

TUROA SKI AREA

INDICATIVE DEVELOPMENT PLAN 2011

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Updated 2013 following installation of the Nga Wai Heke Quad Chairlift
April 2011

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1. INTRODUCTION

1.1 Tongariro National Park

Turoa Ski Area is located on the south western slopes of Mt Ruapehu and within Tongariro National Park. The Park is administered by Department of Conservation under the National Parks Act 1980.

The Tongariro National Park Management Plan requires a ski area concessionaire to “prepare and maintain indicative development plans which provide for the operation of ski areas for approximately ten years”.

This Indicative Development Plan (IDP) has been prepared to outline those facility developments Ruapehu Alpine Lifts (RAL) would like to implement on Turoa Ski Area during the period through to 2020. This plan updates the previous IDP which was prepared in September 2001.

We emphasise the term "indicative" as used in the title. Prior to each stage of development being implemented it must be accepted that the effects of previous developments and other planning concepts incorporated within the document will be further considered. The plan must be flexible and continuously under review. Proposed facilities have been outlined as to use and location. No architectural or engineering details are included.

1.2 Tangata Whenua.

Tongariro National Park and in particular the three mountains of Ruapehu, Ngauruhoe and Tongariro includes land of special significance to local Iwi. Land south of the summit of Mt Ruapehu including much of the land on which Turoa Ski Area is located is the traditional lands of the Ngati Rangi & Ngati Uenuku tribes.

There are a number of other Iwi who have a traditional and close association with Mount Ruapehu. There is currently a wide claim before the Waitangi Tribunal, “National Park Inquiry – Wai 1130”, which involves all of these Iwi. It is expected the Tribunal will issue it’s findings in the next two years and RAL understands the Crown will then commence negotiation on settlement of claims. The Tribunal findings and subsequent settlements with the Crown will provide clarity as to which Iwi rightfully have tangata whenua status and therefore must be consulted on the cultural effects of ski area operation and development. In the interim RAL will continue to consult with many Iwi and endeavour to develop and maintain meaningful, open and effective relationships.

In the past ten years there have been many changes implemented to ski area operations and developments, both proposed and implemented, which are intended to mitigate those cultural effects which have been either clearly stated (eg disposal of effluent) or have been more perceived by RAL (eg terrain modifications).

1.3 Ruapehu Alpine Lifts Ltd

Ruapehu Alpine Lifts Ltd (RAL) was incorporated in 1953 with its primary purpose being the promotion of skiing and other sport on Mt Ruapehu and the provision of amenities for the sport and recreation users of the mountain. The company is structured such that all income is used for this purpose and no return of profits is available for shareholders.

1.4 License

RAL has the right to operate Turoa Ski Area under a license issued by Department of Conservation. The current license was issued in 1977 and has a 45 year term terminating on 31st October 2022. This licence was assigned to RAL on 24th November 2000.

1.5 Tongariro National Park Management Plan

No development proposed is in conflict with the objectives and policies outlined in the Tongariro National Park Management Plan 1990.

1.6 Ruapehu District Scheme & Resource Management Act.

The activities and developments proposed within this Indicative Development Plan are subject to Ruapehu District Scheme and the consent processes required under the Resource Management Act.

2. SUMMARY

2.1 Developments

In every case those developments proposed in this Indicative Development Plan will replace an existing facility or provide for the removal of an existing facility.

Developments of lifts, buildings etc will be concentrated to within a central “wide corridor” of terrain with the outlying natural terrain to the east and west of this corridor remaining free of structures. This outlying terrain accounts for an estimated 40% of terrain within the current ski area boundaries. This constrains the extent of physical developments proposed for the ski area and is in line with conservation objectives which have been advocated by DOC.

Terrain modifications, required to ensure all trails can be managed to provide safe travel for skiers and snowboarders, that are now proposed are significantly less than planned under earlier development reviews. RAL believes that safety requirements can be met from a far smaller scale of required terrain modifications but only if snowmaking capacity and coverage plus the snow fencing projects, as promoted, can be achieved.

2.2 Design Carrying Capacity - number of persons on a day

DOC and Iwi have expressed concerns at implied ever increasing peak day numbers. RAL has reviewed long term strategic planning and in acknowledgement of these concerns is accepting that there is a limit to the number of persons that should be catered for on any one day. Growth in overall business has to emanate from better utilisation of assets outside of peak weekends and school holiday periods.

This IDP provides for changes to the ski area which are targeted at increasing the quality of experience and therefore better meeting customer's ever increasing expectations, rather than targeted at providing for any material increase in the daily number of visitors which the ski area will provide for.

The upgraded facilities proposed will provide for a very small increase in the Design Carrying Capacity of the ski area, from 4,800 persons on a day to 5,000 persons. But far more importantly these improvements will meet customer demands for shorter (if any) queue times at the principal lifts and in the Chalet facilities on an average busy day when visitor numbers are at the Design Carrying Capacity level. This Design Carrying Capacity at 5,000 persons is significantly less than the potential 10,000 persons considered in prior long term planning exercises.

It is expected, and accepted, that on up to 10 days per season this Design Carrying Capacity will be exceeded by up to 20%. Carpark facilities will be provided for these “above peak days” as are the sewage reticulation facilities. All other facilities are sized to cater for the Design Carrying Capacity and on these “above peak days” queue times at lifts and within cafeterias will be longer than is normally acceptable.

