage hiking outside the marked trail.

Other Summer Activities

Mountain biking and whitewater rafting in Toby Creek are currently popular summer activities in the area. The region is also a popular soaring or gliding centre. The Columbia Valley is reportedly one of the best mountain soaring sites in the world. A number of world record-breaking 1000km+ soaring flights have been flown from Invermere.

5. INFRASTRUCTURE COMPONENTS

5.1 INTRODUCTION

The project requires two types of infrastructure developments, the recreational infrastructure which consists of the lift system that provides access to the skiable terrain and viewpoints, and the resort infrastructure, which services the overnight accommodation and day visitor facilities.

The recreational infrastructure is discussed in Section 4, above. The resort base infrastructure examined in this section includes civil engineering services.

5.2 ACCESS ROAD

Existing forestry and mining roads offer alignments that can be chosen and improved on each side of the creeks, meaning that a wise choice of alignments makes it possible to avoid all major avalanche paths, and if required, to switch from one side to the other of the valley to avoid even minor areas of potential exposure. Alternatively, and again with only minor exposure to some avalanche areas, which can be monitored with normal highways maintenance techniques, the selected route may continue on the north side of the drainages all the way to the resort site, thus eliminating all bridges. This is the currently selected option.

On a comparative basis, an easier access to a mountain resort at the base of a major mountain with a vertical rise of over 1,700 metres (5,577 ft.) reaching 3,400 metres (11,155 ft.) above sea level has not been found. The available routes, with an elevation rise of roughly 600 metres (1,968 ft.) from Panorama to the resort site at approximately 1,700 metres (5,577 ft.) are so gentle that **they do not require switchbacks** to reach the resort site without ever exceeding a maximum 8% grade.

Conclusive meetings began with a site review on August 23, 2000, including a group of MoT staff led by Don Barcham and the consulting team led by Rob Parkinson. This was followed by another detailed site review by the consulting team with Rob Parkinson on September 19, 2000. As a result a *Route Study* was produced by McElhanney in March 2001, reviewed in 2002, and following a number of meetings and discussions with MoTH, the *Route Study* was finally revised, and resubmitted. It is included as Appendix 5-A to the Master Plan.

The Duffy Lake road, Highway 99 between Pemberton and Lilloet, can be considered as an appropriate example of future work requirements for the access road to Jumbo Glacier resort. However, the Duffy lake road has steeper grades (over 13%), sharper turns, and one-way forestry bridges. It is widely used in winter and summer and its popularity is growing. It was also planned to be the access road for the EA Act approved ski resort at Cayoosh Creek, planned for 15,000 Bed Units.

While the Jumbo Glacier Resort road will not be designed for intense or high-speed traffic, the grades and the curves are generally quite gentle and appropriate for easy and comfortable driving, even for full size buses.

As noted above, ease of access was a major reason for the selection of the project site. The proposed site is a short distance from an existing resort with a finished blacktopped road, the existing access

road is capable of automobile access, and upgrades are possible without excessive difficulties.

5.2.1 Access Road Upgrade Costs and Traffic Volumes

The proposed road improvements are for a road with light traffic, initially a gravel bed improved road substantially following existing alignments. Discussions with McElhanney indicate that the road would be of a type similar to the improved road sections recently built at Kicking Horse Mountain Resort, costing in the \$200,000 – \$250,000 per kilometre range including paving. A more detailed analysis and conservative preliminary estimates are provided in the Route Study, included as Appendix 5-A to the Master Plan.

During the process leading to the EA Act review much discussion was generated regarding a past, unrelated proposal for a highway over/through Jumbo Pass linking the East and West Kootenays and the costs associated with it. Figures ranging from \$40 to \$70 million dollars for the road improvements to upper Jumbo Creek and of up to \$2 million dollars per kilometre were reported. These figures are unrelated to the Jumbo Glacier Resort project. A highway over/through Jumbo Pass was disallowed by the Commission on Resources and the Environment (CORE) and has nothing to do with the proposed project. The traffic type, volume, and construction standards of such a road are completely unrelated to the type of project and of road improvements proposed for a mountain resort.

The developer has agreed to pay for the road improvements according to government policy and has never asked for government grants for road and infrastructure similar to other resorts, but it expects that current policies on road financing will be applied equally across the Province. There has been discussion of a perceived “cost to the taxpayer” for the road. There is no cost to the taxpayer foreseeable for this project; the road users will, however, generate revenues to governments.

Projected traffic volumes have been calculated By McElhanny Consulting and are discussed in the *Route Study*. Projected traffic volumes are based on a correlation between existing traffic volumes at surveyed ski resorts as well as the respective numbers of beds provided and overall lift capacity. The Average Annual Daily Traffic (AADT) for the Jumbo Glacier Resort access road has been estimated to be 943 trips at buildout.

5.3 WATER

5.3.1 Annual Water Demand

Water demand estimates for mountain resorts are complicated by the fact that generally accepted requirements and data are derived from urbanized areas with a history of water wastage, industrial uses etc¹. It is an important objective for new resort developments to be

¹ Water demands are generally grouped in four categories: Residential, Commercial, Industrial, and Institutional. Unlike urbanised areas, a mountain resort such as Jumbo Glacier Resort will not have Industrial and Institutional users. The commercial category will be limited to stores and restaurants in a supporting role to the resort and will not include shopping centres, fast food outlets and other major commercial water users. The residential category will be the largest, with single family chalets, townhomes, condominiums and hotel type of accommodations.

designed for conservation objectives. In addition, it is part of the effort of Jumbo Glacier Resort, in response to the issues raised in the Environmental Assessment Office's review, to optimise its design towards green policies and conservation best practices. It is the project's objective to emulate design and water conservation practices of Sun Peaks Resort and to improve them by 10-20% by utilizing more up to date conservation technology. Glacier Resorts Ltd. implements a design model that utilizes landscaping and density more suitable for conservation than that of Sun Peaks for the following reasons:

- Jumbo Glacier Resort covers a smaller footprint with smaller landscaped areas;
- The design guidelines will exclude grass and non-indigenous landscaping;
- The elevation is higher, temperatures lower and the summer season shorter;
- There will be no golf course; and
- There will be no snow making requirements.

Yearly water demand has been calculated by McElhanney and reviewed by Urban Systems, in view of their direct experience with Sun Peaks Resort. It is based on the assumption of previous studies, review of water consumption at projects of similar nature such as Sun Peaks Resort and an analysis of projected demand at Jumbo Glacier Resort. Jumbo Glacier Resort will be focussed on year round skiing on natural snow and sightseeing, therefore water will not be required for golf courses or snow making like at other resorts. It is expected that up to date water conservation measures will be implemented. The Jumbo Creek drainage has an abundance of water partly fed by large glaciers.

Surface water and ground water are available and both options have been reviewed by the consulting group. The selected option is to draw water from the ground, which may result in water that requires minimal or no treatment.

The total amount of water to be drawn yearly at full build out has been calculated to be up to approximately 183,000 m³ per year. Preliminary investigations by Golder Associates support the expectation of the civil engineers to be able to easily draw water from wells.

5.3.1.1 Potable Water Supply and Well Drilling Program

A review of the availability of groundwater approximately 1 km upstream of the proposed resort site, has indicated that production wells with individual yields ranging from 0.33 l/s to 6.6 l/s is probable. These wells could require drilling to depths of between 20 m (65.6 ft) to 100 m (328 ft). It is further estimated that the total groundwater flow which could be extracted from several wells at this location on a continuous basis would be in the range of 7.5 l/s to 22.5 l/s. Additional available locations in the valley have not been investigated as it appears that it is unlikely to necessitate further exploration.

Water for Residential and Commercial users falls into three main sectors: (a) residential and commercial building requirements, (b) fire fighting requirements and (c) landscaping and irrigation requirements. Item (b) is not calculated in daily or annual water requirements because fire flows are regulated by peak demand design considerations, which are attended to by storage and peak flow requirements. Item (c) will not be required at Jumbo Glacier Resort because of landscaping design and covenants which will direct design and maintenance to the regeneration of indigenous forest and vegetation. Calculations are consequently based on the requirements for residential and commercial buildings in a mountain resort area.

It is anticipated that the new wells will have a water quality that will be within all the Canadian Drinking Water Standard parameters. Depending on the storage system, the drinking water may have to be disinfected (chlorinated) for health purposes prior to consumption.

Appropriate water conservation measures will be enacted to achieve reasonable service requirements. Ultimate development will require a smaller water volume than initial maximum calculations, but requirements will depend on many design factors that will be determined before construction stage.

The wells will pump water to one or more ground-level reservoirs above the resort in suitable locations hidden among the trees. It will be planned to supply all of the resort by gravity from the reservoirs. Due to the differences in elevation across the site, the service area will be divided into pressure zones; these will be fed by gravity through pressure reducing valve stations.

The water distribution system will be designed to deliver water in adequate quantities and at adequate pressures for both domestic use and fire flows. Fire flows will be based on the most recent publication by the Fire Underwriter's Survey. The water mains throughout the base area will be sized for fire flow as well as domestic use. There will be only limited need for fire hydrants as all buildings are expected to be sprinklered. Buildings over four storeys will be of non-combustible construction, but most buildings in the resort are expected to be of combustible construction.

5.3.1.2 Water Utility

Water will be provided through a Water Utility that may be created by the proponent in partnership with the Kinbasket Development Corporation. The Kinbasket Development Corporation in Invermere, has been successfully operating as a utility providing water and sewer services to the development surrounding Eagle's Ranch golf course and is expanding services for Invermere residents.

5.3.2 Water Storage and Distribution System

5.3.2.1 Distribution System

Wells will pump water to one or more ground-level reservoirs above the resort in suitable locations hidden among the trees. Water from the reservoirs will supply all of the resort by gravity. The waterworks system will be designed with input from the Fire Commissioner's Office, the Regional District of East Kootenay, the Town of Invermere Fire Department, and from other existing mountain resort communities.

A watermain network will generally follow the proposed roadways. Sufficient watermain looping will be provided for better flow/pressure balancing and elimination of stagnant water problems. Due to the difference in ground elevation of the various parts of the development, the distribution system may operate in at least two different pressure zones.

5.3.2.2 Storage Facilities

The resort's water distribution system will be designed to provide for peak flow requirements, such as instantaneous and daily/ hourly domestic flow variations, irrigation, fire suppression, etc. This will be accomplished by incorporating a potable water storage reservoir within the water distribution system. The reservoir volume will include fire storage, balancing or equalizing storage, and an emergency storage.

The minimum reservoir volumes are recommended by Fire Underwriters Survey (F.U.S.). Total reservoir storage volume has been calculated at 1,739,563 L (1,740 m³)

One or more reservoirs will be located above the resort base site, at an approximate elevation of 1800 m. A separate reservoir at an approximate elevation of 1920 m may serve the single family dwellings and heli-plex development area west of the creek. These locations may provide gravity service for the entire resort development.

5.3.3 Water Treatment

It is anticipated that the new wells will have a water quality that meets all the Canadian Drinking Water Standard parameters. Therefore, minimal, if any, treatment will be required. Depending on the storage system, the drinking water may need to be disinfected (chlorinated) for health purposes prior to consumption.

5.3.4 Water Management Plan and Conservation Measures

A **Water Management Plan** including a listing of water conservation measures is included in Section 3.11 of the Master Plan.

5.4 LIQUID WASTE/SEWER

5.4.1 Wastewater and Discharges

Jumbo Glacier Resort will not directly discharge wastewater into Jumbo Creek. While there are no currently known wastewater discharges in Jumbo Creek, some industrial remains and abandoned infrastructure from past forestry and mining operations can be found in the creek.

The last known waste discharges under waste management permit was by the Mountain Minerals Ltd. discharge of tailing pond effluent to Toby Creek at the confluence with Jumbo Creek. The operation ceased in September 1980 and there are no plans to reopen. The mine reprocessed tailings from the old Mineral King silver-lead-zinc mine at the same location, to obtain barium sulphate. Although at the time of closure several contaminants including iron, lead and zinc exceeded permit limits for the effluent, dilution in Toby Creek during the period of discharge (May to November) reduced ambient concentrations to below levels significant to aquatic life.

5.4.2 Tertiary Treatment Plan

A tertiary treatment plant with in-ground treated water disposal has been selected as the preferred liquid waste treatment system for Jumbo Glacier Resort.

The sewage treatment plant will be constructed in phases matching the development pursuant to a design/build proposal from the wastewater industry. A possible option, at this time, is a modern sewage treatment system similar to those produced by Ecofluid, the company that recently constructed a plant at Kicking Horse Mountain Resort in Golden, B.C. The Ecofluid system in Golden uses an Upflow Sludge Blanket Filtration (USBF) process. The performance guarantee is for: BOD₅<<10mg/l; TSS<<10mg/l; NH₄-N<1mg/l; and, P (total) <1mg/l. Sludge concentration is estimated at a fairly high 4.5 to 6% resulting in relatively low costs for trucking the sludge away. The system includes UV disinfection. The Ecofluid's USBF process system was also recently installed at the Sun Peaks Ski Resort near Kamloops. Jumbo Glacier Resort is expected to receive the most up to date tertiary treatment plant available at the time of construction.

5.4.3 In-Ground Disposal of Treated Water

Golder Associates Ltd. (Golder) has previously carried out a series of geotechnical, glaciology, hydrogeology, and natural hazard studies over a period of several years from about 1993 onwards as input to development of the Master Plan for the proposed Jumbo Glacier Resort. As requested, Golder has reviewed these previous reports and information, together with relevant available reports prepared by other consultants. This review also included the current preliminary conceptual resort area plans and the *Master Plan Concept* document prepared by Pheidias Project Management Corporation, as well as colour stereo air photographs providing coverage of the proposed resort site, plus the upstream and downstream portions of the Jumbo Creek valley.

Sanitary and greywater discharge will be collected and directed to a treatment plant located downstream from the resort site. The effluent will be treated to tertiary standards before being carried by gravity flow in water-tight piping to one or more in-ground disposal sites located adjacent to the upgraded access road to the resort, which is roughly parallel to but offset north of Jumbo Creek.

Suitable, permeable granular soils are present along and at least locally upslope of the proposed access road and it is Golder's opinion that in-ground disposal of the tertiary treated wastewater can be achieved using either or a combination of conventional tile fields or deeper "rock pit" infiltration chambers, with the selection of the disposal method depending upon local subsoil and groundwater conditions, as well as topography.

The use of in-ground disposal of the sewage discharge from the resort after tertiary treatment will also result in return to the groundwater regime of an equivalent volume to that obtained from the water supply wells, which are to be located a short distance upstream of the resort site. As such, it is Golder's opinion that there will be no significant or detrimental impact on the groundwater conditions within the Jumbo Valley. Equally, there will be no impact on the surface water condition.

5.5 STORMWATER AND SNOW MELT MANAGEMENT

Stormwater and snowmelt run-off from the uphill ski areas will occur primarily as overland sheet flow and concentrated flow in numerous channels and small creeks criss-crossing the development site. This run-off will be intercepted by cut-off ditches on the uphill side of the development and routed around into the closest receiving streams. In open areas outside of the development the run-off will be intercepted by roadside ditches and pass through culverts under the roads.

The concentrated base area of development near the central resort will be serviced with piped storm drains. Where possible, the discharge from ditches and storm drains will be routed through the system of natural and man-made features downstream of the development site. This will provide a certain measure of storm water quality and quantity control through natural biofiltration and uncontrolled detention. Opportunities will be explored to enhance this detention or to provide additional detention elsewhere at the site to mitigate the effects of an increase in run-off due to the proposed development.

Efforts will be made to maintain existing hydrologic patterns at the site by reducing the amount of diversions. Drainage areas, which will be delineated in the Stormwater and Snowmelt Management Plan – to be submitted with the detailed engineering design – will remain unchanged. Although, local diversions near the base facilities will be provided to reduce the risk of erosion and water quality problems, overall run-off patterns will be maintained.

Interceptor cut-off ditches, creek or channel diversions and ditches in general will be designed with minimal gradients, where possible. Where necessary, check dams, riprap armouring and other means of erosion protection will be utilized to ensure erosion does not occur during periods of substantial run-off.

The Master Plan ensures that no land disturbance will occur within a 200 year flood plain. Jumbo Creek runs from north to south and turns east for several kilometres before encountering potential flood plains.

The civil engineering design following the Master Plan and the Master Development Agreement will ensure that potential for storm water contamination by automotive petroleum products is minimized. This may be accomplished by construction of biofiltration swales intercepting run-off from parking lots and maintenance areas and by implementation of oil separators. Segregation of run-off that could be contaminated from run-off that is not exposed to contaminants will help reduce the cost of treatment facilities.

The proponent recognises that storm water and snowmelt run-off can have a significant impact on the receiving environment. Hence the development will incorporate erosion control and pollution control measures to prevent deterioration of the watershed (see Environmental Management Plans in Section 3 of the Master Plan). During both the construction and post-construction phases of the project, the proponent will focus on implementing the most applicable Best Management Practices (BMPs) to control the quality of run-off water. These will be in accordance with the project's Environmental Analysis as well as the "Land Development Guidelines for the Protection of Aquatic Habitat" (DFO/MoELP, 1992).

5.8 ELECTRICAL POWER

The resort and the ski area will utilize the existing line to Panorama to build an initial 25 kva power line to the project. The project will be proceeding on the basis of assurances of adequate supply of power

by B.C. Hydro at normal rates. B.C. Hydro is expected to supply the necessary power from the Columbia Valley through Panorama and to provide local distribution in the resort. The availability of forestry road access on the opposite side of the valley may offer the option of constructing the power line away from the tourist access road. A possible alternative to electrical distribution by B.C. Hydro will be the creation of an independent utility to distribute power and charge customers directly. In that scenario, the power line and right of way would be retained by the new independent utility. Emergency power will be provided by on site generators, which may be the initial source of power for the project as well, together with local power generations systems through wind, sun and run of the river generation of electricity. The total might be in sufficient amounts to power the initial phase of the project.

6. SOCIO-ECONOMIC AND MARKET ANALYSIS

NOTE: The data and statistics in this section were compiled at the time of submission of the Master Plan to the approving authorities in 2003 and in 2005. Some statistics and data may now be out of date, but are included for reference purposes, and the fundamentals of the analysis have not changed. In fact, the current economic conditions make this project even more relevant than before, as it is a project that has a tourism draw that surpasses the economic cycles and that may be a source of solid long term investment when so few other economic initiatives are going forward in the region.

Section 6 of the Master plan provides a general description of the economic characteristics of the region and an assessment of key socio-economic aspects. Preliminary estimates of the number of workers that will be required to construct and then operate the resort and the ski facilities are included; the potential for local recruitment is discussed; possible settlement options for non-resident workers are considered; and the potential social issues that should be taken into consideration as part of the planning process are noted. Initial work on this section was done by R-Dac Group of Invermere and Norecol Environmental and Management Consultants of Vancouver. Pheidias Project Management Corp. updated this material with the assistance of Milne Consulting of Invermere and Lynnparks Consulting of Vancouver.

The resort, as previously described, will be near the District of Invermere in the Columbia Valley Sub Region of the Regional District of East Kootenay. This sub region includes the District of Invermere, and the communities of Brisco, Edgewater, Fairmont Hot Springs, Radium Hot Springs, Wilmer and Windermere.

The economy of the area is not large but is relatively well diversified. Forestry and mining are the key resource industries, but tourism is playing an increasingly important role and is the largest employer in Invermere. There are a few mining operations in the area employing about 100 people. The forest industry is largely based on logging within the Invermere Timber Supply Area. Agriculture plays a smaller role in the upper valley area, primarily based on grazing lands.

The area contains a number of provincially designated parks and has developed a tourist industry based on its scenery, hot springs, golf courses and skiing facilities. It is also a noted summer vacation area, primarily for Alberta residents, and increasingly Americans, many of whom have summer cottages around the lakes.

Invermere is serviced by a gravity fed water system supplied from local lakes. The system has the capacity to serve a population of 6,100. The sewer system includes a secondary treatment system and has the capacity to serve a population of 3,000 people. The smaller communities such as Radium, Edgewater, and Windermere also have water supply systems with excess capacity. Sewer systems are in place in Radium and Edgewater. The Shuswap Band in Invermere has established its own water and sewer system as part of the services offered by the Kinbasket Development Corporation and the Eagle Ranch Golf course development.

In addition to the tourist and vacation services noted above, the area has a hospital with 21 acute care beds, and 4 extended care beds. Although funding has been reduced the hospital has maintained its operations. Other limited social services are available including a dentist, and a small public health clinic.

Policing in the area is provided by the R.C.M.P. with a detachment of 9 Officers in Invermere and

another 3 in Radium. Volunteer fire brigades in the communities provide fire protection services. Each community has a reasonable level of equipment to support its needs given the current population.

