

REPORT

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Prepared for: Hearings Panel
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Subject: Meridian Energy Limited – Applications for consents for the Project Hayes Wind Farm

1. Purpose

To report and make recommendations on Meridian Energy Limited's consent applications for the proposed Project Hayes Wind Farm under the notified provisions of the Resource Management Act 1991 (the Act).

2. Background

The Otago Regional Council (the Council) has received eleven resource consent applications from Meridian Energy Ltd (the applicant) relating to the proposed Project Hayes Wind Farm. The wind farm's development area is located within an area of approximately 92 square kilometres (km²) of the Lammermoor Range, 69 km northwest of Dunedin, 40 km southwest of Ranfurly and 15 km west of Middlemarch (refer Figure 1). The application also involves the Old Dunstan Road between Clarks Junction and Paerau and an unnamed road known locally as Pylon Road between its junction with Old Dunstan Road to Canadian Flat, Upper Taieri.

The development area is located within 5 landholdings (Rocklands Station Trust, Lammermoor Station, Mr T Aitken, Logan Burn & Loganbrae), immediately to the northeast of the Logan Burn reservoir, in the Upper Taieri River catchment.

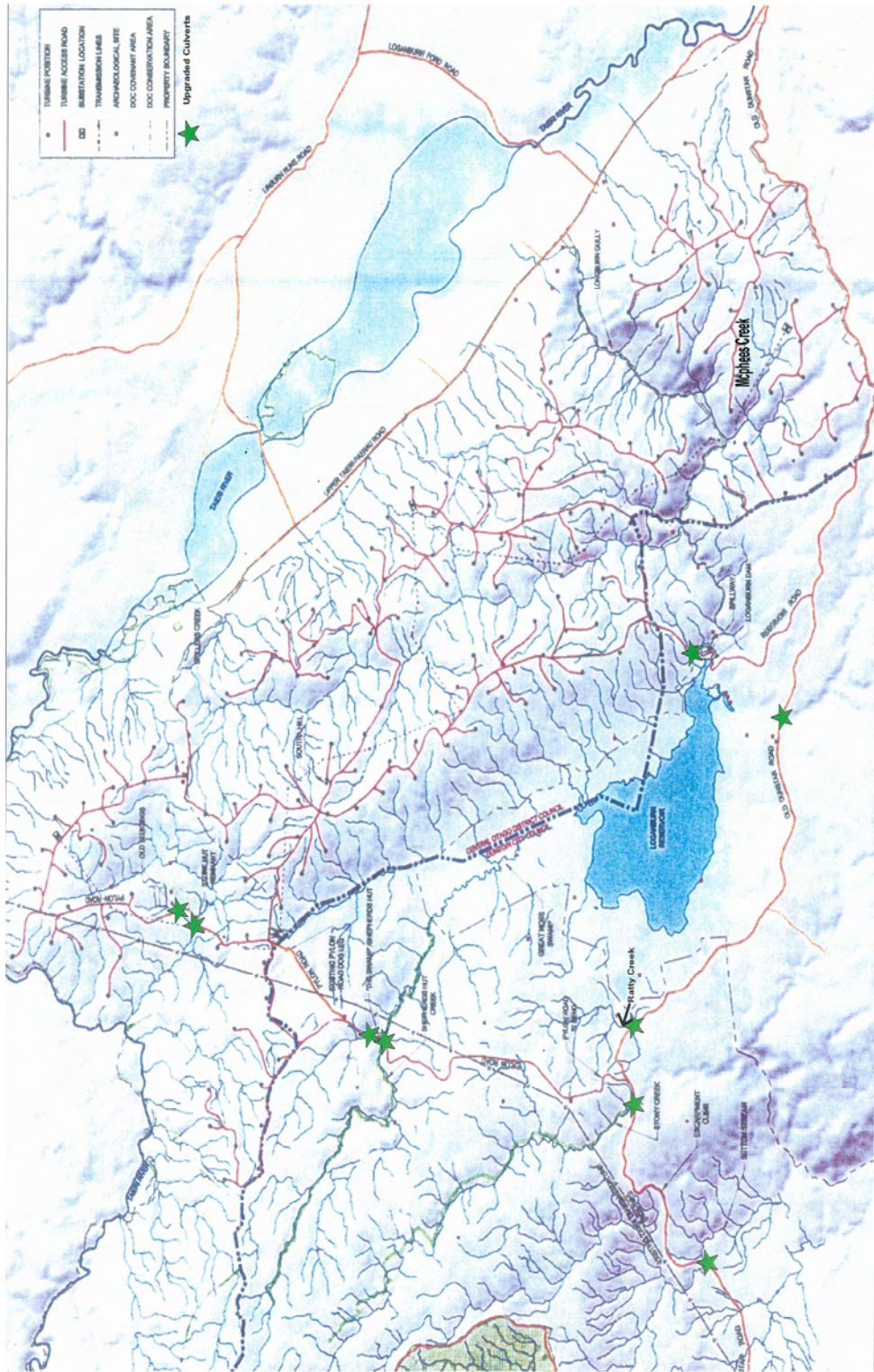
2.1 Turbines

Up to 176 turbines are proposed to be erected within the development area. Because the final access, layout and turbine position will be subject to survey, detailed design and geotechnical conditions, the turbines will be constructed within 150 metres (m) of each site identified in the application.

The turbines will have a maximum rotor diameter of 120 m and a rotor hub height of 100 m, resulting in a maximum vertical height of 160 m to the tip of the blade. The actual turbines chosen will be within this size envelope and will be determined by the applicant against such factors as potential load growth within the regions; the Comalco Aluminium Smelter demand; other generation development and transmission factors. Irrespective of which turbines are selected, all turbines will be of the same size.

The turbines being assessed for the site include, but are not limited to a generation capacity of between 1.8 MW to 3.6 MW each. Consequently the generation capacity of Project Hayes is assessed as being up to 630 MW. The annual electricity production from Project Hayes will generate enough energy to supply the annual requirements of up to 263,000 homes (2,050 GWh (gigawatt-hours)).

Figure 1: Site Map



2.2 Other Infrastructure

The project involves civil engineering works including cutting and filling up to 1,800,000 cubic metres (m³) of material comprising of road and turbine platform foundations; turbine foundation formation; substation and maintenance facility construction; cable trenching and cutting of access tracks and road improvements.

There will also be the construction of five substations and associated service and switch yards. Erection of internal electricity connection, as well as an overhead 220 kv transmission line, including support structures between the Sluicing Substation and the Roxburgh-Three Mile Hill 220 kV (kilo volt) transmission line.

Also to be constructed will be an operations and maintenance facility, as well as the establishment of a number of temporary concrete batching plants on site and temporary construction offices and service buildings. Three meteorological monitoring masts to monitor on site operating conditions and aviation obstacle lighting on up to 36 turbines will also be erected. Finally once the project is completed, site reinstatement, external road rehabilitation and project demobilisation will occur.

The applicant anticipates that the implementation time frame is likely to be in the order of five years, dependant upon a number of factors including weather conditions, work sequencing and future electricity demand.