2.3 Facility Developments

The major developments proposed through this planning period include

- **Lifts**

- **Nga Wai Heke Triangle Quad Chairlift** – is a relocation, to a lower elevation, of the High Flyer Quad Chairlift
This upgrade completed in 2012 with installation of Nga Wai Heke Chairlift
- Movenpick Express – is an upgrade of this lift from a fixed grip to a detachable chairlift, on the same line and using the same tower foundations
- Sunset Express – a new quad detachable chairlift on a new line to better service the western slopes. It will allow removal of the Jumbo T Bar.

- **Chalet Buildings**

Total seating in and outside Chalet facilities will increase to 1,200 seats. A new 400 seat chalet will be developed at Blyth Flat, which will allow removal of current chalet services at the top of the Giant Chairlift. The Alpine cafe in the base area and the Snowflake Cafe at Winteregarden will both be extended to provide a 10% to 20% increase in current floor area.

- **Snowmaking**

Snowmaking reticulation will be extended to cover trails:

- Upper Freeway & Yahoo trails from Blyth Flat to top of Giant Chairlift
- Under the full length of the **Nga Wai Heke Triangle Quad Chairlift**
- Across to the base of the Sunset Express and then down Home Run to the Base Area
- From Little Burn trail down to The Sisters and back to the base area

This snowmaking expansion will require an increase in the water available. This can be achieved from either

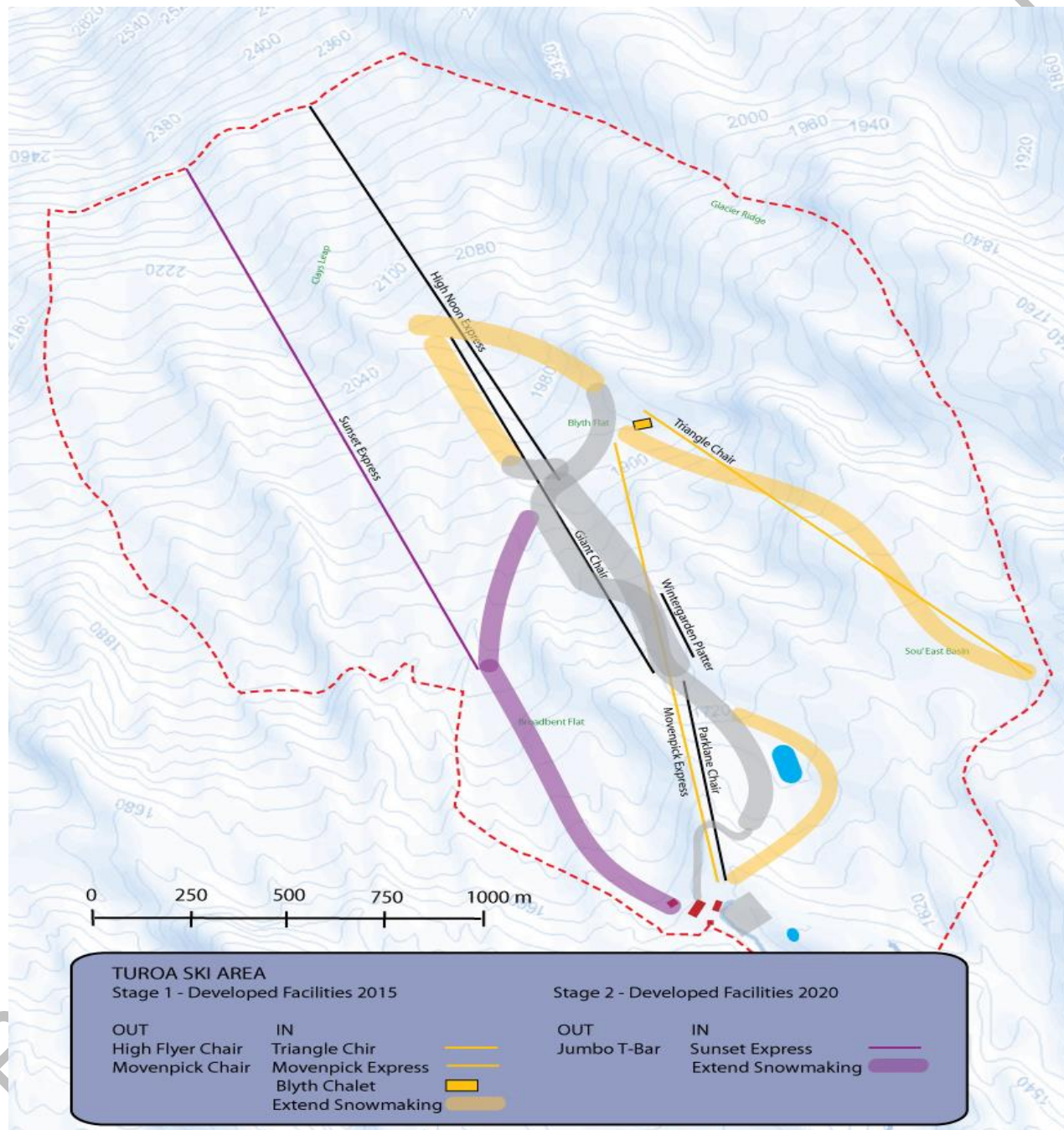
- access to an additional water supply from a spring at the Amphitheatre which is in the Mangawhero Catchment plus from a spring located in the headwaters of the Mangaehuehu Catchment with this water then being stored in the existing reservoir prior to being used for snowmaking across trails in both of the Mangawhero and Mangaehuehu catchments.

