3. PROJECT DESCRIPTION

3.1 PROJECT OBJECTIVE

The primary objective of the Project is to provide a world class, multi-valley ski area that will attract local and international visitors and cater to both the existing and future visitor demands for ski tourism in the district and region.

To achieve the objective, the Project seeks to upgrade the existing infrastructure within the Remarkables Ski Area and expand the lift-accessible skiable terrain by approximately 262 hectares by expanding into the adjacent Doolans Basin. The Doolans Basin will be accessed via a newly established gondola and ski trails.

The design capacity of the Remarkables Ski Area is approximately 3500 skiers at one time. The expansion of the ski field is expected to increase this capacity to 6,000 skiers at one time.

The Project has also been designed to improve the overall resilience of the Remarkables Ski Area by expanding into a different south-facing valley, with the Doolans Basin having a greater ability to retain snow, improving its longer-term resilience to the potential effects of climate change.

3.2 PROJECT OVERVIEW

The Project is located within the Rastus Burn and Doolans Basin, within the wider Remarkables Ranges. The Project broadly falls within one of three distinct geographical areas:

1. **The existing Remarkables Ski Area:** This area includes the existing 449 hectare ski area in the Rastus Burn and the associated Remarkable Ski Area Field Access Road;
2. **The Doolans Basin Ski Expansion Area:** This area is a new, 262 hectare expansion of the existing ski field into the adjacent Doolans Basin; and
3. **Lower Remarkables Transit Hub:** this area includes the existing lower car park adjacent to SH6 (Car Park A), at the bottom of the Remarkables Ski Field Access Road, and the proposed new area of car parking located approximately 500m east of Car Park A and within the Boneyard storage area.

An overall Site location plan is shown in **Figure 3-1** and general arrangement of the proposed works shown in **Figure 3-2**, with a detailed description of the works occurring within each of areas described above, contained in Sections 3.4, 3.5 and 3.7 of this substantive

application. Where Project works are generic across the existing Remarkables Ski Area and Doolans Expansion Area, these are described in Section 3.6, with the proposed wastewater treatment upgrades proposed to service the Project described in Section 3.8. The ongoing operation of the ski field within the Central Otago District is addressed in Section 3.5.5.[30]

The Project seeks to authorise the construction, operation, use and ongoing maintenance of all activities and structures described in this section of the application documents and shown in the plans contained in **Part C**.

The relevant approvals required are detailed in Section 4, and in detail in **Part G** of the application document.

It is noted that the activities described in the following sections represent the most conservative or "worst case" scenario, including the maximum disturbance footprints for the Project. As described in Section 1, NZSki has sought to refine and reduce the Project's footprint during the conceptual design phase and will continue to do so, where practicable, as detailed design is progressed. The proposed conditions, as set out in **Part H**, reflect this iterative approach and the intention for construction works to minimise environmental effects wherever practicable.

[30] Note that ski area activities are permitted in the Ski Sub Zone of the Queenstown Lakes District Plan, therefore similar operational conditions are not required within the Rastus Burn.

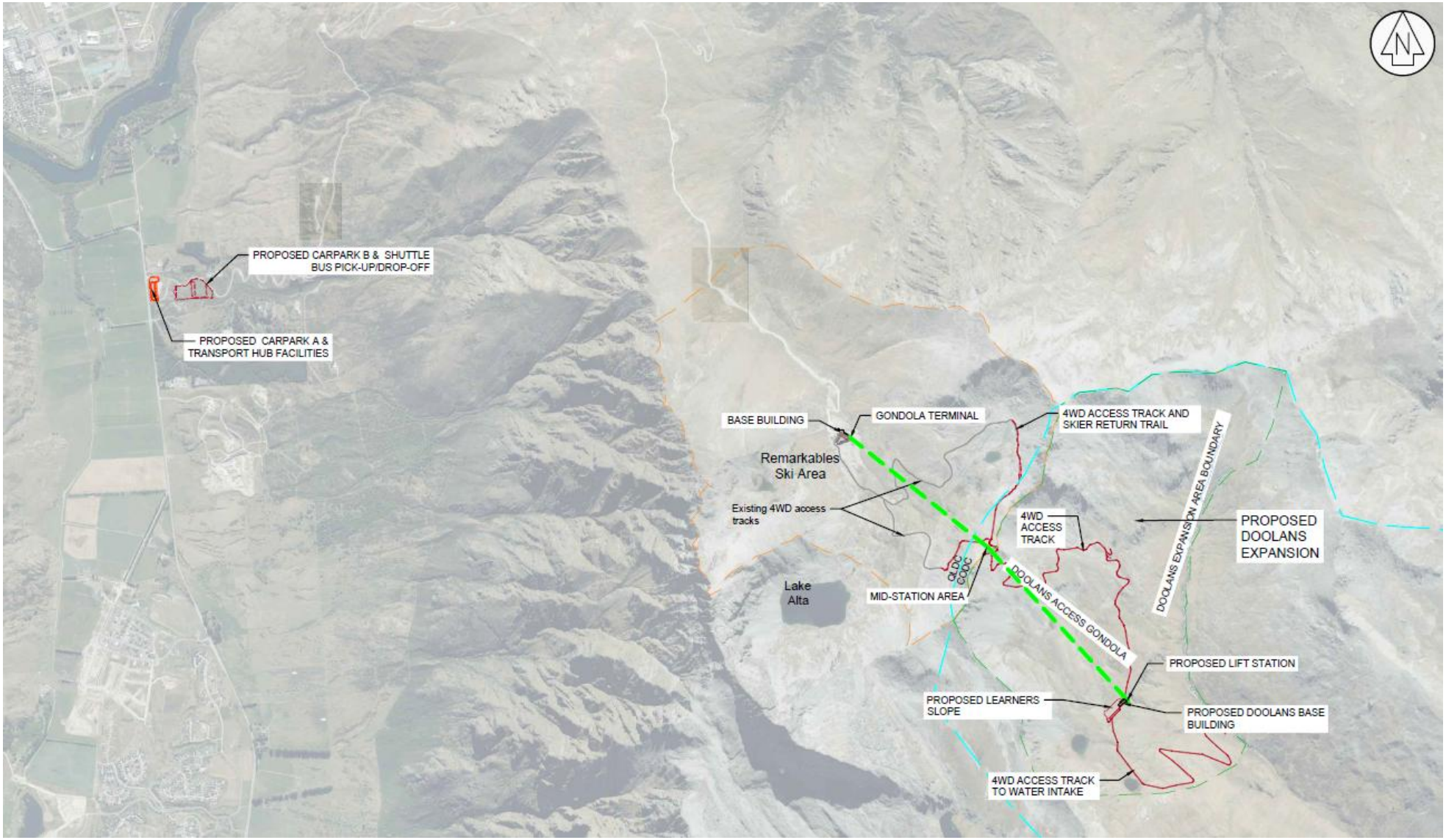


Figure 3-1: Overview of the broad Project Area

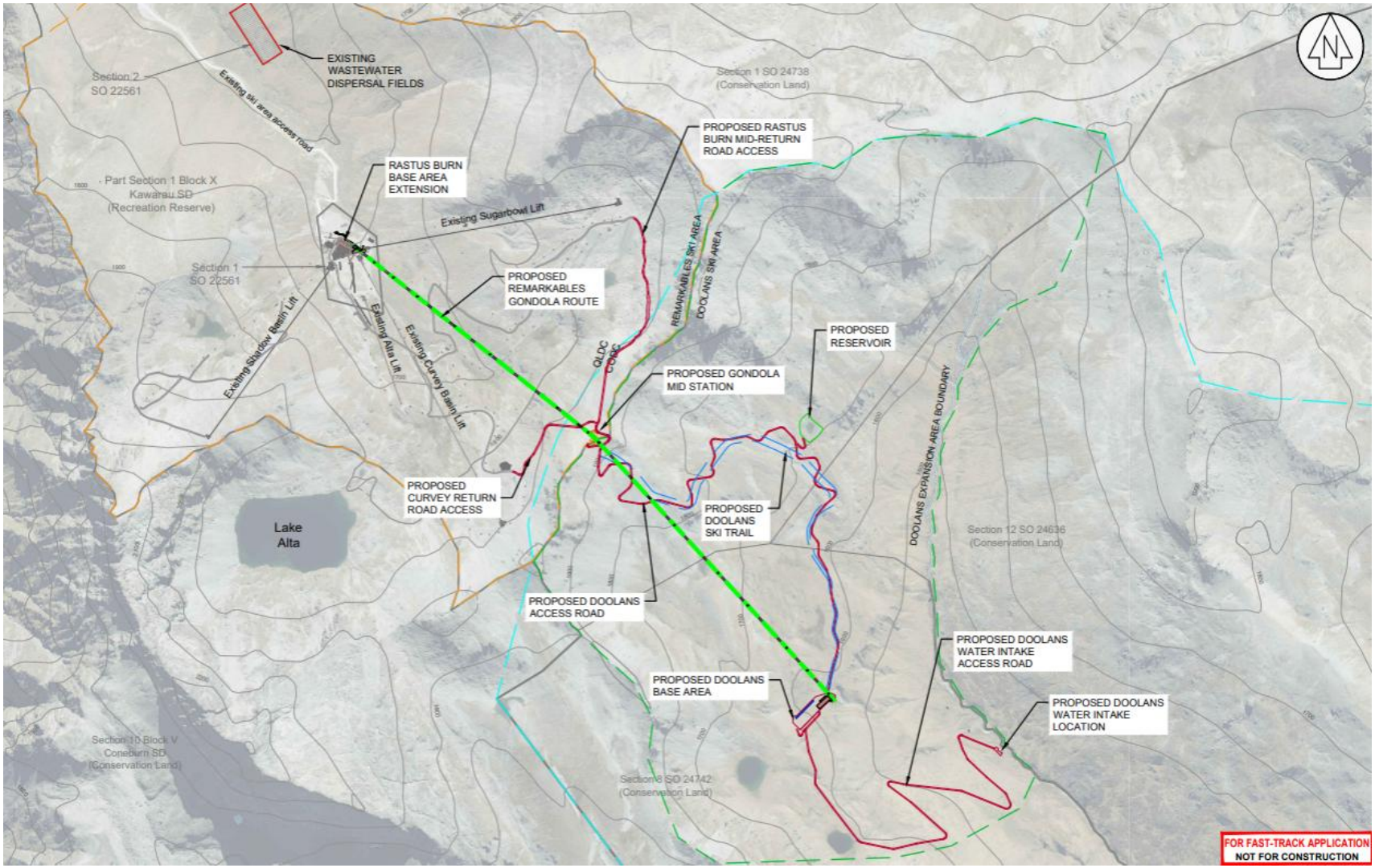


Figure 3-2: General Arrangement of the Remarkables Upgrade and Doolans Expansion Project

3.3 CONSTRUCTION OVERVIEW

Construction of the Project will occur incrementally, over approximately four summer seasons.

The overarching construction methodology and approach is set out in the Remarkables Ski Area Upgrade and Doolans Expansion – Construction Management Framework (**"Construction Management Framework**" or "**Auxilium (2026)**"), attached in **Part B** of the application documents. This framework has informed the design and development of the Project, and sets out principles for construction, which seek to ensure that:

- Construction is undertaken in logical, self-contained phases;
- Each phase delivers a defined outcome or enables subsequent works;
- Effects are managed and mitigated progressively, as the effects arise;
- Disturbance is consolidated where practicable;
- Sites are stabilised and made safe at the end of each construction season;
- Construction remains adaptable to weather, ground conditions, and operational requirements to ensure safe working conditions; and
- The interface between operational ski areas, public access and construction activities is safely managed.

3.3.1 Timing of Works

Due to seasonal constraints associated with operating in an alpine environment, construction works will be undertaken during the summer alpine construction season between (approximately) November and May.[31]

The activities proposed within each season are summarised in **Figure 3-3** and are shown graphically in the C-11 Construction Sequencing plans attached in **Part C**. Due to the challenges of working within an alpine environment, the construction management framework acknowledges that the management approach on site needs to remain adaptive. The Construction Environmental Management Plan (**"CEMP"**) attached in **Parts B** and **F** of the application documents and the Erosion and Sediment Control Plans (**"ESCPs"**) should therefore be assumed as indicative and will be certified prior to the commencement of each stage.

[31] The actual construction season for any given year will be dependent on antecedent weather conditions and the presence of snow on site.

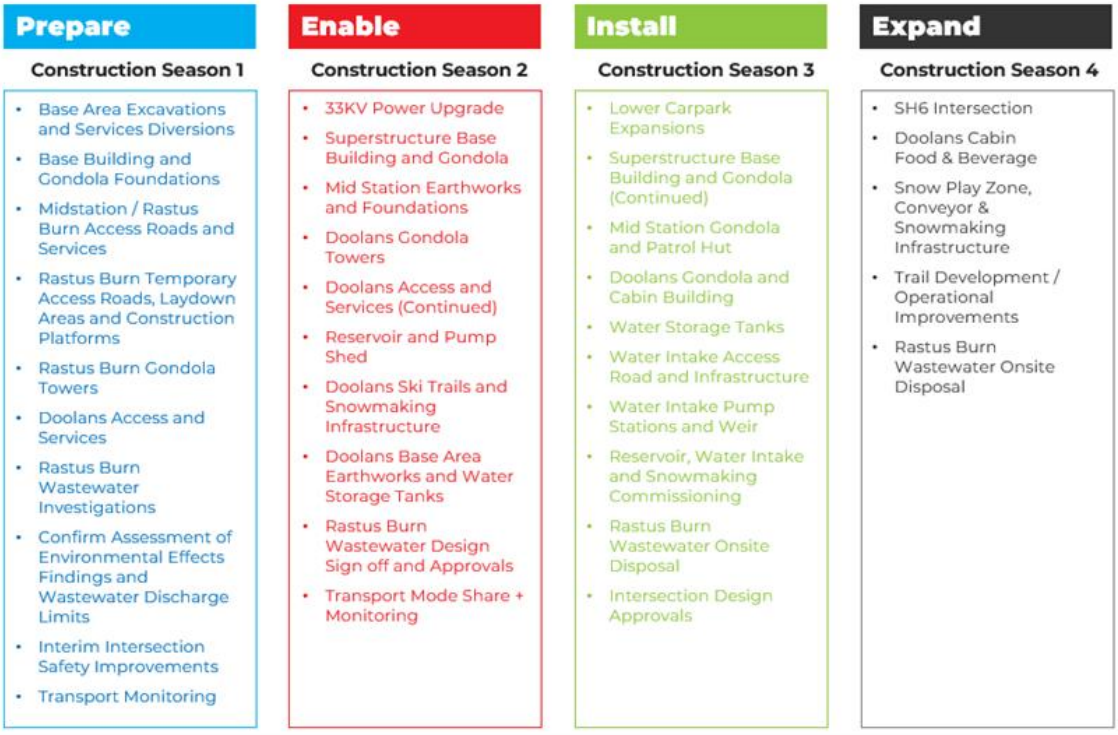


Figure 3-3: The indicative timeframes and construction outcomes for each construction season.

Construction activities in the Rastus Burn and Doolans Basin will generally occur between the hours of 7.00am and 9.00pm, Monday to Sunday. No construction lighting will be used between the summer period (1 November to 28 February inclusive). Outside of this period, construction lighting may be used for one hour before sunrise and one hour before sunset. Any lighting outside of the above periods would only be used in exceptional circumstances and will require DOC's written approval to proceed.

All works associated with the construction and establishment of the Lower Remarkables Transit Hub will be undertaken during normal construction hours, of 7:30am to 8.00pm Monday to Friday, and 7:30am to 6.00pm Saturdays. No additional lighting will be required to undertake these works.

3.3.2 Construction Access and Site Logistics

Construction access and logistics arrangements will be directly aligned with the seasonal delivery of the Project and structured to:

> Support the efficient delivery of construction stages by progressively establishing access, logistics and stockpile areas as the construction works progress, and being adaptable to weather, ground conditions, and operational constraints;

- Avoid unnecessary disturbance by using existing access routes where possible and aligning construction access, permanent service access, ski trails and infrastructure where possible; and
- Enable safe transitions between construction seasons and ski field operations by clearly separating construction activities from public areas and ensuring access and logistics areas are safely secured/stabilised between construction seasons.

Construction of the permanent access roads is described in Section 3.6.1.

Temporary access measures will be used where practicable to avoid permanent disturbance such as for the construction of gondola towers and associated infrastructure or short-duration enabling works where direct permanent access is not necessary. They will be progressively removed, stabilised, and rehabilitated following completion of work. Construction of the temporary access roads is described in Section 3.6.2.

Stockpile areas will serve as flexible, multi-use construction support locations, with roles varying depending on location and construction activities being undertaken. They will be strategically distributed across the Project site to support construction activities within adjacent work areas, reduce haul distances, and limit the need for additional temporary access formation. Refer to the C-11 Construction Sequencing plans in **Part C** for further their locations and use during each construction season.

Helicopter support may be used for construction activities in steep, remote, or access-constrained locations, including for the delivery and placement of materials, components, and equipment. The need to have helicopter support will be determined on a case-by-case basis.

3.3.3 General Earthworks Methodology

Given the Project's scale, the specific earthwork design will further evolve before, and during, construction. The site's dynamic nature limits the ability to confirm exact locations of erosion and sediment control measures before detailed design has been completed.

To achieve the Project’s environmental performance objectives, earthworks must be delivered in phases, dividing the overall Project into manageable sections. Such an approach also facilitates continuous enhancement through on-site observations, outcome monitoring, and feedback mechanisms, thereby ensuring environmental improvement and the optimisation of subsequent implementation phases. Consequently, the CEMP is intended to function as a ‘living document’, subject to ongoing updates and refinements throughout the Project’s duration.

Earthworks will be designed to achieve a balanced cut-and-fill methodology to minimise material imports and exports and to mitigate disturbance beyond designated work zones. The primary components of the cut-and-fill approach include:

- Optimisation of cut volumes to reduce surplus material generation;
- Reuse of suitable excavated material on-site (within limits, to minimise the potential for weed distribution across the site);
- Staged placement and compaction of fill to ensure long-term stability;
- Progressive shaping of cut and fill interfaces to conform to local terrain and ground conditions; and
- Utilisation of helicopters for the transportation of plant and materials.

The earthwork cut and fill plans for each area of work are contained in **Part C** of the application documents. The bulk earthworks cut and fill volumes, defined by construction season, are detailed in **Table 3-1** below.

Table 3-1: Indicative earthworks volumes and areas for the Project.