2.3 Joint Consideration

2.3.1 Central Otago District Council

Central Otago District Council has publicly notified a land use consent application to establish, operate and maintain a wind farm on the Lammermoor Range to the west of Old Dunstan Road.

As these applications are for the one wind farm proposal they will be considered jointly by both Councils. The section 9 of the Resource Management Act (the Act) – *Restrictions on use of land* matters, are considered in the accompanying Central Otago District Council staff report.

2.3.2 Dunedin City Council

The applicant is also intending to undertake focused earthworks along a section of Old Dunstan Road, located within Dunedin City. The Dunedin City Council has commented that land use consent is required for these earthworks as the road is located within an Outstanding landscape area. The Dunedin City Council noted that an application has not been received for this activity and a decision on public notification can only be made after an application has been received. As the application to the Dunedin City Council can be processed separately, the requirement for a land use consent from the Dunedin City Council will not inhibit the Council from the processing the various applications it has received.

3. Applications

The resource consents that are required from the Council are for the construction and establishment of the Project Hayes Wind Farm, and are summarised in Table 1 and described below:

Table 1: Resource Consent Applications

Application	Type	Description	Regional Plan: Water Rule	Status
2006.483	Land Use Consent	To replace, extend and erect structures within the bed of watercourses and the associated disturbance of the bed of the watercourses for the purpose of replacing, installing and upgrading culverts.	13.2.2.1 & 13.5.3.1	Restricted discretionary & Discretionary
2006.484	Land Use Consent	To disturb the bed of watercourses and deposit fill material which may enter watercourses for the purpose of disposing of fill material.	13.5.3.1	Discretionary
2006.485	Land Use Consent	To erect defences against water for the purpose of flood protection	14.3.2.1	Discretionary
2006.486	Land Use Consent	To construct bores for the purpose of dewatering construction sites	14.1.1.1	Controlled
2006.487	Water Permit	To take groundwater for the purpose of dewatering construction sites.	12.2.4.1	Discretionary
2006.488	Water Permit	To temporarily divert watercourses whilst extending and erecting culverts as well as to permanently divert watercourses around fill disposal areas.	12.3.4.1	Discretionary
2006.489	Discharge Permit	To discharge water to land in a manner that may enter water for the purpose of disposing of stormwater	12.4.2.1	Restricted discretionary
2006.490	Discharge Permit	To discharge sediment to water for the purpose of replacing, extending and erecting culverts.	12.13.1.1	Discretionary
2006.491	Discharge Permit	To discharge water to land in a manner that may enter water for the purpose of disposing construction site run off water.	12.13.1.1	Discretionary
2006.492	Discharge Permit	To discharge sediment to water for the purpose of depositing fill material.	12.13.1.1	Discretionary
2006.772	Discharge Permit	To discharge water to land in a manner that may enter water for the purpose of dewatering construction sites.	12.13.1.1	Discretionary

Since this proposal was notified it has been identified that a land use consent is also required for the disturbance caused during the construction of the diversion channels and for the associated sediment discharge. As it was implicit in the application that disturbance and sediment discharges would be occurring within the watercourses, application 2006.483 to *replace, extend and erect structures within the bed of watercourses and the associated disturbance of the bed of the watercourses for the purpose of replacing, installing and upgrading culverts* will include disturbance caused

during the construction of the diversion channels. Furthermore, application 2006.490 to discharge sediment to water for the purpose of replacing, extending and erecting culverts will include the discharge of sediment caused during the construction of the diversion channels.

In summary, as this amendment is considered to be minor and not impact upon the submissions received, there is no need to re-notify any of these minor amendments.

3.1 Further Consent Requirements

The applicant has noted that water will be required for on site activities such as concrete batching, but has not yet finalised the exact water source. The applicant has identified that up to 50,000 litres per day of water will be required during the construction of the foundations. The applicant is investigating several alternatives for the water supply and once finalised, if a consent is required for the water take, it will be applied for.

It is considered that as the potential effects of the water take can be considered separately, there is no requirement for the lodged applications to be considered in conjunction with the water take permit.

It is also noted that the erection of sediment control structures within the beds of watercourses will also require consent. If required, the appropriate resource consents will be applied for by the applicant.

3.2 Activities Not Requiring Consent

3.2.1. Waste Water Discharges

Waste water from the proposed substation and ancillary buildings will be directed to a septic tank. The discharge will then be directed to a soakage field contained within the site. As no consent has been applied for these discharges, then the applicant will be relying upon discharging in accordance with the permitted activities contained within the RPW.

3.2.2. Substation Switchyard Stormwater

As the transformers will be oil filled, the surrounding area will be engineered to retain any oil leakage from stormwater runoff in the event of an oil spill. A low level concrete bund will be provided around the transformer, together with a concrete ground slab. Oil-water interceptor tanks will be constructed below the bunded area to separate and collect any oil contained in the runoff. Consequently no discharge of oil should occur from the substations.

4 Status of the Applications

As outlined in Table 1, application 2006.483 to replace, extend and erect structures in, on, under or over the bed of any river is a **restricted discretionary** activity under rule 13.2.2.1 of the RPW. Application 2006.489 for discharging stormwater to land in a manner that may enter water is also a **restricted discretionary** activity under rule 12.4.2.1 of the RPW. The matters to which the Council has restricted discretion are

listed in rules 12.4.2.1 and 13.2.2.1 of the RPW. The Council may grant or decline the applications and, if granted, may impose any conditions that fall within the Council's powers under Section 108 of the Act.

Application 2006.486 to construct bores is a **controlled activity** in accordance with Rule 14.1.1.1 of the RPW. Therefore, the Council must grant the consent, but may impose conditions under Section 108 of the Act. The matters to which the Council will restrict the exercise of its control to are listed in rule 14.1.1.1 of the RPW.

All other activities are **discretionary** activities. The Council may grant or decline the applications, and if granted may impose conditions under section 108 of the Act.

5. Notification

The applications were notified on 21 November 2006, and the submission period closed on 19 December 2006. Of the 37 submissions received, one was in support, four were neither in support or opposition and 31 opposed the application.

It is noted that nine submissions related to section 9 of the Act – *Restrictions on use of land* only. The land use issues raised by the submitters, included landscape values, roading, buildings, noise, lighting, bird strike, cumulative effects of development, mining sites, lightning strike, fire risk, ice throw, construction issues, transmission lines and potential film making and colonial heritage are for consideration by the Central Otago District Council when processing the applicant's land use consent application. As such these issues cannot be addressed in this report

Concern has also been expressed regarding the viability of the scheme with regard to energy requirements, transmission losses, costs and management of the power grid. It is noted that the risk associated with the construction and operation of the scheme is Meridian Energy Ltd's and not the local community's. Though, these issues are outside the scope of this application, which is to consider applications relating to section 13 of the Act – *Restrictions on certain uses of beds of lakes and rivers*, section 14 of the Act – *Restrictions relating to water* and section 15 of the Act - *Discharge of contaminants into environment* and will also not be considered further. It is noted that the applicant's studies have shown that there are few sites to match the proposed development area, in terms of wind speed, duration and scale.