OR

- the construction of an additional two storage ponds
 - with one utilising water from the Mangaeheuehu Catchment for snowmaking on trails under the **Nga Wai Heke** Triangle Quad which are in this catchment, and
 - the second supplementing the current reservoir for snowmaking in the Managawhero catchment
- **Terrain Modifications – ski trails**

Terrain modifications proposed for ski trails is limited to the requirement for additional trails back to Base Area at the lower elevations of the Ski Area plus minor modifications on Upper Freeway, Buttresses and on some lower trails under the new **Nga Wai Heke** Triangle Quad.





3. PRIORITY OF DEVELOPMENT

3.1 The priority for implementation of the main developments which are included within this IDP will be :

	Stage 1 - Developed Facilities 2015	Stage 2 - Developed Facilities 2020
Lifts	<ul style="list-style-type: none"> o Nga Wai Heke Triangle Quad Chairlift o Movenpick Express 	<ul style="list-style-type: none"> o Sunset Express
Chalets	<ul style="list-style-type: none"> o Blythe Chalet 	<ul style="list-style-type: none"> o Alpine Cafe expansion o Snowflake Cafe expansion
Snowmaking	<ul style="list-style-type: none"> o trail under Nga Wai Heke Triangle Quad o Chairlift o Sisters trail to Base Area 	<ul style="list-style-type: none"> o Home Run trail to Sunset Express and then to Base Area
Terrain Modifications	<ul style="list-style-type: none"> o additional trails back to Base Area 	

3.2 This schedule which provides the indicative order of development does not include a number of minor developments which are proposed; eg carpet lift in Alpine Meadow, Car Park alignment corrections and smaller building modifications around the Base Area.

The priority order for these smaller scale developments, which will have far lesser effects, must be more flexible.

4. ASSESSMENT OF EFFECTS

- 4.1 All developments identified will require preparation of a Works Approval Application for presentation to DOC and many projects will also require lodging of Resource Consent applications to District and/or Regional Councils. Either of these applications will involve detailed consideration of effects of the development proposed.

As stated in the introduction this IDP is prepared to provide an “outline” of developments proposed and no engineering or architectural details are included. Therefore within this IDP there cannot be a detailed Assessment of Effects for each proposal. The following is therefore a very broad assessment of some principal effects..

4.2 Infrastructure

The infrastructure required for ski area operations has predominately been achieved in recent years. Implementation of developments proposed in this IDP requires:

- no further development of the access road
- only minor changes to carparks, and this is all within terrain which has already been modified for roads or carparks
- extension of mains power supply to the terminals of the Nga Wai Heke Triangle Quad and Sunset Express chairlifts, and along the additional snowmaking reticulation lines
- no changes are required to the sewage reticulation on mountain or the disposal in Ohakune
- some extension to snowmaking reticulation
- access to additional water supply for snowmaking

4.3 Cultural Effects

RAL has been engaged with Ngati Rangi, Ngati Uenuku, Ngati Tuwharetaoa, Ngati Hikairo plus other Iwi for many years and placed significant resource and effort to developing a better understanding of the cultural effects of ski area operation and development. Some examples of material changes which are now consistently applied in ski area operations and planning include, but are not limited to;

Effluent Disposal

All human effluent which emanates from the Ski Area is reticulated to the Base Area and then transported to Ohakune for treatment and disposal in the Ohakune Sewage Treatment Plant. This has eliminated the very negative cultural effect from discharge of human waste, no matter how well treated in an environmental sense, into the mountain

Terrain Modifications

Iwi have expressed and implied their concerns at ongoing terrain modifications. Over the past ten years ski area management has developed a more effective understanding of these concerns and will now always first endeavour to achieve the required outcome through greater use of snow management techniques including snowmaking, snow fencing and snow grooming. Terrain modification proposals referred to in this IDP are very few and relatively minor in scale compared to what was more normal ten and more years ago.

RAL will continue to work with all Iwi who have tangata whenua status to ensure every effort possible is made to eliminate or mitigate negative cultural effects.

4.3 Safety Effects

All developments proposed are located away from principal avalanche paths, and the avalanche hazard is well mitigated through the Ski Area Safety Management System. The Eruption Detection System and involvement with GNS and DOC scientific staff ensures that all Volcanic risks are mitigated as much as is possible. There are no major lahar paths which traverse through the Ski Area.

The only terrain modifications proposed for ski trails are those that will reduce skier densities on trails and result in reduction in hazard caused by too many skiers using narrower trails.

4.4 Visual & Ecological Effects

RAL believes that the limited number of lifts proposed for the upper slopes and the the review of design and siting undertaken for all developments will result in the Ski Area having an overall lower visual impact, especially when viewed from below the Ski Area. All major developments will undergo Visual and Ecological Impact Assessments as part of the design and approval processes.