There are six elementary schools in the area supporting an enrolment of approximately 1,200 students, and a high school, David Thompson Secondary School, with a capacity of about 550 students.

6.1 COMMUNITY AND ECONOMIC IMPACTS

The project has been described by the Executive Director and Deputy Minister of the Environmental Assessment Office as being “in the broad public interest in that it provides significant economic benefits to government and the region.”¹ This section explores the project’s economic impacts and its impacts on its surrounding communities.

6.1.1 General

A major impact on the region and particularly on the District of Invermere will be the generation of employment. As currently planned, the project is expected to generate approximately 750 to 900 jobs at build out, mostly permanent. It is planned that at least 750 employees will choose or be required to have accommodation at the resort, and that up to 100/150 will prefer to commute from Panorama, Invermere and the Windermere Valley.

The region benefits from a highly mobile population and workforce. According to Statistics Canada,² the East Kootenay region experiences one of the higher percentages of internal migrant mobility in British Columbia, where 20.5% of the regional population are classified as internal migrants over a five year period, as compared to 17.6% for the province as a whole.

Participation to the East Kootenay CORE Table in 1993/94 made obvious the profound transformation that is anticipated in the economy of the region as well as of the Province.

While the primary industries depending on the Province's resources will continue for the foreseeable future to play a dominant role in the economy, it is clear that industrial diversification is the common goal of the Province. Reduction on dependence from the consumption of natural resources is one of the objectives of the transition economy, the scenario where out of Province dollars are acquired in greater and greater numbers without resorting to sales of primary resources.

The East Kootenays do not have any other significant project that is specifically designed to bring commercial tourism into a substantial role for the transition economy, and the proposed project will fill a clear need.

¹ See item 10 of the *Recommendations of the Executive Director and Reasons for Recommendations* (for an Environmental Assessment Certificate) included as Appendix 1-B.

² Statistics Canada, Health Indicators, May 2003

**Table 6.1: Impact of Tourism in Mountain Areas:
Positive Outcomes**

ECOLOGY	SOCIO-CULTURAL	ECONOMIC
Encourages -Ecological awareness -Conservation measures -Measures to contain pollution -Cleanliness in Campgrounds/ Parks trails and woodlands	Preserves -Cultural monuments/ ruins -Folk traditions -Cultural properties -Art and history	Creates -Job opportunities -Foreign Exchange -Additional income/ tax -Better multiplier -Diversification of economy -Jobs for unskilled/ semiskilled workers
Helps -Safe travel -Maintenance of sceic landscape -Research/ Environmental Impact studies and data accumulation -Retreat from marginal land use	Responsible for -Space organization -Increased communication -Modernization of public facilities	Improves -Infrastructure -Local arts/ crafts -Regional development -Standard of living
	Encourages -Education -Job skills Training -Knowledge of the natural world -Contact with different nations/ peoples -Rediscovery of last traditions -Funds mobilization -Fitness and physical well-being	

6.1.2 Employment

Employment creation is a critical feature and benefit of this project. Employment creation has impacts on the local economy, regional economy and the economy of the Province in general. Employment creation injects money into the economy while removing people from assistance programs. By making people self sufficient it removes strains on the provincial safety net and generates not only spending in the region, but also positively contributes to the provincial and federal income tax systems.

Within five years, the direct permanent employment generated should be approximately 320 full time and part time operational positions, with an additional 750 person years of employment generated during the construction of Phase 1 of the development.

Table 6.2:
Workforce Requirements at Build Out
(Full & Part-Time Positions)

Ski area	350
Hotels	400
Support services	<u>115</u>
Total	<u>865</u>

6.1.2.1 Construction Workforce Estimates

The initial stage of the first phase of the project may be limited to a hotel and the lifts to Glacier Dome. However, the capital costs of construction for the initial development may total an estimated \$35 million in one of the probable phasing scenarios. Assuming the labour component of this is in the order of 35 – 40%³ an estimated construction workforce of 50 would be required. The workforce requirements will include carpenters, electricians, pipefitters, boilermakers, plumbers, heavy equipment operators and labourers. In reality, due to the short season available, even with overtime work it will be necessary to employ a larger work force to complete construction on time. A workforce of 70 will be a more likely scenario.

For the following stages of development it is anticipated that the capital investment will increase, and it might grow to reach at some point an order of magnitude of \$100 million. This could result in 150 construction jobs during a particular construction period.

This construction workforce will generate local income that may range between \$4 and \$8 million per year in wages.

6.1.2.2 Operations Workforce Estimates

The operations workforce generated by this project will essentially be constituted of two components including those directly employed in the operation of the ski facilities and those working in the resort base, in what is referred to here as the accommodation industry.

Ski lift operations will be partly seasonal with a possibility of slightly more employees in the winter than in the summer according to current thinking. During the seven months winter operating period from November through May the employment for ski operations will be in the order of 120 - 125 people in the first year. In the summer period, from June to October the employment will likely be in the order of 80 - 90 people. These levels will increase over the first few years to stabilize to about 250 - 300 once the resort is in full operation.

³ Horwath & Horwath, Tourism Multipliers Explained

Estimates for the workforce required in the accommodation services at the resort will be refined as further planning proceeds. The levels of employment can vary with the quality of service desired. For this preliminary report a working assumption based on a ratio of one service employee for each six guests has been used according to current industry levels. This would suggest a total employment level in the order of 350-500 employees based on 2000 to 3000 guests per day at build out.

This may be a low estimate that probably does not reflect the higher quality type of operation that may be proposed for the prime hotel operation. A rough preliminary estimate of a higher end operation would predicate a ratio of one employee for each three anticipated guests. The higher end hotel may add another 100 employees.

Estimates of the required jobs will be refined as the planning proceeds and the market information is more clearly determined once each project component goes ahead. However, current estimates tend to anticipate a total of 750 to 800 employees at build out.

The number of full-time direct employees at British Columbia ski resorts was estimated to be in excess of 4,500 following the 1999/2000 season, up from 3,460 in 1990/91. This employment growth in the mountain resorts was focused on full-time winter employees and to a lesser extent – part time winter employees. Ski resort payrolls were estimated at about \$87 million in 1999, a rise from \$54 million in 1997, \$53 million in 1994 and \$40 million in 1991. A simple average annual salary on this basis was more than \$20,000 in 1999/2000. The largest employers following the 1999/2000 season were Whistler Blackcomb, Panorama, Grouse Mountain, Cypress Bowl and Big White.⁴

Jumbo Glacier Resort is expected to generate a payroll of about \$17 million dollars per year at build out, based on current plans.

In development projects, the creation of direct jobs leads to secondary effects referred to as indirect or induced employment generation. The Jumbo Creek development will generate extensive economic and social benefits. The measurement of the economic effects on a region produced by the introduction of a new resort entails recognition not only of the revenues produced and employment generated by the facility itself, but recognition of secondary effects that are equally significant.

6.1.2.3 Indirect Employment

A significant secondary effect that cannot be estimated is the spin off of other tourism related projects that this particular project, as a significant tourist magnet, will encourage in the East Kootenay base, from Cranbrook to Golden. We understand that initiatives directly or indirectly induced by the publicity derived from this project are already taking place. Interest in the expansion of Whitetooth near Golden, ultimately resulting in Kicking Horse Mountain Resort, is a prime example of this.

We see examples of these initiatives in secondary home developments such as

⁴ British Columbia Ski Industry End of Ski Season Review 1999/2000, BC Assets and Lands Corporation

Lakeview Meadows, The Highlands, Pineridge Estates, Westridge Estates, Bella Vista Estates and Riverstone Villas.

There are also a number of small businesses that have commenced in the region in the last few years that will be positively influenced by this project as well as numerous new ones that will start up once development starts.

It can be anticipated, based on other developments of this nature, that there will be other tourism/recreation businesses developed in the Columbia Valley as a result of this project. This could include:

- Guiding services – skiing, mountaineering,
- Heli-skiing
- Snowmobiling
- Interpretive services
- Bed & breakfasts/lodges
- Restaurants
- Pubs
- Ski shops
- Retail stores – clothing, arts, souvenirs, etc.
- Light manufacturing – clothing, souvenirs, etc.

The employment created by such new businesses will be considerable. As well, many of the jobs created by these businesses are higher paying. For example, most ski and mountaineering guides are currently paid \$200 to \$500 per day; interpretive services are paid \$125 - \$150 per day.

As well, this project will have a significant positive impact on the use of the proposed expanded Cranbrook Airport, thus creating more job opportunities.

Of the total revenues generated by the subject resort, it is expected the majority will remain in the Kootenay Region economy because the tourist/employee activity will be centralized around the Jumbo -Windermere Valley spine.

6.1.2.4 Employment Types and Wages

The employment generated will cover a broad range of skill sets. In resort proposals concern is often expressed that the compensation levels of the tourism workers does not match that of forestry workers. Although many of the part-time and junior level worker's wages are below forestry industry workers, many of the managerial and supervisory positions produce levels of compensation of between \$50,000-\$80,000 per year that are reasonable when compared with the forestry sector.

Tourism is not a replacement for the loss of well paid mining and forestry workers, although a four season, destination tourism project can provide valuable employment and economic activity in a mountain region, with additional opportunities for business development by local entrepreneurs.

The diminishing number of steady jobs in both the forestry and mining sectors is a regional concern that is not expected to be reversed. Continued high unemployment

rates in the region are also a concern. Initiatives that give rise to alternative employment opportunities can therefore be a valuable boon for the region on a social and economic level. While wages in the tourism industry are not as high as those of the mining and forestry industries, which are respectively the highest and second highest in the province, they compare well with provincial averages, particularly as the tourism economy of a region matures.

6.1.2.5 Worker Origin and In-migration Mitigation

The current construction activity at Panorama and in the Windermere Valley (which has been particularly strong in the last five years), is expected to indicate the kind of activity that will be generated by the start of Jumbo Glacier Resort.

The construction at Jumbo Glacier is expected to initially progress in small increments. The birth of Jumbo Glacier Resort will present continued opportunity for the work force developed for the construction of Panorama. Jumbo Glacier Resort will be a new source of activity after Panorama reaches completion of its own Master Plan and to slow down in terms of construction. Additional work force that may be attracted by the project is expected to accelerate the construction rhythm.

While local trades comprising of Columbia Valley residents from the nearby communities may be expected to commute, it is anticipated that the majority of workers will have to find accommodation at the project site while the development is being built, either with temporary units or with an earlier expansion of employee housing. In order to facilitate the accommodation of construction crews, up to 300 beds of employee housing at the south end of the project may be constructed in the first phases to accommodate construction workers. These units will then be converted to accommodate resort employees once the project nears build out.

As for the origin of the work force, one can only draw from the experience of places such as Fernie, Panorama and Kicking Horse. Experience shows that the local work force has an advantage and will be the first to be employed. As the size of development components and the production requirements increase, crews from the rest of the province have to be expected, from as far as Cranbrook and Kamloops, and even further. The mix of jobs to be filled by local residents, regional residents and by in-migration is impossible to predict accurately, but if the previous examples provide an indication it should be expected that there will be a fairly even split between the three components of local, regional and rest of the province. The availability of worker accommodation at the resort should mitigate the effects that the in-migration of outside workers might otherwise have in the base valley.

6.1.2.6 Seasonal Employment

The project is designed for year round skiing and sightseeing, with sightseeing as a greater component of summer visitors. It is expected that management will concentrate in generating a stable work force, which is better to provide good service and to rationalize the use of human resources, but a small component of seasonal workers is also to be expected. Current expectations are that the seasonal component may be in the order of 10% of the work force at the resort, and it is anticipated that two thirds of the seasonal workforce would be of local residents who would be

commuting from the Columbia Valley. As the permanent workforce at build out is estimated in the range of 750 people, the seasonal group may be between 50 and a 100 people. The character of the resort, with continuous year-round operations, and the availability of abundant employee housing at the resort, which should allow for a number of vacant units from time to time available to temporary workers, are expected to minimize and mitigate the adverse effects and the problems of seasonal employment.

6.1.2.7 Employment Policies and Programs

Management will play a key role shaping employment policies. They are expected to be driven by the intent of creating a higher level of professionalism at the resort, due to its ability to operate year round and to attract an international clientele. It is expected that hiring practices will favour the local population, which is familiar with local conditions, has a variety of tourism experience and is willing and ready to work. Training the work force for the specific requirements of the resort will be part of the mandate of management. The proponent has been discussing with the First Nations special employment and training opportunities with regard to ski area operations, and the International Union of Operating Engineers appears to be ready to cooperate in this program. Other activities that have been discussed with First Nations range from specific tourism projects orientated to the hospitality industry, such as the first condo/tourist rental accommodation project attached to the first daylodge, to the management and operation of an interpretive centre, to guiding and ski patrol activities. These programs will be more clearly defined once specific agreements along the preliminary lines proposed may be finalized.

6.1.2.7.1 Training

Jumbo Glacier Resort is expected to develop an educational/training support program for all employees. The resort management team will develop the details of the program. This ensures the level of service to guests remains high, staff remain motivated, staff continue to improve their skills and the resort is operated effectively. The training will take place and be encouraged at all levels of the organization.

6.1.2.7.2 Employment Equity

An Employment Equity Program is planned for Jumbo Glacier Resort. With the development of an Employment Equity Program, this will be an innovative and unique approach in the ski and resort industry in Canada. Numerous businesses, organizations and governments in Canada use these programs. It provides assurances that all efforts possible will be made to ensure that First Nations and local residents are given priority of hiring at all levels within the resort. A sample First Nations Employment Equity Plan has been attached as Appendix 7-A to the Master Plan. A similar employment equity plan will be developed for local residents.

6.1.3 Economic Impact

Jumbo Glacier Resort will have a major positive economic impact on the Town of Invermere and the surrounding area. To estimate the economic impact, the total direct spending was projected, based upon visitor volumes after five years of operation.

Table 6.3: Estimates of Per Capita Spending After Five Years of Operation

Winter Assumptions (150 days main season)		
Average Day Skiers	583 x 150 days = 87,450 x \$67.90 =	\$5,937,855
Average Day Overnight Skiers	358 x 150 days = 53,700 x \$189.50 =	10,176,150
Average Day Overnight Non Skiers	53 x 150 days = 7,950 x \$170.00 =	<u>1,351,500</u>
Winter Total		\$17,465,505
Summer Assumptions (60 days main season)		
Average Day Skiers/Visitors	650 x 60 days = 39,000 x \$45.50 =	\$1,774,500
Average Day Overnight Skiers	250 x 60 days = 15,000 x \$197.50 =	2,962,500
Average Day Overnight Non Visitors	60 x 60 days = 3,600 x \$190.00 =	<u>684,500</u>
Summer Total		<u>\$5,421,000</u>
Total Direct Spending		\$22,886,505

Presented in the table below are the direct, indirect and induced economic impacts. The approach used is very conservative with a total impact only 1.4 times direct spending. Many tourism economic models assume gross multipliers of between 1.6 to 2.5 times direct spending.

**Table 6.4:
Direct, Induced and Indirect Economic Impacts**

Direct Impact	\$22,886,000
Indirect Impact	6,819,000
Induced Impact	<u>2,046,000</u>
Total Impact	\$31,751,505

The total economic impact on the Town of Invermere and surrounding region will be

significant. Total construction spending of \$80 to 100 million should occur in the first five to eight years of the project. The total ongoing economic impact will be approximately \$32 million dollars at the Gross Domestic Product level.

The benefits of the project to all levels of government will be significant. Presented below is the annual projected return to government. The direct increase to the tax base of the Regional District of East Kootenay has been estimated at \$1.0 million after five years of development at Jumbo Glacier Resort. This projection was prepared based upon current mill rates and anticipated assessed values. The total annual tax generated to all levels of government is estimated to be in the range of \$11.4 million or greater.

Table 6.5: Annual Taxes Generated

Federal	\$6,364,000
Provincial	3,409,000
Local	<u>1,591,000</u>
Total Taxes	<u>\$11,364,000</u>

6.1.3.1 Payroll Impact

The direct impact of Jumbo Creek Resort consists of those salaries received by employees (direct) and the portion they subsequently spend in local communities on goods and services (indirect). It is assumed that all employees will live on site or in local communities and the employees will spend a substantial amount of their salaries in this vicinity, as the location of the resort requires.

Payroll Assumptions:

The maximum total of full time employees at build out will be 750 in residence plus 10% commuting for a total of 825 full time employees. An additional 5% of the total full time workforce will be part time employees, for a total of 41 part time employees at full build out, assumed at 50% of the time and 50% salary. Average full time yearly salary is assumed at \$20,000.

Table 6.6: Total Payroll at Build Out

Full Time Payroll	Part Time Payroll	Total Payroll at Buildout
825 x \$20,000 = \$16,500,000	41 x \$10,000 = \$410,000	\$16,919,000

Table 6.7: Payroll Impact by Phase

	Employees	Direct Income	Indirect Income	Total
Phase I	140	\$3,385,700	\$2,303,300	\$5,689,000
Phase II	388	\$7,948,000	\$5,405,000	\$13,353,000
Phase III	825	\$16,910,000	\$11,499,000	\$28,409,000

+ 41 part time

Based upon tourism related economic impact analysis within the western Canadian economies, the household income multiplier used for the Kootenay Region is 1.68.

6.1.3.2 Impact of Visitor Spending

The businesses primarily affected in Invermere will include hotels, restaurants, retail sector, transportation and activity based recreation companies. A portion of the resort visitors, particularly in the wintertime, will stay in hotels in Invermere and Panorama for two reasons:

1. The bed base at the resort is limited in size; and
2. Lower priced accommodation offerings in Invermere may be attractive to a particular market niche of visitors.

Assuming 30% of the overnight visitors to Jumbo Glacier Resort (357 per day, average) in the third year of development stay in hotels in Invermere and Panorama, this would translate into 16,065 people per winter, or approximately 10,000 room nights (including one quarter single occupancy) during the winter after the third year of operation, resulting in a substantial increase in occupancy in hotels in both Invermere and Panorama.

Restaurant and retail shops will obtain business from overnight visitors and visitors travelling through to the resort. Jumbo Glacier Resort will offer no gas station and will generally rely upon the major services in the District of Invermere. Assuming 20% of the direct expenditures by visitors, which may total \$20 million annually after the third year, occur in the District of Invermere, this translates into annual direct spending of up to \$4 million.

The largest impact on the region will be felt during the peak periods including Christmas, Spring Break, weekends and the middle of summer. Accommodations can be expected to be in short supply during these peak periods. The positive economic impact of resort areas on nearby towns is demonstrated by the success of Canmore in Alberta and Squamish in British Columbia.

6.1.3.3 Impact on Suppliers

Jumbo Glacier Resort will require a broad range of supplies including food, equipment, repair parts, fuel and services. A significant portion of these should be available through suppliers in the District of Invermere. The ski area operator alone is expected to spend approximately \$1 million a year on supplies for the business. Other resort businesses will also expend significant amounts on supplies.

6.1.3.4 Construction Impacts

The total value of construction of the Jumbo Glacier Resort will exceed \$150 million over the first ten years of development. A broad range of construction materials will be required, many of which can be obtained from local suppliers in the District of Invermere.

Services such as contractors and equipment suppliers from the Columbia Valley area will likely be utilized for many phases of the construction. Operations such as the digging of wells, installation of telephone and water lines can be performed by local contractors. A significant portion of the construction labourers can be accessed from the Invermere area as previously mentioned in the employment section. Construction workers will require food services, meals and a broad range of support services during the construction period. The impact of the construction will be felt throughout the District of Invermere over a period of at least ten years.

6.1.4 Community Impacts**6.1.4.1 Population**

The population impact associated with the workforce requirements noted above will be dependent upon the age of the workers and the ability to recruit locally. It is likely that the workforce for both the ski lift operations and the resort will be primarily young and largely single, except for management, maintenance and marketing personnel. The result of this is that the population impact on the area will be primarily limited to the direct workforce only, rather than the workforce and their dependents.

While the development provides good employment opportunities for the immediate area, the number of employable people in the area may not be sufficient to meet all the needs of the entire development for either construction or operations. Therefore, to meet the construction and operational employment needs of the project, some additional workers may have to migrate to the area. While many of these people will likely be found in the neighbouring East Kootenay communities such as Golden, Kimberley and Cranbrook, commuting to Jumbo Creek may be too long. Therefore, a number of people may have to relocate and utilize the planned accommodation at the project site area.

Taking these items together would indicate that the population impact will likely be in proportion to the number of jobs created. The impact will be primarily on housing requirements in the area of the ski development. Services such as schools, hospitals and other social service requirements will not be significantly affected, as the numbers of people involved requiring the community services of Invermere and vicinity would be below the ranges of anticipated normal population growth. If for example after the first five years of operations there will be two hundred permanent employees at Jumbo Glacier Resort, it may be assumed that a maximum of 50 employees would look for accommodation and services in Invermere and surrounding area. This would be 1.6% of the current population of Invermere. Projections over the following twenty years of growth up to build out of the resort would likely be similar.