Construction Parameter	Unit	Season 1	Season 2	Season 3	Season 4
Earthworks - cut	m^3	37,284	66, 466	49,593	44,797
Earthworks – fill	m^3	50,333	89,729	66,951	79,410
Net material balance	m^3	-12,532	-30,330	-7,535	+18,934
Disturbed area	m^2	44,390	45,603	59,500	62,500
Area reinstated	m^2	11,197	25,332	16,880	62,500
Imported Material	m^3	5,200	4,200	1,100	20,500

Earthworks will be carried out in accordance with the CEMP and ESCP, and future iterations of these documents, to ensure compliance with established procedures, including, but not limited to, establishing site laydown and hardstand areas and ensuring spill kits are present and ready in the event of spills. The surveyor will demarcate the earthwork boundaries for each phase. In temporary access zones, all machinery will operate along a single designated track with minimal back-and-forth movement to minimise ground disturbance.

3.3.4 Retaining Walls Design

Indicative dimensions of retaining wall extents, lengths, and heights have been identified at throughout the Project site, as shown in the relevant plans contained in **Part C** of the application documents.

The use of retaining walls across the site, particularly along the access road and ski trails, has been preferentially chosen to minimise the potential disturbance footprint associated with the alternative use of cut and fill batters.

The final retaining and slope support solutions implemented on site will be confirmed through detailed engineering design and geotechnical assessments completed for each construction stage. The retaining wall extents, lengths and heights are therefore based on a "worst case" scenario and will be further refined through detailed engineering design.

3.3.5 Construction Plant and Equipment

A range of plant and equipment will be employed on site during construction. This includes, but is not limited to the use:

- 50t Excavators;
- 50t Bulldozers;
- 20-35t diggers (including the use of rock breakers);
- 40t Dump trucks;
- Graders;
- Concrete trucks; and,
- Helicopters, used for concrete placement and mechanical tower installation where crane access is not feasible.

The estimated movements associated with the above are shown in **Table 3-2** below.

Table 3-2: Estimated movements associated with Construction

	Unit	Season 1	Season 2	Season 3	Season 4
Helicopter Lifts	Maximum number	250	356	0	0
Helicopter Activity Days	Maximum number	14	24	0	0

	Unit	Season 1	Season 2	Season 3	Season 4
Construction deliveries	Maximum number	174	313	139	23
Concrete deliveries	Maximum number	177	198	35	4

The above numbers represent the “worst case” vehicle and helicopter moments. Final numbers will be further refined through the detailed design phase of the proposed Project.

3.4 THE REMARKABLES SKI AREA UPGRADES

The following sections provide a detailed description of proposed upgrades to the existing Remarkables Ski Area. In summary, this section details:

- The proposed expansion to the Rastus Burn Base Building and the associated reconfiguration of the arrival surrounds;
- The new Doolans Gondola, insofar as it is located within the Rastus Burn, including construction of the new Base Station, gondola towers and cables;
- The new access road and return trail, from Helicopter Ridge to the top of the existing Sugar Bowl and Curvey Basin ski trails and access roads; and
- The upgrades to existing, and the proposed new infrastructure and servicing required within the Rastus Burn. Notably, this includes upgrades to:
  - Infield power distribution;
  - Potable water supply (including firefighting);
  - Wastewater management infrastructure, including the proposed upgrade and renewal of the existing wastewater treatment facilities on site; and
  - Stormwater management facilities associated with the new structures being established on site.

The general configuration of the Remarkables Ski Area Upgrades can be found in **Figure 1-3** of the application documents. Detailed site location maps, earthwork plans and architectural drawings associated with the activities and structures proposed within the Remarkables Ski Area are also provided in **Part C** of the application documents.

3.4.1 Rastus Burn Base Building and Arrival Surrounds

An expansion of the existing Rastus Burn Base Building is proposed to accommodate the increase in skier numbers.

The proposed extension will nearly double the existing internal floor area of the Base Building (**Table 3-33**). The extension has been designed to replicate the existing base building's architectural style, with the finished floor levels of the existing building and the roof pitch being maintained.

A rendering of the proposed extensions is shown in **Figure 3-4** with the complete Base Building extension plans found in the C-05 Rastus Burn Base Area Extension Plans in **Part C** of the application documents.

Table 3-3: Existing and Proposed Internal Floor Areas of Rastus Burn Base Building.

	Existing	Proposed
Plant Level (Plant and Storage)	552 m^2	985 m^2
Ground Floor (Staff, Circulation, Lockers, Counters, Retail, Rentals, Bathrooms, Plant and Administration)	2,146 m^2	3,591 m^2
First Floor (Kitchen, Dining, Bathrooms, Circulation, Ski School and Plant)	1,540 m^2	3,438 m^2
Total	4,238 m^2	8,014 m^2

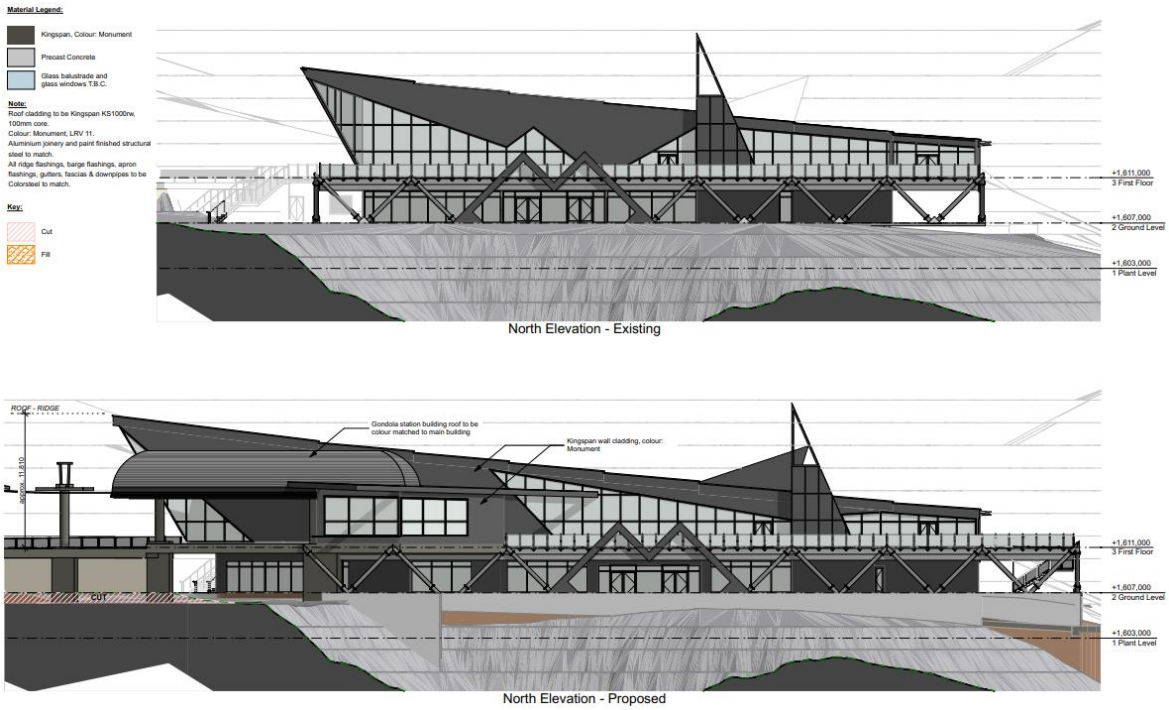


Figure 3-4: Base Building Elevations - North Elevation Existing & Proposed.

The existing transport drop-off zone for buses and customers will be reconfigured to accommodate the expansion and the construction of the adjacent Doolans Gondola Base Station. This is described further in Section 3.4.2.

Earthworks will be required to establish the expanded building footprint and accommodate building foundation design. Retaining walls will also be established to the north and east of the Base Building extension to enable the establishment of a new transport drop-off zone. Earthwork and fill plans for the Base Building extension can be found in **Part C** of the application documents.

3.4.2 Doolans Gondola

3.4.2.1 Overview of the Doolans Gondola

The proposed Doolans Gondola will be constructed within the existing central valley of the Remarkables Ski Area and will include a new Doolans Gondola Station attached to the existing Rastus Burn Base Building, a new Doolans Gondola Midstation at Helicopter Ridge and a new Return Station in the Doolans Basin (both described in Section 3.5.1). Typical gondola details and the gondola lift profiles are included in the C-04 Remarkables Gondola plans, contained in **Part C** of the application documents.

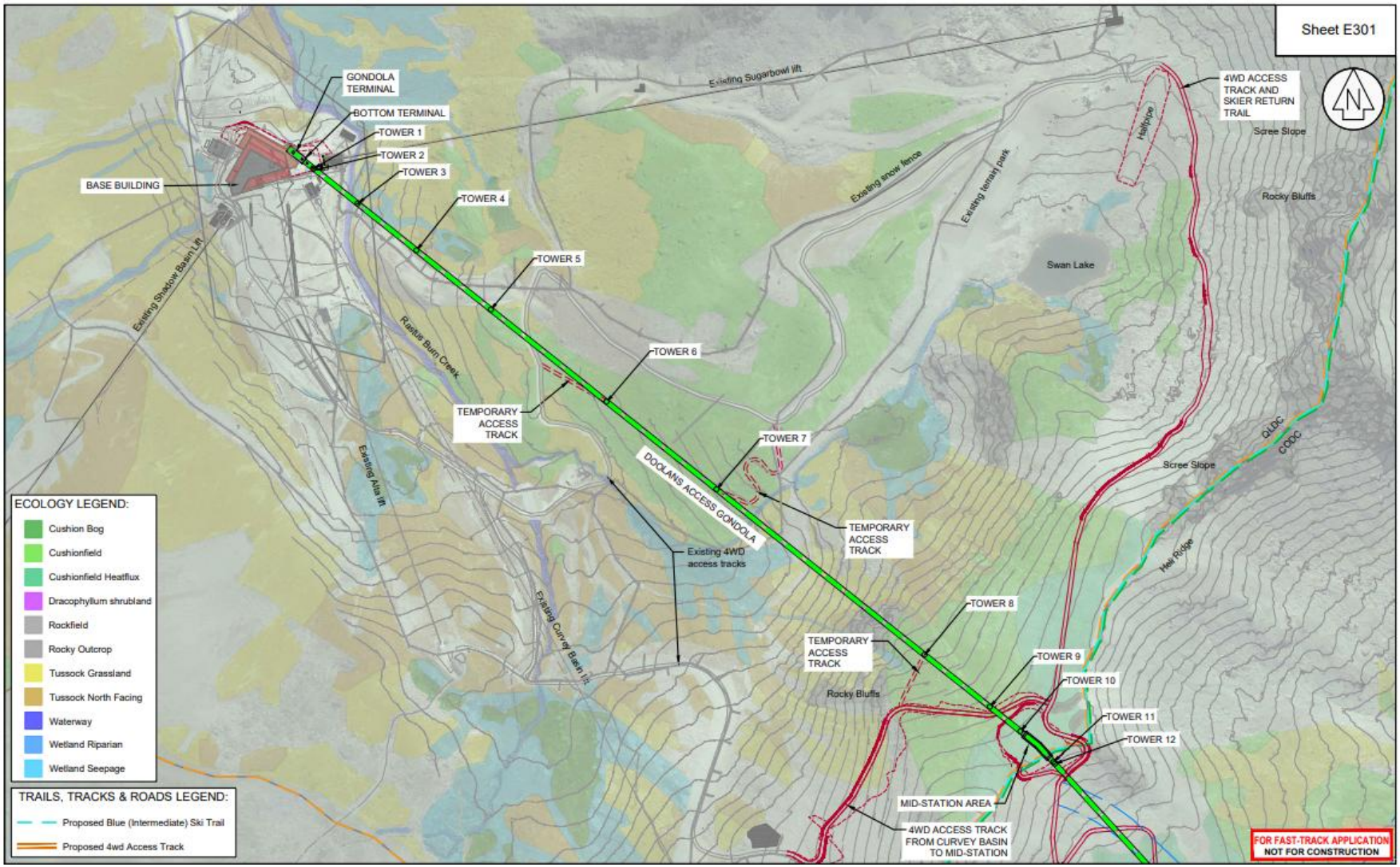


Figure 3-5: Doolans Gondola alignment in the Rastus Burn.

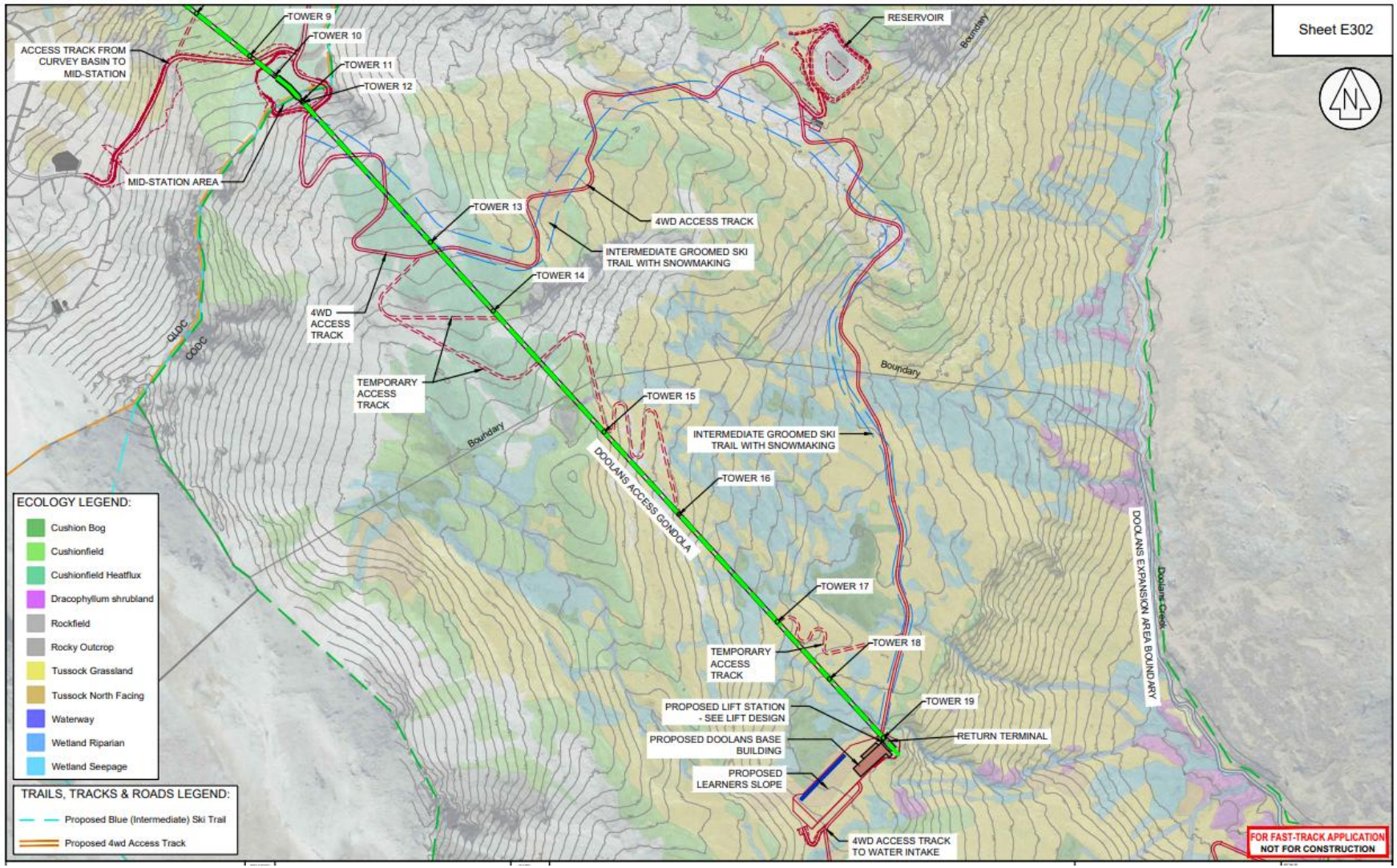


Figure 3-6: Doolans Gondola alignment in the Doolans Basin.

The Doolans Gondola will accommodate approximately 2,400 passengers per hour, utilising cabins that will hold approximately 10 people. Passengers using the gondola will be able to load & unload at any of the three stations described above.

The gondola will span a horizontal distance of approximately 2,760m with a maximum height gain of approximately 327m from the Doolans Gondola Station Base Station (in the Rastus Burn) to the Gondola Midstation at Helicopter Ridge. The height gain from the Doolans Return Station to the Midstation will be approximately 349m.

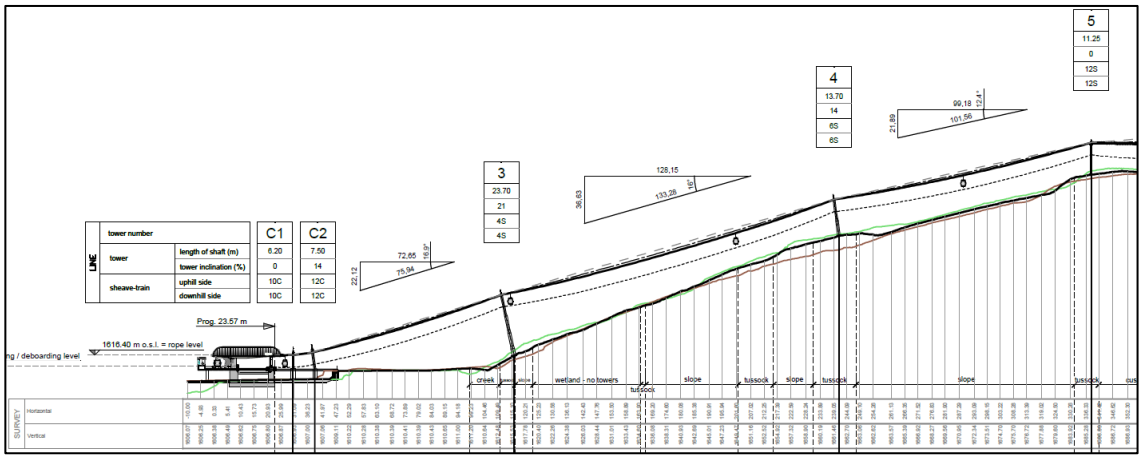


Figure 3-7: Lift profile of Rastus Burn Gondola Drive Station and Doolans Gondola.

Between the Doolans Base Station (in the Rastus Burn) and the Doolans Return Station (in the Doolans Basin) will be a series of towers and cables designed to accommodate the gondolas. These are shown within a general "gondola corridor" in **Figures 3-5 to 3-7**Error! Reference source not found. and in full in the C-04 Remarkables Gondola plans in **Part C**.

A total of 18 towers will be required across the entire lift system, comprising of nine towers within the Rastus Burn and nine towers within the Doolans Basin. The height of each tower will vary between approximately 5.3m and 29m in height, with the final height dependent on the location of the towers and relative distance between them. The indicative height for each tower is included in the C-04 Remarkables Gondola plans included in **Part C**.