5. DESIGN CARRYING CAPACITY

- 5.1** The current Design Carrying Capacity (DCC) is 4,800 persons on any one day. This IDP provides for changes to the ski area which are targeted at increasing the quality of experience and therefore better meeting customer's ever increasing expectations, rather than targeted at providing for any material increase in the daily number of visitors which the ski area will provide for. The upgraded facilities proposed will provide for a very small increase in the Design Carrying Capacity of the ski area, from 4,800 persons on a day to 5,000 persons. But far more importantly these improvements will meet customer demands for shorter (if any) queue times at the principal lifts and for an increase in the number available seats in Chalet facilities.
- 5.2** It is expected, and accepted, that on up to 10 days per season this Design Carrying Capacity will be exceeded by up to 20%. Carparks facilities and the sewage reticulation infrastructure will be provided for these "above peak days". All other facilities and associated infrastructure are sized to cater for the Design Carrying Capacity and on these "above peak days" queue times at lifts and within cafeterias will be longer than is normally acceptable.

Current Facilities - 2010

	People					DCC
	on Lift	queue time	in Queue	on Slopes	in Café	
		min				
Alpine Meadow 1	25	2.0	33	85	36	179
Alpine Meadow 2	13	2.0	23	120	39	195
Movenpick	272	5.0	142	136	137	687
Parklane	126	5.0	125	101	88	440
Winter Garden 1	23	3.0	39	110	43	214
	459					1,716
Snowplayers @						436
Lower Mountain	459					2,152
Giant	209	4.5	107	107	106	529
High Flyer	222	4.0	148	155	131	657
Jumbo	108	4.0	93	65	67	333
High Noon Express	252	7.5	400	252	226	1,130
Upper Mountain						2,648
Total						4,800

Stage 2 Developed Facilities - 2020

		People					DCC
		on Lift	queue time	in Queue	on Slopes	in Café	
			min				
Alpine Meadow 1	Carpet Lift	25	1.0	17	85	42	168
Alpine Meadow 2	Carpet Lift	35	1.0	17	120	57	228
Movenpick	Express Quad	236	2.0	93	262	195	787
Parklane	Triple Chairlift	126	2.0	50	101	91	368
Winter Garden 1	Platter	23	1.0	13	110	48	194
		445		190	678	433	1,745
Snowplayers @	10.0%				327	109	436
Lower Mountain		445					2,181
Giant	Triple Chairlift	209	2.0	48	105	119	481
Nga Wai Heke Triangle	Quad Chairlift	206	2.0	67	133	134	539
Sunset Express	Express Quad	244	4.0	160	231	210	844
High Noon Express	Express 6 seat	252	4.0	213	252	237	954
Upper Mountain		911		488	721	699	2,819
Total		1,355		677	1,726	1,241	5,000

cc Current Facilities - 2010

4%

Proposed Developments

6. LIFTS

6.1 Stage 1 lift developments will include:

- relocation of the High Flyer to service terrain out of Sou East Basin; to be called the **Nga Wai Heke Triangle Quad Chairlift**
This upgrade completed in 2012 with installation of Nga Wai Heke Chairlift
- a second carpet lift on Alpine Meadows to replace the Platter
- Upgrade of the Movempick Quad Chairlift to a 4 seat detachable chairlift; the Movenpick Express

Stage 2 lift developments will include:

- Replacement of the Jumbo T Bar with a detachable chairlift; the Sunset Express

6.2 A further review of lifts servicing the beginner and low intermediate terrain below the Wintergarden area and down to include Alpine Meadows will be undertaken once an outcome is determined from a review of the Alpine Flush and Mangawhero Gully zones which are currently excluded from ski area developments.

Current Facilities - 2010

	Lift Capacity (pph)	Altitude Base (m)	Vertical Top (m)	Length Rise (m)	Incl (m)	vtm/hr (,000)
Alpine Meadow 1	1,000	1,610	1,619	9	125	9
Alpine Meadow 2	700	1,616	1,626	11	112	8
Movenpick	1,700	1,630	1,937	307	1,348	522
Parklane	1,500	1,630	1,768	139	609	209
Winter Garden 1	780	1,753	1,791	38	231	30
Lower Mountain						777
Giant	1,431	1,747	2,057	310	1,221	444
High Flyer	2,220	1,930	2,078	148	760	329
Jumbo	1,400	1,920	2,212	292	997	409
High Noon Express	3,200	1,924	2,322	398	1,359	1,274
Upper Mountain						2,455
TOTALS						3,231

Stage 2 Developed Facilities - 2020

	Lift	Altitude Base (m)	Vertical Top (m)	Length Rise (m)	Incl (m)	vtm/hr (,000)
Alpine Meadow 1	Carpet Lift	1,610	1,619	9	125	9
Alpine Meadow 2	Carpet Lift	1,616	1,626	20	150	20
Movenpick	Express Quad	1,630	1,937	307	1,348	860
Parklane	Triple Chairlift	1,630	1,768	139	609	209
Winter Garden 1	Platter	1,753	1,791	38	231	30
Lower Mountain						1,127
Giant	Triple Chairlift	1,747	2,057	310	1,221	444
Nga Wai Heke Triangle	Quad Chairlift	1,738	1,958	220	891	440
Sunset Express	Express Quad	1,820	2,300	480	1,615	1,152
High Noon Express	Express 6 seat	1,924	2,322	398	1,359	1,274
Upper Mountain						3,309
Total						4,436

cc Current Facilities - 2010

37%

7. SNOW MANAGEMENT & TERRAIN MODIFICATIONS

There are many trails where the safety and ease of movement by skiers and boarders can be significantly enhanced through any or all of:

- the provision of additional snowmaking capacity, and/or
- management techniques to more effectively catch and use natural snow falls, and/or
- selective modification to the natural terrain.