6.1.4.2 Schools

The current school system in Invermere is expected to have the ability to absorb the impact of the additional families attracted to Invermere due to the construction of the resort. In recent years the School District has experienced declining enrolment in the school system.

6.1.4.3 Hospitals

Despite recent healthcare challenges and evolving policies, the Invermere & District medical facilities are not expected to be found with insufficient beds and capacity to absorb the additional demands that may be generated by Jumbo Glacier Resort. The resort will develop its own emergency procedures and facilities to handle the accidents that will result from skier activity at the ski area. The majority of these accidents will be minor in nature and will be treated at the resort's medical clinic, but it should be anticipated that some serious injury victims might require transfer to hospitals. However, experience at other resorts in British Columbia has shown that serious injuries are typically transferred to major urban hospitals, and it is anticipated that major injury victims will be transferred directly to Calgary.

6.1.4.4 Traffic

Traffic will increase along the access roads. The Average Annual Daily Traffic (AADT) for the Jumbo Glacier Resort access road has been estimated to be 943 trips at buildout, anticipated to take approximately 20 years. The approach roads do not travel through residential neighbourhoods and have more than sufficient capacity to accommodate the additional volume of traffic. A *Route Study* by McElhanney Consulting Services, has been completed and is included as Appendix 5-A to the Master Plan.

In order to manage any impacts on air quality due to employee or visitor traffic, an Air Quality Management Plan will be implemented. Potential impacts on wildlife along the access road have also been considered and a number of mitigation/prevention measures are planned.

6.1.4.5 Emergency Services

The resort is planned to be largely self-sufficient in terms of emergency services. It will be provided with emergency power and provisions to last for the number of days that would be considered prudent by the emergency preparedness team of the resort, including the Ski Patrol and the Volunteer Fire Fighters, and would have an evacuation plan ready for a worst-case scenario.

6.1.4.6 Social and General Considerations

The proposed project will increase employment opportunities in the Invermere Valley and will make available some of the ski runs of helicopter skiing to a wider public, while enhancing the facilities of the helicopter operators by giving them a needed and

more enjoyable base at Jumbo Creek. It will draw tourists to the Jumbo Creek Valley in a way only prime destination viewpoints can, and therefore it would enhance the status, exposure and business of Panorama, of Invermere, and of the East Kootenay region in general.

The resort will provide the only affordable, safe access to 3,000 metre high glaciers and mountaintops to schoolchildren, the elderly, and the physically challenged in North America.

6.1.5 Impact on Skiing in British Columbia

6.1.5.1 General

Skier visitation levels have reached new records in both British Columbia and the US in recent years, notwithstanding significant setbacks to world tourism due to the events of 9/11 and other global events, including the recent SARS outbreak.

Expert opinion, however, is sometimes supportive of the opinion that the skier market, particularly in the US, may have levelled off, even when the snow boarding phenomenon is taken into account. This view has been known since the beginning of the Jumbo Glacier Resort project in the early nineties, and has been evaluated by the proponent's experts. Some of the main points are as follows:

- It is erroneous to speak of a single "skier market". The skier market is not homogeneous.
- British Columbia has defied the predictions, posting an impressive and solid growth of skier days for over twenty years, while the American market remained level and even neighboring areas like Alberta and Washington State did not grow at a similar rate. Whistler and its interesting new products are one of the main reasons for the difference.
- B.C. skier visits grew from 1,319,703 in 1978 to 5,656,871 in 2000.
- In the Pacific Northwest region, where skier visits grew from 5.9 million to 11.7 million in the 20 years between 1978 and 1998, B.C. grew in market share from 22% to 48%.
- Whistler, with the longest vertical drop in North America, grew faster than the rest of B.C. resorts, and it outgrew its original market, which is Vancouver. Today "Whistler Blackcomb" represents the only international destination mountain resort in B.C., despite its notorious bad weather.
- Destination resorts are different from day destinations.
- It is necessary to differentiate between the market of the North Americans who are looking for skiing and the enjoyment of the beauty of the mountains during a vacation and those who are looking for a day of skiing as a pure sport within commuting distance of their home.
- There is a growing demand for new and better product in terms of combination of skiing, mountain views and vacations on this continent. That is why destination resorts are growing while conventional ski areas are struggling.
- British Columbia has the unique ingredients that can make it the new and the best ski destination in North America because of its latitude, mountains, climate (in the interior) and elevations, both at the resort base and at the

mountaintops. B.C.'s potential is vast; it is not just for one more resort, but for several more good quality destinations.

- Destination resorts in North America are a supply driven market, because, unlike Europe where hundreds of quality destinations have been developed over several generations, we are only starting now, and we have the same size of continental population base as Europe has.

From the above notes, and many other considerations, it is fair to say that a new destination with the longest vertical drop in North America, excellent climate and impressive scenery would be ideally positioned to place the interior of B.C. on the continent's skier map and continue the growth of the industry, to the benefit of all resorts, particularly in the interior and in its proximity. It will contribute to repeat the Whistler marketing phenomenon in the interior of the Province, without taking away from existing resorts, but instead creating a more favourable and unique exposure to them.

6.1.5.2 Impact on Panorama Mountain Village

Panorama Mountain village is located 18 km (11 miles) west of Invermere in the Toby Creek drainage and is approximately 36 kilometres Southeast of the sawmill site that is proposed as the base of Jumbo Glacier Resort which is in the heart of the territory that people currently access by bus and helicopter to ski.

It is to be expected that the new resort will be a logical extension of the amenities offered by Panorama, both in terms of skiable territory and in terms of overnight accommodation. One example that comes to mind is what Blackcomb did for Whistler. The synergy between the two projects was one of the examples and of the premises on which Bill Lloyd, the first local consultant, approached the project.

Information received from Bill Lloyd in the initial stages of the project seems to be confirmed by discussions with each of the managers of Panorama over many years, and with the current local consultants. These discussions indicated a potential mutual interest in many forms of collaboration between the two projects, from the establishment of a shuttle bus service, to joint ticketing and reservation facilities, possibly similar to forms of collaboration among Mount Norquay, Sunshine and Lake Louise.

Panorama would also assist Jumbo Glacier Resort in providing a greater variety of accommodation and of services than could be achieved by a single resort. The Beckie Scott Nordic Centre and the Greywolf Golf Course are two features at Panorama, for example, that are not planned for and would have no comparable equivalent at Jumbo Glacier Resort. Panorama, on the other hand, cannot offer glacier skiing or summer skiing. National team athletes based in Panorama will be able to go to Jumbo for summer training, rather than going to Europe or Chile.

Intrawest/Panorama submitted a letter in support of the project to the Environmental Assessment Office indicating that, "based on the facts of the Jumbo Glacier Resort proposal to date, we recognize that it is a unique proposal in the North American ski industry that could work well with Panorama." The letter is included in Appendix 1-C of the Master Plan.

6.1.6 Impact on R.K. Heli-Ski

6.1.6.1 Overview

A heli-skiing operation is managed by R.K. Heli-Ski Panorama Inc. (Radium Hot Springs Glacier Skiing Ltd.) from a base in Panorama over the entire area under study. It is understood that this company has been proposing at various times to expand its facilities with a lodge near the junction of Leona and Jumbo Creeks and with other improvements, particularly to permit more and safer skiing in bad weather. The Jumbo Glacier Resort Master Plan includes a proposed location for a new base for heli-ski operation and a lodge in Jumbo Creek, in a location that should help both the heli-skiing and the resort operations and keep it away from the Jumbo Pass trail.

The area under consideration is entirely Crown land that is owned by the Province of British Columbia. As in most of North America, Government land is subject to a multiplicity of existing controls and uses, and any new project raises very complex land use issues. This is one of the reasons why new projects, in most of North America, are not proposed. In British Columbia, CASP was established to create a system whereby the Province facilitates the creation of new projects. The provincial objective has been, and continues to be, to achieve the highest and best use of the land for the benefit of the public.

The proponent has been invited by five different provincial Governments and the Province has long standing policies inviting multiple use of Crown land by the public and by license holders. Overlapping of tenures under different provincial policies is not a novelty and is encouraged by the Province, which acts in a similar fashion to a landlord. Where compatibility is not achievable the Province regulates the separation of uses and if compensation becomes an issue it is expected to be arbitrated fairly according to real economic data. The proponent has discussed future operations with the license holders since the beginning of the application in 1990 and it expects that the Province will provide for a fair arbitration if an agreement cannot be found. It is the proponent's stated objective to cooperate with the license holders to enhance their business, and this topic has been discussed at various times particularly with the heli-ski operator.

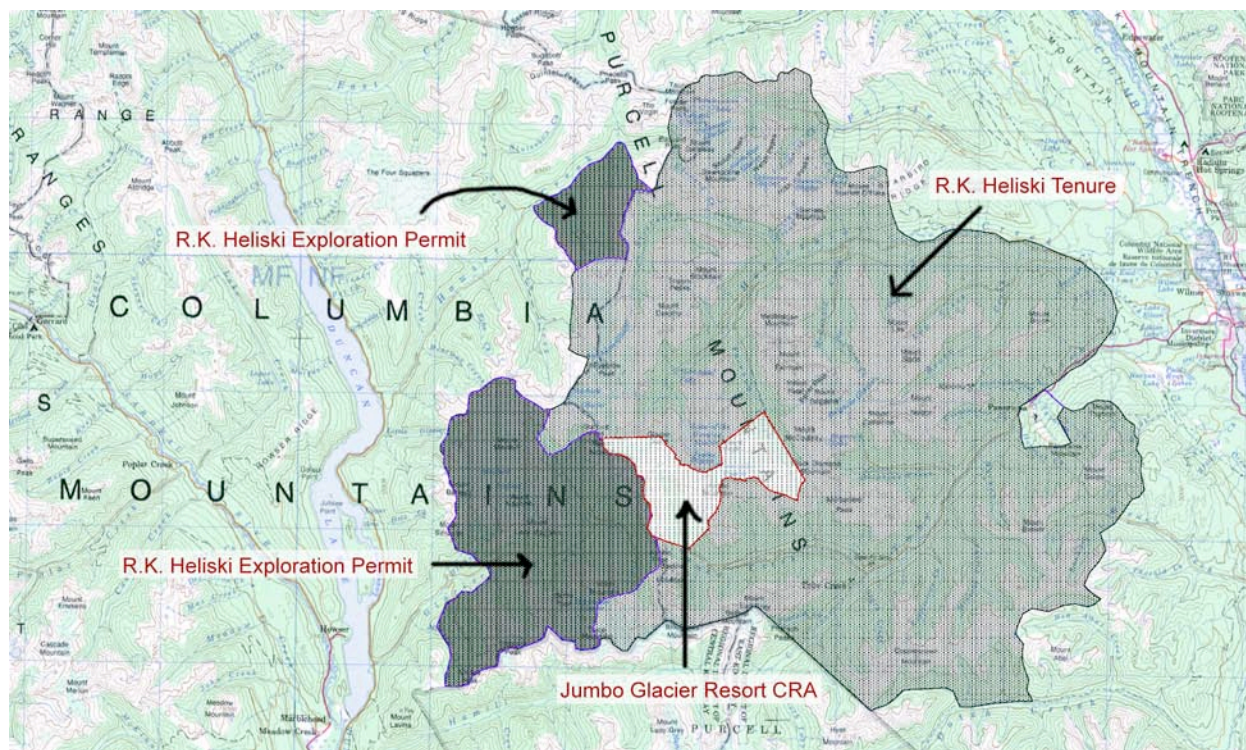
It is the proponent's objective to offer mutual advantages by the creation of a new base of operations and a lodge near the proposed resort in the Jumbo Creek valley, which is near the centre of the expanded heli-ski tenure, thus reducing considerably the cost of helicopter time and allowing to judge the weather on site. The heli-ski operator has raised concerns over the loss of bad weather terrain in the Jumbo Creek Valley, as well as the use of Farnham Glacier. To help mitigate these concerns the tenure of R.K. Heli-Ski was substantially enlarged by the Province following the Interim Agreement with the proponent, and with the support of the proponent. It is the proponent's understanding that this area, which is larger than Leona, Jumbo and Farnham Creek drainages combined, would more than compensate R.K. Heli-Ski for the loss of the area involved in this proposal. The expanded R.K. Heli-Ski terrain appears to have areas that are excellent for gladed tree skiing in bad weather, are suitable for heli-ski lodges and would be easily accessible if operations are to be staged from Jumbo Creek with cooperation from the resort.

The area given by the Province to the heli-ski company when the Interim Agreement was granted to the proponent is a much larger area than the one offered by the Province to the proponent for lift serviced skiing.

Table 6.8: Comparative Analysis of R.K. Heli-Ski Tenure and Expansion

Tenure/Application	Size
R.K. Heli-Ski Tenure	127,392 ha
<u>Exploration Permits:</u>	
Howser Creek	4,014 ha
Glacier Creek	22,615 ha
Total R.K. Heli-Ski Expanded Territory	26,629 ha
Total R.K. Heli-Ski Territory	154,021 ha

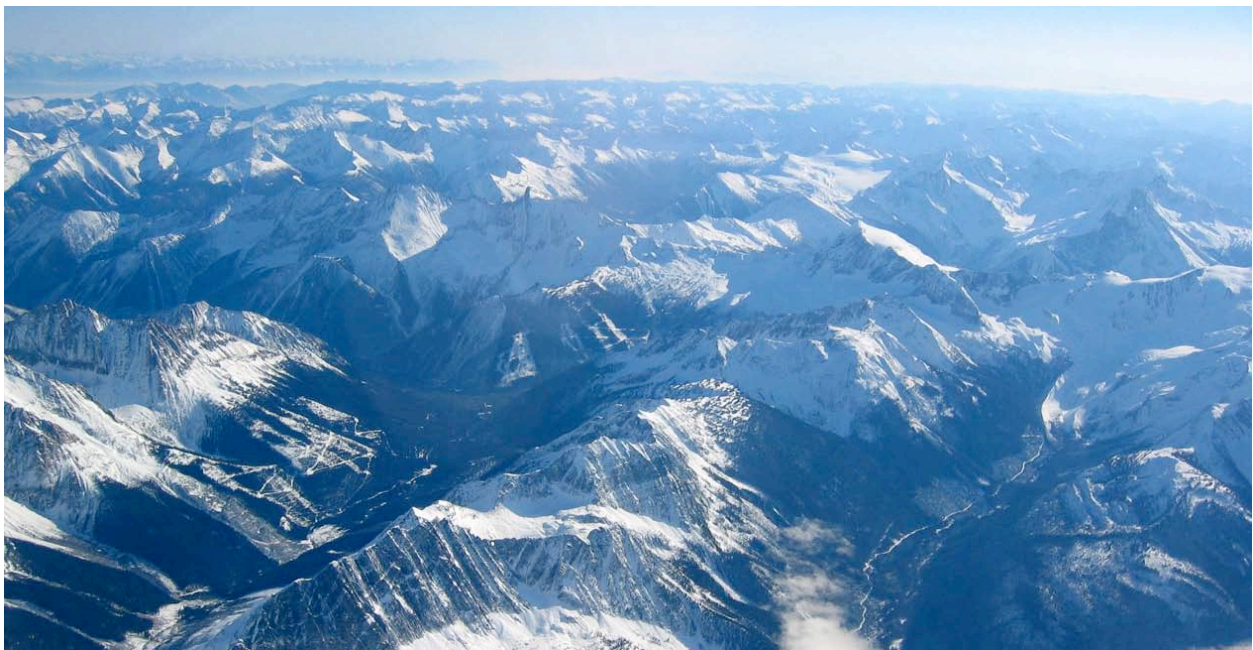
Exhibit 6.1: R.K. Heli-Ski Tenure Expansion



Total R.K. Heli-Ski Territory	154,021 ha
Total R.K. Heli-Ski Expanded Territory	26,629 ha
Total Controlled Recreation Area for Jumbo Glacier Resort	5,961 ha

In the 1989/1990 season, the Jumbo ski zone accounted for **less than 2.4%** of all skier days for R.K. Heli-Ski. In 1991 logging resumed in the upper Jumbo Creek drainage and cutting ski runs became an on going business which generated significant additional cash flow to the heli-ski company and refocused the company on Jumbo Creek as a primary destination in good and bad weather. Also, actual percentage use of the expanded territory decreased, rather than increased, after the official expansion was granted and logging in Jumbo and Leona Creek drainages was expanded. Over the last twenty years the heli-ski company has steadily developed heli-ski runs in Jumbo Creek. No runs have been cut in the Glacier Creek area after that expansion was granted.

Exhibit 6.2: Jumbo and Glacier Creek Drainages



The Jumbo Creek drainage is on the left, and the Glacier Creek drainage is on the right. The Glacier Creek area was granted to R.K. Heli-Ski as part of the expanded territory given in consideration for the possible loss of terrain to Jumbo Glacier Resort following the 1993 Interim Agreement.

The Radium Hot Springs Glacier Skiing Ltd. (R.K. Heli-Ski) Management Plan of March 1990 listed the skier days per zone as follows:

Table 6.9: R.K. Heli-Ski Skier Visits to Jumbo Ski Zone at the Time of the Application

Ski Zone	85/86	86/87	87/88	88/89	89/90
Paradise	65	70	118	124	125
Farnham	327	675	508	494	625
Cauldron	653	1,048	678	1,029	1,250
Jumbo	33	109	102	103	63
Copper Crown	197	303	169	206	375
Eyebrow	32	124	119	101	202

Source: Radium Hot Springs Glacier Skiing Ltd. (R.K. Heli-Ski) Management Plan, March 1990, Page 4

Jumbo Glacier Resort can function as an ideal base of operations for helicopter skiing. In fact, the existing heli-skiing company has been considering moving its base of operations to this area. This would allow more economical access to the other surrounding glaciers, thereby adding another exciting dimension to the recreational winter opportunities offered by the resort. The heli-ski activities and the proposed resort will complement each other.

In the summer, using the Jumbo Glacier Resort base, heli-sightseeing has the potential to be a popular and complementary activity, as it is in places as different and diverse as Zermatt and Maui.

It is also commonly accepted that a resort allowing non heli-skiers to vacation alongside heli-skiers makes the heli-skiing opportunity more attractive and expands the market of the heli-ski company.

The proponent's consultants plan to continue to attempt to discuss with R.K. Heli-Ski the alternative of phased approaches to development of lift serviced skiing that would minimize any impact on the heli-ski company, and develop the areas of conflict with a business plan for mutual advantage prepared in agreement with the heli-ski company.

As noted before, a cooperation meeting discussing the above noted points was held in 1993 with Roger Madson, the heli-ski operator, and with representatives of the proponent and of Vail Associates, including Jim Chamberlain, Bob Buckley, Peter Seibert and David Corbin. It was the proponent's understanding from these discussions that relocating heli-ski operations at the resort in upper Jumbo Creek Valley would be very beneficial to heli-ski operations. An increased and readily accessible clientele, reduced marketing and transportation costs and reduced operating costs through the establishment of a helicopter departure point at Jumbo Glacier Resort were some of the benefits for the heli-ski company. This was confirmed in discussions with prominent heli-ski and mountaineering guides, Dan Griffiths, who was the head guide for R.K. Heli-Ski for many years and who assisted the proponent's team since 1990, Sep Renner, and John Hogg who were a heli-ski guides for many years, including in the current R.K. Heli-Ski territory.

However, the length of the subsequent review process did not give the proponent an opportunity to achieve a constructive follow up. Discussions with the owner/operator initially indicated the possibility to achieve the ideal integration of heli-skiing and the proposed resort in the Jumbo Creek Valley, but no agreement was achieved and in later years there was opposition to the project. Roger Madson, the owner/operator passed away suddenly in November 2002. The basis for cooperation established at the 1993 meeting, however, is still valid, and the proponent expects that once the project goes ahead it will be recognized.

The Environmental Assessment Office commissioned a report in 1999 on the heli-ski company that ended up being based on wrong assumptions, particularly that the heli-ski operations would continue only from Panorama after the proponent's opening of the resort in Jumbo Creek, something that does not make economic or operational sense. The issue and the response to this report are included in Appendix 6-A of the Master Plan.

A subsequent independent report was commissioned by the EAO in 2004 and is included as Appendix 6-B of the Master Plan

6.1.6.2 Discussions

Twenty years of discussions have occurred between the proponent and the owners of R.K. Heli-Ski. The discussions have gone through three different stages, and following the passing of Roger Madson, the original operator, discussions with the new owners from Calgary were stopped by them in February 2004.

6.1.6.3 The Sierra Systems Report

In 2004 the Environmental Assessment Office commissioned an independent report by Sierra Systems to investigate the project's impact on R.K. Heli-Ski and the proponent's and heli-ski company's competing claims. The Sierra Systems report is attached as Appendix 6-B to the Master Plan.