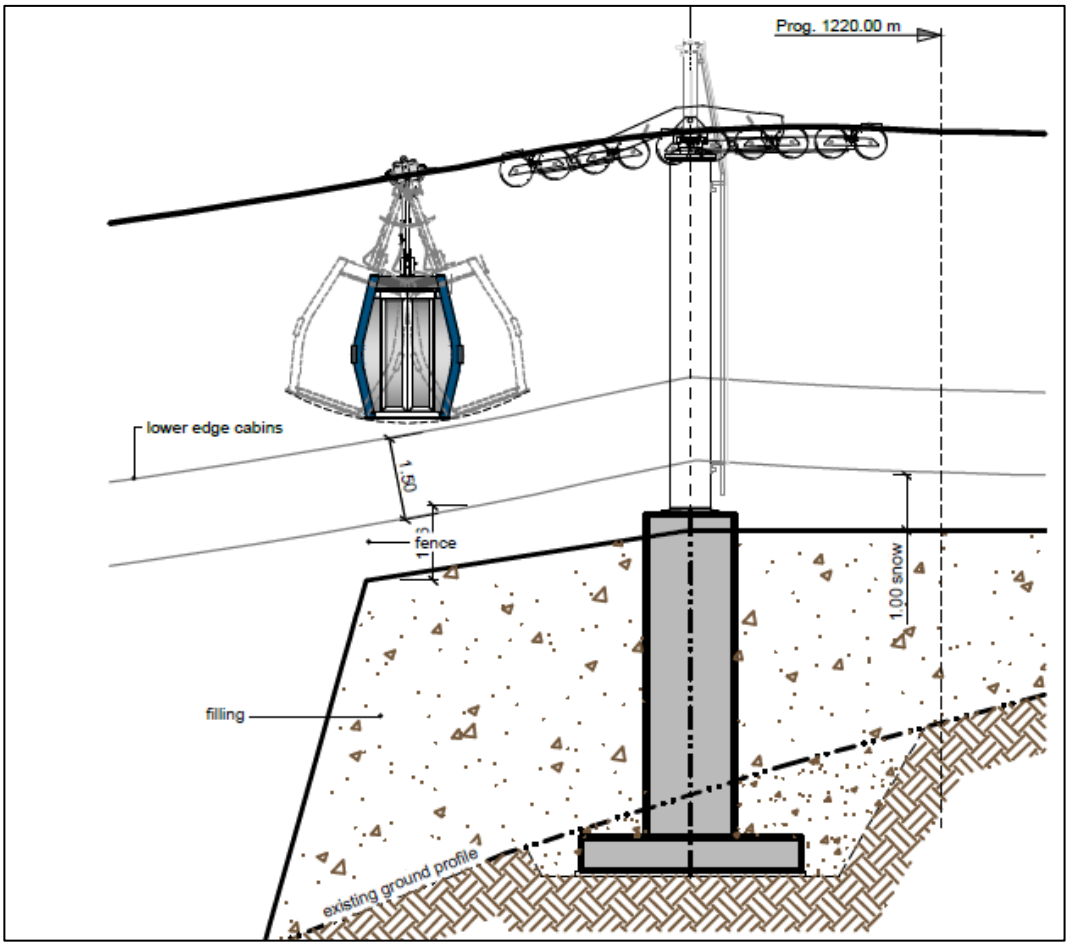
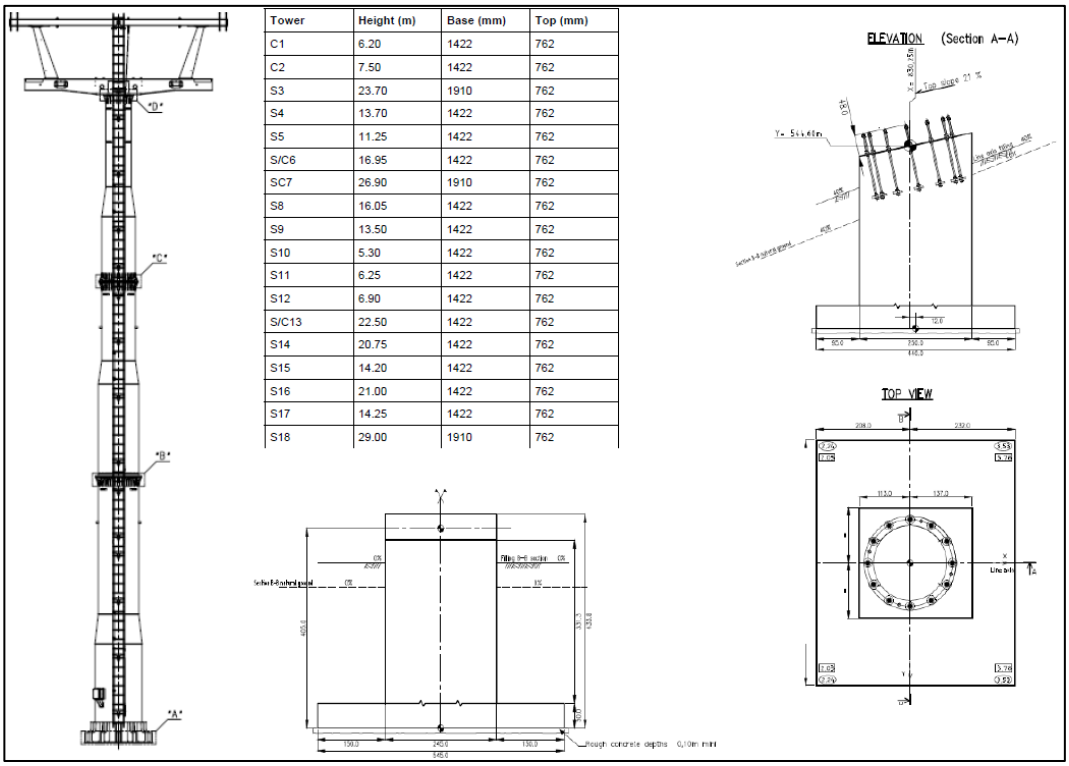


Figure 3-8: Typical gondola cabin and tower arrangement.

The base of each tower will vary between approximately 1.422m and 1.91m in diameter, with the top of all towers being approximately 0.762m in diameter. Each tower will sit on a concrete platform / foundation approximately 5.45m x 4.4m in size. Temporary construction platforms, approximately 8m x 8m in size will be provided at each tower location. In some locations this size will vary due to the proximity of vegetation or waterbodies that necessitate a reduced footprint.



Tower	Height (m)	Base (mm)	Top (mm)
C1	6.20	1422	762
C2	7.50	1422	762
S3	23.70	1910	762
S4	13.70	1422	762
S5	11.25	1422	762
S/C6	16.95	1422	762
SC7	26.90	1910	762
S8	16.05	1422	762
S9	13.50	1422	762
S10	5.30	1422	762
S11	6.25	1422	762
S12	6.90	1422	762
S/C13	22.50	1422	762
S14	20.75	1422	762
S15	14.20	1422	762
S16	21.00	1422	762
S17	14.25	1422	762
S18	29.00	1910	762

Figure 3-9: Typical gondola tower and foundations.

Temporary access tracks will be constructed to reach the towers, as described in Section 3.6.2. Revegetation of the temporary access roads and construction platforms will be undertaken following construction of the towers as described in Section 3.6.

3.4.2.2 Doolans Gondola Base Station

The Doolans Gondola Base Station will be constructed adjacent to the expanded Rastus Burn Base Building with internal access through the extension. The Base Station will be located above the existing drop-off zone area and will comprise of:

- A drive station, approximately 26.5m long and 14.7m in height;
- A control room, approximately 10.1m^2 in size and located at the southern end of the Base Station; and
- A short internal parking rail with space for three cabins and a maintenance vehicle to be stored.

Earthworks required to construct the Base Station foundations will be undertaken as part of the wider earthworks associated with the Rastus Burn Base Building extension.

Indicative plans for the Rastus Burn drive station are contained in the C-04 Remarkables Gondola plans, attached in **Part C** of the application documents.

3.4.3 Helicopter Ridge Return Ski Trail and Access Roads

A dual-purpose access road and return ski trail will be constructed in the Rastus Burn from the top of the existing Sugar Bowl ski trail to the Doolans Midstation at Helicopter Ridge. The return trail will be supported by snowmaking infrastructure as described in Section 3.6.3.

A second permanent access road and ski trail will be established from the top of the existing Curvey Basin access road to the Doolans Midstation at Helicopter Ridge.

Both access roads and return ski trails are shown in **Figures 3-5 to 3-6** above and are included in the C-06 Rastus Access Road & Utilities Plan, included in **Part C** of the application documents. Construction of the access roads and details of the formed width and length is described further in Section 3.6.1.

3.4.4 Infrastructure Services and Associated Structures

3.4.4.1 Power Supply and Distribution

A new 33/11kV 7.25 MVA rated substation containing a power transformer, switchgear, metering and two emergency diesel generators will be installed in Carpark 3 (Figure 3-10:

Proposed substation location at Carpark 3.**Figure 3-10**) to support future upgrades to the incoming mains power supply.[32] The substation will be generally configured as shown in **Figure 3-11** below.

[32] Future upgrades can be undertaken as a permitted activity in the Proposed QLDC DP and under the Electricity Act 1992 and therefore do not form part of this FTAA application.

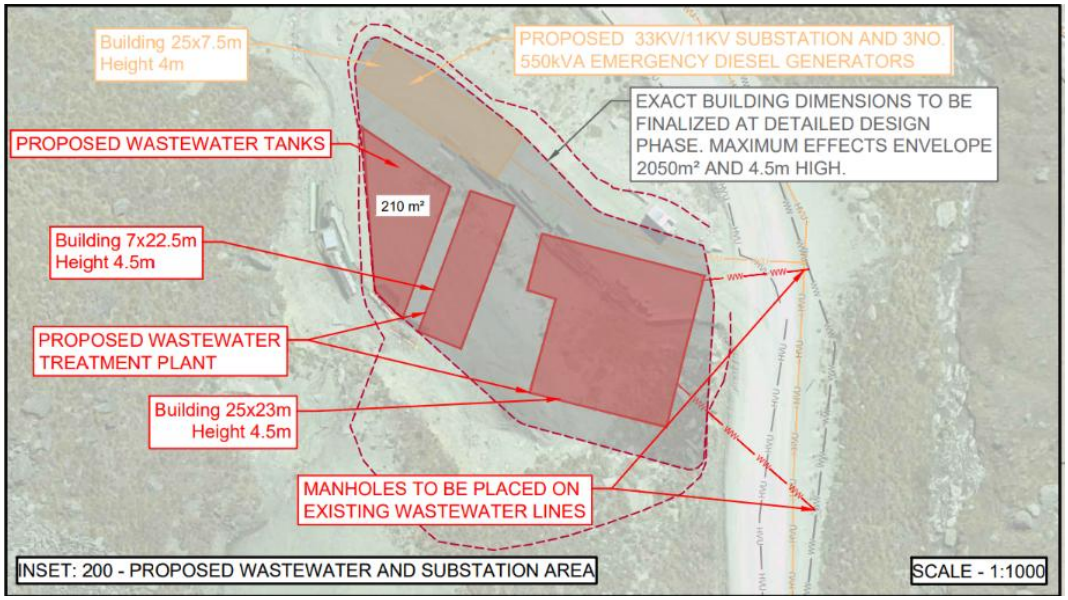


Figure 3-10: Proposed substation location at Carpark 3.

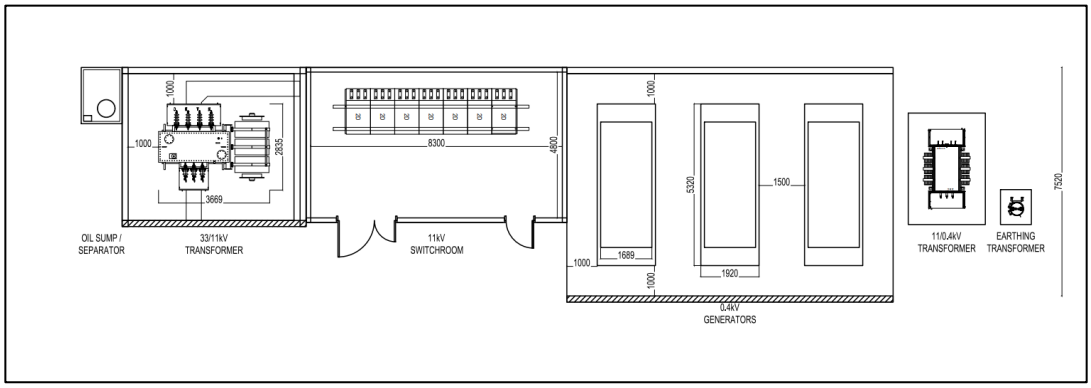


Figure 3-11: Proposed substation and generators indicative layout.

Earthworks will be undertaken to establish a suitable platform for the substation building, as shown in the relevant cut-to-fill plans attached in the C-02 Ratus Burn Wastewater Treatment Facility Plans included in **Part C** of the application documents.

The substation building will occupy a footprint of approximately 150m^2 (25m x 6m) and will include precast concrete switchroom walls and transformers, louvered panelling by the transformer enclosure and steel tray roofing (similar to the Base Building). The maximum height of the building will be 4m.

The substation's transformer will contain approximately 3,500L of transformer oil, and a bund will be provided around the facility, sized for both oil and firefighting/rainwater, to ensure no discharge of transformer oil to land or water occurs in the event of a spill.

Two 550kVA rated standby emergency generators are proposed to be installed in the substation. The generators are required to ensure the Rastus Burn Base Building, the Doolans Gondola, the Doolans Base Building, the Doolans Learner Conveyor, and all on-site wastewater treatment and pumping can continue to operate in the case of a power outage. The estimated diesel consumption for all three generators operating at 100% load is approximately 500L/hour. Each diesel generator will have a "day tank" to allow a limited number of hours of emergency operation. Diesel supply will be piped along the Remarkables Ski Area Road to Level 3 Car Park site.

Two transformers connected directly to the 11kV switchboard will be established at the Rastus Burn Base Building to service the increased electrical load. This will include a 1000kVA transformer for the Base Building and a 750kVA transformer for the Doolans Gondola. Each transformer would be fed directly from the new 11kV switchboard in the new substation via underground cables.

As the existing cable from the base facilities to the top of the Curvey Basin contains connected transformer capacity of around 1500 kVA, it is proposed to extend this cable from the top of Curvey Chair Top Station through the Doolans Return Station to service loads in the Doolans Basin. The power cabling will be located in the shared servicing trench.

A schematic of the power supply layout is shown in **Figure 3-12**.

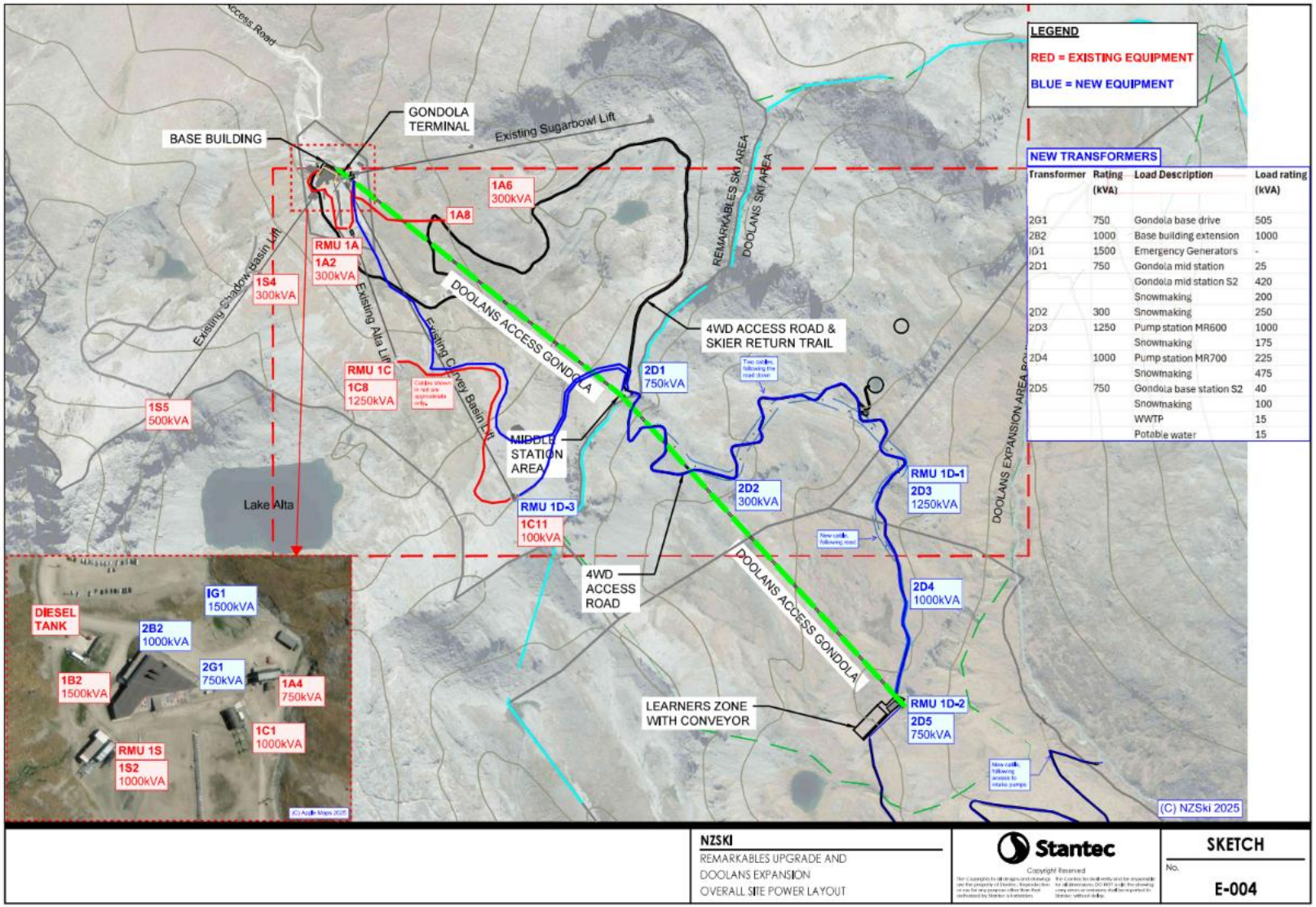


Figure 3-12: Overall Site Power Supply Layout

3.4.4.2 Potable and Firefighting Water Provision

No upgrades or increases to firefighting supply are required for the proposed expansion of the Rastus Burn Base Building. The existing capacity complies with firefighting supply standards in SNZ PAS 4509:2008.

The existing Rastus Burn water intake and pumping system is proposed to be upgraded with a new filtration system, an additional UV reactor, a chlorine dosing system, new 30,000L treated water storage tank and associated piping infrastructure (such as pipes, valves and pumps).