All snow management options will be explored prior to any works application being developed for terrain modifications. These modifications will be evaluated in light of skier and boarder traffic flows, safety and the company's growing knowledge and expertise in snow management. Evolving techniques of terrain modification and restoration will also ensure any changes are more 'conservation friendly'.

SNOW MANAGEMENT

This section will cover all activities of snow management including snowmaking, snow grooming, and snow fencing.

7.1 Snow Making

Current

The existing snow making system provides for a water resource and reticulation system which enables coverage on the beginner terrain of Alpine Meadow and Wintergarden plus the main trails of Clarrys Track, Boneyard and Lower Freeway. The current water resource is from a 45,000cum main reservoir located below Wintergarden which is supplied from the natural spring flows from one of the tributaries of the upper Mangawhero Stream. These flows are initially fed into a small 2,000cum reservoir below Alpine Meadow and then pumped up to the main reservoir.

All of the trails on which snowmaking currently occurs, or is approved for, are in the Mangawhero Catchment.

Snowmaking generally occurs from early June through to the end of August. During this period water is being taken out of the Mangawhero Catchment. At the cessation of snowmaking the main reservoir would normally be near empty. Water will continue to be taken for a further 2 to 4 weeks and by late September both reservoirs will be full. No further water will then be taken until snowmaking recommences in early June of the following year.

This infrastructure does not provide sufficient water for the approved snowmaking extension to Upper Freeway and Yahoo.

Proposed Development

Extensions to the reticulation system is proposed which will provide snowmaking capacity on the following terrain:

- Upper Freeway & Yahoo trails from Blyth Flat to top of Giant Chairlift
- trails under the new **Nga Wai Heke** Triangle Quad Chairlift
- from Little Burn around the main reservoir to The Sisters and back to the Base Area
- Home Run trail from the lower Why Not trail past the bottom terminal of the Sunset Express and then down to the Base Area

The trails under the Triangle Chairlift are in the Mangaehuehu Catchment. All other trails on which snowmaking is proposed are in the Mangawhero Catchment.

The existing water take from the Mangawhero Catchment and the existing Reservoirs do not provide sufficient capacity for any expansion of the snowmaking system. An additional water resource is required.

RAL proposes this be provided by a new water take from a spring located 50m east of the High Flyer chairlift in the Mangaehuehu Catchment. This water would be reticulated to the existing main reservoir and then pumped through the snowmaking system. ~~This solution will result in water from the Mangawhero and Mangaehuehu catchments being mixed in the main reservoir and then, when used for snowmaking, discharged onto terrain within both catchments. This solution will require a new consent for water take.~~ Subsequent discussions with Ngati Rangi people, and review of topo maps, indicates these trails are not in the **Managaehuehu Caatchment**

If the mixing of water between these two catchments cannot be agreed to the alternate development will involve:

- to enable snowmaking on the trails under the **Nga Wai Heke** Triangle Quad Chairlift, which are in the Mangaehuehu Catchment, a new consent for water take will still be required from the Mangaehuehu spring mentioned above and this water will then be stored in a new 40,000cum reservoir with own pumping and reticulation system.
- To enable expansion of the snowmaking system for trails in the Mangawhero Catchment an additional 50,000cum reservoir will be required.

7.2 Grooming Machines

Total Skiable Area	500 hectares
Area Groomed Consistently	150 hectares
Groomer Vehicles Required	7

It is expected that the frontline grooming fleet will consist of 7 vehicles (an increase of 2 on the current 5). All machines would be similar to the current Kassbohrer PB 400 & PB 600 models.

These grooming machines will be supplemented by up to three excavators and up to two tracked dump trucks which will be used for snow shifting activities from around buildings, lift terminals and some key trails. It is also envisaged that two to four oversnow tracked vehicles will be set up for other general uses eg carrying snow making guns, staff transport, maintenance servicing, food transport etc.

7.3 Snow Fences

Over recent years the company has installed a number of snow fences which are used to catch and/or trap wind driven snow. The climatic conditions experienced at Mt Ruapehu, especially the high winds which frequently accompany snow falls, ensure that snow fencing has an important role to play in maximising the utilisation of natural snow for creation and maintenance of ski trails. In simple terms "we must endeavour to keep the snow where we ski regularly and not where we do not ski".

It is envisaged that snow fences will continue to be similar to the current designs which require installation of small concrete foundations for each post.

On-going liaison will be maintained with DOC to ensure this activity continues to be an important and acceptable feature of our snow management techniques.

TERRAIN MODIFICATIONS

7.4 Clarry's Track, Clarry's Track #2, Home Run, Sisters

Currently Clarry's Track is the only trail which provides a reliable skiable return to the Base Area. The other two current trails, Home Run and Sisters, do not have snowmaking coverage and are only usable during periods of the season with very good natural snowcover. Clarry's Track is therefore frequently very crowded and has a high incidence of collision accidents.

To alleviate this congestion RAL has proposed that three additional routes be developed:

- A second Clarry's Track traversing down Mangawhero Gully under the Movenpick Chairlift at a lower elevation than the current Clarrys Track. This would be reticulated for snowmaking.
- A Sisters route with snowmaking, but also requiring an extension to the Alpine Meadow culvert and fill to allow a direct route from the Sisters to the bottom of the Movenpick Chairlift
- Snowmaking reticulation on Home Run.