5.1 Support

One submission was received in support of the application. This submission noted the benefits of an upgraded Old Dunstan Road. However, as discussed, roading is a land use issue that cannot be addressed in this report.

5.2 Neither Support or Oppose

Four submissions were received which were either neutral or did not indicate whether they supported or opposed the applications. These submissions generally expressed the following relevant concerns:

- Disturbance of headwater streams;

- Pollution of water by sediment and contaminants;
- Changes to the hydrology of the Upper Taieri River;
- Failure to promote the sustainable management of the environment;
- Effects on significant habitat on fauna and flora.

5.3 Oppose

32 submissions were received in opposition to the application. These submissions generally expressed the following relevant concerns:

- the potential impacts on watercourses caused by the construction;
- silt contamination of watercourses, including the Taieri scroll plain;
- threat to aquatic ecosystems including galaxiids through sedimentation;
- the infilling of gullies with sediment;
- adverse effects on the life supporting ecosystems of the wetlands;
- alteration of the hydrological values of wetlands and bogs;
- fails to promote the sustainable management of the area;
- mitigation measures are ill defined and sedimentation measures in particular need to be considerable;
- lowering of water tables;
- transportation of pest species

A summary of all submissions is contained in Appendix 1.

6. Pre-hearing Meeting

No pre-hearing meeting was held for this application.

7. Assessment of Environmental Effects

7.1 Environmental Setting

The Project Hayes Wind Farm development area is located within an area of approximately 92 square kilometres of the Lammermoor Range, immediately to the north east of the Logan Burn reservoir, in the Upper Taieri River catchment. The development area encompasses 6 named streams; Logan Burn, McPhees Creek, Spillers Creek, Shepherds Hut Creek, Ratty Creek and Stony Creek (refer Figure 1).

Kingett Mitchell on behalf of the applicant has undertaken an ecological assessment of the potential effects of Meridian Energy Ltd's proposal. This report "*Hayes Wind Farm Ecological Assessment*", summarised the existing aquatic environment, water quality, and the aquatic biota. The report noted that the Sutton Stream, Shepherds Hut Creek and Logan Burn have predominately stony streambeds that are dominated by silt-free slaty cobbles and have a good variety of riffle, 'run' and pool habitat. The report also noted that most other watercourses in the area such as Ratty Creek and McPhees Creek have predominately silty bottoms and slower flow velocities. When the site was visited in March 2006, the water quality in the streams was generally good, which the report attributed to the lack of intensive grazing.

The Kingett Mitchell report summarised that the watercourses support the following ecological values:

- Adult brown trout – Logan Burn reservoir has a good numbers.
- Juvenile brown trout habitat – Shepherds Creek and Spillers Creek provide good habitat for rearing.
- Threatened galaxiid fish – Stony Creek, McPhees Creek, Ratty Creek and most other still water where habitats where trout are absent.
- Clean-water invertebrate taxa – All of the stony streams support an abundant and diverse fauna of mayflies and caddisflies that reflect the lack of intensive landuse.

The report noted that at least five threatened species (excluding an indeterminate number of terrestrial invertebrate and possible plant species) have been recorded within the development area. The report also identified that the Otago/Southland large gecko is a threatened species in gradual decline and is found in sites associated with rock outcrops within the development area. At least two threatened native species, both of which are in gradual decline, are also present within the project area: Eldon’s galaxias (*Galaxias eldoni*) and flathead galaxias (*Galaxias depressiceps*). The New Zealand falcon which is also in gradual decline is also likely to incidentally use native and pastoral grasslands within the development area as a foraging ground, but are probably not resident.

This ecological assessment was reviewed by the Council’s Resource Science Unit, which noted that Schedule 1A of the Council’s RPW also lists natural values for these catchments (refer Table 2).

Table 2: Natural values of significant waterways listed in Schedule 1A of Council’s RPW.

Water Body	Ecosystem Values	Significant indigenous vegetation and significant habitat of indigenous fauna	Areas with a high degree of naturalness	Comments
Logan Burn (note: see Schedule 9 for Great Moss Swamp wetland values)	Weedfree, Hspawn, Hjuve, Hriparian, Trout		A high degree of naturalness above 900 metres asl	
Shepherd’s Hut Creek, McHardies Creek and Logan Burn Reservoir	Hriparian, Hspawn(t), Hjuve			

The Council’s Resource Science Unit noted that its search of NIWA’s New Zealand Freshwater Fish Database has also shown that there is a significant population of flathead galaxiids (*Galaxias depressiceps*) present in the Logan Burn. However, Shepherd’s Hut Creek, McHardies Creek and Sutton Stream are unlikely to support significant non-migratory galaxiids populations due to the presence of trout.

7.2 Disposal of Fill

The placement of fill within areas outside the beds of rivers, including wetlands is an issue administered by the Central Otago District Council through its District Plan. The Council only controls activities occurring within the beds of lakes and rivers. Likewise, the stability of fill material is also a District Council matter.

The applicant has stated that the construction of the wind farm will require extensive earthworks over a large area. Road and platform cut earthworks, may generate up to 1,530,000 cubic metres of fill. Therefore, using an average fill depth of 1.5 m, over 1,000,000 square metres (m²) of land may be required to contain this material. Though the applicant expects that given the cut to fill approach the expected excess excavated material is expected to be less than this. As numerous suitable disposal sites have been identified near the anticipated turbine positions and along the proposed access roads, the applicant believes it is highly likely that sufficient disposal sites will be available to accommodate the volume of earthworks. The disposal sites will generally be:

- Shallow depression or the tops and upper reaches of natural dry gullies with good containment;
- Well drained, broad and gentle terrain to ensure minimal effect to natural flow paths.

The applicant has also identified that sites that are not suitable for filling are:

- Boggy or wet areas;
- Gullies or valleys with perennial watercourses;
- Significant natural features;
- Archaeological sites;
- Cultural (iwi) sites;
- Areas of high ecological value and conservation areas.

Though disposed material will be shaped to reinstate natural flow paths or to create alternative drainage paths as well as blend into the local terrain, a final decision on the location of the disposal sites will be made during the detailed design/construction phase. Refinement of the disposal layouts will take place under the framework of the applicant's proposed Construction Environmental Management Plan (CEMP). Furthermore the CEMP proposes that the location, size and depth of potential disposal sites will be discussed with the landowners and Councils to incorporate their requirements.

The CEMP will also state that topsoil stockpiles will be established within areas where runoff can be intercepted and discharged away from the stock piles. The topsoil stockpiles will be no greater than 3 m high and lightly compacted to reduce the potential for losses from wind erosion. To ensure that sediments do not migrate easily into water, soil disposal should be limited to not being placed within 20 m of a formed water channel. This will mean that any site slumping will not impact upon instream values.

All areas that receive spoil will be stripped of topsoil and other organic material, which will be stockpiled for later use. For areas where the slope exceeds 3H:1V the applicant's engineer may require the slope to be benched prior to the placement of the spoil. Under drainage will also be installed to the satisfaction of the engineer.