The Environmental Assessment Office, in its *Jumbo Glacier Resort Project Assessment Report* summarized the Sierra Systems report as follows:⁵

Sierra Systems looked at the pattern of R.K. Heli-Ski's terrain usage from 1986 to 2004 and reported that based on R.K. Heli-Ski's figures, the Jumbo Valley was used sporadically prior to 1990. In 1990/91, R.K. Heli-Ski's usage of Jumbo Valley shifted dramatically "from 2.4% of volume in 89/90 to 65% of volume in 93/94." Sierra concluded that "while the Brent Harley and Associates (BHA) study correctly signals that the majority of R.K.'s recent operations occur in the Jumbo Creek area, it is clear that the BHA study neglects to identify or effectively analyze historic management plans, terrain usage documents and correspondence critical to assessing the impacts on

⁵ Environmental Assessment Office, *Jumbo Glacier Resort Project Assessment Report (JGRPAP)*; (Page 91). The JGRPAP is included in **Appendix 8-C** to this Master Plan. It is also available for download at: http://www.eao.gov.bc.ca/epic/output/html/deploy/epic_document_18_19292.html

R.K.'s operations accurately.”

Sierra Systems advised that:

- No material impact is expected to occur to R.K. Heli-Ski's operations because R.K. Heli-Ski has reasonable opportunities to mitigate impacts by making better use of other regions of its tenure, in particular Glacier Creek (the latter described by R.K. Heli-Ski, in its application to LWBC for additional tenure, as providing excellent snow conditions and bad weather wind accessibility); and
- While the Project may result in some disruption to R.K. Heli-Ski's operations, a compensable impact is unlikely to occur especially with Proponent commitments to mitigate the disruption to R.K. Heli-Ski's operations.

6.1.7 Impact on Recreation and Parks

6.1.7.1 General

This project has been designed from the outset to improve the recreation possibilities for local residents and to attract international visitors to the region. Its primary intent is to provide access to high alpine glaciers, ideal skiing terrain, and year-round skiing to the average Canadian. Currently, the possibility of skiing or viewing high alpine glaciers in a safe, efficient and affordable manner does not exist in North America. Only those North Americans who can afford helicopter excursions or trips to the European Alps have had the opportunity to experience high alpine glaciers of the likes of Jumbo, Commander and Farnham Glaciers. This project, therefore, presents a unique recreational opportunity for the North American continent, and will inevitably function as a showpiece drawing international attention to the region and its existing recreational opportunities.

In the case of the proposed project, parks and recreation are the foundation of the project and the development is created to serve recreation in a park like setting, rather than creating recreation to soften the impact of an urban development. For this reason the resort development is a small fraction of the Controlled Recreation Area of the project, which will include less than 110 hectares of development area over a 5,911 ha Controlled Recreation Area, that is less than 1.9% of development area versus recreation area. In this respect also the project will be unique in North America, in terms of size of recreation and of low density of development relative to recreation area.

6.1.7.2 Ski Touring

The resort development will not infringe on currently accessed ski touring terrain. There will be no direct impact by the resort development on current ski touring.

The closest ski touring destination near the resort area is the recently renovated B.C. Forest Service cabin in Jumbo Pass. It is important to reiterate, as this has been an issue that has caused confusion, that **the resort is not on Jumbo Pass** (it is a couple of kilometres to the northeast in the upper Jumbo Creek valley) and will not interfere in

any way with current recreational uses of the pass. The upper Jumbo Creek valley and the resort base location are not visible from Jumbo Pass.

6.1.7.3 Snowmobiling

While the region features a number of notable snowmobiling destinations, snowmobiling is currently not permitted in the upper portions of the Jumbo Creek valley. There will be no direct impact on snowmobiling by the resort development.

6.1.7.4 Hiking

The resort development will not infringe on currently accessed hiking trails. Current hiking trails and land use are outlined in detail in Section 2.7.1.4 of the Master Plan. Hiking outside the marked hiking trail to Glacier Dome will be discouraged.

6.1.7.5 Mountaineering

The proponents recognize that unlike many current ski resorts in North America, some of the peaks within the Controlled Recreation Area (CRA) may be of a particular challenge and interest to mountaineers.

While mountaineering will not be actively encouraged at Jumbo Glacier Resort, the resort will be open to mountain guides who may wish to operate independently at the resort in the tradition of the resorts in the European Alps such as Chamonix and Zermatt.

6.1.7.6 Purcell Wilderness Conservancy

The project will be located approximately 16 kilometres (10 miles) away from the Toby Creek access to the Purcell Wilderness Conservancy. With a Controlled Recreation Area of 5,911 ha and easy lift access to interesting mountains, skiing and views, it is not reasonable to expect that access to the PWC would become a significant factor for the resort visitors. Access to the PWC is as easy from Panorama as it will be from Jumbo Glacier Resort. Panorama is not a major source of tourist penetration into the PWC, and it is less likely that Jumbo Glacier Resort, with its superior mountains and skiing attractions, would see a loss of clientele to visits into the PWC. A foray into the PWC would require a type of camping and expedition that is ill suited to the urbanized tourist and skier.

The resort will not impact or intrude into the PWC. Its mountains are **at least 10 kilometres (6 miles) away from the closest boundary of the PWC** and there is no easy or safe access to the PWC from the resort area.

6.1.7.7 Visual Impact of Development

Particular attention has been paid to visual quality and visual resources at Jumbo Glacier Resort. Visual quality is important to the tourism industry, and especially at

Jumbo Glacier Resort, whose vision is to provide a superior level of year round glacier skiing in an awe-inspiring high alpine setting. The resort has been designed in such a manner to present a *none to negligible* visual impact to users of surrounding drainages and mountain peaks. A comprehensive Visual Impact Assessment has been included as Appendix 4-A to the Master Plan.

6.1.8 Impact on Primary Industry

6.1.8.1 Forestry

The intent of the proponent is to develop a resort tucked into the upper reaches of the Jumbo Creek drainage in a way that would minimize the impact on forestry operations. Considerable amount of logging has already occurred over the years and more recently, to cut ski runs for heli-skiing. Discussions for many years with the Ministry of Forests office in Invermere indicated that the proposed resort should not have a significant impact on the working forest. Discussions with Slocan Forest Products, the license holder for the area, will be ongoing to preserve the interests of the forestry industry as much as possible.

The impact with respect to the anticipated annual allowable cut (AAC) is rated as insignificant by earlier discussions with the Ministry of Forests. Slocan Forest Products, which in any event would continue to be involved with the management of the forest in the future, has calculated that the Jumbo Creek drainage future timber harvesting land base involved in the Controlled Recreation Area would equal approx. 36% of the total. The actual development area would equal about 10%. Specifically: direct reductions in the forest land base will be approximately 100 ha, potential indirect reduction is negligible and there will be no restrictions to forestry related traffic using the resort access road.

6.1.8.2 Mining

Mining exploration has been historically active in the area and a mine operated until 1991 at the junction of Jumbo and Toby Creeks (Mineral King Mine). However, the project is proposed in a small section of upper Jumbo Creek where there has not been a history of mining exploration or activity.

The area of the No Staking Reserve may be reduced, in consultation with the Mining Division of the Ministry of Energy and Mines, to the area of CRA or to the proposed resort development area in Upper Jumbo Creek and the part of the drainage that leads to the head waters of Jumbo Creek up to Glacier Dome. The proponent agrees with the objectives of the mining industry and does not intend that the project would adversely affect mining opportunities.

6.2 THE TOURISM INDUSTRY

6.2.1 Introduction

Tourism is one of the major growing industries in the world. Worldwide, tourism employs more people than any other single industrial sector and makes a significant contribution to the economy of virtually every country.

British Columbia is a participant in the world wide movement of tourist traffic. On a world scale, tourism had a phenomenal growth since the last century, and it has grown in parallel with the transportation industry and with the rise in popularity and sophistication of sporting activities, from the oldest ones such as swimming or bathing, to the newer ones, such as snowboarding.

An example near the Purcell Mountains is that of Banff. The early Banff Springs Hotel opened for business in the wilderness of the National Park, without a ski market, in June 1888, because of the vision of William Cornelius Van Horne the Chairman of the Canadian Pacific Railway, who stated: "If we can't export the scenery, we'll import the tourists"⁶. In the first summer season the hotel had 1,503 guests. By 1911 the number had increased to 22,000 and the hotel had to be expanded. Banff has become one of the names by which Canada is best recognized in the world.

Today, tourism is a major part of the provincial economy. In 2001, British Columbia hosted 22.4 million overnight visitors who spent more than \$9.2 billion in the province. The impact of visitor spending on the provincial economy is reflected in a variety of ways ranging from Gross Domestic Product (GDP) and business revenues, to employment and incomes.

British Columbia's national, provincial, regional and local parks provide a spectrum of natural beauty, breathtaking scenery and opportunities for outdoor enjoyment and recreation. The province boasts 807 protected areas (provincial parks, ecological reserves, recreation areas and other protected areas) covering 11.4 million hectares. There are 13,302 campsites, 487 day-use areas, 136 boat launch areas and 3,000 km of hiking trails with provincial parks, that serve approximately 24 million park visitors each year. The abundance and variety of wildlife in British Columbia reflect the great diversity of the province's environment. There are more species in total, and more unique species of birds and mammals than in any other Canadian province.⁷ However, relative to the size of the area and the number of potential visitors, the available overnight accommodation is scarce.

Canadians continue to spend far more outside their own country on tourism than foreign visitors spend in Canada. In 2001, the nation's travel account deficit totalled \$1.3 billion. This **travel deficit rose to \$4.3 billion**⁸ in 2004.

According to the *Vancouver Sun*, "Canadians spent more than \$20 billion traveling outside the

⁶ *An Altitude SuperGuide: CANADIAN ROCKIES*. pg. 77.

⁷ BC Stats, Ministry of Management Services

⁸ Statistics Canada

country last year, a record high and the biggest increase in more than a decade... The surge in foreign travel and spending by Canadians more than offset a rebound in travel to Canada from a SARS-related decline in 2003 and resulted in the highest travel deficit in a decade..."⁹

This is a very significant fact that indicates the need for destination projects such as Jumbo Glacier Resort, capable of attracting not only out of province but also foreign clientele, and of pointing the Canadian tourism industry in the direction of balancing the travel and tourism spending deficit.

6.2.2 British Columbia and the Resort Sector

In British Columbia, tourism is an important part of the provincial economy and a significant source of provincial government revenue. In 2001,¹⁰ the tourism industry in total contributed approximately \$990 million in revenue to the provincial treasury. Revenue was earned from taxes paid by tourists, for example hotel tax, liquor tax and provincial sales tax, from corporate and personal income taxes paid by tourism industry businesses and their employees, and from license fees, entry fees and other fees paid by tourists and tourism businesses

The following is an extract from the *British Columbia Resort Strategy and Action Plan*:¹¹

Tourism is an increasingly significant sector of the provincial economy. Within the province, tourism has established itself as a vital economic generator, both in terms of job creation and increased investment. Worldwide, tourism is a US \$4.5 trillion industry directly accounting for 67 million jobs and 3.7 per cent of GDP. In 2003, 21.9 million visitors to British Columbia generated tourism revenues of \$8.9 billion, which supported the employment of more than 114,000 persons directly and an additional 152,000 persons in tourism-related businesses.

The resort sector represents an enormous opportunity for British Columbia and contributes significantly to the provincial economy. For example, in 2002:

- Approximately \$1.9 billion was spent by resort tourists, which represents 20 per cent of the total \$9.2 billion spent by tourists in the province;
- Direct spending by resort tourists creates an equal amount of indirect spending and over \$200 million in induced economic effects;
- British Columbia resorts generated nearly \$178 million in tax revenue for governments; and
- British Columbia resorts employed an estimated 26,000 people.

British Columbia has some 700 resorts, ranging from fishing lodges to ski mountains to eco-tourism operations, but most of the tourism activity and economic impact is occurring in the areas of Vancouver, Whistler and Victoria. Development of new resorts that are capable of attracting new visitors and expansion of existing facilities

⁹ *Vancouver Sun*, February 25, 2005.

¹⁰ Tourism British Columbia, *The Value of Tourism*, February 2003

¹¹ *BC Resort Strategy and Action Plan* (2004): page 5, available online at: <http://lwbc.bc.ca/02land/resorts/index.html>

would provide significant benefits throughout the province.

Trends suggest that resort-based tourism is well positioned to satisfy the demands and desires of a growing portion of the traveling public. This, combined with the inherent beauty and recreational potential of the provincial landscape, highlights a substantial opportunity to respond to a growing market.

6.3 MOUNTAIN RESORTS: MARKET PROFILE

6.3.1 Destination Resorts and Resort Destinations

In many countries throughout the world people now look for a place in which to provide a base for their holiday excursions. These are provided in resorts. Often people will book several days in a resort and depart for various activities from that location. For this reason it is important that resorts be located near areas where many activities are available.

There is a marked difference between destination resorts and resort destinations.

Destination resorts are defined as single, self-contained resorts such as Whistler that provide accommodation, retail, food and beverage, attractions and services within a single area.

Resort destinations, such as Columbia Valley, are larger land areas that may contain several destination resorts or resort properties and services.

Jumbo Glacier Resort would be part of a resort destination, with a specialization for high quality year round glacier skiing, among a number of independent activity centres, focused around Lake Windermere, but it would also be a destination resort, being an extraordinary place for tourism combining year round skiing with access to unique viewpoints.

It is important to note that the Columbia Valley is an area that is within a basin of about ten million people who are within a day's driving distance, or an hour's flying time, and over twenty million people who are within two days, or two to four hours' flying time. A magnet such as the one proposed would complement well the attraction presented by the nearby National Parks and the emerging tourism facilities of the Columbia Valley.

6.3.2 The Evolution of Mountain Resorts

Mountain resorts as we understand them today really began in the last century, when the Swiss Alps gained prominence as a location where one could go to find beautiful mountains, lakes and glaciers, and where one could go to for health improvement in the fresh dry air of the mountains, to visit hot springs and to enjoy the sports of the mountains, from hiking and climbing to skating and skiing.

From this perspective, the high Engadina Valley (with its lakes and the villages of Silvaplana, St. Moritz, Celerina, Pontresina, etc) and Zermatt (with its view of the Matterhorn and of Monte Rosa) became the earliest prototypes of the winter and summer mountain vacation. In Canada, Banff and the Rocky Mountains National Parks, with beautiful Lake Louise, soon

gained a similar romantic mountain appeal.

The fundamentals have not changed. The Gornergrat of Zermatt and the Corviglia of St. Moritz are still in the right locations and still successfully serve the tourists of today as they did at the turn of the last century. Banff and Lake Louise are dream destinations today as they were in the early 20th century.

One must contrast these destinations with resorts that were born to answer the boom of one specific sport: skiing. The story of these latter resorts is one of great efforts to combat the downturn of the summer and to stay on top of market demands that are very competitive and difficult to foresee. Many resorts installed lifts that had to be removed and relocated after only fifteen years. Contrast this with places not only like the Swiss gems noted above, but like Cervinia or Courmayeur, in Italy, where the lifts installed in the 1930s are still some of the main lines in winter and summer. The difference is that these lifts accessed beautiful mountains as whole mountains; the sport was only a consequence. In fact, skiing came later.

This is why Gary Cargill, of the U.S. Forest Service, Rocky Mountain Region, said, "the role of the mountain resort is changing worldwide. It is shifting from being "real estate sales" driven and managed to one of "resort recreation" and "customer satisfaction"¹². In reality, the public is moving back from betting on land speculation and the crude motive of sport as a physical exercise, and from skiing for its own sake or for competitive achievement, **to one of whole recreation, to the experience of the mountains, of their beauty, of their spaces, of the pure dry air and the sky**. The gentle adventure and the scenery are what drive the people of today as they drove the British travellers to Switzerland before the turn of the century. Cargill also noted "Nobody in the business talks about ski areas anymore. They are sports resorts. Growth of mountain resorts in the future will be dictated by a number of different and very powerful, factors, such as **quality of mountain** resource experience; most important are the environmental ones. The one season resort is a thing of the past."¹³

This is what draws people to the huge expanse of Western Canadian mountains. Despite Whistler's tremendous success, it is the scenery and the sky of Banff and Lake Louise that still dominates the imagination of the Canadian, American and overseas traveller. The scenery, climate and snow conditions draws people from all over the world to ski in the Bugaboos by helicopter.

The second aspect of the market change is that in skiing, as in the other sports, excellence of product is becoming the most significant element of choice. People are moving away from the icy moguls of mass skiing sport facilities, and looking for mountains with vast expanses of powdery snow under sunny skies. This is what drives people to spend eleven million skier days in Colorado from all over North America. This is why Banff and the Rocky Mountain National Parks remain world-renowned attractions. While at Whistler the village itself has become a magnet, regardless of weather conditions, we must not forget the permanent appeal of high alpine territories endowed with glaciers basking in sunny blue skies, which is also one of the biggest draws of heli-skiing.

¹² Pg 219 Mountain Resort Development Vail. Centre for Tourism Policy and Research, Simon Fraser University, Burnaby, August 1992

¹³ *ibid*, Page 218

6.3.3 Meeting Demand

Jumbo Glacier Resort will add a needed destination capable to offer year round glacier skiing, a high quality skiing feature that is lacking in the entire continent as previously noted.

The renowned excellence of skiing in the Purcell mountain range and in particular in the Bugaboos, tested and evidenced by the helicopter ski runs, is expected to attract people from all over Canada and the United States, as well as from Japan, Australia and Europe. It is estimated that the skier markets of the United States and Japan alone comprise over twenty million (20,000,000) skiers. Skiers from Australia and Europe would also have reason to come, the Australians because of relative proximity and convenience (relative to the European resorts), and the Europeans because of the novelty and uncrowded beauty of the area. To put numbers in perspective, it would take only 50,000 overseas and American skiers over a high season of 30 weeks (150 days in winter and 60 days in summer), assuming a one week average vacation, to provide a presence of over 1,650 overnight skiers per day. This would only be .025% of the above noted skier population of Japan and the U.S. alone and this would not include most of the over 15,000,000 sightseers entering Canada annually from the U.S.

As has been noted many times in this study, a world-class resort capable of year round glacier skiing does not exist in North America. There is an untapped international market niche and an area of world recognition that will be served by the proposed resort. Members of the consulting group for this project have considerable direct experience of glacier skiing as it is offered in Europe. Many European resorts suffer from overcrowding, worsening climatic conditions, rise in costs and decline in quality of hospitality that further demonstrates that North American competition is very possible.

However, if we wish to compare favourably with resorts such as Zermatt, it is essential that glacier height and an outstanding vertical drop be provided by the proposed resort; it is for this reason that access to Jumbo Glacier at 11,150 feet (3,400 metres) elevation and a ski run down to the 5,250 feet (1,600 metres) elevation must be proposed.

Weather and snow conditions will not represent a risk for this resort. The only risk factor is tied to the forecast of occupancy rates. It is felt that if a partnership can be maintained with international financing groups, such as Japanese, European and U.S. companies, and with a major tourist operator committed to deliver a basic number of visitors, the risk would be minimized. This particular project will also have the extraordinary advantage of being capable of operating in exceptionally favourable climatic conditions on a fully year round basis. From an economic point of view this capability alone will ensure the viability of the project at a faster pace than almost any other comparable tourist facility of this kind on the continent.

A final word of comment needs to be made regarding the trend with regard to conventions, mass tourism, glitz or ultimate prestigious appeal as the recipe for the success of the resort of the future, which some experts would almost like to resemble a mini Tahoe or Vegas, rather than a Pontresina or Zermatt. The proponent group is unconvinced by the former and impressed by the latter example, and believes that true quality of experience and tourism by individuals, by small informal groups and by families leads to **the quiet success of all times in the tourist industry**, proven by the Swiss model over a century, and proven by the example of the Post Hotel at Lake Louise in the nearby Canadian Rockies.

6.3.3.1 Summer Glacier Skiing and Sightseeing

Summer skiing at 3,000 metres (9,842 ft.) will be a new experience in North America, comparable to Les Deux Alps, Plateau Rosa, or Passo Stelvio, which have provided skiing and ski schooling in the summer sun to generations of Europeans.

Summer skiing is expected to combine with sightseeing from the mountaintops of Glacier Dome and Jumbo Mountain to create a legendary experience that will attract people worldwide.

Preliminary interviews conducted with different ski organizations, industry experts and ski package tour companies suggest that there is a market in Canada for summer skiing and sightseeing, as well as for competitive ski training. Alpine Canada Alpin, the national ski team organization, has expressed strong interest. Summer ski training at this project location is especially of interest in view of the upcoming winter 2010 Olympics in Vancouver.