Some terrain modifications to the natural terrain would be required for the second Clarrys Track and the Sisters trail. No additional terrain modifications are required for Home Run. Preliminary discussions on these proposals have been held with DOC and RAL is now reviewing whether any alternate options could also be practicable and therefore considered.

7.5 There are relatively minor terrain modifications for ski trail improvements proposed for Upper Freeway, Buttresses and in the lower Triangle Quad trails. These relatively few proposed modifications reflect a change in management thinking with regard to ski trail development. The cultural concerns advocated by Iwi with regard to terrain modifications has been the dominant influence to this change.

The great majority of required improvements to ski trails, including those which have been considered in recent years, will be achieved from an increase in snowmaking capacity and reticulation rather than further modifications to the natural terrain; with this snowmaking being supplemented by the other snow management practises (grooming and snow fences).

Proposed Developments

8. CHALETS

- 8.1 A new mid mountain chalet is proposed for Blyth Flat; this will replace the Giant Cafe.

The Alpine Cafe will be extended by one bay to the north wall, providing an additional 80 inside seats plus additional toilet facilities.

The Snowflake Cafe will have the "snowflake" roof structure altered to provide more effective seating in the upstairs area and be extended to include inside toilet facilities. This will allow removal of the separate toilet block which is currently in the Wintergarden area.

- 8.2 It is assumed that at any one time 25% of skiers and snow players will be using a cafe facility. It is felt that required seats can be adequately provided through a combination of inside and outside seating, with a minimum 80% of seats required being inside.

- 8.3 Toilets will be provided at all Chalets. The number of pans/urinals will comply with NZ Building Codes but should also reflect a minimum number calculated at
- | | | | |
|--------|-------------------|-----|-------------------|
| Ladies | 1 : 30 cafe seats | Men | 1 : 40 cafe seats |
|--------|-------------------|-----|-------------------|

8.4 **Services**

Sewerage

All effluent emanating from company facilities is now reticulated to the Base Area and then transport to Ohakune for treatment and disposal in the Ohakune Sewage Treatment Plant. This will continue to be the only method used for disposal of effluent. No changes are required to the existing on mountain reticulation system.

Water Supply

Water supply will be principally from existing spring fed supplies supplemented by some stored rain water. All water available for public consumption will be treated and comply with appropriate water quality legislation.

Fire Fighting

RAL is installing sprinkler fire suppressant systems in all large buildings. Each system, which may service sprinklers in a number of buildings within one general location (eg one system would service all buildings in the Base Area), will require dedicated water storage tank(s) with minimum total capacity of 80cum plus pumping and control systems.

Current Facilities - 2010

	Inside	Outside	Total
DCC			4,800
Chalet Facilities - seats provided			
Alpine Bar & Café	400	60	460
Snowflake	80	40	120
Giant Café	100	200	300
	580	300	880
	66%	34%	

Stage 2 Developed Facilities - 2020

	Inside	Outside	Total
DCC			5,000
Café Seats Required - at DCC	993	248	1,241
	80%	20%	
Chalets - seats to be provided			
Alpine Café (extended)	480	60	540
Snowflake (extended)	120	60	180
Blyth Flat Chalet	400	130	530
	1,000	250	1,250
	80%	20%	

Proposed Developments

9. CARPARKS

- 9.1** Carpark developments at Turoa have essentially been completed. RAL propose only two further minor changes to carpark dimensions.
- Redefine & narrow the bund along the western side of Carpark 1A. This will still allow sufficient bund to remain and to provide the visual screen (of parked cars) for those walking the Round the Mountain Track. Benefits from this work will include additional bus parking, more efficient drop off facility and an additional 25 carparks.
 - Change the ground levels at current Carparks 4, 5 & 6, to create one less terrace. This will provide efficiencies with snowclearing and an additional 25 carparks.
- 9.2** To mitigate the negative environment effects of gravel migration to surrounding terrain RAL proposes that in the long term all carparks are hard surfaced. This will also allow efficiencies in snowclearing and management of icy surfaces.
- 9.3** It is expected the number of persons using public transport will double (from 300 to 600). RAL will monitor the average persons per car/van and if this number trends below 3.0 RAL will implement a charging regime of some form (eg carpark fee or reward for 4 people/car) to influence behaviour in this regard.

Current Facilities - 2010

DCC			4800.46
" - average peak day	20%		5,760
Persons			
- using Public Transport to/from ski area			300
- arriving in large buses	5 buses @	40	200
- arriving by car or van	1,753 cars @	3.0	5,260
			<u>5,760</u>
		Buses	Cars
Carpark # 1 A		5	500
" #1 B			500
" #2			180
" #3			500
" #4			50
		5	<u>1,730</u>

Stage 2 Developed Facilities - 2020

Design Carrying Capacity (DCC)			5,000
" - "above peak day"	20%		6,000
Transport Methods			
- using Public Transport to/from ski area			600
- arriving in large buses	5 buses @	40	200
- arriving by car or van	1,733 cars/vans @	3.0	5,200
			<u>6,000</u>
Carpark Spaces available			
Carpark # 1A		5	525
" #1B			500
" # 2			180
" # 3			525
" # 4			50
		5	<u>1,780</u>

Proposed Developments

10. BASE AREA PLAZA

- 10.1** The Base Area Plaza is the principle interface between the Ohakune Mountain Road and the Ski Area. During the past 10 years the Plaza has been significantly upgraded and now functions more effectively in providing the spaces and services necessary for the customer transition from road end to lift start.