Potable Water will be stored in a new 30,000L treated water storage tank. The purpose of the tanks is to buffer peak hourly flows through the treatment system and provide adequate chlorine contact time, allowing for smaller and more economical treatment equipment. The tank will be located within the Rastus Burn Base Building.

All raw, treated and firefighting water pipelines will be constructed with freeze protection.

The Project will generate a maximum potable water demand of 305m^3/day on peak days. This falls within the authorised limits of NZSki's existing water permit, which provides for up to 320.4m^3/day. The estimated peak instantaneous flow rate demand of 9L/s falls outside the 5.2L/s limit of the existing water permit. To avoid exceeding the maximum flow rate, demand will be buffered by the new potable water storage, as described above, to ensure the maximum instantaneous flow rate of the take from the Rastus Burn is not exceeded during demand peaks.

3.4.4.3 Wastewater Management

In the short term, while the Project is being constructed, the wastewater system will continue to be operated and managed generally in accordance with NZSki's existing Discharge Permit. The parameters of discharge permit are described in Section 2.16.1, and a full copy of the permit is attached in **Part D** of the application documents.

Prior to the Doolans Expansion Area being opened (i.e. able to accommodate additional skiers), or prior to the 1 June 2029 (whichever is sooner), the wastewater system will be upgraded in accordance with the upgrades described in Section 3.8.

3.4.4.4 Stormwater Management

Stormwater management for the proposed access roads is described in Section 3.6.1.2.

An estimated runoff volume of 47L/s from the expanded Base Building and Gondola Base Station will be conveyed via downpipes (100 mm diameter), discharging to the existing

stormwater system for the area **(Figure 3-13**). The impervious roof area has been adequately sized to attenuate the 10-minute rainfall duration to capture peak design storm intensity conditions.

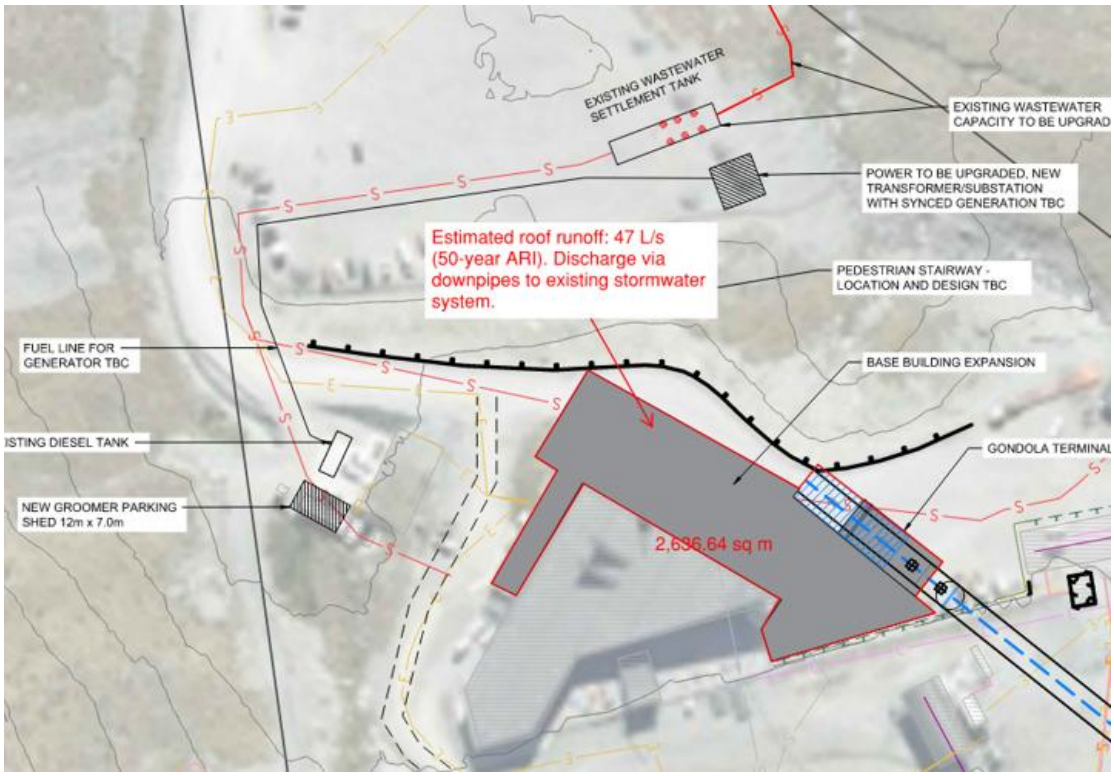


Figure 3-13: Roof area for the existing base extension stormwater.

Stormwater runoff from the new substation and wastewater treatment plant buildings in Carpark 3 will be discharged directly to ground, as is standard practice in the alpine environment where gutters can be damaged by snow sliding from the roofs. This allows for stormwater disposal through a combination of infiltration and surface flow.

3.5 THE DOOLANS BASIN SKI EXPANSION AREA

The following sections provide a detailed description of the proposed expansion in the Doolans Basin. In summary, this section details:

- The new Doolans Gondola, insofar as it is located within the Doolans Basin, including construction of the new Base Station, gondola towers and cables;
- The new multi-purpose Doolans Base Building, designed to accommodate gondola cabin parking, integrated cabin maintenance, storage, bathroom facilities, café facilities and emergency shelter space;
- Ski trails and access roads between the gondola midstation, the Doolans Base Building;

- The learners snowsports area adjacent to the Doolans Base Building with a covered passenger conveyor lift, supported by snowmaking infrastructure;
- The operational parameters of the expanded ski area;
- The water take within Doolans Creek (and the associated access road) and conversion of a tarn to a new snowmaking water reservoir;
- Infrastructure and services, including power, water, wastewater, stormwater, communications and snowmaking facilities; and
- Installation of new operational controls to maintain the health and safety of ski field users. Such controls include wayfinding signage, barriers/gates, permanent safety fencing/netting, snow fences, avalanche control, and boundary markers.

The approximate location of these works is shown in **Figures 3-5 to 3-6** above and in detail in the detailed Project plans attached in **Part C** of these application documents.

3.5.1 Doolans Gondola

An overview of the Doolans Gondola is provided in Section 3.4.2 above. Within the Doolans Basin, the new Doolans Gondola will consist of the Doolans Midstation on Helicopter Ridge, the Doolans Base Building, the Doolans Return Station and the associated gondola towers and cables connecting the stations. The indicative gondola alignment in the Doolans Basin is shown in **Figure 3-6** and in detail in the C-04 Remarkables Gondola plan contained in **Part C** of the application documents.

3.5.1.1 Doolans Midstation at Helicopter Ridge

The Doolans Midstation is located on Helicopter Ridge. In summary, the Midstation gondola works will include the construction, operation and maintenance of (as shown in **Figure 3-14**):

- The midstation, comprising an approximately 47 m long, 9m wide and 8.3 m high[33] roofed structure (refer to the renderings in **Figure 3-14**);
- A patrol hut, approximately 13m^2 in size and located immediately adjacent to the Midstation. The patrol will be used for storing emergency medical equipment and will act as a sheltered holding base for patrollers;

[33] Not accounting for the fall in slope away from the centre of the station.

- Provision of 'Faff Zones' on either side of the Midstation for passengers to congregate after disembarking the gondola; and
- Three permanently fenced lookout areas for sightseeing, and a fenced pedestrian route underneath the southern end of the Midstation to allow sightseers access under the gondola. The fencing will be 1.2m high and constructed out of timber.

The roofing, cladding, flashing, and spouting materials used at the Doolans Midstation and surrounding buildings and tanks will be recessive, with neutral metal cladding that tones in with the landscape. Such colours will have a light reflectance value ("**LVR**") of between 10 and 15%, with Coloursteel "Basaltbase" nominally selected.

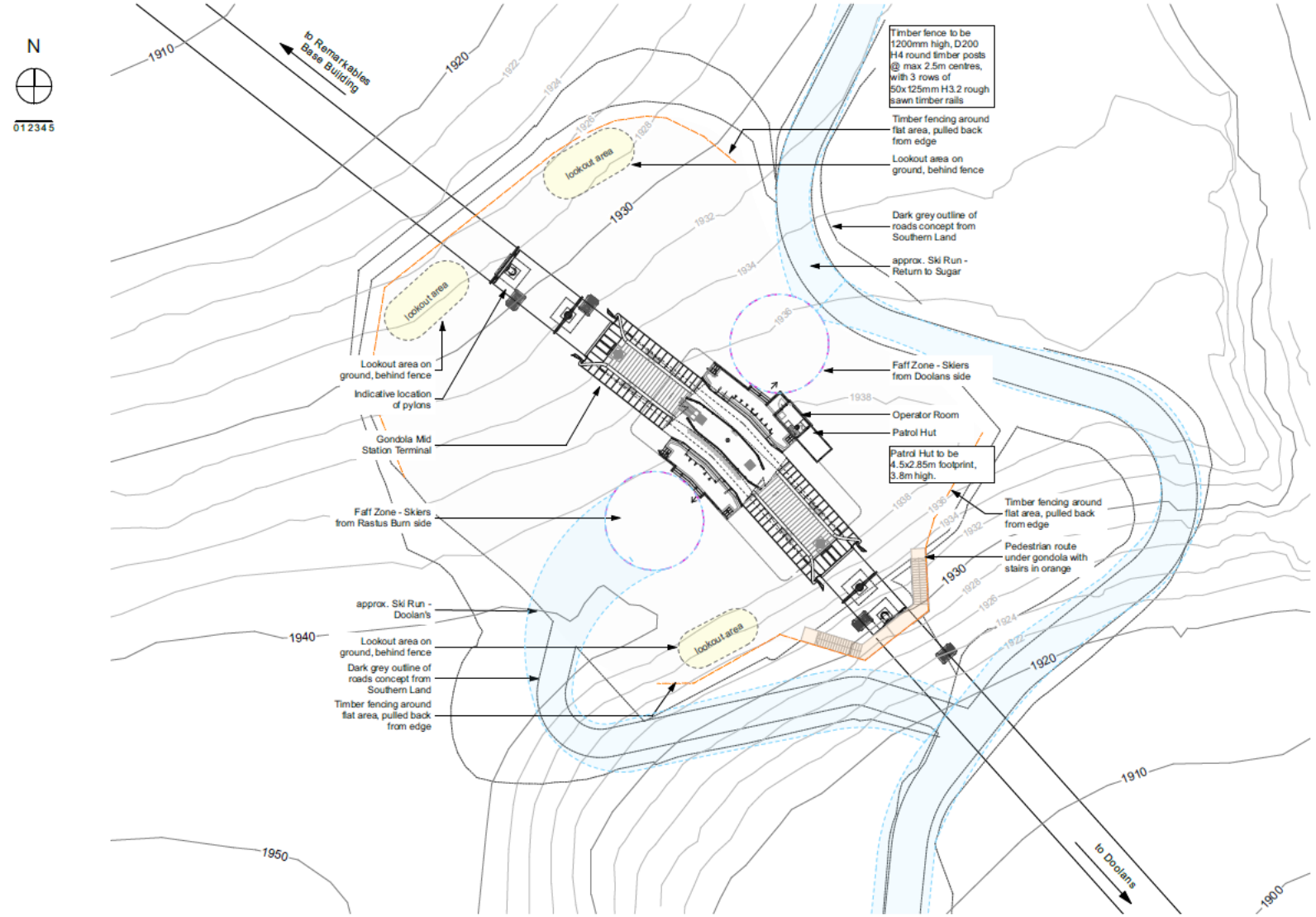


Figure 3-14: General arrangement of the Helicopter Ridge Midstation.

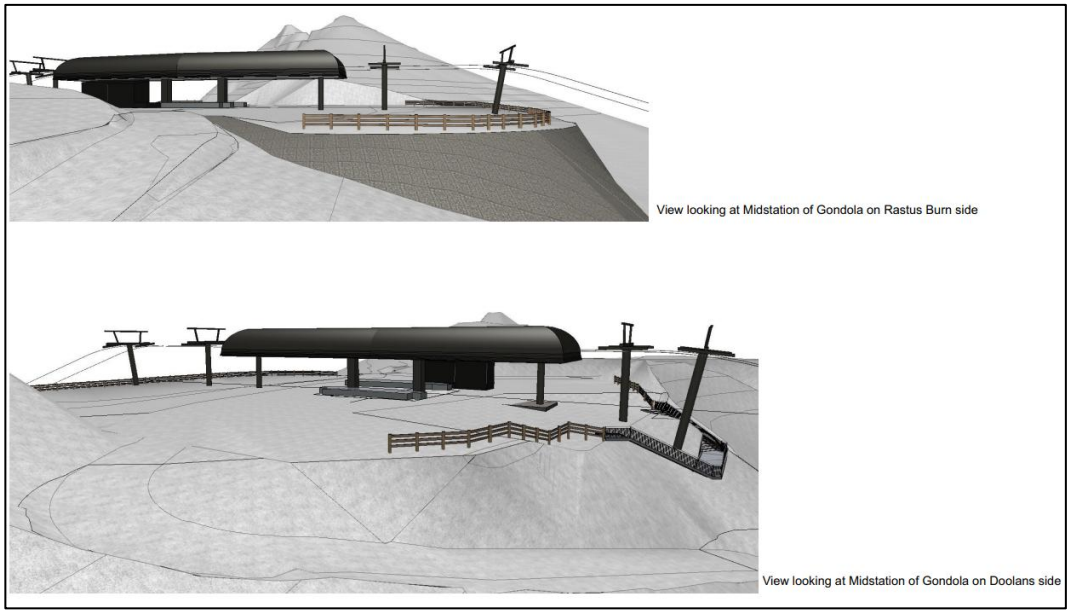


Figure 3-15: Indicative elevation views of the midstation facility.

Earthworks will be required to reshape the ground on Helicopter Ridge for the construction of the Midstation and to create a level platform for skiers and sightseers. Extensive earthwork cuts will be required to lower the height and visibility of the Midstation, reduce wind exposure and improve access and ski trail gradients. Fill will be required to the north to create a wind barrier/bund. The general methodology for undertaking of earthworks for the Project is described in Section 3.3.3.

Three retaining walls are proposed to the south of the Midstation and will vary in height from 2m to 3.5m. The northern retaining wall, supporting the wind barrier/bund will be up to a maximum of 8.5m in height. Note these heights are considered worst case scenarios, and will be further refined detailed design, which will be informed by geotechnical and wind analysis. The general construction methodology for the Project's retaining walls is described in Section 3.3.4.

3.5.1.2 Doolans Return Station

The Doolans Gondola Return Station is located in the Doolans Basin, directly adjacent to the Doolans Base Building. In summary, the Doolans Gondola Return Station will include the construction, operation, use and maintenance of:

> The drive station, comprising an approximately 27m long and 11m high roofed structure. The drive station will sit approximately 9m above ground level, due to the foundations being established below existing ground level;

- The 11m^2 control room, located at the southern end of the return station. The control will be approximately 4.5m in height and will sit approximately 5m above the existing ground level; and
- An overhead conveyor, which will take cabins offline into the adjacent Doolans Base Building for storage and maintenance purposes (described in later in Section 3.5.2).

Refer to **Figure 3-16** below and the plans contained in **Part C** for further information and details regarding the Doolans Return Station.

Earthworks, primarily cut, will be undertaken to reshape the ground for the construction of the Doolans Return Station. The earthworks will be undertaken in association with the construction of the Doolans Base Building to the west and the construction of the access road and Doolans Basin ski trail to the east. The general methodology for undertaking of earthworks for the Project is described in Section 3.3.3.

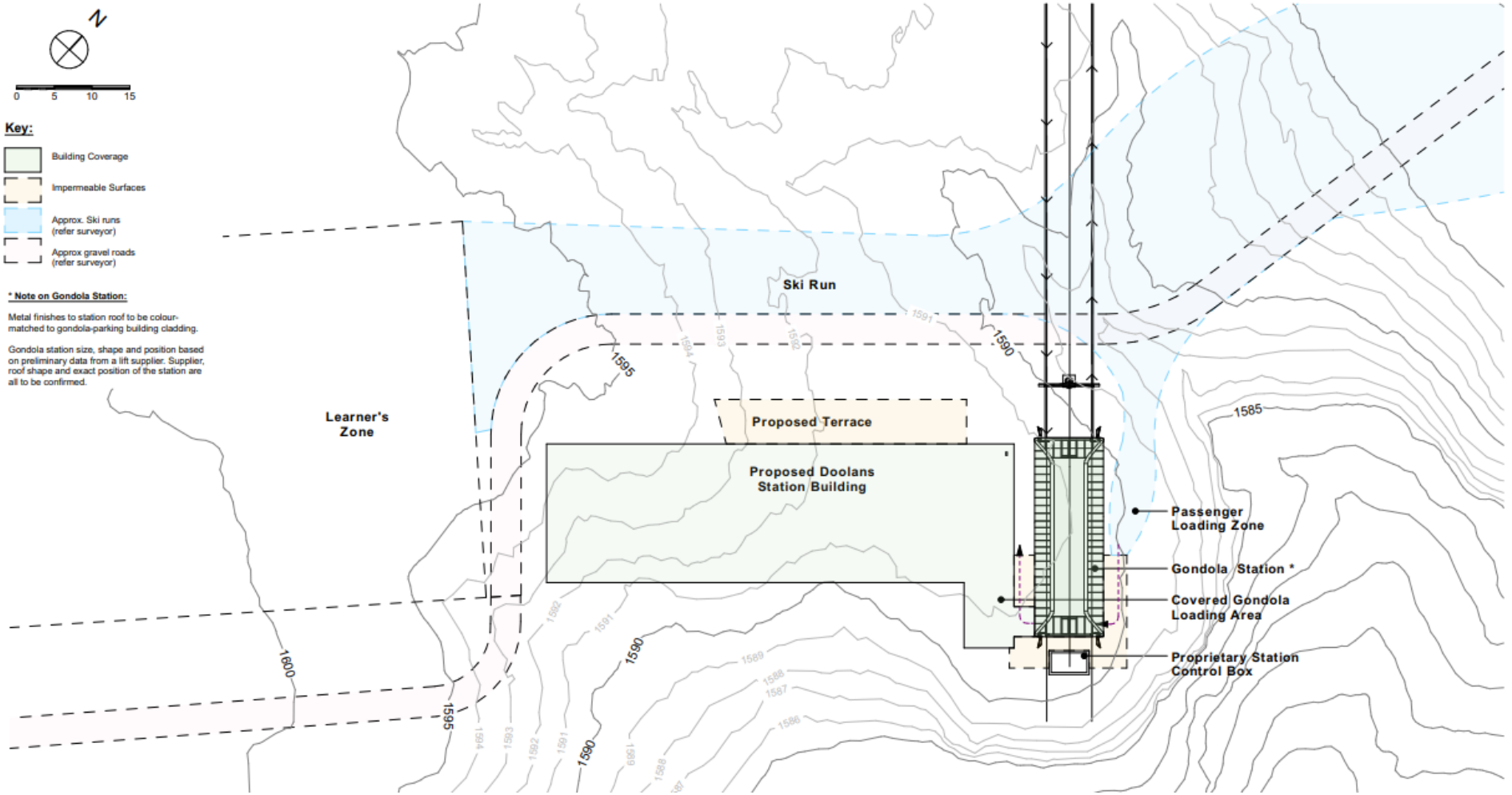


Figure 3-16: Doolans Gondola Return Station Layout.