Currently the overseas market for glacier skiing at Blackcomb and at Mount Hood appears to be small, but the winter skiing statistics reveal that overseas skiers to Canada have increased dramatically in the last years. This trend is expected to continue and will likely create demand for summer skiing as well, if adequate facilities are provided. In terms of summer lift capacity, Alberta and British Columbia resorts that do offer gondola lifts in the summer such as Lake Louise, Sunshine and Whistler Blackcomb attracted visitations in the range of 50,000 to 60,000 from June 1 to September 1, 1990. The proposed resort could surpass these visitations figures, by offering both unique vistas and a unique experience in this continent, as well as the only good ski race training facility in summer in North America.

7. FIRST NATIONS

7.1 INTRODUCTION

When the 2003 Master Plan was resubmitted for the CASP process and final approval following the Environmental Assessment Act review and the issuance of the environmental assessment certificate in 2004, the First Nations requested that this section be replaced by the statements included in Sections 7.1.1 and 7.1.2, below. The statements were included in the 2007 version of the Master Plan that was approved as the final Master Plan at the conclusion of the CASP process initiated by the Interim Agreement of 1993 and concluded with the letter of approval of July 12, 2007, from the Province of B.C.

7.1.1 The Ktunaxa Nation

The Ktunaxa Traditional Territory covers approximately 70,000 kilometres of south-eastern British Columbia. The Ktunaxa, as the original inhabitants, have occupied the region since early post-glacial time. The Ktunaxa relationship to the land is supported by their language, oral history, legends, archaeological record and ecological knowledge. The Ktunaxa language is a linguistic isolate – a language that is not related to any other language. The archaeological record in the region extends back 10,000 to 20,000 years. The Ktunaxa Nation collectively holds a vast ecological knowledge of the region that is reflected in an extensive nomenclature of plant species, place names, oral history and legends throughout the Traditional Territory.

The Ktunaxa Nation has political, social, economic, cultural, spiritual and historical connections and attachments to their Traditional Territory. These attachments pre-date European contact and continue today. The Ktunaxa Nation asserts aboriginal rights and title, ownership and jurisdiction over the Traditional Territory, which includes the Jumbo Pass and Jumbo Valley. The Ktunaxa have occupied and used their Traditional Territory since time immemorial and continue to occupy and use the lands and resources within that territory.

The Ktunaxa Nation have always governed themselves and used the land according to their cultural practices, customs, traditions, values and teachings. The Ktunaxa have never relinquished or surrendered the lands and resources within their Traditional Territory and continue to assert existing title and rights.

Since July 2006, the Ktunaxa Nation has been engaged in a consultative relationship with the Province of British Columbia regarding Jumbo Glacier Resort. As well, since mid 2007, the Ktunaxa Nation has been discussing impact management and mitigation options, benefits and strategies with the proponent, Glacier Resorts Ltd. These options and strategies may be negotiated and then formalized into subsequent agreements pending further consideration by the Ktunaxa Nation leadership and people. All final agreements will be incorporated into the Master Development Agreement between Glacier Resorts Ltd. and the Province.

7.1.2 Shuswap Indian Band

The Shuswap Band as a member of the Shuswap First Nation has carried out traditional First Nation activities in the region near and surrounding the Jumbo Glacier project well before European contact. There is strong 3rd party archeological evidence in the regions that, in conjunction with adjacent First Nation traditional stories, supports the use and occupation of the Columbia Valley regions by the Shuswap First Nation people. The regions of south-eastern British Columbia show use and occupation of the area by a number of First Nations and such shared use is confirmed by treaties that include the Shuswap Indian Band members and that were substantiated by the Governments of Canada and the U.S. in the 1800's.

The Shuswap Indian Band has demonstrated its strategic interest in the project by working closely with the Resort developers and the Province of BC from the initial stages of the project and through the Government of BC's Environmental Review process. Through that process, the Shuswap Indian Band has demonstrated its traditional interest in the resort area by confirming that it has numerous trap line interests (as registered with the Province of British Columbia), surrounding the project area and that the pass adjacent to the Resort and as confirmed by the Province of BC's name registry, was originally known as Shuswap Pass (now known as Earl Grey Pass). The use and occupation of this pass by the Shuswap people was also confirmed by the Arrow Lakes First Nation people (now residing in Colville, Washington, USA). The pass was known as the Kinbasket Trail, named after the Kinbasket family of the Shuswap First Nation who now occupy the Shuswap Indian Band Reserve, I.R. #0. The reserve is located at the Athalmer Road exit off of Highway 93/95 and is the primary access to the Jumbo Glacier Resort Project.

The Shuswap Indian Band and its wholly owned Kinbasket Group of Companies have demonstrated the administrative and business capacity to carry out self-government and economic development activities. As a self-governing First Nation, Shuswap Indian Band has a responsibility to manage and protect its traditional titles and rights in the lands associated with its current and traditional use and occupation.

Since the early 1990's, the Shuswap Indian Band has been engaged in consultation and negotiations with Glacier Resorts Ltd. and the Province of BC on matters pertaining to the development and occupation of the Crown lands associated with the Jumbo Glacier Resort project. All the parties have maintained the highest level of professionalism throughout the many years of working together. Benefits accruing to the Shuswap Indian Band are to mitigate, compensate or to tangibly demonstrate economic participation in any development activities arising either directly within the lands provided to the project by the Crown, i.e. sold, leased or permitted; or indirectly by way of creating access to the project or creating an impact to near or adjacent lands. These benefits are to be finalized through negotiations with the Shuswap Indian Band and incorporated in the final Master Development Agreement between the Province and Glacier Resort Ltd.

7.2 FIRST NATIONS CONSULTATIONS, IMPACT MANAGEMENT AND BENEFITS AGREEMENTS

The project's consultants and designers have met with local First Nations members to discuss the project since 1990. They were originally introduced to the local Shuswap Band by Bill Lloyd, and met Chief Paul Sam and his son Dean Martin, who became the Economic Development Officer. They also met a number of other Band members.

The project was discussed, advice was sought, and the Chief was kept up to date on the progress of the project. The Shuswap Band introduced the proponent to the Ktunaxa Kinbasket Tribal Council (KKTC) and its representatives, and since 1994 regular meetings and private consultations with all First Nations representatives have been held.

A detailed history of First Nations consultations was included in the response to Specification A.8 of the *Project Report* prepared for the *Environmental Assessment Act* review process, which was concluded in July 2004.

First Nations have always been firm in indicating that official consultations should be part of the Treaty process and should be conducted with representatives of the Province, not with the proponent, but they have been willing to meet the proponent on an informal basis and from the point of view of furthering business interests of the First Nations.

The proponent is a private entity representing investors for a tourism industry initiative and is not involved in the official consultation process and the Treaty negotiations that the Province has undertaken. It is the proponent's hope that the Treaty process will be finalized by the Province in an atmosphere of goodwill and cooperation from all sides. The proponent's efforts have concentrated in the development of a positive and mutually beneficial relationship, mitigating impacts and achieving a benefits agreement with affected First Nations.

In 2010, the proponent understood that the Province was completing its consultation and accommodation process with the First Nations and the completion of a Master Development Agreement (MDA) was nearing, reaching the end of a twenty-year long approval process for this project. In the expectation of the MDA, the Master Plan was updated once again and resubmitted to be included as an appendix of the MDA, still in conformity and in compliance with the previous reviews and approvals. In this context the entire First Nations section that was submitted during the Environmental Assessment Act process was re-included and updated for the record.

8. PLANNING CONTEXT

8.1 MASTER PLAN AND MASTER DEVELOPMENT AGREEMENT

The Master Plan was originally prepared in response to the Interim Agreement in 1993. It was updated and modified in response to the information gathered during the CORE process in 1995 and through the environmental assessment process concluded in 2004. It was re-issued in 2005 and updated again in 2007. It has evolved into a comprehensive document that covers all aspects of the project from an overall development planning point of view.¹

The Master Plan contains the necessary information for a comprehensive Official Community Plan (OCP) to be used by the local government and is the basis for zoning the development as a Comprehensive Development Zone in multiple phases.

Once a Master Plan is approved it becomes the legal document for the control that is at the basis of the use of the land, and it is an essential component of the Master Development Agreement (MDA), which is the contract between the Province, as a landowner and future landlord of the Controlled Recreation Area defined in the Master Plan, and the proponent, which will become the developer.

The Master Development Agreement gives standing to the proponent before it has the right to acquire land, which remains property of the Crown. The MDA is a large contractual document that defines the rights of the Province and of the developer, and allows the Province to maintain control over the development. The Master Development Agreement contains all the undertakings of the developer in a legal contract that covers the life of the project.

8.2 MOUNTAIN RESORT ASSOCIATIONS ACT & COMMUNITY SERVICES STATUTES AMENDMENT ACT

Mountain resorts are typically developed in locations that are not serviced by any local government and therefore need to develop their own services. In addition, local government policies and by-laws are generally oriented in the direction of an urban model that is unsuitable for the image and function of mountain resorts. Consequently, in 1975 it was deemed necessary to create the special Mountain Resort Municipality of Whistler, and twenty years later the same principles were utilized to create a Mountain Resort Associations Act that would complement the CASP policy and could facilitate a similar governance model for all the resorts of the Province.

The Mountain Resort Associations Act allowed the creation of a Mountain Resort Area that becomes regulated by the Province under the approved Master Plan and Master Development Agreement, and that becomes capable of creating its own utilities and services.

At the time, the Minister could create a Mountain Resort Area at the request of a local/regional

¹ Some of the information has been left as contained in the previous master plan submissions in 2003 and in 2005, if it was not considered necessary to complete repeated updates.

government.

In 1995, Sun Peaks Resort was transitioned into the Mountain Resort Associations Act with the creation of a Mountain Resort Improvement District. A Mountain Resort Area designation was created for Kicking Horse Mountain Resort in 2000. The RDEK requested such designation for the Jumbo Valley area in September 1996, but the Minister at that time chose to wait until the proponent would obtain an Environmental Assessment Certificate before moving forward on the RDEK's request.

The proponent received an Environmental Assessment Certificate for Jumbo Glacier Resort in October 2004. In February 2005, however, the RDEK rescinded its resolution of September 1996, and voted not to participate in the provincial Master Plan and Master Development Agreement process. In March 2006 the RDEK refused a motion by one of its Directors to request the Province to create a Mountain Resort Area and municipality for the project.

In March 2007 a new Act, the Community Services Statutes Amendment Act (Bill 11 – 2007), was passed by the B.C. Legislature, streamlining and updating the process originally envisioned in the 1995 legislation.

The provisions of the new Act (Bill 11) are comprehensive and complex and affect many aspects of resort development. Bill 11 also attends to some fine technical and housekeeping matters in addition to amendments that would affect aspects of mountain resort development such as this project. Of most relevance, however, are amendments to the Local Government Act, the Community Charter, the Mountain Resort Associations Act and the Hotel Room Tax Act, among others. The amendments provide for the designation of new "resort areas" and "resort regions", power to collect development cost charges (DCCs) to finance employee housing in resorts, and provisions for additional Hotel Room Tax Act revenues by way of a new tax in a prescribed "resort area".

Mountain resort municipalities remain a form of municipality that can be created by letters patent, if there are ski lift operations and other facilities or if there is an agreement with the government for ski lift operations (such as a CASP Master Development Agreement). A mountain resort municipality may have special powers and exemptions from statutory provisions.

By way of detail, Section 16 of Bill 11 amends Section 11 of the Local Government Act, which deals with the incorporation of a "mountain resort municipality". The changes are inserted within the existing text. Section 11 of the Local Government Act indicates that a "mountain resort municipality" is indeed a type of "municipality".

The letters patent for a mountain resort municipality can also provide for appointments to the Council until the general voting day for the first election of Council members and can also provide for council members to be appointed to Council by the Province (apparently this was the model used in the early days of Whistler).

Under the amendments to Section 13, the Minister can also provide for any size of Council. The letters patent may also require establishment of a resort advisory committee.

A mountain resort municipality may exercise broad development permit powers under section 920(8) of the Local Government Act (Development Permits) that include power to establish form and character requirements. Therefore, as amended by the addition of a new section 919.1(1) (g), a development permit area in a mountain resort municipality can reinforce design guidelines under amended section 920:

920(8) If land has been designated under section 919.1 (1)(d), (e) (f), or (g) a

development permit may include requirements respecting the character of the development, including landscaping, and the siting, form, exterior design and finish of buildings and other structures.

Section 17 of Bill 11 deals with land use matters within the amendments to Section 13 of the *Local Government Act*. First, the letters patent may require the adoption of an official community plan (OCP) by the mountain resort municipality within a specified period. The OCP requires the approval of the Minister. This would allow the Minister to ensure consistency with a CASP Master Plan and MDA, documents that are the result of the most extensive consultation and participation process available in the Province. Currently there is no mechanism to require a local government OCP to comply with a CASP Master Plan.

The letters patent for a mountain resort municipality may provide that the new Section 919.1 of the *Local Government Act* applies so as to allow for special “form and character” requirements (more than guidelines) within a development permit area, an important consideration for this mountain resort project.

Another planning tool in Bill 11 is the concept of phased development agreements (Section 23 of Bill 11). New sections 905.1 to 905.5 of the *Local Government Act* can have application to the development in a mountain resort municipality or other local government. This appears to expand on the provisions for amenity zoning and housing agreements in the *Local Government Act* by allowing for a phased approach to development and provision of amenities, including specific reference to the filing of section 219 covenants for that purpose. These new provisions import some certainty for a developer and limit unilateral change by local government by crystallizing certain development rights under referenced sections of a zoning bylaw, in a manner similar to the former concept of a land use contract. The new phased development agreement tools are consistent with the phased development concept for Resort Master Plans and Master Development Agreements under CASP.

While letters patent can deal with special exemptions for a mountain resort municipality, there will likely continue to be many areas where cooperation with regional district and nearby municipalities is desirable and worthy of implementation for mutual benefits, such as with respect to any service provided by the regional district or nearby municipality by contract, preparation of regional growth strategy plans, debenture bylaws for financing for services infrastructure, and the general powers of requisition related to taxes to be applied through municipal property taxes for general administration and services. The resort municipality, however, may delegate its representation in the regional district to one of the nearby municipalities and not require a seat on the RDEK Board of Directors.

Bill 11 addresses also important issues under the Resort Areas designation: A “resort area” designation has an entirely new meaning as a new term under the *Hotel Room Tax Act* that triggers the new levy on the sale of accommodation in a resort area. A “resort area” must be one of a “resort region”, a “mountain resort municipality”, or Whistler. The designation of a “resort area” is up to the minister. The new levy will be payable to and administered by a “resort body” which may be prescribed under the *Hotel Room Tax Act*.

In summary, Bill 11 provides more tools to facilitate provincial resort development programs for resorts of all kinds, including Jumbo Glacier Resort.

The Province should be commended on such a thorough package of amendments that will coordinate and accommodate balanced new development or expansion of various types of resorts in the Province, and facilitate the conclusion of the long process for this project, where the completion of the *Environmental Assessment Act* process had been expected to provide a green light.

The proponent has reviewed available options and has become convinced that the creation of a mountain resort municipality by the Province is the only way to allow the phased implementation of the approved Master Plan within reasonable time. By means of a letter to the Minister, the proponent has asked the Province to create a mountain resort municipality for the project (see Appendix 8-R).

8.3 LAND OWNERSHIP AND ACQUISITION MODEL

The land in the entire study area is provincial Crown land. CASP provides the model policy for future land tenures for the resort. **The Controlled Recreation Area remains Crown land** with a tenure granted to the proponent for the purposes established in the Master Development Agreement.

The land in the right of way of the ski lifts and necessary for the daylodges, parking and generally all recreation operations is covered by a land lease to the proponent. The land lease contains the conditions established in the Master Development Agreement and may be terminated in case of default by the proponent/developer.

The land necessary for the development of the bed base is sold as fee simple land by the Province according to the CASP model to the proponent/developer in proportion to the number of Bed Units required after the construction of each lift. This number and the location of each parcel of land with respective development rights is established according to the approved Master Plan and to the phasing outlined in the Master Development Agreement. Each subdivision plan is approved by the Approving Officer of the MoT, after the servicing plans are approved by the provincial and, if required, local authorities having jurisdiction. The installation and approval of the infrastructure and of the ski lifts is one of the conditions for the purchase of the land parcels by the developer according to the land grants that are made available for the resort base area according to the Master Plan.

8.4 PROVINCIAL POLICY & THE BC RESORT STRATEGY

8.4.1 Overview

Since its inception and initial application, the project has been designed to respond to public policy, including policy documents such as the *Commercial Alpine Ski Policy* (CASP), and government objectives expressed by successive provincial Premiers and Ministers. The promotion of tourism locations in the interior of the Province, capable of expanding the market internationally at elevations that have the certainty of snow and of views that will stand the test of time in an age of global warming, and the creation and improvement of prime, sustainable resort infrastructure, has been a consistent provincial objective.

In February 1993, Premier Mike Harcourt wrote to the project's lead consultant:²

It was nice meeting with you in Davos and having the opportunity to learn more about the impressive Jumbo Glacier Project. I was pleased to note that you have focussed on a beautiful part of our province, and that your plans call for a year round high-class resort. I hope that you will be able to proceed on this project and that, one day,

² A copy of the letter is included in Appendix 8-A of the Master Plan.

we may see this international venture realized.

May I wish you good luck with the further formal assessment and review of your project.

In July 1996, Premier Glen Clark wrote to the project's lead consultant:³

I want to take this opportunity to tell you that my government welcomes investment in B.C.'s tourism industry. Tourism plays a significant role in our efforts to enhance B.C.'s competitive strength, and by working together to promote and develop our natural advantage, we hope to maximize job creation to meet our target of 23,000 new tourism industry jobs by the year 2001.

At the same time, my government is cognizant of the need to ensure that B.C.'s resources and environment are sustained and renewed so they can serve this and future generations. Our comprehensive environmental assessment process is designed to achieve that goal in a way that balances the needs and interests of business, the environment and all British Columbians.

In March 2000, Joan Sawicki, the Minister of Environment, Lands and Parks wrote on behalf of Premier Ujjal Dosanjh to reassure the project's lead consultant that there had been no change to the government's position with respect to the Jumbo Glacier Resort project and that the Premier "supports economic development initiatives in the Province of British Columbia that can be shown to be sustainable."⁴

Most recently the provincial government has undertaken a number of steps to further define public policy with regards to tourism and has spearheaded a number of initiatives to benefit and promote tourism including the resort sector. These initiatives have included⁵:

- the 2010 Olympic and Paralympic Winter Games;
- the Spirit of 2010 Tourism Strategy
- the International Trade and Investment to 2010 Strategy;
- the British Columbia Tourism and Hospitality Education and Training Consortium;
- launching of the "British Columbia. Be Here." national and international ad campaign;
- the doubling of Tourism BC's annual marketing budget from \$25 million to \$50 million, and
- major infrastructure upgrades including planned airport expansions and highway improvements.

The *Spirit of 2010 Tourism Strategy* was announced in the 2003 Speech from the Throne.⁶ It included the BC Resort Task Force. Premier Gordon Campbell described the new task force and new resort activity, including this project, in the State of the Province address of February 12, 2003:

³ *ibid.*

⁴ *ibid.*

⁵ *BC Resort Strategy and Action Plan* (2004): pages 2 - 4, available online at: <http://lwbc.bc.ca/02land/resorts/index.html>

⁶ <http://www.legis.gov.bc.ca/37th5th/4-8-37-5.htm>

Our B.C. resorts task force is aiming at assuring that we build a network of all-season resorts in all regions of this province, working with resort communities and First Nations alike. Just think of this: the fastest growing economy in our province in the last few years has been the Whistler Blackcomb/ Pemberton area. We can do that for other parts of the province as well. Big White, Silver Star, Red Mountain in Rossland, Sun Peaks near Kamloops, Mount Washington near Courtenay, Canoe near Valemount, Jumbo near Invermere, Panorama near Invermere, Kimberley Alpine Resort, Fernie Alpine Resort, Kicking Horse Resort in Golden, Garibaldi, Powder King near Dawson Creek, Hudson Bay in Smithers.

All of this activity will take place within an environmental framework that sets an example not just for our country but for the world. We are going to continue to work with Canada on the creation of a new national park in the southern Okanagan and the creation of new marine parks to protect valuable marine assets along our coast. Environmental sustainability and public policy is a critical part of our social and economic future in British Columbia. It will be a keystone of our bid for the 2010 Olympic Games. Working with First Nations, communities and people from all over B.C. and across our country, we are now in a position where we have an opportunity to win the 2010 Olympic and Paralympic Games for British Columbia, for Canada. It's an exceptional opportunity.

The BC Resort Task Force was composed of a Chair (Minister Sandy Santori), a Deputy Minister, a 15-member External Advisory Group and an Inter-Agency Working Group. Its goals were to:

- Enhance resort development and partnerships in B.C.; and
- Identify and eliminate barriers to resort development, creation and expansion.