The Plaza, the adjoining Alpine Meadows beginners area and the Carparks are subject to a separate more detailed Base Area Development Plan (BADP). Prior to reviewing this BADP document RAL is in discussion with DOC with regard to the long term requirement to retain the Alpine Flush and Mangawhero Gully as being excluded from ski area development.

- 10.2** Current planning indicates further developments will all be relatively minor compared to what has been undertaken during the past 10 years. The main changes will involve extensions to:
- Alpine Cafe to the north, to provide both additional seats and additional toilets
 - Rental building to provide for Ski Workshop and additional circulation space for rental customers
 - Kids Centre as demand for this service increases
 - Maintenance Workshop to provide an additional 2 – 3 bays
 - Administration building to provide additional office & staff facilities and a more effective layout for the Medical Centre.
 - TOR 1 snowflake shaped building will have the second floor roof line altered to provide more effective spaces within this building.

11. OPERATION & MAINTENANCE FACILITIES

This section serves to outline any projected changes to the maintenance and operational facilities required to ensure the effective operation of Turoa Ski Area, excluding those located in the base area.

11.1 Groomer Workshop

Currently all on mountain servicing and refuelling of Groomers occurs in the Armco workshop located in the Wintergarden area. When the Blyth Flat Chalet is constructed, and the Giant Cafe then closed, it is proposed to relocate these services into the space immediately under the Giant Chairlift Top Terminal which is currently used as part of this Giant Cafe. The Armco workshop will then be used for maintenance and servicing of snowmaking equipment.

Mains Power standby

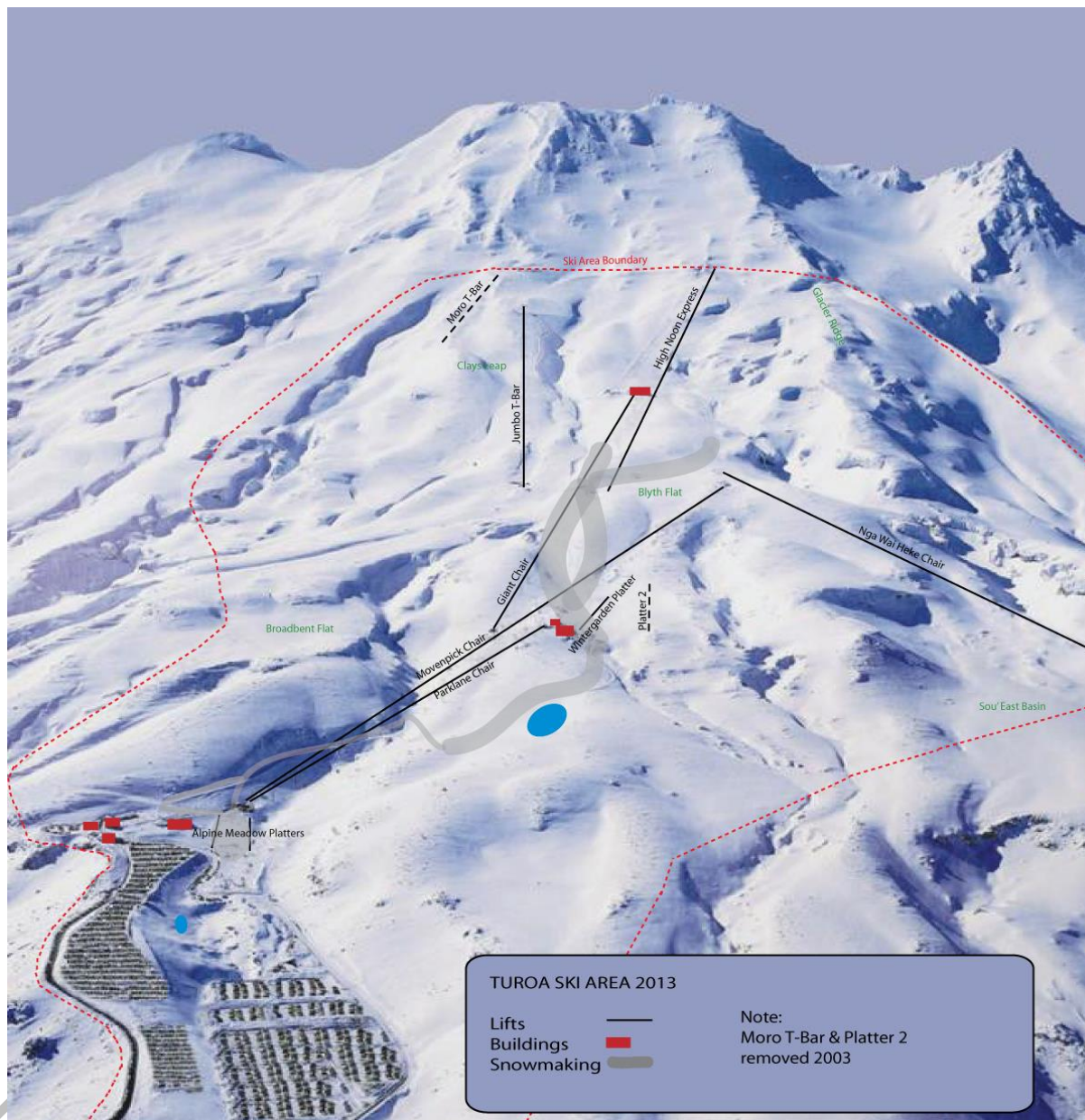
In 2007 a 1.2 megawatt diesel generator was installed in the drive terminal of the High Noon Express. RAL proposes to install a further similar sized generator at the base of the ski area in a location below Alpine Meadows. These two generators will provide mains power backup for all lift and chalet facilities and allow for removal of the existing 2 standby diesel drives for lifts and 3 current smaller diesel generators.