3.5.2 Doolans Base Building

The Doolans Base Building is a multi-purpose gondola cabin parking and hospitality building located immediately adjacent to the Doolans Gondola Return Station. A 3D rendering of the Doolans Base Building is provided in **Figure 3-17**, with the proposed design provided in C-09 Doolans Gondola, Cabin Building & Learners Area Plan attached in **Part C** of the application documents.

The 1,135m^2 Doolans Base Building will consist of a rectangular footprint, housing the base building (approximately 62m long, 17.8m wide and 16m in height) and the associated outdoor seating areas.

The colour of the roofing, cladding, flashing and spouting material will be a recessive, with neutral metal cladding which tones in with the landscape. Such colours will have LVR of between 10 and 15%, with Coloursteel "Basaltbase" nominally selected. Limited areas of metal cladding with a lighting neutral tone (to connect to summer vegetation) will also be used, with Coloursteel "Lichen" nominally selected or a similar colour with a LVR of between 20-35%.

The multi-purpose Doolans Base Building is proposed to consolidate both operational and hospitality facilities in the Doolans Basin. It will contain gondola cabin parking and maintenance facilities, staff facilities, public food, beverage and service areas, bathrooms, snow play storage, maintenance and plant areas and back-of-house storage. The building will also provide refuge for visitors should the gondola need to be closed before all guests return to the Rastus Burn Base Building.

The building will be multi-levelled, and the upper area will be dual-use; used for cabin parking and maintenance during non-operational hours and as a public seating/resting area during ski field operational hours. An overhead conveyor between the Doolans Gondola Return Station and the building will allow cabins to be transferred into the building, via a purpose-built entrance area, and into the upper floor for maintenance or parking purposes. To accommodate the cabins, the upper floor will have a large floor-to-ceiling height.

The lower sub-floor will house the staff facilities, public food, beverage and service areas, bathrooms, storage, maintenance and plant areas.

Establishing a single, multipurpose building on site reduces the overall earthworks disturbance required within the Doolans Basin area. Cut will be required to establish the building footprint, with a single 2 m high retaining wall required to the south of building. The general methodology for undertaking of earthworks and construction of retaining walls for the Project is described in Section 3.3.3 and Section 3.3.4, respectively.

Figure 3-17: Indicative 3D views of the Doolans Cabin Building.

3.5.3 Learners Zone

A learner's snowsports area will be established to the west of the Doolans Base Building. Earthworks will be required to establish the learners area with gentle slopes. The general methodology for undertaking of all earthworks associated with the Project is described in earlier in this substantive application, in Section 3.3.3.

The learners area will occupy a footprint of approximately 5,000m^2.

The area will be serviced by an approximate 100m long covered passenger conveyor lift. The covered tube will be approximately 2.7m high, 3m wide and covered with a semi-transparent material to maintain visibility into and out of the conveyor lift while protecting visitors from poor weather conditions.

The area will be supported by snowmaking facilities, which will consist of at least two snow guns to support the use of the learners area in low snowfall conditions.

3.5.4 Main Doolans Basin Ski Trail and Access Road

A dual-purpose access and ski trail will be constructed in the Doolans Basin, originating at the Helicopter Ridge Midstation and ending at the Doolans Base Building (Error! Reference source not found.**6Error! Reference source not found.**). Integrating the ski trail with the proposed construction access road minimises land disturbance and ecological impacts in the Doolans Basin. Construction of the access road is described further in Section 3.6.1, and the general methodology for undertaking of earthworks and construction of retaining walls for the Project is described in Section 3.3.3 and Section 3.3.4, respectively.

The ski trail will be the only permanently formed ski trail in the Doolans Basin and the primary route for skiers to descend through the basin. Other trails will be established using snowpack (machine and natural) with off-piste skiing throughout the Doolans Basin when snow conditions allow.

The formed ski trail will be designed for a beginner to intermediate skier level and will range in width from 19m to 30m, aiming to be 30m wide where possible to provide an optimum skier experience. The main trail will be cleared of vegetation to enable a safe skiing experience on regular terrain, to reduce the amount of snow required to be able to open the trail and allow for snow groomer machines to operate. Batters of the trail will be progressively rehabilitated with transplanted vegetation where practical (as described in Section 3.6.5). The trail will be supported by snowmaking facilities as described in Section 3.6.3.

3.5.5 Operational Parameters of the Doolans Expansion

As the Rastus Burn and Doolans valleys will operate as a single ski area, alignment in the operational parameters of the two valleys is proposed, where practicable. The operation, maintenance and upgrade, and use of the Doolans (and associated building, structures and facilities) will include:

- The use of the Doolans Basin area for ski area activities;[34]
- "Winter operations" of the Doolans Gondola (for customers) between 7am and 5pm, from 1 May to 31 October;
- The use of snow making machines during winter operations only (between 1 May and 31 October);[35]
- The operation of food and beverage facilities within the Doolans Base Building (for customers), from 7.00 am to 5.00 pm, from 1 May to 31 October; and,
- "Summer operations" of the Doolans Gondola (for customers) between 7.00 am and 6:30pm on up to four days a week, with hours extending up to three days per week until 9.00 pm.

Groomed trails will be formed during winter operations across the Doolans Basin, as shown in **Figure 3-18**. These trails will be formed using snow – no physical land disturbance will be used to form these trails. In addition to the above, snowmobiles and ATVs will be used in associated with winter operations to support general ski operations during the winter.

With respect to maintenance and upgrade activities, an annual work plan will be submitted to the Central Otago District Council and the Department of Conservation (by 30 November annually) which details the proposed upgrade and maintenance works proposed to be completed in the forthcoming summer construction season. General vehicle movements

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[34] Similar to the definition in the Proposed QLDC District Plan, "ski area activities" means the use of natural and physical resources for the purpose of establishing, operating and maintaining the following activities and structures:

a. Recreational winter sport activities, either commercial or non-commercial;
b. Passenger lift systems (operating and maintaining only within the Doolans Basin, as construction is a separately consented activity)
c. The use of snow groomers, snow mobiles and FWD vehicles for support or operational activities;
d. Activities ancillary to commercial recreational activities, including avalanche safety, ski patrol, formation of snow trails and terrain;
e. Installation and operation of snow making infrastructure, including consented reservoirs, pumps and snow makers.

[35] Note that chemical additives will not be used as part of the snow making process within the Doolans Basin.

associated with the ongoing management and maintenance of the ski area will occur during the summer season. Not public or recreational vehicle access or use is proposed.

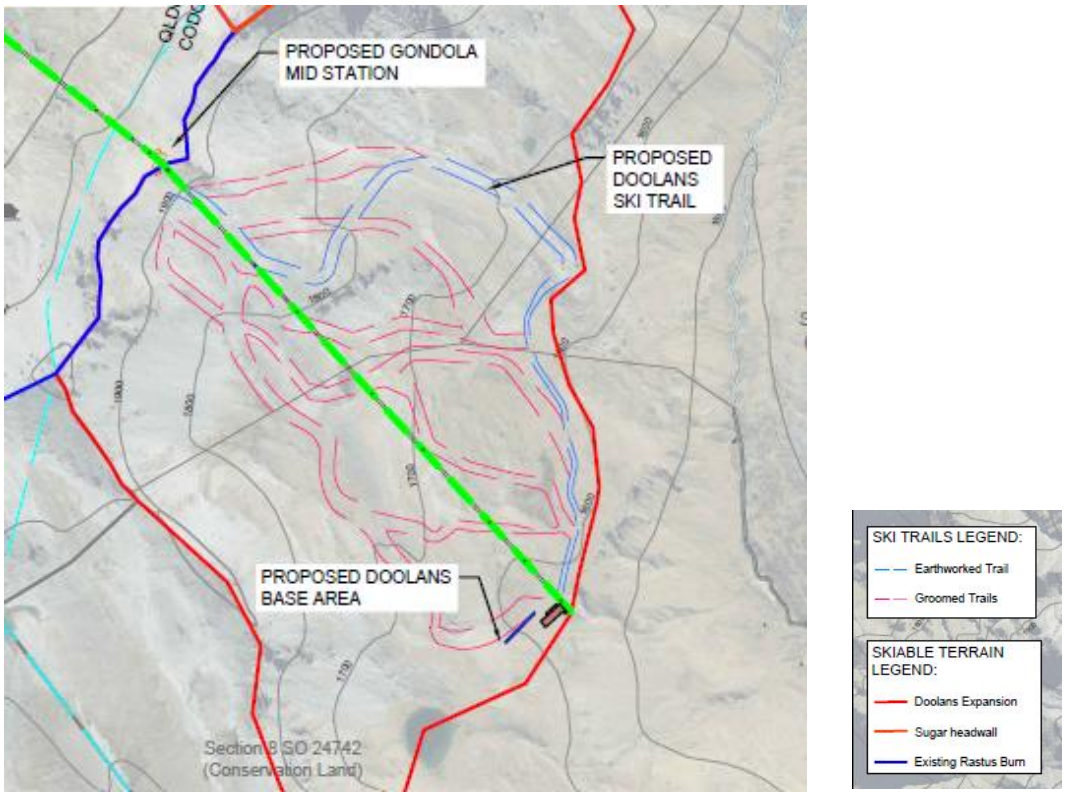

Figure 3-18: Groomed trails within the Doolans Basin

3.5.6 Infrastructure Services and Associated Structures

A full array of infrastructure services will be provided to the new Doolans Basin as described in the following sub-sections. The primary method of supplying these services from the Rastus Burn to the Doolans Basin is proposed to be via a trenched utility corridor that will generally be located within the existing Curvey Basin access road and ski trail and the new Doolans and Doolans water take access road. These trenched utility corridors will be integrated into the footprint of the access roads to minimise the disturbance footprint of the Project.

Construction of the services trench will require the temporary diversion of the Rastus Burn Stream via a temporary pipe at the existing Curvey Basin access road low flow crossing to allow the for the installation of the trench under the bed of the stream. The temporary diversion will be achieved by sandbagging the Rastus Burn Stream upstream of the crossing and redirecting flow into a temporary pipe around the area of works while the service trenches are installed under the bed of the stream. Once construction of the trench is completed, the diversion will be removed and the normal flow of the stream reinstated.

3.5.6.1 Power Infrastructure

Power will be supplied to the Doolans Basin via underground supply cables to be routed from the Rastus Burn, along the Curvey Basin access road and extension to the Midstation, and down into the Doolans Basin. The existing power cable at the top of the Curvey Basin chair lift will also be extended along the same route as a back-up supply. Branched connections will be established as necessary to provide power to the various facilities in the Doolans Basin.

Bare copper earth conductors will be buried with all 11kV cables to provide a site-wide, low impedance earthing system. Five new transformers will be required within the Doolans Basin as shown on **Figure 3-11**.

3.5.6.2 Water Take

A new water take will be established in Doolans Creek via a new Tyrolean Weir. The water, to be taken at a maximum rate of 30 L/s, will be used within the Doolans Ski Area for potable water supply, firefighting and snowmaking purposes. The water take will be located within Doolans Creek Right Branch at an elevation of approximately 1,380m ASL. The location of the water take is shown in **Figure 3-20** below.

To access the water take location, a 4WD drive access road will be constructed from the Doolans Base Building to the take location. A rising water main, power and telecommunications will be trenched underneath the access road.

Tyrolean Weirs are typical weir structures used within alpine environments. An indicative image of a Tyrolean Weir is provided below (**Figure 3-19**). The Tyrolean Weir system is suitable for the alpine environment due to its effectiveness in handling sediment and bedload and robust design with low maintenance requirements, ensuring consistent water availability.

The Tyrolean Weir will consist of a low concrete wall weir with a galvanised steel slotted screen, upstream and downstream flumes, and approach training walls located within the creek. The specific design details of the Tyrolean Weir will be subject to detailed engineering design and will be submitted to the ORC for certification. Notwithstanding, two work areas will be required within Doolans Creek, approximately 20m x 12m for the intake structure and 12m x 12m for the outfall structure. Permanent loss of the streambed due to the placement of the intake structure and outfall will be 20m^2.

Figure 3-19: Picture of a Tyrolean Weir in an alpine environment (Source: Stantec, 2026).

The weir will be constructed of steel, precast concrete and some in-situ concreting to fill voids and ensure a strong foundation. Excavation of the stream will be required to install the precast flume unit. No coffer dam or stream diversion is planned; the excavator will undertake work within the stream during low flows (below median flow at the Nevis at Wentworth Station recorder of 11.7 m^3/s), and best practice erosion and sediment controls will be in place, and the weir will be assembled and installed onsite.

Water flumes will flow through the screen into an underground overflow chamber and conveyance pipeline, while most of the sediment and bedload flow over the screen and continue downstream. In the event of high flow events, a small bypass/sluice gate will allow for the flushing of sediment.

The system is designed to withstand a 1:100-year flood event. Notwithstanding, riprap will be installed upstream and downstream of the weir to mitigate erosion.

The overflow chamber will contain a submersible pump which will pump the water to a nearby larger pump station and will also contain a flushing control valve which will return excess water back to the creek via a 300mm diameter flushing line and outfall. An indicative schematic of the water take system proposed on-site is provided in **Figure 3-20** below and is described in more detail in the Stantec (2026g) Water Intake Report.

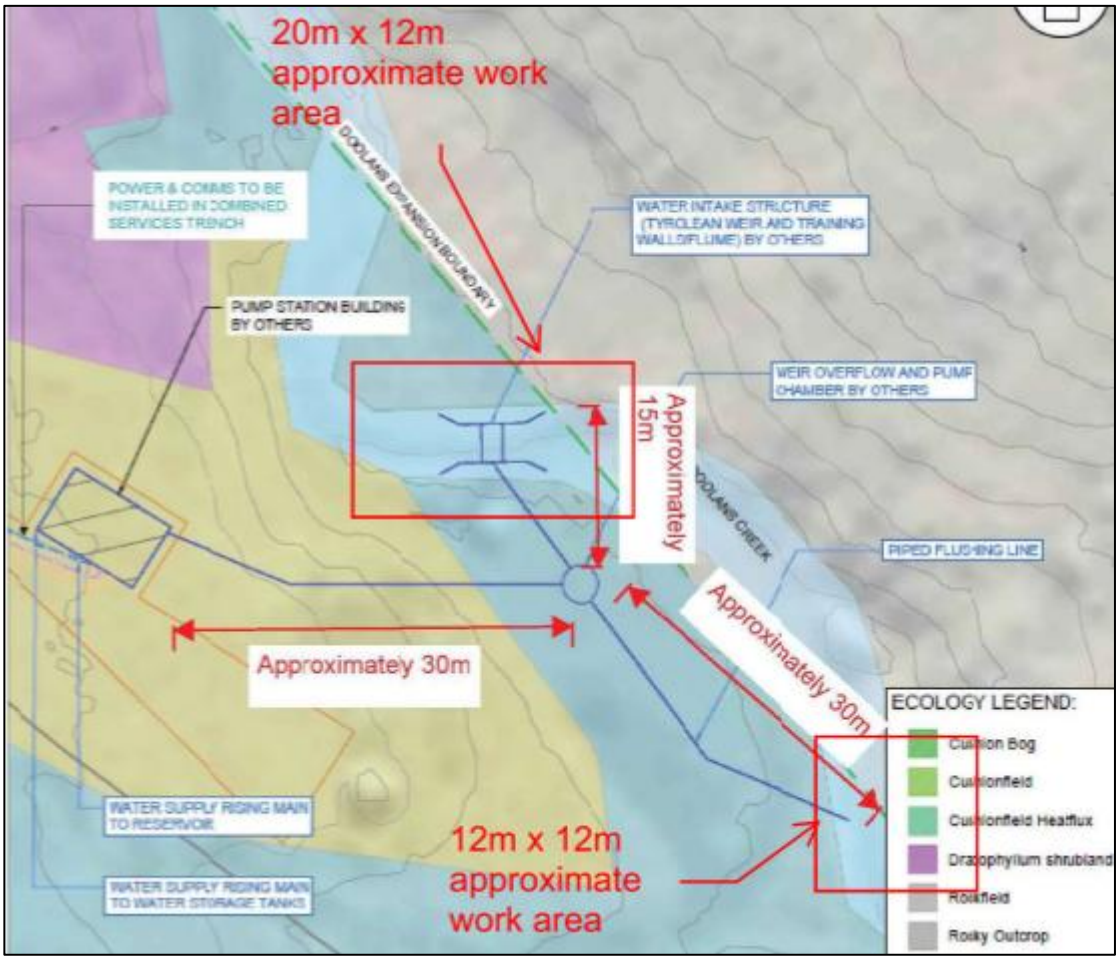

Figure 3-20: Proposed water take system indicative layout.

A new pump station building will be required to pump water from Doolans Creek Right Branch to the proposed water storage reservoir and water treatment plant respectively (described in Sections 3.5.5.3 and 3.5.5.4).

The pump station building will be established on a concrete slab and will occupy a footprint of approximately 65m^2 (10m x 6.5m) and will be approximately 4.5m in height. Earthworks will be required to establish a level platform for the pump station building.

The building will be clad in Coloursteel and will contain two skid mounted pumps and control equipment.

Detailed plans of the water take infrastructure and pump building are contained in the C-10 Doolans Water Intake & Access plans, contained in **Part C** of the application documents.

3.5.6.3 Water Reservoir

A new water storage reservoir for the purposes of snow making will be established in the location of an existing tarn. The location and geometry of the proposed water reservoir is shown in **Figure 3-21** below and detailed in **Part B.** The reservoir will not be classified as a Large or Classifiable Dam as confirmed by Stantec (2026f).

A dedicated rising water main will be constructed from the Doolans Creek water intake pump building to the proposed water storage reservoir as described in Section 3.5.6.2.

Tarn 3 was chosen as the proposed location for the reservoir as conversion of the tarn minimises cut and fill requirements, minimises pumping requirements from the water take and can provide natural 10m head to the associated snow making pump shed (described in Section 3.6.3).

The existing tarn will be modified via land disturbance to achieve a required storage volume of 19,000 m^3, freeboard of 1.5m and 2.5H:1V internal and external slopes. The land disturbance will result in loss of the natural tarn feature.

The reservoir will be constructed with a liner and underlying drainage system to minimise leakage and prevent sediment entering the downstream snow making equipment. The 1.5m freeboard has been adopted to avoid overtopping caused by wind events.