Although the main focus of attention and investment has been on Whistler, and in a minor way on other existing resorts, public policy clearly encourages the development of a project such as the one described in this Master Plan. The EAO, at the conclusion of nine and a half years of review, described the project as being “in the **broad public interest** in that it provides significant economic benefits to government and the region.”⁷

8.4.2 BC Resort Strategy

The BC Resort Task force “undertook an aggressive and extensive consultation process that included fact finding tours by the Chair, meetings with stakeholders, analysis of written submissions, independent studies, and committee meetings.”⁸ The process generated a report⁹ outlining fourteen recommendations and a set of priorities: accelerated policy reform, increased resort development; resort community development, and increased First Nations involvement. Based on these recommendations and in keeping with the goals and vision of

⁷ See item 10 of the *Recommendations of the Executive Director and Reasons for Recommendations* (for an Environmental Assessment Certificate) included as Appendix 1-B.

⁸ *BC Resort Strategy and Action Plan* (2004): page 1, available online at: <http://lwbc.bc.ca/02land/resorts/index.html>

⁹ *Recommendations of the BC Resort Task Force* (2004); available online at: http://srmwww.gov.bc.ca/resortdev/rtf_report.html

the government, the *BC Resort Strategy* was formulated¹⁰. The *BC Resort Strategy* contains a vision statement, “To develop British Columbia as a world-class all season resort destination” and the following five strategic objectives:

1. Maintain and Enhance British Columbia’s Competitive Edge in Resort Development;
2. Increase Resort Development’
3. Support Resort Communities;
4. Improve Transportation Infrastructure; and
5. Build First Nations Partnerships.

Jumbo Glacier Resort can be seen as the best current response to the *BC Resort Strategy* in British Columbia. In accordance with the above noted vision, this resort will offer a truly “world-class all season resort destination” that will:

1. Maintain and enhance BC’s competitive edge by offering the only true year-round skiing opportunity and high elevation glacier sightseeing in North America;
2. Increase resort development in a sustainable manner and in an carefully chosen location that has been comprehensively reviewed under the *BC Environmental Assessment Act*;
3. Support existing regional resort communities, particularly Panorama Mountain Village, by attracting more long-haul travellers to the region;
4. Provide an additional economic impetus for the planned transportation infrastructure improvements in the region; and
5. Ensure First Nations economic and cultural participation in the project.

In summary, CASP and the *BC Resort Strategy* confirm that the Jumbo Glacier Resort project is a unique and ideal response to long term policies of the Province that define the public interest in the development of tourism resorts.

¹⁰ see *BC Resort Strategy and Action Plan* (2004); available online at: <http://lwbc.bc.ca/02land/resorts/index.html>

8.5 APPROVAL PROCESS

8.5.1 History of the Approval Process

8.5.1.1 Early Studies & Submission of a Formal Proposal (1989-1991)

Pheidias Project Management Corp. (Pheidias) completed a series of studies in 1989 to identify the ideal mountain resort location in North America. Following an extensive study, the upper Jumbo Valley, providing access to Glacier Dome, Jumbo Glacier, Commander Glacier and Farnham Glacier in the Purcell Mountains of British Columbia was identified as the most suitable location.¹¹

During the summer of 1990, on behalf of its client, Glacier Resorts Ltd., Pheidias discussed an Expression of Interest with the B.C. Ministry of Lands and Parks for the development of a ski resort in the upper Jumbo Valley providing access to nearby glaciers for year round skiing. The proponent group was encouraged to proceed with a formal application and in March 1991 it submitted a volume containing a Formal Proposal with conceptual development plans according to the *Commercial Alpine Skiing Policy* (CASP).

8.5.1.2 Acceptance as an Expression of Interest (1991)

In June 1991 the proposal was formally accepted as an Expression of Interest. It was followed by a public input period focused on the land use issue, organized by B.C. Lands during the summer of 1991.

The proponent was not permitted to participate and was not given formal proponent status by the Province, which postponed the Formal Proposal and proponent selection process.

According to CASP, the Province should have proceeded to a Proposal Call and the selected proponent was to present a Master Plan for public review. Instead, the Province initiated a public process on the question of land use.¹² **The Regional District of East Kootenay had noted that it would be difficult to evaluate the proposal in terms of land use in the absence of a regional plan by the Province.**

¹¹ The location identified and selected by Pheidias in 1989 was the same location (unknown to Pheidias at the time) identified as most suitable for an “International Class Alpine Destination Resort” by in *The British Columbia Rocky Mountain Tourism Region*, a study prepared under the auspices of the *Tourist Industry Development Subsidiary Agreement* (TIDSA) for the Governments of British Columbia and of Canada and in 1982. See Section 2.7.3.1 of this Master Plan for an overview.

¹² This was a deviation from policy at the time.

8.5.1.3 Public Input Period and a Resolution to Move Forward (1991-1993)

A three-month long public input period was declared by B.C. Lands in the Summer of 1991, lasting till September 30, 1991. It was advertised with an announcement by B.C. Lands in the *Kootenay Advertiser*, the *Cranbrook Townsman*, the *Kimberley Bulletin*, the *Valley Echo*, the *Golden Star* and the *Nelson Daily News* for two weeks, beginning from July 18, 1991. B.C. Lands held open houses in Invermere on September 26th and 27th, 1991. There was an overwhelming response of opinions. Among the participants there were also representatives of the First Nations and of local environmental advocacy groups.

B.C. Lands then decided that on the basis of the initial public input period response and the type of proposal, the project should move forward to the Master Plan stage. A resolution to support moving the proposal to the Master Plan stage was also passed by the District Council of Invermere.

However, B.C. Lands delayed the Proposal Call and proponent selection according to CASP for more than a year, until the beginning of 1993.

In the meantime, through 1992, the Province encouraged the proponent to move forward and confirmed that government policy encouraged the type of project being presented. The proponent continued studies towards the preparation of a Master Plan.¹³

At a meeting held during the World Economic Forum conference in Davos, Switzerland in January 1993, **Premier Harcourt personally confirmed that provincial policy encouraged the type of project being presented**¹⁴.

8.5.1.4 Acceptance of Formal Proposal and Signing of Interim Agreement (1993)

In January 1993, B.C. Lands again advertised the project to request any other expressions of interest regarding the Jumbo Creek valley, with a deadline on February 15, 1993. In the absence of competing proposals, **the Province signed an Interim Agreement with the proponent in March 1993**, selecting Glacier Resorts Ltd. as the sole proponent and confirming the application according to the CASP review process and policy.

However, in 1992 a provincial land-use exercise, the Commission on Resources and the Environment (CORE), was set in motion. It was decided that final consideration of the Jumbo Glacier Resort under the *Commercial Alpine Ski Policy* (CASP) would be postponed pending the completion of a land-use plan for the Kootenay region by

¹³ Government staff made available for reference a May 1983 study by Ecosign Mountain Resort Planners Ltd. of Whistler, BC for Jumbo Glacier Skiing Ltd. of Invermere (John Ritchie and Grant Costello) proposing lift serviced skiing on Farnham Glacier. This study seems to have been done independently and without knowledge of the 1982 TIDSA study mentioned previously. The incidence of at least three studies independently identifying the skiing potential of the area within the same decade is a testament to the unique suitability of the project's location.

¹⁴ See letter in Appendix 8-A.

CORE.¹⁵ The project team participated in the CORE public process while continuing to prepare a Master Plan under CASP and requesting formal sole proponent status according to CASP.

8.5.1.5 The CORE Land Use Review Process (1993-1994)

CORE was the most comprehensive land use review exercise ever undertaken in the Kootenays by the Province, involving all stakeholders and levels of government. **The Commissioner, Stephen Owen, was the former provincial Ombudsman. Jumbo Glacier Resort was the only site-specific land use issue reviewed by and decided under CORE.**

The project team participated as a member of the Commercial Tourism caucus at the East Kootenay CORE Table and as a member of the Land Use Designation Committee.

CORE was a structured public process, during which the Jumbo Glacier Resort project was specifically discussed several times; at one point Local Government Table members put forward a motion, unanimously carried, in support of the future processing of the application, when it appeared that a potential definition of settlement could block the application.

The CORE process was not void of controversy. Strong-minded individuals, including government staff, confronted the proponent's representatives, but the Province confirmed that the CORE approval was the all-important approval for the project.

On December 31, 1993, in a letter to Pheidias Project Management Corporation (see Appendix 8-N), referring to the behaviour of certain government staff opposed to the project, Dr. Thomas Gunton, Deputy Minister of Environment Lands and Parks, stated that **"As you are aware, the recommendations of the C.O.R.E. table will be the most significant factor in the approval or rejection of this project."** [emphasis added]

In November 1994, following 18 months of public meetings and the completion of the land use designation exercise (which resulted in an eighteen to four vote in favour of the project), a formal favourable response to the land use question was given by CORE (see Appendix 8-K).¹⁶

18 sectors voted in favour of the land use designation favouring the creation of the proposed ski resort in upper Jumbo Valley and 4 opposed it. The majority of the 18 favourable sectors requested an integrated use designation specifically

¹⁵ The de-facto moratorium was also contrary to policy. The proponent was advised that the project could continue through the CASP approval process only if a favourable CORE decision would occur. The project team was encouraged to participate as an observer at CORE and to continue to undertake planning and environmental studies for the Master Plan process at Glacier Resorts Ltd.'s risk.

¹⁶ Recommendation 75 of the CORE East Kootenay Land Use Plan read as follows: "The Commission recommends that: The approval process for a resort development in Jumbo Creek include an environmental assessment under the Environmental Assessment Act."

allowing the proposed resort while the four opposed wanted a special management designation prohibiting ski resorts. The Commissioner compromised by choosing the minority special management designation but giving a clear go-ahead to the resort use subject to the environmental review. In the Special Management designation for the Jumbo Valley, **CORE gave tourism resorts the highest value, which was ahead of Grizzly Bears, which were given a high value.**

The Commissioner acknowledged that the proponents' supporters (a large majority) wanted the project to go ahead following CORE and that the environmental review would cause another delay. In fact, the majority of the stakeholders involved in the CORE process felt that environmental interests were given a disproportionately high representation at the CORE Table. They produced an independent land use recommendations report in March 1995. This report, entitled *Land Use Plan by the Coalition for an East Kootenay Solution*, reduced the land designations for conservation and special management (the CORE East Kootenay plan contained 16.5% of the land in protected areas, a much higher designation level than the provincial policy target of 12%) and assigned an Integrated Use designation to the Jumbo Valley.

Provincial staff suggested, however, that the project be reviewed under what was then proposed new legislation – the *Environmental Assessment Act*. The proponent objected.¹⁷

Following the proponent's objection to the introduction of the new *Environmental Assessment Act* (EA Act) review process, Commissioner Owen promptly wrote a letter (on December 13, 1994 – see Appendix 8-L) to the Minister of Environment, Lands and Parks and to the Minister of Employment and Investment, clarifying that a public process such as CASP would be considered equivalent to the EA Act process and that the Commissioner did not intend to require a new process:

This recommendation assumes that the environmental assessment process under the *Environmental Assessment Act* will be:

- Imminently available to begin reviewing proposals
- Efficient in providing a one-window review within strict time limits, and
- Effective in providing public participation and the consideration of the full range of values that may be affected by the proposed development.

We have since been advised that the design and detailed operational procedures of the environmental review process have not yet been finalized and that the recommended EAA assessment for the Jumbo Creek development proposal would not likely commence for some time. **In the circumstances we would have no objection with the assessment of this proposal proceeding under existing project review processes, so long as they met the conditions of efficiency and effectiveness**

¹⁷ In September 1993 the proponent had requested and obtained assurance in writing from the Province that should the CORE process result in a favourable land use decision, the proponent would be allowed to resume and complete the CASP process without delay, and the project would not be subject to any new and untried review processes.

mention above.

[emphasis added]

Nevertheless, review of the Project under CASP was again put on hold pending completion of the EA review under the *Environmental Assessment Act*, R.S.B.C. 1996.

8.5.1.6 Kootenay/Boundary Land Use Plan (1995)

In March 1995, the Province announced the *Kootenay/Boundary Land Use Plan* (KBLUP), which identified ski resort development as an acceptable land use of the upper Jumbo Creek valley (see Appendices 8-J and 8-K).

8.5.1.7 Confirmation of Land Use Decision and Initiation of the EA Act Review Process (1995)

On April 10, 1995 the Province announced the approval of the land use decision for Jumbo Glacier Resort via a press release, and that the project was to be transitioned into the *Environmental Assessment Act* (EA Act) review process. The Government's press release quoted two Ministers, Glen Clark and Moe Sihota (see Appendix 8-M):

"The East Kootenay Land Use-Use Plan includes the Jumbo valley within the special resource management zone category – a designation which allows this type of development to be considered" said Clark.

"The proponent of this project has shown a great deal of understanding and co-operation while awaiting the completion of the land -use plan," said Sihota. "I'm pleased they will now be in a position to have the project considered through a fair and comprehensive environmental review process."

The new EA Act, proclaimed on June 30, 1995, was intended to establish a quasi-judicial technical review, independent from political interference.

The proponent was required to submit its draft Master Plan, being prepared under CASP, to the Environmental Assessment Office (EAO) by June 30, 1995 so the document could be utilized as an Application for Stage 2 under the new Act. A five-volume Master Plan document¹⁸ incorporating the environmental, planning and design studies of the previous five years was hastily completed as requested and submitted to the EA Office. A Transition Order was signed, obligating the proponent to have the project reviewed under the new EA Act.

The EA review of the project formally commenced in July 1995 with the submission of the Jumbo Glacier Resort Application for a Project Approval Certificate (the

¹⁸ This document is commonly referred to as the "1995 Master Plan."

Application) to the Environmental Assessment Office (EAO).

On July 12, 1995 the Interim Agreement outlining the same study area was renewed by the then-Ministry of Environment, Lands and Parks (MELP) and the proponent, confirming the proponent's status as "sole proponent" and authorizing access to Crown land to carry out investigations and assessments necessary for the EA review of the project. The Interim Agreement also confirmed the basis of the relationship between the parties and clarified roles and responsibilities and the linkage between CASP and the EA review process. **A timeline outline of approximately two years was attached to the agreement.**

In 1995 the Province created both the EA Act and the *Mountain Resorts Associations Act* (MRAA). **The two Acts and CASP were supposed to be coordinated and to provide a fair and timely process to project proposals such as the ski resort proposal for the Jumbo Valley.** The proponent anticipated that following the EA Act and CASP processes the resort area would be designated as a Mountain Resort Area and would be able to proceed with its own municipal status following the land use decision and all the environmental and relevant Ministries' approvals.

The EA Act process was supposed to provide the "one window" efficient approval process mentioned in Commissioner Owen's letter of December 13, 1994 (Appendix 8-L).

In July 1995 a new public input process was initiated. Government agencies (federal, provincial, and local), First Nations, stakeholders and the public were involved. Input received by the EAO during the public comment period helped to identify additional information needed to complete the EA review. The public input process was initially supposed to last for thirty days, but was extended until the end of September (75 days).

Information meetings and public hearings were held at the discretion of the Project Director and special interest groups, without a structured format. The local MLA intervened at the conclusion of a public meeting requested by project opponents on September 14, 1995, and declared his opposition to the project before the Project Committee had initiated its review. The Province, through its Ministers, encouraged the proponent to continue through the required technical review.

8.5.1.8 Freedom of Information Request (1995)

In November 1995 a map was circulated by staff members of BC Environment showing an isolated and unexplainable concentration of Grizzly Bears in the Jumbo Creek Valley; no data was available to validate the map. The project consultants launched a *Freedom of Information and Protection of Privacy Act* request to obtain government staff's information on the project area. In March 1996 boxes of government staff correspondence were delivered (3 months late) in response to the Freedom of Information (FOI) request. **Letters and internal memos dating back to 1990 indicated a strategy by some government staff and special interest groups to prevent the project from gaining approval. Some memos specifically outlined a plan to bog down the project in endless and costly studies** (see Appendix 8-O).

It was confirmed that there were no studies apart from those undertaken by project

consultants for the Jumbo Creek valley and the above noted BC Environment map was not based on any known data regarding Grizzly Bears in the Jumbo Creek area. Government staff quickly acknowledged that their map was not indicative of Grizzly Bear population distribution. Deputy Ministers intervened to reassure the proponent that fair process would prevail. One BC Environment staff member (who had previously personally threatened the project's lead consultant) was quietly let go; others were not permitted to continue to work on the project. However, substantially the same group of people continued to condition the progress of the review.

**8.5.1.9 Regional District:
Request for Designation of a Mountain Municipality (1996)**

In September 1996 the Regional District, acting on a request by the proponents' consultants, passed a resolution requesting that the Province create a Mountain Resort Area and future municipality for the project area, according to the Mountain Resort Associations Act of 1995, providing a clear governance model for the resort. The Minister responded that the province would not act before the completion of the EA Act review process.

**8.5.1.10 EA Act Review Process:
Formulation of Project Specifications (1995 - 1998)**

The Project Director convened a Public Advisory Committee (PAC) in order to assist with drafting the Project Specifications that would propose additional study and information requirements for the project. For greater caution, the Project Director appointed a majority of radical opponents to the PAC despite a vote by the Project Committee requesting that an equal number of project supporters and opponents be represented in the PAC. The project consultants questioned the fairness of the review process and the agenda of those involved in the PAC as declared project opponents.

Draft Project Report Specifications were issued in December 1996. A 60-day comment period was established to collect feedback from the public. Comments were also received from the proponent and from the PAC. The Project Committee, in part due to the radical composition of the PAC, continued to struggle over the Project Specifications for nearly two years. According to the EA Act's timelines, the process was supposed to take approximately five weeks, beginning in October 1995.

In May 1998, following the conclusion of the PAC's deliberations, the Project Director issued the Project Specifications as final without further review of the proponent's responses, claiming that the process had been taking too long. The project consultants continued to object to the final draft of the Project Specifications as being unreasonable.

Seeing that the Project Specifications appeared to be biased against the project and difficult to respond to, **the proponent made an application to the Provincial Ombudsman for a process review.** The Environmental Assessment Office (EAO) gave assurances and indicated that it wished to provide a fair and timely process and that it should be given the opportunity to complete the process before the complaint would be acted upon. The Ombudsman did not initiate the requested review.

**8.5.1.11 EA Act Review Process:
Clarification, Continued Studies & Transition to New EA Act (1998-2002)**

Between May 1998 and 2000 meetings were held with government staff to determine and clarify the meaning and the requirements of the Project Specifications.¹⁹ New studies were undertaken at the same time in order to respond to the Project Specifications.

In January 2000 some of the investors attended a meeting at the Environmental Assessment Office (EAO) with senior provincial staff and the senior members of the design team. The Deputy Minister of the EAO chaired the meeting and the Assistant Deputy Minister of the Ministry Environment offered to visit the site in the following weeks and to conclude the environmental review in six months. The site visit (his first one) occurred in April 2000, but the exchange of information, the review and the studies continued long after the middle of 2000. The terms of reference and the model for a new grizzly bear study based on the notion of cumulative impacts became a study in itself, which was very difficult even for the senior project consultants to administer. The project team accepted the government staff model and all government staff requirements and all remaining studies and reports were brought to a conclusion.

A revised *Environmental Assessment Act*, S.B.C. 2002, c.43, came into effect in December 2002 and the proponent was provided until December 31, 2003 to submit the information required to complete the EA review.

**8.5.1.12 EA Act Review Process:
Completion and Submission of Project Report (2003)**

The proponent continued studies, responses and meetings with provincial staff and other experts leading to the completion of a *Project Report* that contains the result of the work undertaken from 1990 to 2003 including all the responses to the Project Specifications issued in 1998. On December 30, 2003, the proponent submitted the Project Report including a Master Plan Concept to the EAO. The Project Report (see Appendices 8-E to 8-I) was divided into thirteen volumes of 3,772 pages including Appendices.

¹⁹ On January 20, 2000 a meeting was held at the EAO with the proponent's representatives, consultants and government staff; BC Environment Assistant Deputy Minister undertakes to have his staff provide all available information and necessary responses to conclude the required studies in a few months. It would take three and a half years.

8.5.1.13 EA Act Review Process: Public Input & Formal Review of Project Report (2004)

On January 27, 2004, the EAO determined that the proponent's submission contained the information required and took appropriate steps, including extending time limits for providing information during the EA review, to enable the thorough and timely review of the project. A 180-day period for reviewing the *Project Report* began on February 5, 2004. The EAO established a 60-day public comment period on the Project Report (February 13 to April 13, 2004).

Open Houses were held in Invermere and Nelson and meetings with stakeholders were held throughout the Kootenays. Project information was mailed to every household in the East and West Kootenays and the Project Report and revised Master Plan were made available in electronic format on the Internet. Public comments were received from around the world.