All spoil will be spread out and track rolled. If material is initially too wet to be track rolled, it will be spread out to dry prior to being track rolled. On completion of filling the spoil area, a layer of top soil will be placed and the area revegetated as soon as practicable. Depending on the area, cut off drains around the spoil area may also be installed.

7.2.1 Proposed Sediment Control

The applicant through the CEMP proposes the following sediment control methods;

- Silt ponds– The ponds will be located in the larger catchments and constructed in accordance with the Erosion and Sediment Control Guidelines for the Wellington Region published by the Greater Wellington Regional Council.
- Silt fences- Fences or similar devices will be constructed in accordance with the Erosion and Sediment Control Guidelines for the Wellington Region published by the Greater Wellington Regional Council.
- Energy dissipation structures– Will be located in accordance with the Supplementary Environmental Management Plan (SEMP) prepared for a specific site, with rock being the preferred energy dissipating method.
- Drainage flumes- Either a flexible HDPE pipe with a minimum diameter of 160 millimetres (mm) or an open flume with a 600 mm diameter will be located in accordance with the site specific SEM.
- Cut off drain- The drain will be located in accordance with the site specific SEM and will exclude surface runoff from earth works areas and spoil dump sites. The cut off drain will discharge to a watercourse or a surface drain. Each drain will be up to 600 mm deep and 300 mm wide.
- Grit Traps – Each trap will treat stormwater prior to discharge to a watercourse or to ground. The trap will receive water off small areas, roads and construction pads. Each grit trap will cover an area of between 2 m² and 10 m² with a depth of between 1.5 m and 2.5 m. The discharge point will be either a pipe or spillway formed insitu materials.

As well as daily site inspections to confirm compliance with the CEMP and SEM, a regular audit inspection, on at least a monthly basis, will also be undertaken by the applicant to ensure compliance with the CEMP and all SEMs and will also identify areas where improvements can be made.

The CEMP also states that in the event of a sediment discharge, which would likely be caused by the failure of a silt pond, a cut off drain, or a silt fence due to an extreme rainfall event, the reinstatement of the stormwater system would be a priority action. However, the applicant also notes that while not desirable from an environmental effects perspective, a failure would not be significant when the sediment load already

received by the streams in the area, during an extreme rainfall event, is taken into consideration.

The applicant has stated that the environmental management plans, controls and systems enabled Meridian's Te Apiti Wind Farm to withstand the extreme weather conditions of a 1:100 year flood event that occurred when considerable civil works were being undertaken across the project site. This statement has been supported by Horizons Regional Council's Compliance Team Leader, who in a personal communication with the report writer, stated that the sediment control measures enabled stormwater runoff to be managed in such a manner that during the 1:100 year rainfall event, no sediment runoff issues occurred.

Furthermore, the Council's Resource Science Unit has reviewed the application and commented that the measures proposed by the applicant to mitigate the negative effects of excess fill disposal are considered adequate and must be appropriately implemented to ensure that a minimal amount of sediment enters any of the effected catchments below the construction sites. The Council's Resource Science Unit also states that because most of the construction for the wind farm is on ridgelines and the heads of gullies, it should not have any major effect on these systems as long as appropriate sediment management is implemented.

7.3 Structures and Diversions

The construction of approximately 50 km of new access tracks, as well as the upgrading of approximately 100 km of existing tracks will be required for the wind farm. The applicant states that, wherever possible, access tracks will be constructed along ridgelines or along existing tracks to avoid erosion and runoff into undisturbed waterways. The applicant also notes that new culverts will be sized appropriately for the design flow and detailed to minimise the risk of scouring and erosion at the inlet/outlet.

The Council's Resource Science Unit notes that the most significant effects of the upgrading and construction of roads on instream values are likely to be (1) sediment and stormwater runoff during the construction process and (2) ensuring that fish movement is not impeded by any new crossings.

7.3.1 Culverts in the Development Area

Culverts located in the development area have been identified by the applicant along the existing tracks. The intact condition of the existing culverts along Pylon Road suggests that they are appropriately sized. However, as part of the road improvement, the culverts will be upgraded by replacing the existing pipe or box culverts with similar sized concrete pipe culverts. Table 3 shows the culverts that are being upgraded within the development area.

Table 3: Development Site Culvert Details

Road/Location	Approximate Size of Existing Culverts	Indicative Size of Replacement Culverts	Watercourse	Approximate Upstream Catchment area (hectares)
Pylon Road Shepherds Hut Creek	4 / 1200 mm diameter	4 / 1200 mm diameter	Shepherds Hut Creek	1022
Pylon Road Small stream approximately 300 m West of Shepherds Hut Creek	3 / 600 mm diameter	3 / 750 mm diameter	Unnamed tributary of Shepherds Hut Creek	282
Pylon Road Adjacent to remnants of stone hut approximately 400 m east of Old Sluicing Area	2 / 900 mm diameter 1 / 1050 mm diameter 1 / 1200 mm diameter	4 / 1200 mm diameter	Unnamed tributary of the Taieri River	829
Pylon Road Two crossings at old sluicing area	1 / 600 mm diameter 1 / 600 mm diameter	1 / 600 mm diameter 1 / 600 mm diameter	Unnamed tributary of the Taieri River	57
Old Dunstan Road Approximately 1.1 km from Pylon Road	2 / 900 mm diameter	2 / 900 mm diameter	Ratty Creek	370
Old Dunstan Road Adjacent to Howells Hut	4 / 1950 mm diameter	4 / 1950 mm diameter	Unnamed tributary of the Logan Burn	3040
Reservoir Road	1 / 700 mm diameter	1 / 750 mm diameter	Unnamed tributary of the Logan Burn	47

These crossings are located on Figure 1.

7.3.2 Access Routes

Access to the site by the equipment transporters will be from Dunedin to East Taieri via State Highway 1. The route will then be from East Taieri to Clarkes Junction via Riccarton Road and State Highway 87. Transportation to the site will then be via Old Dunstan Road/Pylon Road to the development site. Some of the work involved in upgrading these roads includes.

- Upgrading road from 3 m- 4 m to a nominal width of 5 m.
- Localised widening of some corners to 10 m
- Sealing of steeper sections
- Works improving the longitudinal grades and horizontal curve

The following work is proposed for the stream crossings.

- Stony Creek – replace the existing ford
- Sutton Stream - the replacement of the existing two-span re-enforced concrete bridge, with a low culvert crossing. Sutton bridge with culverts. However, the Resource Science Unit notes that Sutton Stream is considered to have significant spawning habitat for trout under the Council's RPW and so any upgrades of this crossing should allow for fish passage to be maintained. It is a recommended

condition of consent that all structures be constructed in a manner so as to allow fish passage.

These crossings are located on Figure 1.

Based on the application, the Council's Resource Science Unit also believes that any effects on waterways within the site envelope and at access track crossings will be minor and mitigated by the measures proposed by the applicant and recommends that the consents be approved with the following conditions.

- Sediment runoff is minimised throughout the construction of the turbines and associated infrastructure, and maintained until affected areas have stabilised.
- The mitigation measures proposed by the applicant must be implemented to minimise the effects of any instream works undertaken during the construction phase of the wind farm.
- Any stream crossings must allow for fish passage.
- Any wetland habitat within the site envelope, including Sphagnum bogs, is maintained.