The inlet from the reservoir and outlet to the snow making pump station will be connected via an overground pipe going over the crest of the reservoir. This avoids the need for a 9m cut through the natural topography. The inlet will consist of a pump rail system allowing the inlet to be lowered and raised in response to the reservoir water levels.

Stormwater will be diverted around the reservoir via diversion swales to prevent sediment entering the downstream snow making equipment. A swale inlet for the catchment above the reservoir will be constructed on the northern side of the reservoir, which will also act as sediment control. Two discharge points will be constructed to the south. Both the inlet and discharge outlets will be rock lined with scour protection. The reservoir will include an overflow pipe discharging into the stormwater swale with the same capacity as the incoming water supply in case of pump failure.

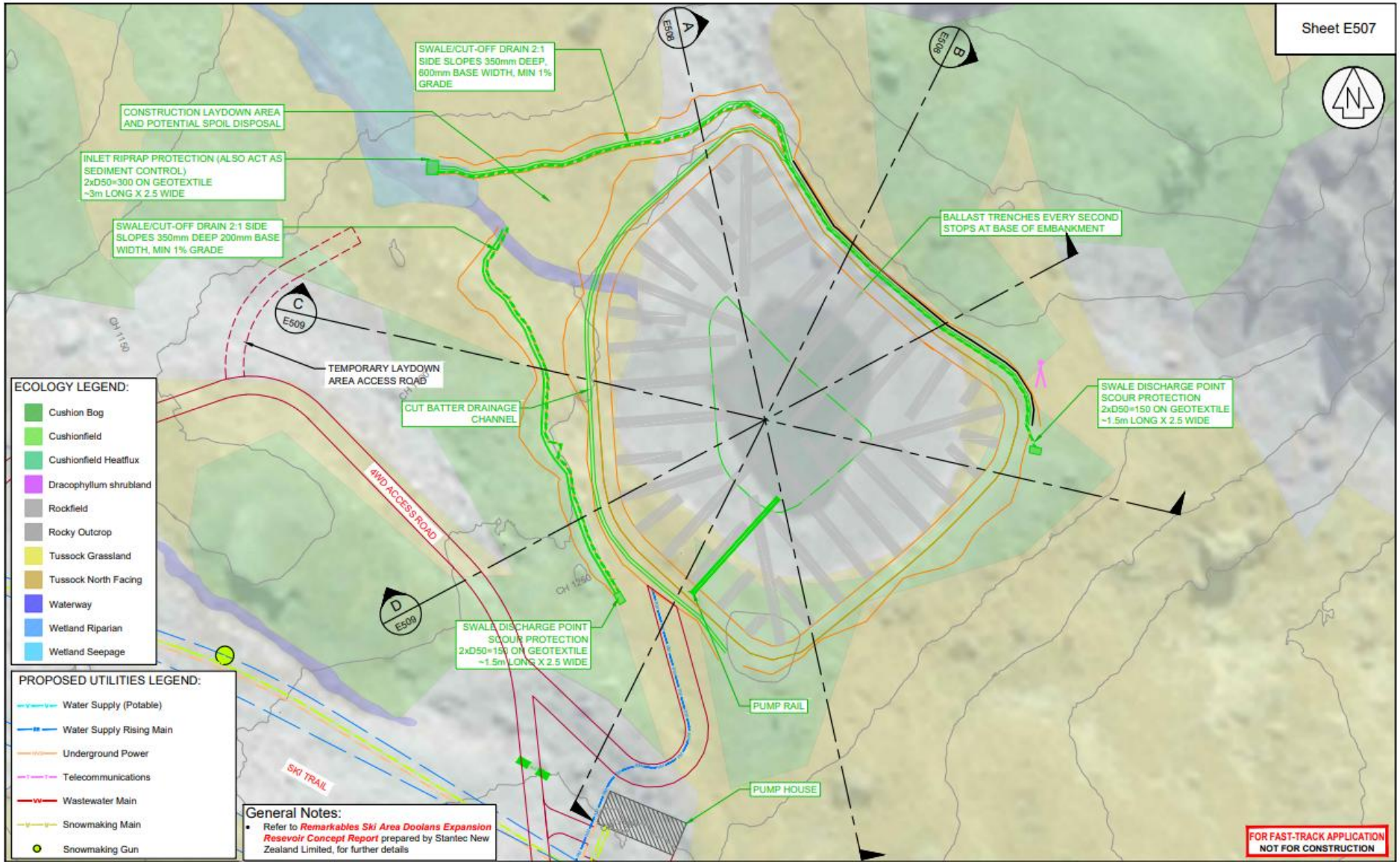

Figure 3-21: General reservoir arrangement.

3.5.6.4 Potable and Firefighting Water

The daily potable water demand for activities within the Doolans Basin is estimated at 50 L/person and 125 m^3/d. This amount of water is available from the catchment, which is proposed to be obtained from the proposed Doolans Creek Right Branch water intake (refer to Section 3.5.6.2). The design for the potable water supply system includes:

- A dedicated rising main from the new Doolans Creek Right Branch water intake to the Doolans Base Area;
- 45,000L of water storage via underground concrete raw water storage tanks located at the western end of the new Doolans Learners Zone;
- A new Doolans Basin Water Treatment Plant, contained within the Doolans Base Building consisting of disc filters, a UV reactor and a chlorine dosing system to treat the raw water for potable purposes (if required);
- 5,000L of treated potable water storage within the Doolans Base Building; and
- Firefighting pumps and sprinklers for the Doolans Base Building.

A falling main from the 45,000L raw water storage area will feed into the proposed Doolans Water Treatment Plant and a distribution booster pump will distribute potable water within the building. All raw, treated and firefighting pipelines and tanks will be constructed with freeze protection.

3.5.6.5 Stormwater Management

Stormwater management for the proposed access roads is described in Section 3.6.1.2.

Stormwater from the Doolans Gondola Return Station and Doolans Base Building will be collected via gutters and piped to an adjacent ephemeral watercourse to avoid scouring or erosion from overland flows.

Stormwater runoff from the Midstation and secondary infrastructure buildings in the Doolans will be discharged directly to ground, as is standard practice in the alpine environment where gutters can be damaged by snow sliding from the roofs, to allow for disposal through a combination of infiltration and surface flow.

3.5.6.6 Wastewater Infrastructure

Wastewater generated from the Doolans Base Building is proposed to be pumped to the Rastus Burn wastewater system for treatment and disposal via a three-stage rising wastewater main (each with an associated pump station) rising up to Helicopter Ridge Midstation and a falling wastewater main down to the Rastus Burn (see **Figure 3-22** below).

The rising main will align with the proposed access road in the Doolans, where possible, to minimise land disturbance.

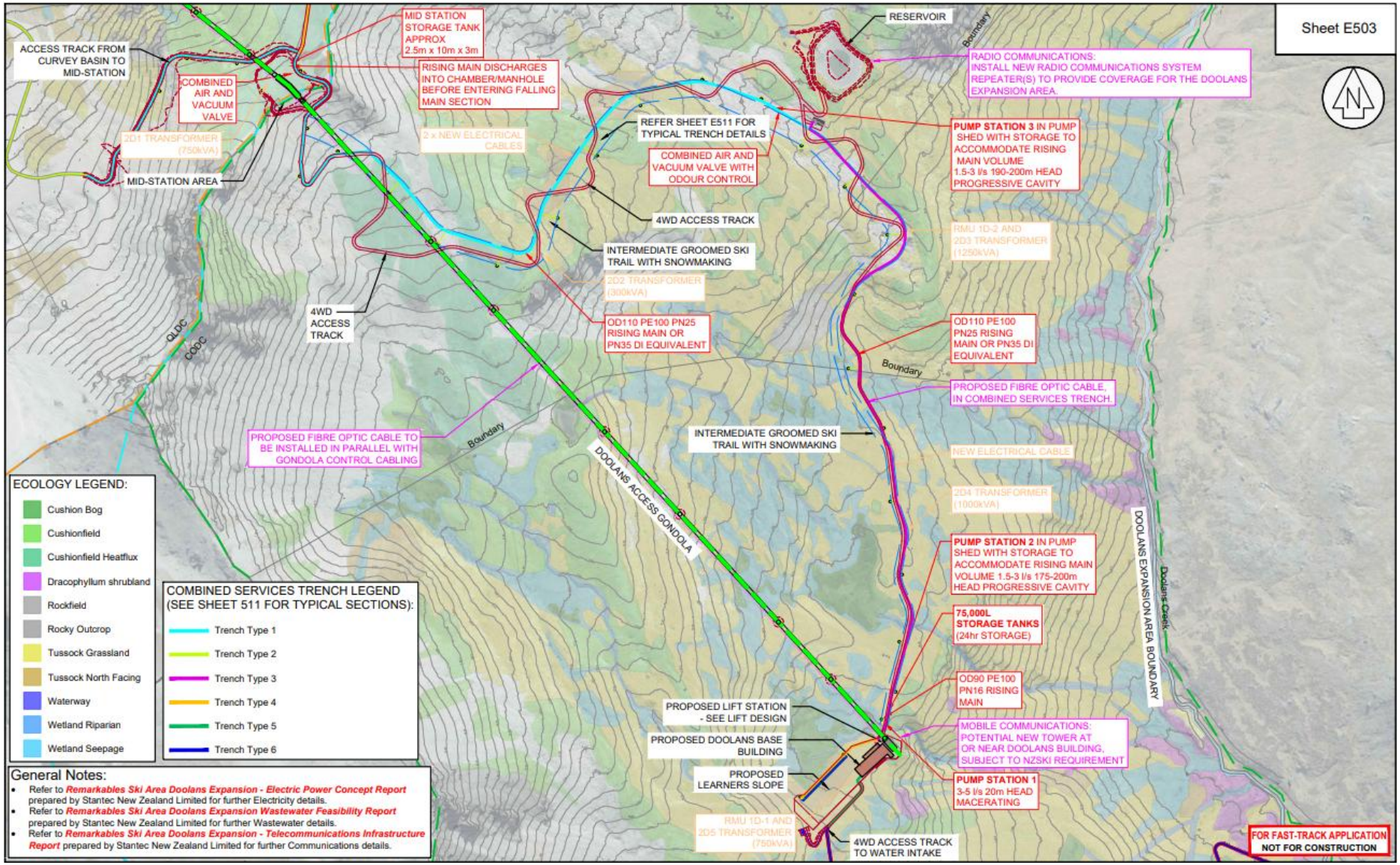

Figure 3-22: General wastewater arrangement in the Doolans.

The first pump station will be a macerating pump to intercept non-waste solids, with the following two pumps being progressive cavity pumps staged to provide the necessary lift to reach Helicopter Ridge. Pump station 2 will be constructed with 75,000L of storage tanks to provide for 24 hours of storage capacity in case of line failure or closure during maintenance. Each pump station will require stable founding and all-weather access to be formed, as well as power and communications connections.

From Helicopter Ridge the receiving tank and pump station will discharge into a falling main, discharging to the existing Rastus Burn Base Building septic tanks. The falling main will be constructed under the proposed Curvey Basin access road and associated extension. The falling main will include combined odour/air/vacuum breakers as necessary.

All wastewater infrastructure will be constructed with appropriate anti-freezing materials and design for the alpine environment.

3.6 GENERAL SKI FIELD EXPANSION WORKS

3.6.1 Construction of Permanent Access Roads

The ski field establishment will include the construction of four permanent access roads, as shown on the plans contained in C-06 Rastus Burn Access Roads & Utilities plans and C-08 Doolans Access Roads, Trails & Utilities plans, included in **Part C** of the application documents. In summary, this includes:

- The Curvey Basin access road extension, which provide access from the top of the existing Curvey Basin access road to the Doolans Midstation on Helicopter Ridge;
- The Sugar Bowl access road, which provides access from the top of Sugar Bowl to the Doolans Midstation on Helicopter Ridge and a skier return trail;
- The Doolans access road, which provides access from the Doolans Midstation on Helicopter Ridge to the Doolans Base Building (and the intervening infrastructure) and provides a form ski trail within the Doolans Basin; and
- The Doolans Water Take access road, which provides vehicular access from the Doolans Base Building to the proposed intake structure in the Doolans Creek Right Branch.

Access roads within the Doolans Basin are necessary to support:

- Construction of the Doolans Base Building, Doolans Return Station, gondola towers, utilities, reservoir, and the associated earthworks;
- Access for long-term maintenance and inspection purposes;

> Emergency response and operational resilience; and

> Winter ski operations, including groomer and patrol access where required.

In an alpine environment characterised by steep terrain, variable ground conditions, and ecologically sensitive areas, access must be reliable across seasons, constructible within constrained terrain and integrated with utilities and operational needs.

3.6.1.1 Road Construction Methodology and Details

The alignments of the various access roads have been carefully chosen to minimise land disturbance, avoid sensitive ecological areas (wherever practicable), avoid and minimize exposure to natural hazard risk (as much as practicable in the alpine environment) and provide safe vehicle access for construction and maintenance purposes. Retaining walls will be constructed to form some parts of the access roads in order to minimise the area of land disturbance withing ecologically sensitive environments.

The general methodology for undertaking of earthworks and construction of retaining walls for the Project is described in Section 3.3.3 and Section 3.3.4, respectively.

The access roads have generally been designed to:

> Achieve maximum gradients of between 15–20%;

> Achieve formation widths generally in the order of 4–6 meters;

> Limit cut heights where practicable; and

> Utilize downslope retaining in constrained locations where required.

Table 3-4: Typical access road details.

	Length (approximately)	Typical Width
Curvey Access Road Extension	480m	5.0m
Return Access Road	1000m	5.0m
Doolans Basin Access Road	2800m	4.0m
Doolans Water Take Access Road	2400m	4.0m

As discussed in Section 3.5.5, trenched utility corridors will be established under the access roads to provide infrastructure services across the Doolans Basin. Where the corridor crosses waterbodies, bulkheads may be used to avoid affected the flow path of water, or where culverts are used, utilities will be placed on top of the culvert where detailed design allows.

3.6.1.2 Stormwater Management and Road Crossings

Access roads will be constructed to maintain existing sheet flows, wherever possible, by providing shallow drainage swales across the road formations. Maintaining existing sheet flows avoids concentrating stormwater flows and minimises the diversion of water, avoiding increased sediment generation and potential for scouring. Minor stormwater channels, similar to those found within the Rastus Burn, may be used periodically across the access road to further minimise the concentration of discharges (**Figure 3-23)**.

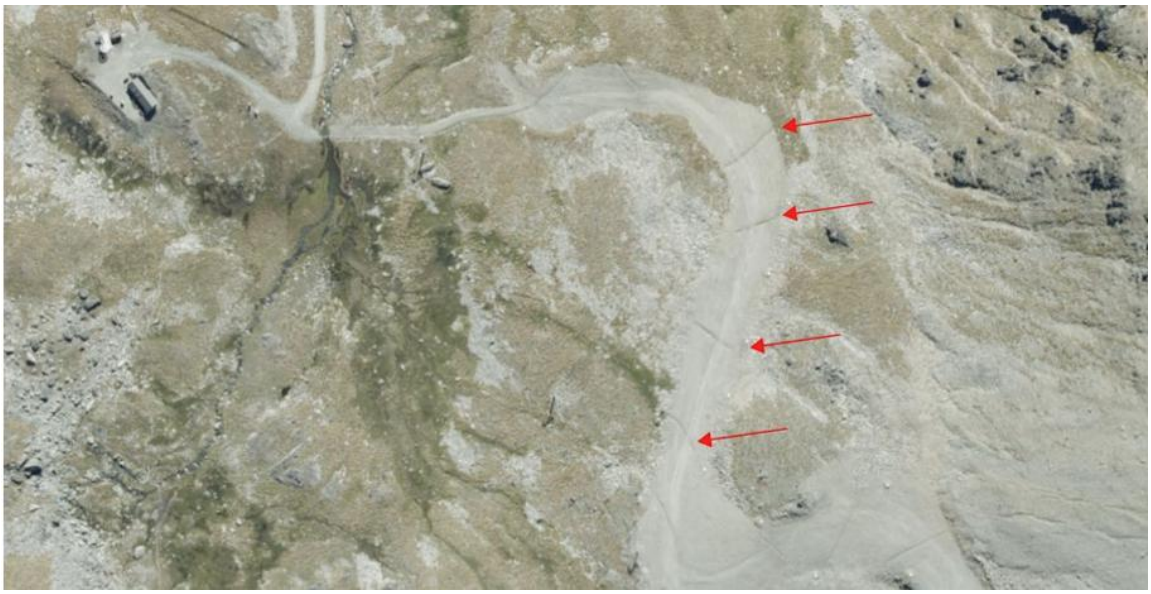

Figure 3-23: Stormwater channels to maintain surface sheet flow as much as possible, as used in the Rastus Burn catchment (Stantec, 2026d).

Shallow armoured swales will be used selectively throughout the site where water is being diverted around the water reservoir and access road where access road gradients require.

No significant watercourse crossings are required for the Curvey Basin or Sugar Bowl access road extensions. The Doolans Basin access road and water intake access road will both cross multiple wetlands and permanent and ephemeral watercourses.

Where roads cross small ephemeral or seepage wetlands, seepage flow paths will be maintained by constructing the road crossings with open-graded permeable fill beneath the road surface (**Figure 3-24**).

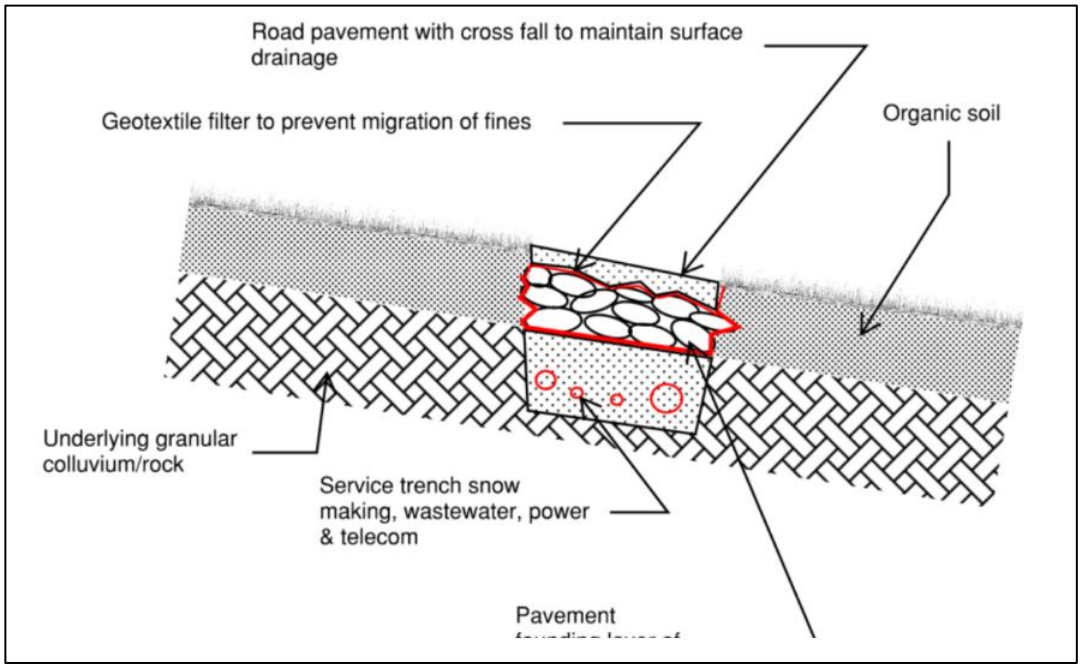

Figure 3-24: Engineered permeable road crossing design (Stantec, 2026d).