It should be noted that the entire EA Act process is a public process and the information is compiled for public use in the public Project Registry, with a library in Victoria and a librarian responding to public enquiries and making copies of all documents and correspondence. Copies of the documents were also made available at selected libraries in the Kootenays.

The Project Report and the public **process comments and responses are made widely available through the websites of the EAO and of the proponent.**

As a result of the public process and comments that are part of the review under the EA Act, the proponent improved and modified the Master Plan of the project with a number of important changes that are listed in Section 8.6.2 of this Master Plan.

8.5.1.14 EA Act Review Process: Issuance of an Environmental Assessment Certificate (2004)

On August 4, 2004, the EAO submitted its quasi-judicial review report, the *Jumbo Glacier Resort Project Assessment Report* (JGRPAR) (see Appendix 8-C), and recommendation for an Environmental Certificate to the Provincial Ministers (see Appendix 8-D); the Ministers' decision was required by September 17, 2004. The EAO's report **stated in its conclusions that the project is "in the broad public interest."**

On September 15, 2004, an extension to October 18, 2004 for the three Ministers' decision was announced.

Minister George Abbott announced that an Environmental Assessment Certificate had been issued for the project on October 14, 2004. The Minister indicated that following the environmental certificate the next step for the project would be the official community plan and rezoning process by the regional district.

**8.5.1.15 Regional District:
Repeal of Governance Model and Pullback from Project Review (2005-2006)**

Provincial staff contacted the Board of Directors of the Regional District of the East Kootenay (RDEK) in order to harmonize the approval process of the Master Plan with the adoption of the Official Community Plan and rezoning of the first phase of the project by the regional district, but in February 2005 the Board voted to rescind the resolution of September 1996 that requested the creation of a mountain resort municipality designation for the project. The Board of Directors also decided to refuse to participate in the Master Plan approval process.

In March 2006, a motion by a Director of the RDEK to again ask the Province to create a mountain resort municipality for the project was defeated, following what one of the Directors described as an intense intimidation campaign by some local pressure groups.

**8.5.1.16 Attempts by Project Opponents to Repeal the
Environmental Certificate (2004-2007)**

Project opponents referred the major issues reviewed during this entire process to **Office of the Auditor General of Canada** and to the Commissioner of the Environment and Sustainable Development of Canada, which provided responses from the federal ministries in 2005 confirming the assessments made by the EAO (copies enclosed – see Appendix 8-P).

RK Heli-Ski Panorama (RK) requested a **judicial review** of the EAO process and of the decision of the Ministers to grant an Environmental Certificate. The case was heard for five days in court in Cranbrook, in the end of October 2005. Two lawyers from Vancouver represented RK, a lawyer came from Victoria represented the Province and a Cranbrook lawyer represented the proponent. In November 2005, the judge rendered his decision upholding the Environmental Certificate and granting court costs to defendants. RK appealed the decision to the B.C. Court of Appeals and a panel of three judges unanimously upheld the earlier decision (see Reasons for Judgement in Appendix 8-Q).

RK attempted to make the case that natural justice had been denied to the opponents, **but it is clear that if there is any party that has been denied natural justice in this unprecedented 20-year process, it is the applicant, not the opponents.**

8.5.1.17 Master Plan Approval Process (2005-2007)

The proponent submitted the Master Plan for approval and the resumption of the CASP review process that was originally interrupted in 1991, in 1993 and again in 1995.

The Province formally resumed the CASP process in November 2005 following a ten year interruption.

An Open House was held in January 2006 and a public input process was concluded in the Spring of 2006. The proponent's information is that approximately 700 letters

registering opposition and approximately 600 letters registering support were received.

8.5.1.18 Local Governance Solution and Regional District Request for Mountain Resort Municipality (2007-2009)

In March 2007 the Province passed legislation under Bill 11—2007 that will facilitate the creation of mountain resort municipalities for projects such as Jumbo Glacier Resort. The implications of Bill 11 are discussed in Section 8.2 of this Master Plan.

The proponent has reviewed available options and has become convinced that the creation of a Mountain Resort Municipality by the Province is the only way to allow the phased implementation of the approved Master Plan within reasonable time. By means of a letter to the Minister, the proponent has asked the Province to create a mountain resort municipality for the project (see Appendix 8-R).

On August 7th, 2009, the Board of Directors of the Regional District of the East Kootenay re-instated the 1996 request to the Province, voting to request the Province to designate a Mountain Resort Municipality for Jumbo Glacier Resort once a Master Development Agreement is signed and that a council of local citizens, supported by a locally based advisory group including First Nations, be appointed to govern the resort.

On September 4th, 2009, the Board of Directors of the Regional District of the East Kootenay voted to request the Province that in the initial stage of a Mountain Resort Municipality for Jumbo Glacier Resort, before the establishment of a voting population, the mountain resort be represented in the Regional District by the Director of Area F.

8.6 PUBLIC CONSULTATIONS²⁰

8.6.1 Overview

The Jumbo Glacier Resort Master Plan has been shaped in part by a long history of public consultations. No tourism project in British Columbia has had a longer and more complex history of public consultations than the Jumbo Glacier Resort project. Public consultations began in the summer 1991 and have been going on in a variety of forms and processes since then.

In addition to ongoing public exposure, the project has also undergone five major public consultation processes. These include:

- July, 1991 – September 1991: three-month public comment period on land-use and the JGR Formal Proposal, including Open House in Invermere;
- May, 1993 – November, 1994: eighteen-month CORE land use public review process -

²⁰ For First Nations consultations, please refer to Section 7 of this Master Plan.

public meetings at least every month throughout the Columbia Valley and the East Kootenays;

- July, 1995 – September, 1995: 75-day public comment period on the EA Application, - Open Houses in Invermere and Public Meetings held by the EAO at the request of opponent groups in Invermere and in Nelson;
- December, 1996 – February, 1997: 60-day public comment period on draft Project Specifications, - all meetings of the Project Committee held in public, a Public Advisory Committee formed, a Public Registry information office created and maintained until 2004;
- February, 2004 – April, 2004: 60-day public comment period on the *Project Report*;
- January, 2006 – Open house in Invermere for the CASP review process; and
- January, 2006 – March, 2006 public comment period under the CASP process.

The project's consultants have also maintained an on-going dialogue with major stakeholders since 1990. They have attended community meetings, presented to local groups and clubs and set up and manned information booths at annual trade shows such as the Kinsmen Trade Show in Invermere, the Calgary Ski Show and the Canada West Ski Areas Association Trade Show. A project website (www.jumboglacierresort.com) was created as early as 1995 and has been continuously maintained and updated since then. The entire *Project Report* and *Master Plan Concept* were made available for public download via the project website. Efforts have been made to answer every project-related e-mail query. The project has been reported on by provincial and national media including the *CBC*, *CTV*, *Global TV*, *RDI*, *the Globe and Mail*, *the National Post*, *Calgary Herald*, *Vancouver Sun*, *Vancouver Province*, *Ski Canada Magazine*, *Skiing Magazine*, and the *New York Times*. Regional newspapers such as the *Calgary Herald* have published major features on the project and local newspapers and media have covered the project extensively.

The project's consultants are unaware of any other mountain resort project in British Columbia that has provided the public with more information and more avenues and opportunities for comment than the Jumbo Glacier Resort project.

As outlined above, the project was amply debated in public for over four years before the EA Act was proclaimed in 1995. After the EA Act was proclaimed a new formal public process was initiated. This public process is documented by the library of the Public Registry organized by the Environmental Assessment Office. The EA Office created another Public Input period with various meetings by the proponent and by the EA Office during the summer 1995. The EA Office then established a Project Committee that met in public during the two and half years of preparation of the Project Specifications. A Public Advisory Committee, primarily fielded by project opponents, was also established by the EA Office for the duration of the project Specifications preparation period.

The proponent's representatives met with all interested individuals and with all recognized organizations that have expressed an interest and a willingness to meet, including environmental advocacy groups and First Nations. The proponent has continued the consultation process based on the following criteria and plan of action, according to the three main objectives of public participation processes:

1. To hear from anyone about anything that may matter with the proposal. To this end the Environmental Assessment Office organized a public registry in accordance with its mandate and the proponent provided a website with clear contact information and a dedicated e-mail address for project related comments and questions.

2. To hear from organized groups and to gain the assistance of local organizations to disseminate project information. To this end the proponent's consultants held information meetings with local organizations from the time the project proponent was selected by the Province in March 1993.

3. To hold meetings and open houses in compliance with the requirements of the EA Act, to afford a public forum to supporters and dissenters and to allow the EA Office and provincial and regional staff to monitor the process.

A more detailed history of public consultations is reported in the response to Specification A.8 of the *Project Report* prepared for the Environmental Assessment process. The *Project Report* is included as Appendices 8-E to 8-I to this Master Plan.

The Environmental Assessment Office's (EAO) *Jumbo Glacier Resort Project Assessment Report* (JGRPAR) also discusses the history of public consultations from the perspective of the EAO. A stand-alone report, entitled *Jumbo Glacier Resort Project Report on Public Views and Interests* is provided as Appendix C to the JGRPAR. The JGRPAR is included as Appendix 8-C to this Master Plan.

An additional Fact Sheet highlighting some of the key findings of the EAO's Report on Public Views and Interests is included in Appendix 1-D.

8.6.2 Project Changes Due to Public Consultations

A number of concerns that were expressed during the public consultation process were addressed via a simplified and clarified Master Plan and more specifically with the following changes introduced between the 1995 Master Plan and the current Master Plan:²¹

- Removal of the lift into the Horsethief Creek drainage (lift 1.8 of 1995 Master Plan) and confirmed the lack of any visual contact or physical access into that drainage.
- Removal of two lifts (lift 2.4 and 2.5 of the 1995 Master Plan) and ski runs at the south end of the project, in order to remove the notion of a visual or physical potential conflict with recreational use of the Jumbo Pass area, both in summer and in winter.
- Provided visual analysis demonstrating that the feared visual intrusion of the resort was misunderstood. It has also been confirmed that the resort area is not visible from Jumbo Pass and from most of the trail because of a shoulder of the mountain and of the height of the trees along the trail.
- Removal of the major day skier parking area previously connected with lift 4.1 of the 1995 Master Plan. This lift, if installed, would be limited to providing access from lower Jumbo Creek to the top of Farnham Glacier for the CODA sponsored and other Canadian ski training. The lift may be transformed into a people mover for improved access to Farnham Glacier in winter in conjunction with a shuttle bus if conditions warrant it.
- Reduction of the Controlled Recreation Area by approximately 60% and removing the entire lower Jumbo Creek area from it.
- Removal of any potential ski runs into lower Jumbo Creek, except for a safety evacuation trail.

²¹ A Fact Sheet outlining project changes is included in Appendix 1-D.

- Simplification and reduction of lift system and of carrying capacity. **Comfortable Carrying Capacity reduced to less than half.**
- Removal of the parking area and bus access facilities at the Mineral King Mine site.
- Making the resort area even tighter and smaller than before, with all future parking and access to the lifts starting at the entry of the resort base in Upper Jumbo Creek. **The total resort development area has been reduced to approximately 104 hectares at build out.**
- Providing **all employee housing at the resort**, and phasing it with the resort growth.
- Deleting the Glacier Dome Lodge initial phase at the base of Glacier Dome, and starting the first phase in the resort base area at the abandoned sawmill site, so that the entire development is contained in the one area.
- Removal from the Controlled Recreation Area of the lower Jumbo Creek area that has been perceived as having greater visitation potential from Grizzly Bears.
- Designing the resort so that on completion it can hypothetically be enclosed so as to act as a self contained entity in the wilderness relative to wildlife's territory encroachment.
- Design of road improvements for a 50km/h & 60km/h access road in order to minimize environmental impacts, reduce traffic speed and the risk of wildlife kills and to avoid loss of connectivity of wildlife territory that could be caused by a fenced higher speed road. Management is to encourage the use of shuttle buses from Panorama and Invermere/Fairmont/ Radium, which is currently proposed to be provided free of charge to the resort clients from the first day of operation of the Jumbo Glacier tram, but which may be provided to everyone from the beginning.
- Selection of road alignments almost entirely along existing forestry and mining roads to minimize environmental impacts and to avoid the use, reconstruction or relocation of bridges.

8.6.3 On-going Public Dialogue

The project consultants will continue to meet with the public and to disseminate project information as needed for the completion of the approval process. They expect to meet all special interest groups, especially those that have opposed the project, to provide presentations, information and discussions. In the past special interest groups that have opposed the project have refused to allow the project consultants to present their design and information, but the project consultants continue to work in the hope that there will be an opportunity to disseminate correct information about the project.

In general terms, the on-going public consultation program has included:

Project Display: The project consultants plan to continue to maintain an up-to-date project website and to secure space in an appropriate location in Invermere for the display of project information.

Presentations to First Nations: The project consultants have been working with the local First Nations representatives from the beginning of the project and will continue in the project implementation process. They have been initially aided by the Shuswap Kinbasket First Nation, who are actively supporting the project and are looking at all opportunities for cooperation, including that of becoming the utility service providers to the project. In year 2006 and 2007 great progress has been made also with the Ktunaxa First Nation. This path of progress was concluded with the drafting of an Impact Management and Benefit Agreement to

be ratified soon by the Nation as the start of a new climate of respectful cooperation.

Additional Meetings with Individuals and Groups: The project consultants plan have met all special interest groups who are willing to meet, and have tried to meet especially those that have opposed the project, to provide presentations, information and discussions. In the past special interest groups that have opposed the project have refused to allow the project consultants to present their design and information, but the project consultants hope that there will be new opportunities to disseminate correct information about the project as it progresses towards implementation. A steering committee of supporting businesses and individuals, comprising approximately 40 people, has been officially formed and has met several times under the direction of Grant Costello and Dave Milne, two very knowledgeable local residents who have had long involvement with the project.

Open House: The Master Plan was presented locally at an Open House to further solicit public comment and to interact with the nearest community.

Focus Group: A focus group, which defined itself as a steering committee as mentioned above, of local leaders and businesspersons has been established in order to ensure local participation in the project and its direct, indirect and induced spin-offs. The proponent plans to continue to meet with the project focus group and to take advantage of their offer to continue to help.

Meetings with Local Governments Representatives: Presentations to the East Kootenay Regional District, the District of Invermere and the Village of Radium have been made and will continue, especially in view of the anticipated discussions regarding contracts for services of mutual benefit to the project and to the local communities.

9. GOVERNANCE

9.1 RESORT ADMINISTRATION, GOVERNANCE AND PROVISION OF PUBLIC SERVICES

9.1.1 Introduction

This section reviews the options for resort governance and the legal structure that is necessary to oversee the provision of services and orderly development of the resort. These include the delivery of services related to utilities, infrastructure, development control, emergency services, and regulatory controls.

9.1.2 Background

When the EA Act review process started it was expected that the Regional District and the Province would collaborate to create a Mountain Resort Area and a Mountain Resort Municipality. The initial Board of Commissioners or initial Council would be appointed by the Province. The developer would be responsible to ensure that the necessary services would be built and in place for the start of each phase of the project.

Jumbo Glacier Resort, like other new mountain resorts such as Kicking Horse Mountain Resort, presents an unusual challenge with respect to governance because of the lack of existing services in place or in its proximity.

In the case of utilities, this means that Jumbo Glacier Resort will create or contract to a public utility company the task to provide and administer those services until a later transition to the appropriate local jurisdiction, as described above. An agreement in principle has been entered with Kinbasket Development Corporation of the Shuswap Band for the provision of public utility services for the resort. The Kinbasket Development Corporation is already an experienced utility provider in Invermere and may provide these services in conjunction or joint venture with other experienced utility providers, such as Corix.

In the case of development controls, the proponent, Glacier Resorts Ltd. will have an interest in the orderly development of the resort in accordance with the Master Plan and will strive to implement controls through statutory covenants and statutory building schemes that reflect the principles in this Master Plan.

Emergency services will be initially provided by utilizing the developer's resources and liaising with existing resources, with measures that will be formalized and expanded as necessary over time. Similarly, the regulatory controls and standards provided through existing legislation and common law will provide the initial regulatory foundation for the resort.

The proponent will ultimately expect a coherent implementation of land use decisions on Crown land on the completion of an approval process. The approval process has been completed in good faith according to the laws of the land over twenty years. Delivery of the necessary legal tools must be one of the administrative duties of governments. In this respect,

the choice of legal structure for the governance system and the creation of the necessary zoning to allow the project to go ahead following the approval process, which fairness requires to be an incremental and not a circular one, is fundamentally up to the government. If zoning had to be the system of choice for the Master Plan implementation, it would have been up to the Province and to the proponent together to work with the regional district to create the necessary zoning, regardless of whether the application be done by the proponent or by the Province, which is the land owner. The potential impasse created by the regional district's refusal to participate in the master plan approval process was resolved by the creation of new legislation under Bill 11 – 2007 and by the subsequent request by the regional district to create a Mountain Resort Municipality following the completion of a Master Development Agreement for the project.

9.1.3 Relation to Panorama, Invermere, Radium, the RDEK and the Province

Jumbo Glacier Resort will be located on Crown land approximately 36 kilometres from Panorama and over 55 kilometres away from Invermere. Radium is approximately 70 kilometres from the resort. Its unorganized territory is nominally under the jurisdiction of the RDEK, but effectively it is an area of Crown land that is primarily under provincial jurisdiction. As the local authority is not present with services, the resort will have to create its own service infrastructure and a governance model as explained above to suit the circumstances.

9.1.4 Structuring and Administering Services

In the absence of existing services, whether related to utilities, infrastructure, development control, localized emergency services or regulatory controls, it is necessary to draw from the available options and implement immediate effective measures to fill the gap. These services are not expected to be provided by the Regional District or nearby local governments, except where arranged by contract.

9.1.4.1 Public Utility Companies

While utilities are often administered by “local government” or improvement districts, the operation of a public utility company is the necessary option that will be pursued by Jumbo Glacier Resort. Water, telephone, cable, propane gas, electricity and other services may be provided by the utility company if the need were to arise because of the absence of another utility provider and if the economic well-being and the enjoyment of the Resort were to require it. It is planned that the public utility will supply the resort area also with geothermal energy, making use of advanced technology, in accordance with the high quality environmental and sustainability objectives of the project.

There is ample precedent for public utility companies, which will be a welcome opportunity for local involvement in generating local jobs. Public utility companies in general are not prime areas of investment for profit but neither are they money losers. The Comptroller of Water Rights approved “the rate of return on operating equity and the operating margin” for the Sun Peaks Utility Co. Ltd. for 1998 at 11.25%. Kicking Horse Mountain Resort has set up a utility under a Certificate of Convenience and Public Necessity. It is therefore feasible and possible to operate a public utility company.

The proponent has concluded an agreement in principle with the Kinbasket Development Corporation to achieve a First Nations operated utility company and they have also spoken to Corix as a potential joint venture partner in the development of the infrastructure.

9.1.4.2 Administration of Water and Sewer Infrastructure

As for jurisdiction, it is likely the water supply service will be operated initially as a private utility. For that reason, the proponent has already investigated obtaining a Certificate of Public Necessity and Convenience from the Comptroller under the *Water Act*, which is necessary when a water supply serves more than five people.

Water supply will continue to be provided by the independent utility, but the contracts will likely be transferred to a public jurisdiction as a Mountain Resort Municipality. The utility will be provided to all parts of the resort base area where habitable buildings are to be constructed. It is most likely that the public utility company, which is planned to be established and operated in partnership with the First Nations, will operate with a contract with the Mountain Resort Municipality.

The sanitary sewer systems for the collection, treatment and disposal of liquid waste will be another service that will be provided by the utility but that will have its contractual arrangements transferred from the developer to the eventual administration of a public jurisdiction. In the interim, the sewer system and the treatment plant will be operated by a public utility company which will involve contracts with any private users and statutory rights of way along roads. The sewage disposal and treatment system will comply with the requisite Provincial standards and will require Provincial permits. Even after tertiary treatment any effluent dispersal systems will require approval by the authority administering the Sewage Disposal Regulations under the *Health Act* at the time of installation.

9.1.4.3 Managing Development Control

For the purposes of this section, development control includes the application of a broad range of zoning principles, servicing requirements, review and approval of applicable design guidelines and administration of a scheme of building code compliance.

Development control at the local level will include a subdivision servicing Bylaw prepared by the civil engineers along the model of other mountain resorts such as Whistler and Sun Peaks, and development permit and building permit requirements will be provided under contract until when a local function would be established. The preferred initial option for the application of zoning principles includes the filing of land use covenants on each title in the resort area, under section 219 of the *Land Title Act*. Another tool to ensure compliance with building restrictions is the registration on title of a statutory building scheme under section 220 of the *Land Title Act*, which will facilitate the implementation of the Design Guidelines. Implementation of the Master Plan, zoning bylaws and the creation of a development permit area administered by a Mountain Resort Municipality is the most likely long term solution to development control. The option of seeking powers by private statute is not proposed here but it may be a choice presented as more expedient by the developers' lawyers. In the past,

private building restriction statutes have been enacted to reinforce zoning principles where other controls were not effective. (Refer to the *Shaughnessy Heights Building Restriction Act*, 1922.)