7.3.3 Flood Protection

Given that the work is proposed to occur to manage watercourses to prevent effects such as erosion and scouring at the construction sites and the works will be relatively small scale and occur in relatively isolated locations, the works are unlikely to cause any flooding or damage to other person's property.

The impact of the works on water quality will be minimal as recommended conditions will ensure that the work is undertaken during periods of low flow and riparian vegetation is reinstated after the works occur. The reinstatement of the riparian vegetation will also ensure that, though the visual amenity of the site will be impacted by the works, upon completion the amenity values will be restored. A recommended condition of the consent also ensures that if koiwi or other items of cultural value are discovered the site works will cease and appropriate protocol shall be followed.

The proposed works are being undertaken to provide protection for the applicant's construction sites. No other alternative has been considered as this is the most practicable option.

7.3.4 Council's Engineering Operations Unit Assessment

The Council's Engineering Operations Unit has assessed the application and identified no concerns with the proposed culvert installations, along with the associated temporary diversions within the proposed development area, providing the following are imposed as consent conditions:

1. *The culverts shall not impede fish passage.*
2. *The consent holder shall submit a programme of the work proposed to the Engineering Unit of the Consent Authority at least 10 working days before the work commences. The programme of the work shall be to the satisfaction of the Consent Authority. As a minimum, the programme of work shall include the following information:*

- (a) *A map showing the specific location of each culvert to be installed;*
 - (b) *The timing and duration of the proposed works;*
 - (c) *Cross-section and plan drawings to scale showing the dimensions of each culvert;*
 - (d) *An assessment of flow carrying capacity of the watercourse prior to installation of each structure; any permanent culverts should be designed to carry a minimum of 1 in 10 year flow, plus a secondary flow path to carry up to the 1 in 100 year flow;*
 - (e) *An assessment of flow carrying capacity of the watercourse following installation of each structure;*
 - (f) *Identification of secondary flow paths;*
 - (g) *The methods used to install each culvert.*
3. *The gradient of any culvert must match that of the existing channel invert.*
4. *The consent holder shall cease work in the stream bed during periods of high flow.*
5. *The consent holder shall ensure that where practicable:*
- (a) *Vehicles and machinery, as far as practicable, operate outside the wet bed of the watercourse;*
 - (b) *All machinery used within the bed of the rivers is maintained at all times to prevent leakage of oil and other contaminants into the watercourse;*
 - (c) *Any disturbance to the stream bed is limited to the extent required to undertake the works;*
 - (d) *All reasonable measures are taken to minimise the release of silt, sediment, concrete, cement products or any other contaminant to water;*
 - (e) *Vegetation disturbance is kept to the minimum necessary to establish access and undertake the bed disturbance activity;*
 - (f) *The placement of the structure does not cause any significant flooding, scour or erosion in the opinion of the Consent Authority;*
 - (g) *No washing or refuelling of equipment occurs in or immediately adjacent to the watercourse; and*
 - (h) *The site is left in a clean and tidy condition upon completion of the works.*

These recommendations have been incorporated as recommended conditions for land use consent 2006.483.

7.4 Dewatering Assessment

The applicant has noted that preliminary geotechnical investigations suggests that as the groundwater level is moderate to deep throughout the site, it is highly unlikely that groundwater will be encountered during site excavation. In the unlikely event that it is, one or both of the following dewatering techniques will be used:

- A series of bore holes will be sunk around the perimeter of the excavation to temporarily lower the groundwater level in the vicinity of the excavation until construction work is complete. The groundwater will be collected in a silt trap and flumed directly into adjacent gullies.
- A ring trench will be formed at the base of the excavation leading to a silt trap where the groundwater will be collected and flumed directly into adjacent gullies.

Given the remote location of the development area and the temporary nature of each dewatering event, it is unlikely that adverse effects will be caused by the dewatering. However, as highly sensitive wetland habitats and streams are located within the development area, consent conditions should ensure that dewatering and the associated lowering of the water table does not impact upon any of these habitats.

7.5 Archaeological & Cultural Assessment

As part of the consultation process a cultural impact assessment is being prepared by Kai Tahu ki Otago Limited. The applicant has also noted that Old Dunstan Road was constructed during the 1860's as a route to the goldfields of Central Otago, and the remnants of gold mining activities, such as sluicing sites can be found on and around the development site.

For this reason the applicant has proposed an accidental discovery protocol. This protocol states that if any accidental discovery is made of Koiwi (human skeletal remains), Taonga or Artefacts, the accidental discovery protocol will be followed. If the artefacts are of European Origin, then works will cease and Meridian's archaeological advisor will be contacted to undertake a site inspection and advise of appropriate action. It is recommended that this requirement be included as a condition of land use consents 2006.483 - 2006.485.

7.6 Consideration of Alternative Methods

The applicant has undertaken extensive investigation of potential wind farm sites and, has stated that few (if any) alternative sites match the development area in terms of wind speed, duration and scale. With regard to the siting of the turbines the applicant has stated that the layout is dependant on the operational needs of the wind farm, environmental effects, engineering limitations and the cost of implementing different site development options.

The applicant also noted that the exact location of each turbine position will depend upon site access, as well as a variety of topographical reasons and will also be subject to design and geotechnical/foundation conditions and a final detailed survey.

8. Statutory Considerations

Section 104 of the Act lists matters that a consent authority must have regard to when considering an application for resource consents and any submissions received. Section 104(1) states that this consideration is subject to Part 2 of the Act. Accordingly this section will assess the application against Part 2 of the Act and will then discuss the other relevant matters in Section 104.

8.1 Part 2 of the Resource Management Act

Part 2 of the Act, the purpose and principles, is set out in sections 5 to 8 of the Act.

Section 5 states that the purpose of the Act is to “to promote the sustainable management of natural and physical resources”. Sustainable management has two facets. The first aspect is “managing the use, development and protection of natural and physical resources in a way, or at a rate which enables people and communities to provide for their social, economic and cultural well being and for their health and safety”. In this respect, the concept of sustainable management is permissive. The purpose of the Act is achieved by allowing activities that benefit people.

However, there is another aspect to sustainable management. The use, development and protection of resources are only allowed while:

- (a) *“sustaining the potential of natural and physical resources, (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- (b) *safeguarding the life-supporting capacity of air, water, soil and ecosystems; and*
- (c) *avoiding, remedying, or mitigating any adverse effects of activities on the environment.”*

Local watercourses will be disturbed during the construction of the wind farm and there will be the associated discharges of sediment and stormwater. However, there will be no threat to the life-supporting capacity of the water, land or ecosystems in the area, providing the discharges are controlled in a manner that avoids adverse effects. Recommended consent conditions will ensure that adverse effects on the environment are avoided, remedied or mitigated.