These two large Generators may also provide additional power supply to the ski area should future peak demand be greater than the existing reticulation from Ohakune can provide.

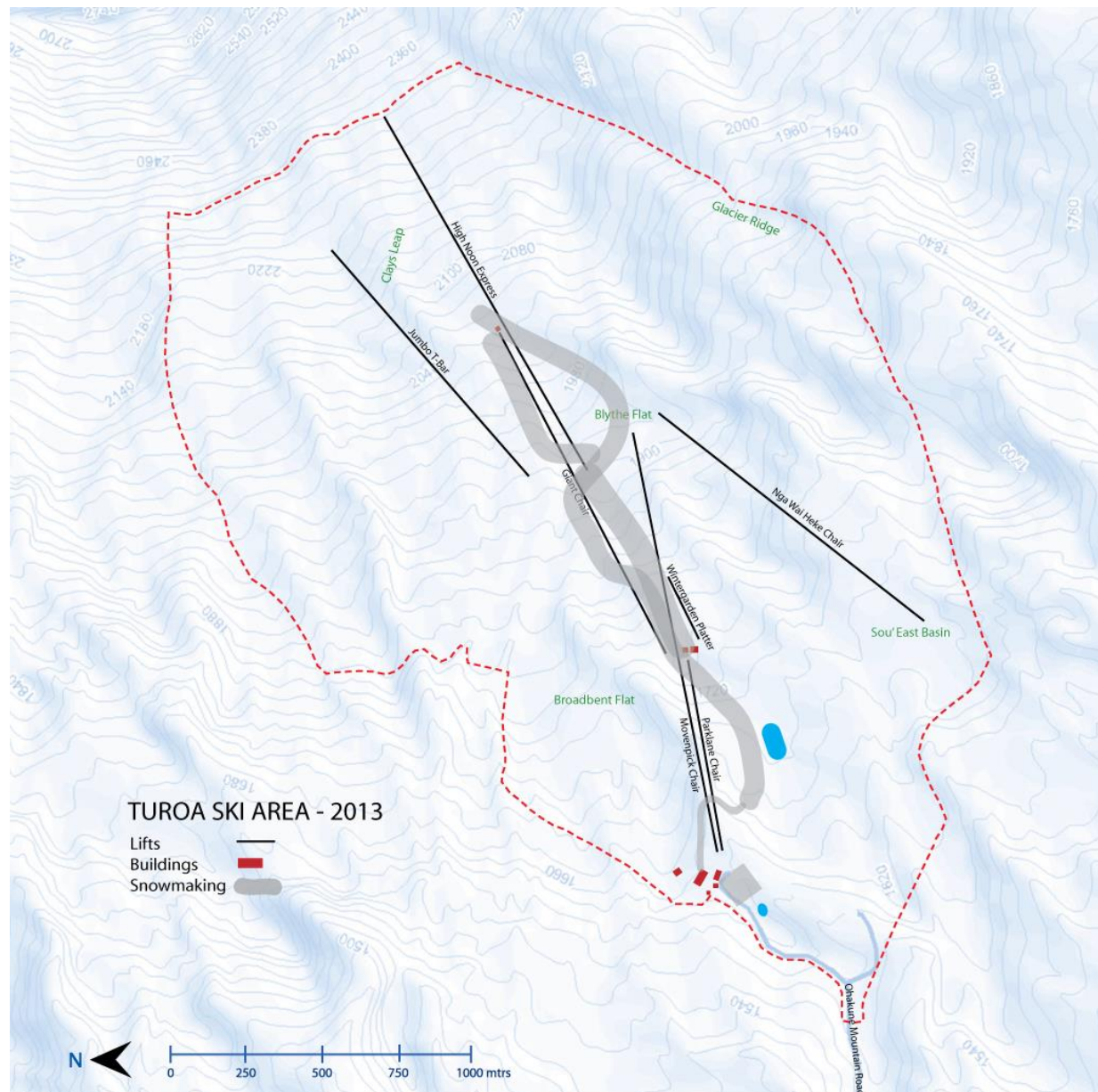
11.2 Other changes to operational and maintenance facilities are expected to only occur where the service required may be included as relatively small spaces within new lift terminal buildings or within the Blythe Flat Chalet.

11.3 Removal of Old Structures

The company is committed to removing all structures that are not required. This includes old foundations, buildings, cables etc. Once structures have been removed every effort will be made to restore ground to natural contours and, where appropriate, a program of replanting with native vegetation will be implemented.



July 2013: includes Nga Wai Heke Chairlift installed in 2013



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