Where roads cross permeant or ephemeral watercourses with low gradients and low approach angles, priority has been applied to use splash crossings (fords) to minimise construction disturbance, maintain sediment continuity and minimise ongoing maintenance requirements (**Figure 3-25**). The Doolans Basin access road will contain six splash crossings; all in the higher altitude areas of the catchment.

Figure 3-25: Splash crossing (ford) example (Stantec, 2026d).

Road culverts are proposed where the roads cross more significant ephemeral watercourses to ensure flows are conveyed effectively and road safety is maintained (**Figure 3-26**). Three culverts, ranging in size from 750mm diameter single/ 450mm diameter twin pipes to 900mm diameter single / 600mm diameter twin pipes are proposed along the Doolans Basin access road with another two 900mm diameter single pipe culverts proposed along the Doolans water intake road. The culverts, and associated scour protection, have been sized based on modelled climate-change adjusted flood events to ensure their ability to pass high rainfall events.

The design of each crossing will be subject to detailed design, with ecological and hydrology input required to ensure hydrological flow and connectivity of water bodies (streams and wetlands) is maintained. Based on the current designs, seven engineered road crossings, six splash crossings and six culverts are proposed across the Site, comprising of 12 stream and seven wetland crossings.

Figure 3-26: Culvert example (Stantec, 2026d).

3.6.2 Construction of Temporary Access Roads

Temporary construction access will be limited to discrete locations where permanent access cannot reasonably service specific construction activities and is progressively removed or reinstated following completion of works.

Where terrain, alignment constraints, or work location limit standard road access, 4WD or localised off-road access may be used. Such access is confined to defined routes and corridors to minimise disturbance and avoid unnecessary expansion of the construction footprint.

The temporary earthworks for the access roads will be progressively reconfigured, reshaped, or reinstated, and restored with vegetation translocated from the disturbance footprint where appropriate, to achieve final landform and operational requirements. Where temporary accesses encroach near areas of sensitive terrestrial ecology, techniques such as rubber matting will be employed (**Figure 3-27**).

Figure 3-27: Example of temporary access track (left), rubber matting for use near critical source areas (right).

3.6.3 Snowmaking Infrastructure

New snow making machines are proposed within the Rastus Burn and Doolans Basin.

All machines in the Rastus Burn will be supplied with water from the existing Rastus Burn catchment water take via extensions to the existing snow making pipe network.

All machines in the Doolans Basin will be supplied with water from the proposed Doolans Creek Right Branch water take. Water from the intake will be pumped up to the proposed water reservoir. A trenched inlet pipe from the reservoir will supply a 138.32m^2 (18.2m x 7.6m) 4.5m high snow making pump station to the south of the reservoir which will pump water from the reservoir to the snowmaking network via dedicated snow making mains. The pump station will be clad in colour steel and finished with a dark recessive paint colour.

It is proposed to install two types of snow making machines for a total of 39 machines as identified in **Table 3-5**.

Table 3-5: Proposed Snow Making Machines

	TechnoAlpin TT10 Snow Guns	TechnoAlpin TT9 Snow Guns
Doolans Ski Trails	24	0
Doolans Learner Area	2	0
Midstation Return Trail	1	8
Curvey Basin Access	0	4

The indicative location of these units is shown on plans contained in **Part C;** however, their final location will be confirmed during detailed design. Power, earthing and communications cables will be installed in trenches to the snow making machines under the access roads or earth-worked learners area, avoiding additional land disturbance.

Above ground, the snow guns will be yellow in colour to provide a high degree of visibility for safety in the alpine sports environment. The two guns specifications are similar in dimension and will be no more than 4.1m high, 1.78m long and 1.22m wide.

3.6.4 Operational Controls and Signage

A range of operational controls will be installed or upgraded to ensure safe ski activities and operations within the new Doolans ski area and expanded Rastus Burn skiable areas. Such controls are typically temporary (during the winter ski season) and include wayfinding signage, barriers/gates, safety fencing/netting, snow fences, avalanche control and boundary markers. In addition, cultural interpretation panels (if mana whenua support the use of such panels) and/or landscape and information panels may be installed at key viewing and rest locations year-round.

3.6.5 Communications Infrastructure

3.6.5.1 Wireless Bridge

The existing wireless bridge, which acts as an 'invisible Ethernet cable' from Coronet Peak, provides internet to the ski field up to 500Mbps. To provide capacity for the expanded ski field operations in the Rastus Burn and Doolans Basin, a new wireless bridge system will be required with a rating up to 5.4Gbps (reflecting a similar profile to that shown in **Figure 3-28** below) attached to the existing monopole telecommunications facility on the Rastus Burn Base building.

Figure 3-28: Upgraded Wireless Bridge - Ubiquiti UISP airFiber 60 XR 60GHz Long Distance PTP Bridge.

3.6.5.2 Backbone Fibre Optic

Two fibre connections from the Rastus Burn Base Building to the Doolans ski area are proposed for resilience purposes as follows:

- The primary fibre backbone will run within the new shared utility trench from the Rastus Burn Base Building up to, and along, the access road into Doolans Basin and down to the Doolans Base Building; and
- A secondary fibre connection will run from the Rastus Burn Base Building to the Doolans Cabin Building via an overhead cable installed on the gondola structure.

The preferred method of connecting the various field equipment and plant items in the Doolans Basin will be via cabling from the nearest primary fibre backbone connection point under the access road into a weatherproof small network switch/field cabinet associated with each piece of infrastructure. Cable routes will utilise shared trenching routes wherever available.

3.6.5.3 Radio and Mobile Towers

The existing radio communications system above Shadow Basin, near the ridgeline at Bishops Camp, will be retained with evaluation of the performance and coverage of this existing infrastructure to be undertaken to determine whether upgrades or additional repeaters are required. Any necessary approvals will be obtained separately and outside of the fast-track approvals process.

Radio communications coverage will be expanded into the Doolans Basin via addition of two repeaters anticipated to be installed on the Doolans Midstation at Helicopter Ridge and the Doolans Base Buildings. These will comprise of short whip aerials, approximately 2m above the respective building rooves.

The existing mobile carrier communications tower is located at the base of the Curvey Basin chairlift and is proposed to remain as existing based on its current performance and coverage.

The option to establish a second mobile communications tower within the Doolans Basin ski area will be considered and further investigated. Input will be required from mobile carriers with respect to design and implementation requirements and should the option be pursued, any necessary approvals will be obtained separately and outside of the fast-track approvals process.

3.7 LOWER REMARKABLES TRANSIT HUB

The following sections provide a detailed description of proposed Lower Remarkables Transit Hub. In summary, this section details:

- The proposed upgrades to the existing car park at the bottom of the Remarkables Ski Field Access Road (Car Park A);
- Construction of a new car parking area (Car Park B) approximately 500m east of the existing Car Park A; and
- Conversion of the existing temporary storage yard into a new car park (the Boneyard Car Park).

The approximate location of the above works within the Rastus Burn Ski Area are shown on **Figure 3-1** and in detail in the detailed Project Plans attached in the C-01 Access and Transportation Plans, contained in **Part C** of these application documents.

Carpark A will be reconfigured **(Figure 3-30**) to improve the efficiency of the site access and egress, improve car parking efficiency and capacity, provide for new shuttle/bus drop-off and pick-up and improve ride-share transition zones. These works will enable NZSki to support increased modal shift of visitors to the top of the ski field from private cars to shared buses, shuttles and cars.

Two new carparks, 'Carpark B' and the 'Boneyard Carpark' are proposed to be established east of the existing Carpark A to cater for the increase in visitors, and to compensate for the loss of Carpark 3 (which, as previously described, is being used for electricity related infrastructure). An existing section of land will be cleared of vegetation and earthworked to

establish Carpark B. Existing stormwater flows will be maintained via open drains and culverts with discharges to existing downstream flow paths. The Boneyard Carpark will be established within an existing cleared area of the site and therefore will not require earthworks. **Figure 3-30** and the C-01 Access and Transportation Plans in **Part C** provide further details.

All works associated with Carparks A and B will be undertaken during normal construction hours, of 7:30am to 8.00pm Monday to Friday, and 7:30am to 6.00pm Saturdays, and will be undertaken in accordance with a certified ESCP.

During peak days during the ski season, part of Carpark 1 at the top of the mountain will be used for additional shuttle drop-off/pick-up areas rather than car-parking to ensure the shuttle services from the lower mountain carparks can operate efficiently. NZSki will alter the configuration of Carpark 1 on a day-to-day basis in response to daily demand.

Carparks for the ski field are unsealed without line marking. NZSki utilises traffic controllers to organise carparking as visitors arrive to ensure efficient and safe carparking across the site.

To manage peak flows through the SH6 intersection, NZSki proposes implementing temporary afternoon traffic control measures for the duration of the winter ski season. Successfully implemented for the last season, the traffic control measures impose a left out only turn from the Remarkables Ski Field Access Road. This temporary mechanism is proposed while QLDC and NZTA work through the wider implementation of the Te Tapuae Southern Corridor strategy and strategic network upgrades.

NZSki is also proposing to install permanent left turn measures out of the SH6 / Remarkables Ski Field Access Road intersection and will consider the use of variable speed limit signs on the State Highway. Both of these actions are within the State Highway road reserve, therefore will be subject to separate approval pathways.

Within 12 months of the Doolans Base Building being opened, NZSki will undertake an investigation, in collaboration with NZTA, to understand the performance of the existing intersection, identification of potential intersection improvements to address safety or performance issues and the funding of the preferred solution. NZSki will be required to implement the agreed improvements, however as the detail has yet to be defined, it will be subject to separate approval processes outside of the FTAA.

To encourage a modal shift of skiers away from private car usage, NZSki will also formalise the existing travel demand and car parking measures on site through the preparation and implementation of a Travel Demand and Parking Management Plan. The plan will provide a strategic framework designed to influence travel behaviour, reduce reliance on single-

occupancy vehicles and alleviate traffic congestion (including parking) associated with the operation of the Remarkables Ski Field. Implemented in the first ski season after approvals are granted, NZSki will monitor and report on its success and adjust the Plan to ensure the modal shift outcomes sought for the ski field are being achieved as visitor numbers increase over time.

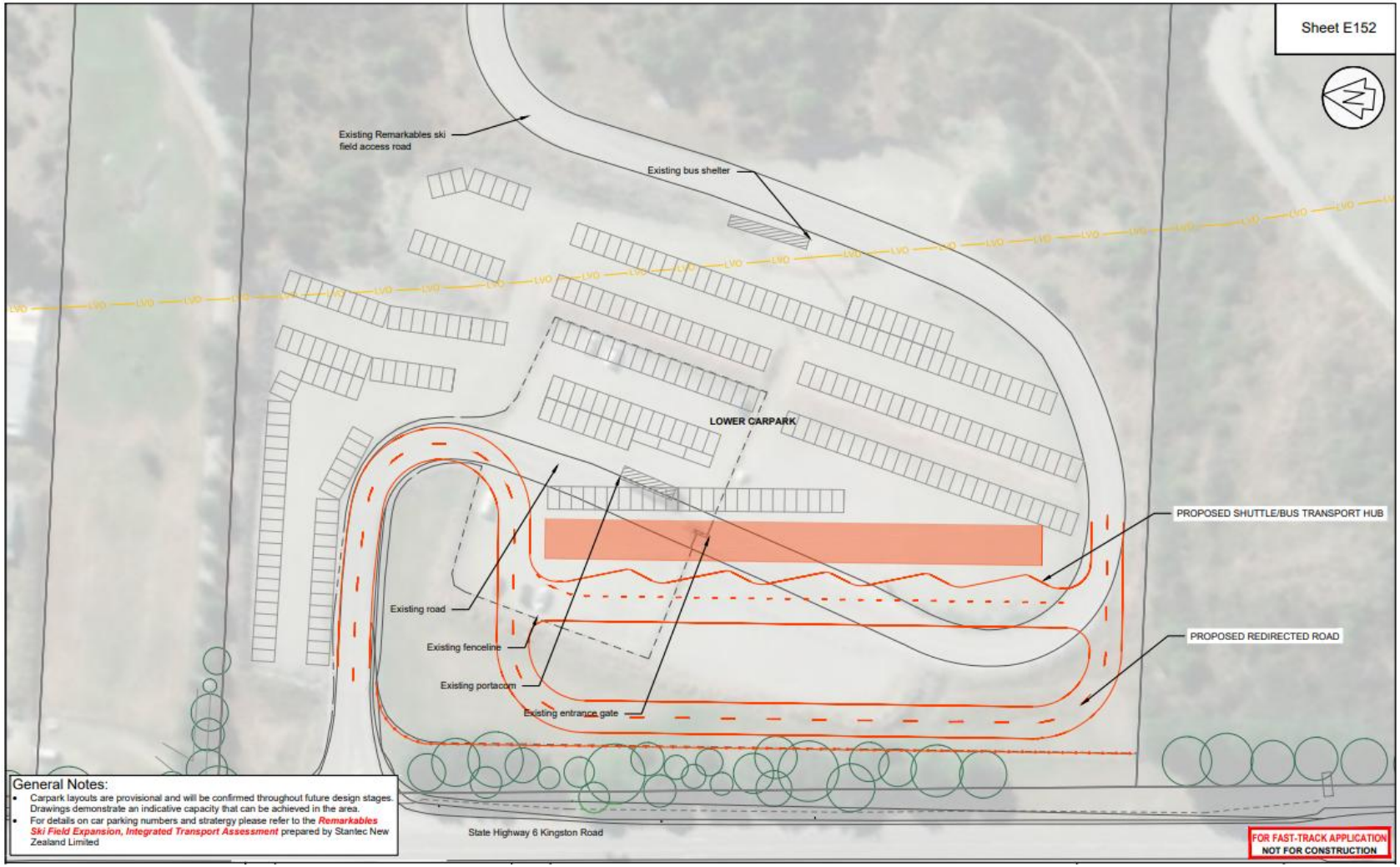

Figure 3-29: General arrangement of the Lower Remarkables 'Carpark A' reconfiguration and bus and shuttle upgrades.

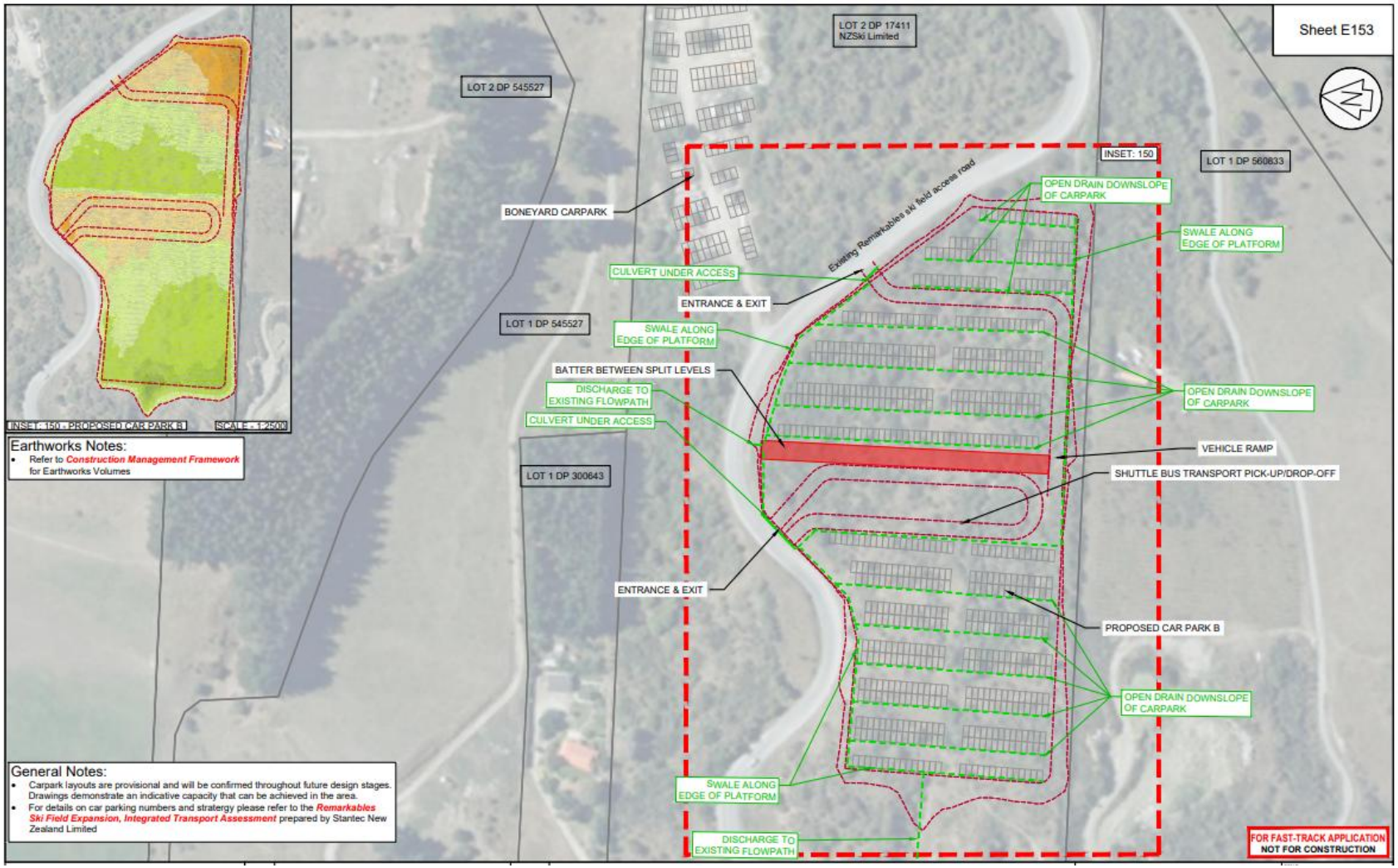

Figure 3-30: General arrangement of the proposed Lower Remarkables 'Carpark B' and 'Boneyard Carpark' and shuttle bus facilities.