Section 6 outlines matters of national importance that the Council must recognise and provide for. These matters are:

- (a) *The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development*
- (b) *The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development*
- (c) *The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna*
- (d) *The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers*
- (e) *The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga*
- (f) *The protection of historic heritage from inappropriate subdivision, use and development*
- (g) *The protection of recognised customary activities.*

While there will be some minor adverse effects on the natural character of the local watercourses during construction of the project, once the work has been completed, the streams will recover and their natural character restored.

As the watercourses support a number of values including flathead galaxiids in the Logan Burn, it is recommended that mitigation measures are implemented that minimise any instream effects and allow for fish passage through culverts.

With regard to public access to and along the waterways, once the works are complete public access to the watercourses will not be adversely affected

The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga, for this proposal has been recognised through a cultural impact assessment undertaken for Kai Tahu ki Otago Ltd. Local runanga also raised concerns regarding water quality and its effects on instream values. These concerns and the discovery of archaeological sites can be mitigated and have been provided for through consent conditions

Section 7 lists other matters to which the Council must have particular regard. These matters are:

- (a) *Kaitiakitanga*
- (aa) *The ethic of stewardship*
- (b) *The efficient use and development of natural and physical resources*
- (ba) *The efficiency of the end use of energy*
- (c) *The maintenance and enhancement of amenity values*
- (d) *Intrinsic values of ecosystems:*
- (e) *Repealed*
- (f) *Maintenance and enhancement of the quality of the environment:*
- (g) *Any finite characteristics of natural and physical resources*
- (h) *The protection of the habitat of trout and salmon.*
- (i) *The effects of climate change*
- (j) *The benefits to be derived from the use and development of renewable energy*

Kaitiakitanga (stewardship/guardianship) applies to the exercise of guardianship by the takata whenua (people of the land). Though Te Runanga Otakou and Kati Huirapa Runaka ki Puketeraki submitted that the proposal could impact upon a number of landscape issues, which are being considered by the Central Otago District Council, the runanga also raised issues regarding degradation of the local water quality and the potential downstream effects. However, it is considered that these effects can be adequately controlled by sediment management plans, in such a manner that local water quality is not seriously degraded and there will be no downstream effects.

The ethic of stewardship is the “caring for resources”. The Council is committed to ensuring the sustainability of the natural and physical resources.

Regarding the efficient use and development of natural and physical resources and the efficiency of the end use of energy, the applicant has stated that this proposal will generate 2,050 GW hours of electricity per annum. Regard is required to be given to the benefits to be derived from the use and development of renewable energy. The additional generation capacity will benefit the Otago region and New Zealand in general.

Section 7(h) is very explicit and requires particular regard to be paid to protecting the habitat of trout and salmon. It should be noted that there is a distinction between protecting the habitat of trout and enhancing the angling opportunity for trout. The statutory duty lies with the former requirement, not the latter. Shepherd’s Hut Creek, McHardies Creek and Sutton Stream support trout populations. Subject to the sediment being managed appropriately, as well as the crossings being constructed so as to not impede fish passage, then the trout habitat will be protected.

Section 8 requires all persons acting under the Act to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi). The key consideration of the principles is acting in good faith towards Maori and protecting Maori interests. In this case that has been achieved by involving Kai Tahu in the consultation process prior to lodging the consent applications, undertaking a site hikoi and by the preparation of a Cultural Impact Assessment provided by Kai Tahu ki Otago Ltd. However, though the local iwi has not had time to discuss the matters raised in the assessment with the applicant, both local runanga submitted on the application. Where the issues raised in the assessment

relate to discharge and river bed disturbance activities, they have been provided for through conditions of consent. Consequently, the proposal is considered to be consistent with the principles of the Treaty.

Summary

Overall, the applications are considered to be consistent with Part 2 of the Act.

8.2 Section 104(1)

The remaining matters of Section 104(1) to be considered when assessing an application for a resource consent are as follows:

- (a) *any actual and potential effects on the environment of allowing the activity; and*
- (b) *any relevant provisions of*
 - (i) *a national policy statement;*
 - (ii) *a New Zealand coastal policy statement;*
 - (iii) *a regional policy statement or proposed regional policy statement;*
 - (iv) *a plan or proposed plan; and*
- (c) *any other matter the consent authority considers relevant and reasonably necessary to determine the application.*

These matters are discussed in the following sections.

8.2.1 Environmental Effects

The actual and potential environmental effects of the proposed activity were considered in Section 5 of this report. Given the nature of the activities and the recommended consent conditions, any adverse environmental effects should be avoided, remedied or mitigated.

8.2.2 Regional Policy Statement

The Regional Policy Statement for Otago (RPS) provides an overview of the resource management issues for the Otago Region and the ways of achieving integrated management of its natural and physical resources. The most relevant objectives and policies are contained in Chapter 6 (Water), Chapter 9 (Built Environment) and Chapter 12 (Energy). The objectives and policies particularly relevant to this proposal seek to:

- safeguard the life-supporting capacity (6.4.3).
- maintain and enhance the ecological, intrinsic, amenity and cultural values (6.4.4).
- avoid, remedy or mitigate degradation of the resource resulting from the use development or protection of the beds and banks of water bodies (6.4.5).
- mitigate the threat of flooding and riverbank erosion from the use, development or protection of water bodies (6.4.6).
- maintain and enhance public access (6.4.7 and 6.5.10).
- protect areas of natural character (6.4.8).
- allow for the community's use, development or protection of the beds and banks of water bodies providing adverse effects are avoided, remedied or mitigated while considering the maintenance and enhancement of the natural functioning of the river system and the need to provide mitigation for flooding and erosion (6.5.9).

- avoid, remedy or mitigate the adverse effects of Otago’s built environment on natural and physical resources (9.4.3).
- minimise the adverse effects of urban development and settlement, including structures, through avoiding, minimising or mitigating discharges of contaminants to water, and significant irreversible effects on natural values and character, values of significance to Kai Tahu, intrinsic values of ecosystems and habitats of indigenous fauna, heritage values, amenity values, and salmon or trout habitat (9.5.4).
- promote sustainable management and use of energy through, encouraging the use of renewable energy resources, in a way that safe guards the life supporting capacity of air, water, soil and ecosystems and avoids, remedies and mitigates adverse environmental effects (12.5.2).

The proposal will enable New Zealand to increase electricity generation from a renewable resource. Subject to the recommended consent conditions which should avoid, remedy or mitigate any potential adverse effects, the proposal is considered to be consistent with the objectives and policies of the RPS.

8.2.3 Regional Plan: Water

Relevant objectives and policies of the RPW are found in Chapter 5 (Natural and Human Use Values of Lakes and Rivers) and Chapter 8 (The Beds and Margins of Lakes and Rivers). The most relevant policies of the RPW are as follows:

- to undertake the works in a manner that avoids, in preference to remedying or mitigating, adverse effects on natural values and character, ecology and habitat, water supply values, historic places or archaeological sites, values of significance to Kai Tahu, amenity values, lawful water users (5.4.2).
- to undertake the works in a manner that avoids, in preference to remedying or mitigating, causing or exacerbate flooding, erosion, land instability, sedimentation or property damage (5.4.2).
- to give priority to avoiding changes in the nature of flow and sediment processes in those water bodies, where those changes will cause adverse effects on the stability and function of existing structures; associated erosion, sedimentation or land instability; or any reduction in the flood carrying capacity of any lake or river (8.4.1).
- to have regard to any adverse effect on the spawning requirements of indigenous fauna, and trout or salmon; bed and bank stability; water quality; amenity values caused by any reduction in water clarity; and downstream users (8.6.1).
- to promote best management practices for activities that occur within or adjacent to the bed of lakes and rivers in order to avoid, remedy or mitigate any adverse effect (8.6.2).