Building Code compliance is usually enforced by local government, but in this case the Mountain Resort Municipality is not expected to have the staff for this function. Building Code compliance will need to be enforced by contract to a local government that will be able to provide this function or through a certified professional system. While the 2005 B.C. Building Code is applicable throughout the Province, enforcement mechanisms are not equally in place in all regions. Although code compliance is mandatory, it should not be necessary for the Mountain Resort Municipality to provide building inspection services with its own forces. Instead, the services may be provided by a nearby municipality or by others under contract or it is possible that the covenants placed on title in the resort area would require building drawings to be submitted to the Jumbo Glacier Mountain Resort Municipality and to the developer together with letters of assurance by design professionals. The design professionals would provide proof of professional liability insurance and would certify that the proposed buildings and other structures comply with all applicable B.C. Building Code requirements.

The Mountain Resort Municipality, together with the Resort Developer will establish a Design Review and Approval Authority (DRAA) to receive plans and to weigh the plans against the Master Plan, zoning principles, the Design Guidelines and other criteria set out in the covenants based on the approved Master Plan and Design Guidelines. It is intended that the DRAA will be comprised of a B.C. Registered Architect named by the Resort Developer, who initially will be the project designer, a B.C. Professional Engineer, or other technical person who will be part of the construction and development management group named by the Resort Developer, and a representative from the local Council of the Mountain Resort Municipality. It is not intended that the DRAA would do any reviews regarding compliance with the Building Code, which would be done by the design professionals and by the architects overseeing the issuance of Building Permits on behalf of the Mountain Resort Municipality. The alternative model to a DRAA is to name the design firm of architects for the resort to review design proposals for compliance. This would include a mechanism for an alternative design review, if necessary, over time. In order for the Mountain Resort Municipality and the Resort Developer to effectively regulate development standards, they must enter the statutory covenants as a grantee, and to do this, the Minister would have to grant the Resort Developer the required powers under section 219 (3)(c) of the *Land Title Act*. (Similarly to be granted statutory rights-of-way for utilities, the Resort Developer would have to acquire the authority under section 218 (1)(d) of the *Land Title Act*.)

The Mountain Resort Municipality would be able to adopt an Official Community Plan for the mountain resort and a Comprehensive Development Zone, requiring Development Permits for all projects, reflecting the approved Master Plan. These would be the guiding documents on the basis of which to assess applications and to provide Development Permits. Regarding Building Permits, over the long term it is possible that a small local building department capable of issuing building permits may be established by a jurisdiction such as a Mountain Resort Municipality at Jumbo Glacier Resort, but it is more likely that the size of the project would not justify even a small Building Department, and the services will continue to be performed under contract by others. However, the proponent's consultants have noted that there are

other building review models in the province, including the system administered by the former U.B.C. Real Estate Corporation (later known as U.B.C. Properties Inc.). That company is a wholly owned subsidiary of the University of British Columbia that undertook development on university lands as authorized by an Order in Council under the *University Act*. The corporation created its own zoning, and through contractual means it required the development to comply with specific design guidelines and in accordance with building authorizations administered by a design review and approval authority (DRAA) composed of a panel of design professionals. Because Jumbo Glacier Resort is not within an existing municipality, and because of the distance from the Regional District's offices, which may have difficulty administering a building permit system or zoning regulations in the resort area, the existence of contractual options is indeed relevant, whether achieved by contract or by a grant of special powers to acknowledge the special situation. The proposed development control system for the interim may be by way of charge on title until when the Council of the Mountain Resort Municipality would be able to take charge through contractual agreements for services, if there is any delay in the implementation of the governance structure.

9.1.4.4 The Master Plan

The Official Community Plan of the Mountain Resort Municipality will create a Comprehensive Development Zone, requiring Development Permits, which will embody the approved Master Plan. The approved Master Plan, with its pre-designed building envelopes, and the Design Guidelines of the mountain resort are expected to be the main development control document, effectively providing the basis for Development Permits for individual building components.

9.1.4.5 The Buffer Zone

The proponent will require some control on uses within the Controlled Recreation Area and will seek a general prohibition on additional development, commercial overnight accommodation, food and beverage facilities and ski lift construction in a buffer zone area of the Crown land around the Controlled Recreation Area as outlined in the Study Area of the Interim Agreement. The idea of a buffer zone is to recognize the huge capital to be invested in the ski facilities and related resort accommodation and to recognize the importance of open and undeveloped spaces complementing the mountain resort and the open recreation area. These "no development" open spaces will also help ensure the long term environmental sustainability of the surrounding area and of the skiing and sight seeing recreational concept being presented. These terms are to be contained in the Master Development Agreement and further confirmed and enforced by the RDEK. It is proposed that the boundary of the Mountain Resort Municipality be the boundary of the Study Area of the Interim Agreement.

9.1.4.6 Emergency Services Generally

In the region, fire, police and ambulance services are handled separately. Fire protection services are provided by a fire protection district serving the valley base area, which is too far to meet the intent of the B.C. Building Code and fire insurance

purposes, while police and ambulance services are part of a broader service area. There is no “911” service to call emergency services.

Other emergency services such as search-and-rescue and emergency response programs are co-ordinated by the municipal emergency co-ordinator or through the RCMP who in turn call upon trained volunteers. There is a new Columbia Valley Emergency Management Program, based on volunteer emergency personnel that will be located at the old municipal office in Invermere as an Emergency Operations Centre.

The resort developer should ensure to coordinate emergency provisions with the Columbia Valley Emergency Management Program. Any related agreements should be in place before building construction begins. During construction, as well as after opening of the resort regarding on site and ski area operations, WCB required safety procedures will be followed and the resort operator should participate in on-going emergency preparedness planning.

In relation to emergency services, the resort developer will arrange for its ski area operations to employ a certified professional ski patrol unit with basic paramedic training to provide for stabilisation and transfer of injured skiers to facilities in nearest urban area with appropriate facilities. The ski patrol will provide search-and-rescue operations within the Controlled Recreation Area and will call in regional search-and-rescue volunteers on an as-needed basis and in accordance with industry standards.

9.1.4.7 Fire Protection Services

There are several options for the provision of full fire protection services at Jumbo Glacier Resort. One option is contracting for services with the nearest Fire Department. A second option would be the creation of a single fire services district to include Jumbo Glacier Resort, Panorama and Invermere area. A third option would be creation of an independent fire service improvement district for Jumbo Glacier Resort (for example, under the umbrella of a Mountain Resort Municipality). In the first option, the Fire District may require additional equipment and create a station at Jumbo Glacier Resort. In the second and third options, a new fire hall, acting alone or as a satellite hall, would be required at the resort, with equipment to industry standards. Mutual aid agreements between different fire protection services could combine to reinforce fire protection in all areas. Generally, a fire protection service will be in accordance with the provision of the guidelines in “Establishing and Operating a Fire Department” issued by the former Ministry of Municipal Affairs and with the office of the Fire Commissioner, both under the wing of the Minister of Community, Aboriginal and Women's Services.

The intended fire protection at Jumbo Glacier Resort itself will likely be a volunteer fire department. An independent fire service will likely be created to carry on independently at the resort area, utilizing on-site equipment and trained volunteers, drawn from ski patrol and other ski resort employees.

In considering the best way to provide fire protection services, consideration must be given to insurance implications for property owners, the provision of sprinklers in buildings, and the opportunities for utilizing trained fire fighters to reinforce search-and-rescue and paramedic skills at the base of the resort. Building design will take

into consideration the requirements of the Insurance Advisory Organization. The proponent's project team has been in touch with the operators of other ski area fire protection services and will continue to consult with their facilities, to draw from their experiences.

A community fire protection strategy for Jumbo Glacier Resort is included in Appendix 9-A.

9.1.4.8 Police Services

The RCMP provincial police services have a detachment based in Invermere, which serves a broad area that includes Panorama. Services to Jumbo Glacier Resort will be operated from Invermere and will include the usual traffic, patrol and investigation services as well as operating a crime prevention and ski watch program. There is not expected to be an immediate need for an increase in detachment size as a result of the development of Jumbo Glacier Resort, because ski areas do not generate a great deal of crime and the initial visitor and staff numbers will be low. Search-and-rescue operations are dispatched by the RCMP utilizing the volunteers under the Provincial Emergency Preparedness Program. The RCMP works along with search-and-rescue teams on an as-needed basis. A security office has been proposed for the base area at Jumbo Glacier Resort; it will serve as a dispatch centre for necessary security services, including RCMP.

9.1.4.9 Medical and Ambulance Services

The Invermere and District Hospital provides acute care, extended care and continuing care facilities. The hospital now serves the Panorama area and is capable of providing services to Jumbo Glacier Resort. As population grows in the future, so too will the Province have to expand the hospital facilities in the region.

The Invermere and District Hospital is equipped with 21 acute care beds, 4 extended care beds and 4 bassinets.

Other Public Hospitals in the Regional District of East Kootenay are as follows:

- Cranbrook Regional Hospital: 73 acute care beds, 50 extended care beds, 10 bassinets
- Kimberley and District Hospital: 35 acute care beds, 18 extended care beds, 4 bassinets
- Fernie District Hospital: 42 acute care beds, 8 extended care beds, 7 bassinets
- Sparwood General Hospital: 20 acute care beds, 4 bassinets
- Elkford and District Diagnostic and Treatment Centre: 3 holding beds

Paramedical services generally will be provided at the ski area in conjunction with the certified professional ski patrol services. Injuries will be dealt with at the resort to stabilise victims. The ambulance facility in the resort area will be located near the base area of the Resort. Patients will be transferred to hospitals as necessary. Seriously injured skiers from the East Kootenay ski hills have also been flown to Calgary hospitals.

Ambulance service is currently available to Panorama through the District Ambulance Service, which provides coverage to a broad area. This service is based in Invermere. On-site ambulance service will be provided according to industry standards when skier volumes reach a certain level and could be provided as a local government service.

9.1.5 Development Control Covenants and Related Matters

There is more than one way to achieve the administrative objectives and to create a regulatory framework to apply to the resort area.

It is not necessarily in vogue to enact private statutes or to incorporate private company towns or enact umbrella development legislation that prevails over “local government” controls, although these approaches have been used in the past. While those models are still within the legislative capacity of the Province of B.C., the proponent’s preferred first step in local government is to establish rules by the simpler technique of charge on title, requiring only the ministerial grant of authority under the *Land Title Act*.

To achieve the desirable development controls during the first stage, rules and regulations may be registered on title to each parcel of land created during the subdivision or lease process. The Province will be the Transferee of the key conditions of land use with respect to Bed Unit count and overall site use, and the Resort Developer, once granted the requisite power by the Minister, will be the Transferee of the more detailed interim and permanent covenants as well as the author of the statutory building scheme. Together, these documents would provide the details equivalent to land use and local regulations.

The covenants should be divided up into issues for ease of enforcement. Those likely to be replaced in time by local government regulation should be separated from those that would remain on title in the long term. What follows is a list of some of the basic documents needed to administer the development aspects within the resort, before there is a “local government” or other statutory body exercising effective jurisdiction over those matters.

9.1.6 Other Regulatory Controls

Governance by covenant on title should be limited to land use and related issues in order to be in strict compliance with the terms of Section 219 of the *Land Title Act*. The elements of governance missing in the early stages of the resort development seem to include the equivalent of regulatory bylaws, such as noise, dog control, business licensing, traffic regulation, etc. These are, of course, within the capability of the Mountain Resort Municipality if it chose to legislate in these areas. However, noise, foul odours and other issues, such as troublesome dogs may be actionable as nuisances by individual landowners at common law if they should become a problem. In addition, the resort developer may exercise its powers granted by the Province for the administration of the Controlled Recreation Area to control any nuisance problems that originate from areas other than fee simple land, which will be almost the entire resort area. The Resort Developer should establish regulations including a requirement to follow strict rules regarding pets, which generally should not be permitted except for very short periods of time (for example one week) and kept indoor, unless on leash and on prescribed walks inside the resort. The *Livestock Protection Act* provides a scheme to deal with uncontrolled dogs where there is no adequate local regulation. Traffic issues on dedicated roads will be subject to the *Highway Act* and *Motor Vehicle Act* until there is

supplementary local legislation. Traffic and other regulatory rules on private property will be subject to owner control such as through bylaws of a strata corporation.

9.1.6.1 Official Community Plan and Zoning,

The Master Plan and the Master Development Agreement, together with the development controls described above, will represent for the mountain resort what the OCP and zoning represent for urbanized areas. A mountain resort, however, requires more detailed controls than those that are normally administered by means of an OCP and zoning regulations, as the points noted above indicate.

10. CONCLUSION

The Master Plan describes a project like no other in North America. It can only be compared with projects such as the Jungfraubahn of the Swiss Alps in year 1890. It is the opportunity to introduce to the urbanized public of North America mountain peaks and high alpine glaciers that still today can only be experienced in the Alps. The technology and the expertise exist to develop such a project in a sustainable manner, and much thought has been given during many years on the best approach and solutions to the challenges that a development of this nature presents. They are not challenges that have not been faced before elsewhere and that cannot be successfully resolved. The proponents' consultants are confident that no project has been more exhaustively studied in the preliminary planning stages than this one, and if the Master Plan and recommendations are followed, the project will be very successful in the implementation of the stated objectives. This project is also an opportunity to give new solutions to social and economic problems that need to be brought to a better solution in the East Kootenay region. It can provide an important example and a catalyst for change and a new vision where change has been perhaps too slow in coming, to the disappointment of new generations.

10.1 CHALLENGES AND OPPORTUNITIES FOR JUMBO GLACIER RESORT AND BRITISH COLUMBIA

10.1.1 The Challenges

10.1.1.1 A Public-Private Partnership

The project will be a model of private investment and government cooperation according to the CASP policy. It is a true example of Public Private Partnership, where Crown Land is used to generate sustainable development according to a well thought out policy developed through many years of study, implementation and refinement. It is a model where Crown Land is put to work, without loss of control of the Province, which remains the landlord, generating employment and revenues for an on going economic enterprise focused on a sustainable industry and renewable resources, i.e. tourism, snow, and mountain peaks. Like all Public Private Partnerships this is a project that involves complex processes and many different players, and will depend on the positive work of all those who are involved.

10.1.1.2 A First Nations Partnership

A joint venture agreement in principle with the Kinbasket Development Corporation of Invermere for the provision of infrastructure services at Jumbo Glacier Resort is the first tangible result of years of cooperative efforts by the proponent and the local First Nations. This is expected to be the first step of a relationship whereby the First Nations will become a partner in the development, management and operations of significant components of the project. In turn the partnerships will generate on going opportunities for training and employment in new areas of tourism, from hospitality and hotel facilities to infrastructure operations, ski instructing, guiding, ski patrolling

and ski area operations. The proposed interpretive center will also create opportunities in environmental monitoring and interpretive activities.

10.1.1.3 Economic Diversification

For the East Kootenays a destination capable of providing an alternative to world images such as Lake Louise will represent a crucial step in bringing local tourism to the North American continent's and to the world's attention, giving true life to the much talked about process of economic diversification that has been slowly emerging in the last twenty years. There is no comparison between trying to attract tourists with advertising and attracting them with a real world-class and accessible image and product. There is also another benefit, in that advertising is very costly and is an on going effort, while **creating a world class destination is an investment in a product that will by itself create a reputation and a great amount of free advertising**. This is what has happened for Kicking Horse Mountain Resort, with the pictures of the views from the Eagle's Eye restaurant at the gondola's arrival point, which have travelled on newspaper and magazine articles across North America and Europe, creating new interest in the region at no advertisement cost. In order to diversify the economy it is necessary to actually provide the high quality diversified product and new international appeal.

10.1.1.4 Tourism Products

The North American continent has a tourist population approximately as large as that of the European continent. However, for historical reasons, the tourism product is generally different. European resorts started to develop at the end of the nineteenth century, and they became primarily accessible by railway. They were vacation places where people would go for health, rest and recreation, staying there for a period of time. They were destination resorts before the term was invented, and they developed accordingly even after the automobile and the airplane became the preferred modes of transportation. In Europe, destination resorts as described, numbered in the thousands and transformed villages of shepherds or farmers into bustling tourism centres. For Switzerland, the birth of tourism and the resorts meant the diversification and the transformation of its economy from primarily agrarian to a diversified economy that generated the capital to create an industry that covers almost every conceivable product, from the famous watches to engineering and pharmaceutical products.

In North America similar resorts developed later, but remain exceedingly rare. Examples that we may find in Western Canada are Banff and Lake Louise. The automobile syndrome generated a pattern of holidaying whereby people drive from place to place to visit the country, overnighing in tents, mobile homes and motels, generally following the highways and seldom being able to adventure into the unroaded side valleys, let alone the mountain tops. Hotel companies have specialized in building hotels that are primarily oriented to the convenience of business travellers. These types of hotels are successful in providing comfortable accommodation for people that travel from town to town. Tourism for these urban types of hotels primarily means conventions or dates with a partner. So the North American resort hotel is often designed as a destination for conventions, rather than for individuals or families looking for an extended stay for health, rest and recreation. It is also often located at major urban centres or near major traffic access points. With a few notable

exceptions, remote destinations have been avoided.

From motels to “resort” hotels, the North American tourism product has been mostly created to respond to the expected demand of people who move almost every day, from place to place. For a destination holiday most North Americans still today travel to Europe, the Caribbean, Mexico, Hawaii, and even resort destinations in southeast Asia. In Canada, this has generated a major tourism deficit. In terms of mountain resorts only places such as Whistler Blackcomb, Vail/Beaver Creek, Jackson Hole and Aspen seem to have created the kind of place where people may go for an extended holiday, but at great cost. Other places are trying to convert from day ski areas into extended stay areas, but are having great difficulty because of climate, location and lack of initial planning. This compares poorly with the mountains of Europe, where literally thousands of mountain resorts in excellent locations cater to a continent-wide clientele with a complete spectrum of facilities and affordability. Kicking Horse Mountain Resort is a recent example of a successful attempt at filling the North American vacuum for vacation homes at the foot of a lift accessible mountain. However, the difference is still great and is still enticing many North Americans to fly to Europe for a rewarding mountain holiday of more than a few days.

10.1.1.5 The Window of Opportunity

The lack of destination resorts is being discovered continent wide, and while locations are difficult to find and approvals are even more difficult to obtain, it is apparent that all governments, from Quebec to British Columbia and from Vermont to California are discovering that tourism is an important means for diversification of the economy and that health, rest and recreation are important needs to respond to in the public interest.

For the East Kootenay it is an historical moment to seize the opportunity to become known world-wide as an area of destination mountain holidays, comparable to the best in the world.

10.1.2 The Opportunities

Canadian Mountain Holidays, based in Banff but operating in B.C., has already realized the dream of showing the interior of B.C. to the world and has created an unsurpassable product with heli-ski skiing destinations, but this is a very small segment of tourism and is too exclusive to generate the mountain destination resorts where urbanized people go for general health, rest and skiing recreation.

Jumbo Glacier Resort represents the opportunity to offer a tourism product that will draw world wide attention to the beauty of the Purcell Mountains and to its undiscovered skiing potential for the general public. It will also be the only place in North America capable of operating a successful ski school year round for the general public. Through its summer camps on Farnham Glacier, CODA has already made possible to train Canadian skiers before the 2010 Olympics.

10.2 JUMBO GLACIER RESORT, A TRULY UNIQUE DESTINATION AND THE ULTIMATE MOUNTAIN EXPERIENCE

Most new initiatives and newly discovered locations are called unique, and indeed they are from the point of view that no two endeavours or places are the same. However, often most places and experiences are not very different from many others. Jumbo Glacier Resort is unique in a more real and dramatic sense because in North America Jumbo Glacier Resort will be the only place capable of delivering tourists to the top of glaciers with views that only mountain climbers occasionally achieve and skiing that only helicopter skiers can dream of achieving. **Its latitude, access, location, climate and geography make the resort stand out on a continent-wide, and perhaps worldwide, comparison.** Lift-accessed skiing from elevations that are one third higher than the top of Whistler Blackcomb in the dry powder of the Purcell Mountains will have no comparison in North America or Europe. The resort will be at an elevation where there will be abundant snow without the need of supplying snow making equipment, an unfortunate and increasingly important necessity for many existing lower elevation ski resorts.

The view from the top of Glacier Dome of Jumbo Glacier calving and falling into the Lake of the Hanging Glacier below is stunning and truly unique. Only cruises to Alaska can offer similar views, but the view from the mountaintop is a significantly more immersive and impressive experience.

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