3.8 WASTEWATER MANAGEMENT

All wastewater associated with the Project will piped to, and treated by, the wastewater system located within the Rastus Burn.

As set out in Section 2.16, existing water quality and aquatic health in the Rastus Burn is considered to be good to excellent. The objective of the wastewater system upgrades is to maintain this good to excellent ecological health in the Rastus Burn, even with a proposed increase in wastewater volumes being treated by the system resulting from the proposed Doolans Expansion. Accordingly, performance criteria have been developed that any upgraded wastewater system must meet to maintain water quality and ecological health within the Rastus Burn.

The upgraded wastewater treatment system will be located in Carpark 3, as shown in Drawing Sheet E201 (contained in **Part C** of the application documents).

3.8.1 Wastewater System Performance Criteria

Performance criteria have been developed to maintain good to excellent ecological health of the Rastus Burn. The performance criteria are set out in **Table 3-6** below address total nitrogen, total phosphorus, total suspended solids ("**TSS**") and 5-day carbonaceous biochemical oxygen demand ("**$cBOD_5$**").

Table 3-6: Proposed Wastewater Discharge Performance Criteria

Parameter	Limit
Total nitrogen	Must not exceed an annual maximum of 750 kg in any calendar year.
Total phosphorus	Must not exceed an annual maximum of 100 kg in any calendar year.
Total suspended solids	Must not exceed a 5 year rolling 95th %ile of 110 mg/L.
	Must not exceed a 5 year rolling mean of 40 mg/L.
$cBOD_5$	Must not exceed a 5 year rolling 95th %ile of 320 mg/L
	Must not exceed a 5 year rolling mean of 80 mg/L.

The performance criteria were developed by e3s (2026d) and Stantec (2026d). The performance criteria developed by e3s are based on a review of the historical discharge

quality and ecological health in the Rastus Burn. The performance criteria developed by Stantec for total nitrogen and total phosphorus are based upon a 'first principles' assessment of the baseline total nitrogen and total phosphorus nutrient loading to the Rastus Burn catchment for skier counts and wastewater discharge flows from 2022, and comparisons to measured loads detailed in e3s (2026d).

The development of performance criteria for each of these parameters is discussed further in the sub-sections below.

3.8.1.1 Total Nitrogen and Total Phosphorus

The total nitrogen and total phosphorus limits in the e3s Wastewater Discharge Assessment are load based limits based on a review of historical discharge loads and ecological health in the Rastus Burn. The first total nitrogen limit is a maximum five year rolling mean of 500 kgN/year developed based on the average value[36] of reported nitrogen loads, particularly during the 2024 and 2025 ski seasons. The second total nitrogen load limit is a maximum annual load limit of 600 kg/year which has been developed based on the identification of a "potential threshold" that was exceeded during the 2022 and 2023 ski seasons, beyond which the aquatic health of the Rastus Burn could decline from the typically good to excellent ecological health experienced in the Rastus Burn to date.

The first total phosphorus limit is a maximum five year rolling mean of 65 kg/year which is based upon the average value of historically reported loads. The second total phosphorus limit is a maximum annual load limit of 85 kg which is halfway between the average annual load and the maximum possible historical load.

However, Stantec (2026d) estimates that based on a 'first principles' assessment of the baseline total nitrogen nutrient loading to the Rastus Burn catchment for skier counts and flows from 2022 and comparisons to e3s (2026d) that the likely actual 2022 total nitrogen loading falls between a range of 500 to 1,200 kg, and the most likely figure is 900 kg. Stantec propose a maximum total nitrogen annual loading limit of 750 kg/year.

Utilising the same methodology as for total nitrogen, Stantec (2026d) estimates that the likely actual 2022 total phosphorus loading falls between a range of 60 to 125 kg, and the most likely figure is 155 kg. Stantec propose a maximum total nitrogen annual loading limit of 100 kg/year.

It is recognised in e3s (2026d) that their calculation of the measured amount of total nitrogen and total phosphorus discharged likely underestimates what was actually

[36] These values were rounded by e3 Scientific.

discharged due to flow metering issues and the nature of historical wastewater sampling undertaken. Therefore, the total nitrogen and total phosphorus limits developed by Stantec (2026x) has been adopted in the performance criteria. Further monitoring and assessment work will be undertaken prior to the detailed design of the wastewater system upgrade being undertaken to confirm that these limits are appropriate to maintain the good to excellent ecological health experienced in the Rastus Burn to date.

3.8.1.2 Total Suspended Solids and cBOD5

The TSS and $cBOD_5$ limits are concentration based limits. The first for each is a five year rolling maximum 95^{th} %ile based upon the historical 95^{th} %ile concentration of wastewater discharged, and the second is a five year rolling mean based on the average concentration of wastewater historically discharged.

3.8.1.3 E.coli

A performance criterion for human faecal pathogens was considered by e3s (2026d). However, it was considered unnecessary due to the natural die-off rates between the disposal field and the Rastus Burn being high, and there being no sensitive receptors in the affected downstream reach.

3.8.2 Discharge Volume and Rate

As previously described, the volume of wastewater needing to be managed in the wastewater system will increase as a result of the Doolans Expansion. Therefore, the maximum daily wastewater discharge volume and maximum hydraulic loading rate limits to the existing infiltration basins will need increase from 1 June 2029 to accommodate the additional wastewater volume. Stantec (2026d) has identified that the maximum daily wastewater discharge volume will need to increase from the existing 127.44 m^3/day to 204 m^3/day and the maximum hydraulic loading rate to the infiltration basins will need to increase from the existing 20 mm/day to 50 mm/day.

To accommodate the increase in the maximum hydraulic loading rate to the infiltration basins, the wastewater will be treated to at least a secondary standard to comply with AS/NZS 1547:2012 On-site domestic wastewater management.

3.8.3 Wastewater Treatment Options

NZSki operate two other ski fields in New Zealand. One at Mount Hutt in Canterbury and the other at Coronet Peak, which is located approximately 15 kms to the north of The Remarkables. The Coronet Peak wastewater system is a secondary treatment system which provides nutrient reduction, so this system has been considered as part of determining how

wastewater should be managed for the Doolans Expansion. Details of the Coronet Peak wastewater system are covered in the "*Summary of Coronet Peak Learnings*" memorandum prepared by Stantec included in the appendices of Stantec (2026d).

Stantec (2026d) considers a number of options for wastewater treatment, with three preferred options being considered for further assessment:

- Option 4 – Upgrade the Wastewater System with the introduction of secondary treatment for all wastewater;
- Option 5a – Option 4 plus introduce nutrient reduction treatment such that the nutrient load discharged from the Wastewater System is no more than is discharged pre-development; and
- Option 5b – Option 4 plus introduce nutrient reduction treatment such that the nutrient load discharged from the Wastewater System is nominally less than is discharged pre-development.

All three of these options would involve the introduction of a new onsite wastewater treatment process and the utilisation of the existing dispersal field. All options would likely require heating of the influent and/or the treatment tanks to maintain biological activity. The extent and necessity of heating would need to be confirmed during future design stages.

Additional system components would be required for Option 5a and Option 5b compared to Option 4 for wastewater recirculation, heating, dosing controls and system monitoring. These components would be necessary to support nitrification, denitrification and phosphorus-reduction processes that would not reliably function at cold influent temperatures without thermal and process control upgrades.

Potential heating options include ground source heat pumps and/or thermal or solar heat exchange systems. Stantec (2026d) notes that heated wastewater treatment systems in alpine environments present several challenges. They are costly, can be noisy, and require a high level of operational oversight to ensure reliable and continuous performance. For these reasons, avoiding the need for heating at altitude is preferable wherever possible.

There is space to implement all of three options in Carpark 3 and this new treatment location would utilise the existing Rastus Burn crossing point to the infiltration basins.

All options would be constructed offline meaning the existing wastewater system is able to be utilised until the upgraded system is implemented. Construction for all options would be staged around the ski season and can be completed over the warmer months in 2027/2028 and in 2028/2029 prior to 1 June 2029.

The extent of operational oversight would be confirmed as the development of the options progresses, but operational oversight will increase in parallel with more advanced treatment systems.

Stantec (2026d) identified risks and mitigations for all options, including the three options carried forward for further assessment.

3.8.4 Wastewater Treatment Upgrade Implementation

It is recognised that an upgrade to the existing wastewater system is required to accommodate additional wastewater generated from the Doolans Expansion Area, meet the performance limits and to provide for the increased hydraulic loading rate to the disposal field. This upgrade will require secondary wastewater treatment as a minimum, primarily to achieve a greater hydraulic loading rate to the disposal field and this upgrade will likely need to be supported by nutrient reduction treatment to achieve the performance criteria.

As discussed earlier in this section, there are options available to meet the set performance criteria.

Given the uncertainties that still need to be resolved and the significant differences in costs for the implementation of an upgraded wastewater system between what NZSki experienced at Coronet Peak and what is included in the Stantec Doolans Feasibility Report, NZSki is not in a position to commit to implementing a particular system, but instead is in a position to commit to a wastewater treatment upgrade implementation pathway, underpinned by a commitment to implement a secondary treatment system as a minimum and a commitment to achieve the performance standards in **Table 3-6.** The commitment to a minimum standard of secondary treatment and the implementation of performance standards from 1 June 2029 will assist to provide certainty of environmental outcomes. The implementation pathway includes the following stages:

- Stage 1 - Continue to operate the wastewater system generally in accordance with the requirements of the existing Discharge Permit and collect and analyse information to confirm that the total nitrogen performance criteria included in **Table 3-6** is suitable to maintain the good to excellent ecological health of the Rastus Burn;
- Stage 2 – Confirm the technology and wastewater treatment plant upgrades to be implemented;
- Stage 3 – Implement the wastewater treatment plant upgrades; and
- Stage 4 – Manage and monitor the upgraded wastewater treatment plant.

Further details of each on these stages are provided in the sections below.

3.8.4.1 Wastewater Treatment Upgrade Implementation – Stage 1

Stage 1 of the wastewater treatment upgrade implementation will involve operating the wastewater system generally in accordance with the requirements of the existing discharge permits. Some maintenance is required on the existing wastewater system to ensure the system performs as intended as identified during the investigative work undertaken by Stantec for this application. This maintenance will be undertaken during Stage 1.

During Stage 1 it is proposed to improve the discharge monitoring to improve confidence in the total nitrogen and total phosphorus performance criteria included in **Table 3-6** which are intended to ensure water quality and the ecological health of the Rastus Burn is maintained. This will involve improved discharge metering and wastewater sampling to determine how much nitrogen and phosphorus is discharged to the infiltration basins from the wastewater treatment system over the 2026 season. A suitably qualified and independent expert will be engaged to undertake a sensitivity analysis of the measured 2026 total nitrogen and total phosphorus loads compared to the historic annual load calculations included in e3s (2026c).

If the review recommends that the total nitrogen and/or the total phosphorus limits identified in **Table 3-6** needs to be reduced to maintain water quality and aquatic ecology health in the Rastus Burn, the suitably qualified and independent expert must provide a recommendation about what the reduced limit should be. This review is to be completed by 31 December 2026.

If the review recommends that a reduced total nitrogen limit and/or total phosphorus limit is needed to maintain water quality and aquatic ecology health in the Rastus Burn, within one month of the review being completed NZSki will provide written advice to the Consent Authority about whether they propose to implement the reduced limit and whether any variation to the conditions of the consent are needed.

If NZSki does not propose to implement reduced limits (if recommended) the reasons for not implementing the reduced limit will be provided in the written advice to ORC.

Other information will also be collected during Stage 1 to inform the design of the wastewater treatment plant upgrade to ensure it meets the performance criteria.

3.8.4.2 Wastewater Treatment Upgrade Implementation - Stage 2

Stage 2 will occur from 1 January 2027 until 30 September 2027 when NZSki will submit a Wastewater Treatment Upgrade Plan to the ORC.

The plan will be prepared by a suitably qualified expert and identify the technology and wastewater treatment plant upgrades necessary to improve the quality of the wastewater

discharged to the disposal field in order to meet the performance criteria set out in **Table 3-6**. If NZSki proposes to meet a reduced limit for total nitrogen and/or total phosphorus as set out in Stage 1, the plan must also identify the technology and wastewater treatment plant upgrades required to meet the reduced total nitrogen and/or total phosphorus limit.

The Wastewater Treatment Upgrade Plan will include, but not be limited to, the following matters:

- A description of the proposed technology and wastewater plant upgrades to be installed;
- A description of the methodology of how the wastewater plant upgrades will be installed and a staged work plan describing the timing associated with the progressive implementation of these works; and
- The monitoring and reporting obligations associated with the wastewater treatment plant upgrades.

3.8.4.3 Wastewater Treatment Upgrade Implementation - Stage 3

Implementation of the wastewater treatment plant upgrade prescribed in the Wastewater Treatment Upgrade Plan will occur outside the ski seasons in the warmer months of 2027/2028 and 2028/2029 in order to be commissioned by 1 June 2029 when the Doolans Expansion opens.

3.8.4.4 Wastewater Treatment Upgrade Implementation - Stage 4

The performance criteria set out in **Table 3-6** will come into effect from 1 June 2029 post the implementation of the wastewater treatment plant upgrade.

NZSki will operate the upgraded treatment plant in accordance with an updated Operations and Management Manual to reflect the upgraded treatment system prepared in Stage 3. NZSki will continue to monitor and report on the results of the treated wastewater discharge quality and the receiving environment.

3.9 BIODIVERSITY COMPENSATION PACKAGE

A suite of management activities is proposed to manage the Project's actual and potential environmental effects, including compensation measures based on the recommendations of the technical assessments in **Part B** of this application.

The recommendations of these technical assessments have shaped the development of a robust suite of proposed conditions to attach to the various approvals sought, as provided in **Part H** of this application.

3.9.1 Biodiversity Compensation Project

A Biodiversity Compensation Project will be established to address residual terrestrial ecological effects. The Biodiversity Compensation Project will cover at least 13.8 hectares (to match the area of permanent land disturbance not already mitigated, remedied or compensated for within the Project) and will be located either within public conservation land, land managed by the Applicant within the concession area, QEII covenants, or an alternative location developed with involved parties.

The Biodiversity Compensation Project Plan will be developed within 18 months of construction of the Doolans Base Building commencing. This Plan will provide details of:

- The delivery mechanism of the Biodiversity Compensation Project (i.e. charitable trust, NZ Foundation);
- The management and enhancement goals of the Biodiversity Compensation Project;
- The programme for the first five years of the plan, including expenditure details;
- Any land access arrangements with DOC or others required to implement the Biodiversity Compensation Project;
- Measurable, time-bound performance indicators;
- Outcome monitoring methods for pests and native species to determine the effectiveness of the programme; and
- Reporting and review processes for the Biodiversity Compensation Project.

NZ Ski will submit an annual report to DOC, CODC and QLDC by the 30 June each year, setting out:

- Progress on developing or implementing the Biodiversity Compensation Project Plan, including reasons for delays and measures to expedite the implementation;
- An assessment of the plan's effectiveness in meeting its objectives and performance indicators, including reasons for unmet indicators, measures taken or planned, and suggested amendments;
- Feedback from parties listed in conditions on their views regarding the plan's development or implementation.

3.9.2 Lake Alta Boardwalk

To address the loss associated with the conversion of the tarn to a permanent water storage reservoir, NZSki is proposing to provide DOC with a monetary contribution of $20,000 to

establish a boardwalk over the existing wetlands located on route to Lake Alta. NZSki is also willing to assist with its construction through the provision of its staff to support the construction works.

3.9.3 Lizard Research Project

To compensate for the anticipated loss of McCanns Skink on site, NZSki is proposing to fund, up to $80,000, towards a research project into the location and distribution of Threatened and At Risk lizards at the Remarkables Ski Area and wider Remarkables Ecological District. This project would target orange-spotted gecko (Threatened – Nationally Vulnerable) principally but also Lakes skink (Threatened – Nationally Vulnerable) and Central-Southern skink (At Risk- Declining).

3.9.4 Pest Control

NZSki is proposing to undertake pest control within the Doolans Basin. The purpose of the pest control is to manage pest distribution within the Doolans Basin that are present as a result of, or exacerbated by the activities undertaken by Project. The specific details of the pest control proposed on site will be detailed in a Pest Control Plan, which will be prepared and implemented within two years of construction commencing on site.

3.10 APPROACH TO MINIMISING EFFECTS AND THEIR MANAGEMENT

As discussed in Section 1, the approach to developing the Project has been to ensure that environmental effects are managed appropriately.

In particular, NZSki has iteratively developed and refined the Project's design in a manner which avoids and reduces environmental effects as far as reasonably practicable. Notably, this has included (but is not limited to):

- Carefully considering the location, size and operation of construction periods with regard to nearby residential properties and environmentally sensitive receivers;
- Siting the Doolans Gondola towers outside of areas of waterbodies or areas of significant ecological value;
- The siting and alignment of the access roads to minimise net land disturbance, avoid (where possible) otherwise minimise areas of sensitive ecology and provide safe vehicle access for construction and maintenance purposes. Retaining walls will be constructed to form the access roads, thereby minimising cut volumes and batter heights;

- Consolidate access corridors where practicable to minimise disturbance. Where practicable, ski trails and access roads will be co-located to minimise ground disturbance;
- Avoid additional disturbance by using existing access routes and ski trails to locate infrastructure and services; and
- Engaging a range of technical specialists to assess the effects of construction-related activity and advise on how best to mitigate these effects on the surrounding environment.

A number of management plans will be developed and implemented to manage potential environmental effects arising during construction. All management plans will be subject to certification by the relevant administering agencies prior to works commencing.

The objectives of the management plans, the methods to be employed to achieve those objectives and the monitoring required to ensure the methods are effective are set out in the draft conditions attached in **Part H** of the application documents. Draft management plans have also been prepared and are appended in **Part F** of the application documents with respect to the following:

- Construction Environmental Management Plan ("**CEMP**")
- Site Specific Erosion and Sediment Control Plans (Alpine Project Area) ("**ESCP**")
- Rastus Burn and Doolans Basin Lizard Management Plan ("**LMP**")
- Terrestrial Ecology Management Plan ("**TEMP**")

The following management plans are proposed to be prepared, certified and implemented following the relevant approvals being authorised:

- Wastewater Operations and Management Manual;
- ESCP (Lower Remarkables Transit Hub);
- Lower Remarkables Transit Hub Lizard Management Plan.
- Lower Remarkables Rehabilitation Plan; and
- Lower Remarkables Landscape Planting Plan;

The following management plans are proposed to be prepared and implemented, but not certified by the administering authorities:

- Ski Season Temporary Traffic Management Plan;

> The Wastewater Treatment Upgrade Plan; and,

> Travel Demand and Parking Management Plan.

Individually and collectively, these measures will be effective in managing the Project's potential adverse effects, consistent with the requirements for approval under the Act.