The granting of these consents with the recommended consent conditions is consistent with the above policies as adverse effects on natural values and the surrounding environment will be no more than minor. The proposed works will not cause or exacerbate flooding, erosion, land instability or property damage. Fish passage will not be affected.

8.2.4 Other Matters

Kai Tahu ki Otago Natural Resource Management Plan 2005 outlines general policies for activities within Otago. The following requirements apply to river and instream works:

- to require that work be undertaken when water levels are naturally low or dry.
- to require that works are not undertaken during spawning season of certain fish species and fish passage is provided for at all times.
- to require that any visual impacts at the site of the activity are minimal.
- to require that all practical measures are undertaken to minimise sediment or other contaminant discharge and that wet concrete does not enter active flow channels.
- to require that machinery only enters the dry bed of the waterway to the extent necessary to undertake the work, and that it is kept clean and well-maintained, with refuelling occurring away from the waterway. Machinery operating in flowing water is to be discouraged.
- to require that buffer zones are established and agreed upon with the Papatipu Runaka between the flowing water and the site of any river or instream work.

The proposed activities could potentially be inconsistent with the above policies of the management plan. However, proposed consent conditions will ensure that impacts upon watercourses, including sediment minimisation, reinstatement of river beds and bank vegetation, are minimised.

There are no other matters considered relevant or reasonably necessary to determine the application.

8.3 Section 105(1)

Section 105(1) of the Act states that where an application is for a discharge permit to do something that would otherwise contravene section 15 or section 15B, “*the consent authority must, in addition to the matters in section 104(1), have regard to –*

- (a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and*
- (b) the applicant’s reasons for the proposed choice; and*
- (c) any possible alternative methods of discharge, including discharge into any other receiving environment.*

The nature of the discharge and sensitivity of the receiving environment to adverse effects, the applicant’s reasons, and possible alternatives have been taken into consideration by the Council.

8.4 Section 107

Section 107(1) of the Act states that a discharge permit shall not be granted (with certain exceptions) if, after reasonable mixing, the contaminant or water discharged is likely to give rise to all or any of the following effects in the receiving waters:

- (c) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material;*
- (d) Any conspicuous change in the colour or visual clarity;*
- (e) Any emission of objectionable odour;*

- (f) *The rendering of fresh water unsuitable for consumption by farm animals:*
- (g) *Any significant adverse effects on aquatic life.*

Due to the short term nature of the discharges and after reasonable mixing the discharges of sediment will not give rise to any of the above. Recommended consent conditions will ensure potential adverse effects will be no more than minor.

9. Conclusion

The applications received by the Council relate to section 13 of the Act – *Restrictions on certain uses of beds of lakes and rivers*, section 14 of the Act – *Restrictions relating to water* and section 15 of the Act- *Discharge of contaminants into environment*. However, many of the submissions received by the Council relate to section 9 – *Restrictions on use of land matters*, which cannot be addressed in this report and are being addressed by the Central Otago District Council.

As construction sediment can cause instream organic enrichment through the smothering of instream moss, macrophytes and algae, a work site sediment management plan for all locations where watercourses could potentially be affected by constructional sediment discharges should be produced by the applicant. Potential erosion effects are addressed by the requirement for the applicant to develop a final erosion management plan. These methods have been successfully used by the applicant to control sediment during the construction of the Te Apiti wind farm in Manawatu.

It has been well publicised recently that New Zealand will nationally be facing increased annual energy demands. This project will provide up to 2,050 GW hours per annum of renewable energy, which is enough energy to supply the annual requirements of up to 263,000 homes.

In summary, the positive benefits of this proposal outweigh any negative effects caused by this project.

10. Recommendation

That the Council grants to Meridian Energy Ltd, the following consents, subject to the terms and conditions set out in the attached draft consents.

10.1 Reasons for Recommendation

1. That any potential adverse effect on the environment can be avoided remedied or mitigated.
2. The proposed activity, with the recommended consent conditions is consistent with the Resource Management Act, the Regional Policy Statement and the Regional Plan: Water.

10.2 Term

Given that the consents sought by the applicant are for the construction, use and maintenance of a wind farm, it is appropriate that the consents are granted for a 35 year consent term.

The applicant has sought a 10 year lapse period, as the commencement of the development and its development pace are dependant upon future electricity demand. It is considered that a 10 year lapse period appropriate for these permits.



Selva Selvarajah
Director Resource Management

LAND USE CONSENT

Pursuant to Sections 104B and 104C of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Meridian Energy Limited

Address: 15 Allen Street, Wellington

To replace, extend and erect structures within the bed of watercourses and the construction of diversion channels and the associated disturbance of the bed of the watercourses

for the purpose of replacing, installing and upgrading culverts and constructing diversion channels

for a term expiring 1 April 2042

Location of activity: Within an area of approximately 92 square kilometres of the Lammermoor Range, 69 kilometres north west of Dunedin, 40 kilometres southwest of Ranfurly and 15 kilometres west of Middlemarch, and also involving the Old Dunstan Road between Clarks Junction and Paerau and an unnamed road known locally as Pylon Road between its junction with Old Dunstan Road to Canadian Flat, Upper Taieri.

Legal description of land: Sec 17-41 SO 301750; Sec 3 and Pt Sec 5 Blk V Serpentine SD; Secs 1- 2 Blk VI Serpentine SD; Sec 3 Blk IV Serpentine SD; Lot 1 DP 21554; Secs 8 - 9 Blk IV Serpentine SD; Sec 3 Blk VI Logan Burn SD; Secs 1- 4 Blk IV Logan Burn SD; Secs 9 -10 Blk I Logan Burn SD; Secs 10- 14 Blk IV Serpentine SD; Road Reserve

Map reference:

Development Area bounded by: NZMS 260 H43:690-250 (north)
NZMS 260 H43:730-200 (east)
NZMS 260 H43:560-110 (west)
NZMS 260 H43:610-080 (south)

Old Dunstan Road between: NZMS 260 H44:801-938 and H43: 708-276

An unnamed road known as Pylon Road between: NZMS 260 H43:681-093 and H43:565-126

Conditions:

1. The culverts shall be sized, constructed and located as described in the application for consent dated 31 October 2006. If there are any inconsistencies between the application and this consent, the conditions of this consent shall prevail.
2. The consent holder shall ensure that any contractors engaged to undertake work authorised by this consent abide by the conditions of this consent. A copy of this consent shall be present on site at all times while the work is being undertaken.
3. The consent holder shall submit and implement a Construction Environmental Management Plan (CEMP) for all construction works authorised by this consent, to the Consent Authority at least one month prior to any works commencing. The CEMP will be to the satisfaction of the Consent Authority. The CEMP shall include but not be limited to the methods and procedures of this consent. The CEMP shall include, but not be limited to, the following:
 - roles and responsibilities, including the appointment of a representative for the consent holder for a primary contact person in regard to the matters relating to this consent;
 - arrangement and conduct of a pre-construction site meeting between all relevant parties, including all contractors and relevant local authorities, prior to any works commencing on the site to discuss implementation of erosion and sediment control measures;
 - sequencing of works over the whole site;
 - the potential adverse effects of the works;
 - procedures for earthworks, disposal areas, erosion and sediment control and revegetation/stabilisation of the site;
 - monitoring, record-keeping and maintenance requirements;
 - contingency measures for the management of fire risks and hazardous substances;
 - principles and procedures for rehabilitation of exposed areas including rehabilitation methods and vegetation mixes;
 - techniques to be used to revegetate rock cuts;
 - procedures for the avoidance of new infestations of woody weeds (e.g. gorse and broom).

Note: The CEMP provides an umbrella document that identifies the management processes and techniques to ensure appropriate environmental management of the site.

Post-construction matters (the continued use and maintenance of structures and related activities) addressed by the CEMP shall not be limited in duration. The consent holder shall pass a copy of this consent, including any relevant site plans and attachments, to the contractor undertaking the works authorised by this consent, prior to the works commencing.

4. The consent holder shall submit a location specific Supplementary Environmental Management Plan (SEMP) for all construction works authorised by this consent, to the Engineering Unit of the Consent Authority at least 10 working days before the work commences. The SEMP shall be to the satisfaction of the Consent Authority. As a minimum, the programme of work shall include the following information:
 - (a) A map showing the specific location of each culvert to be installed;
 - (b) The timing and duration of the proposed works;
 - (c) Cross-section and plan drawings to scale showing the dimensions of each culvert;
 - (d) An assessment of flow carrying capacity of the watercourse prior to installation of each structure;
 - (e) An assessment of flow carrying capacity of the watercourse following installation of each structure;
 - (f) Identification of secondary flow paths;
 - (g) The methods used to install each culvert.

Note: To ensure that an appropriate level of environmental management is applied, some activities will require Supplementary Environmental Management Plans (SEMP). The SEMPs are location or activity specific and will be prepared for each major component of on-site works.

5. The culverts shall be designed to carry a minimum of 1 in 10 year flow and a secondary flow path to carry up to the 1 in 100 year flow.
6. The gradient of any culvert must match that of the existing channel invert.
7. Works shall be undertaken as far as practicable, when flows in the watercourses are low.
8. Works shall only be undertaken between the months of May to August to avoid the disturbance of trout spawning habitat, with the prior approval of the Consent Authority.
9. Works shall only be undertaken between the months of August to December to avoid the disturbance of galaxiid spawning habitat, with the prior approval of the Consent Authority.
10. During the exercise of this consent, the consent holder shall ensure that no contaminants, including fuel, oil, cement or cement products, enter the watercourses. In the event of contamination, the consent holder shall undertake remedial action and shall notify the Consent Authority as soon as practical.
11. Fuel storage tanks and machinery working and stored in the construction area shall be maintained at all times to prevent leakage of oil and other contaminants into the watercourses. No refuelling of machinery shall occur within the watercourse.

12. All machinery shall be water blasted prior to entering and leaving the site, to reduce the potential for pest species being introduced to the watercourses. At no time during the exercise of this consent shall machinery be washed within the bed of the watercourses.
13. All works shall be undertaken, as far as practicable, outside the wet bed of the watercourse.
14. The consent holder shall minimise damage to riparian vegetation when exercising this consent.
15. The consent holder shall ensure that fish passage is not impeded as a result of the placement of the culverts.
16. The consent holder shall ensure the works authorised by this consent do not cause any flooding, erosion, scouring, land instability or property damage. Should such effects occur due to the exercise of this consent, the consent holder shall, if so required by the Consent Authority and at no cost to the Consent Authority, take all such action as the Consent Authority may require to remedy any such damage.
17. Prior to, or immediately following completion of the works authorised by this consent, the consent holder shall ensure that all plant, equipment, chemicals, fencing, signage, debris, rubbish and any other material brought on site is removed from the site. The site shall be tidied to a degree at least equivalent to that prior to the works commencing.
18. The consent holder shall ensure that any damage to the stream banks, including riparian vegetation, be reinstated to a quality at least equivalent to that prior to the works commencing, within one month of completion of the works.
19. Representative photographs shall be taken of the site:
 - (a) before works commence; and
 - (b) immediately after the completion of works and rehabilitation of the site,These photographs shall be provided to the Consent Authority within one month of the final photographs being taken.
20. If the consent holder:
 - (a) discovers koiwi tangata (human skeletal remains), or Maori artefact material, the consent holder shall without delay:
 - (i) notify the Consent Authority, Manawhenua and New Zealand Historic Places Trust and in the case of skeletal remains, the New Zealand Police; and
 - (ii) stop work within the immediate vicinity of the discovery to allow a site inspection by the New Zealand Historic Places Trust and the appropriate runanga and their advisors, who shall determine whether the discovery is likely to be extensive, if a thorough site investigation is required, and whether an Archaeological Authority is required.

Any koiwi tangata discovered shall be handled and removed by tribal elders responsible for the tikanga (custom) appropriate to its removal or preservation.

Site work shall recommence following consultation with the Consent Authority, the New Zealand Historic Places Trust, Manawhenua, and in the case of skeletal remains, the New Zealand Police, provided that any relevant statutory permissions have been obtained.

- (b) discovers any feature or archaeological material that predates 1900, or heritage material, or disturbs a previously unidentified archaeological or heritage site, the consent holder shall without delay:
 - (i) stop work within the immediate vicinity of the discovery or disturbance; and
 - (ii) advise the Consent Authority, the New Zealand Historic Places Trust, and in the case of Maori features or materials, the Manawhenua, and if required, shall make an application for an Archaeological Authority pursuant to the Historic Places Act 1993; and
 - (iii) arrange for a suitably qualified archaeologist to undertake a survey of the site.

Site work shall recommence following consultation with the Consent Authority.

21. Under Section 125 of the Resource Management Act 1991, this consent shall not lapse for 10 years from the date of issue of this consent.

Issued at Dunedin this ## day of ## 2007.

LAND USE CONSENT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Meridian Energy Limited

Address: 15 Allen Street, Wellington

To disturb the bed of watercourses and deposit fill material which may enter watercourses

for the purpose of disposing of fill material

for a term expiring 1 April 2042

Location of activity: Within an area of approximately 92 square kilometres of the Lammermoor Range, 69 kilometres north west of Dunedin, 40 kilometres southwest of Ranfurly and 15 kilometres west of Middlemarch, and also involving the Old Dunstan Road between Clarks Junction and Paerau and an unnamed road known locally as Pylon Road between its junction with Old Dunstan Road to Canadian Flat, Upper Taieri.

Legal description of land: Sec 17-41 SO 301750; Sec 3 and Pt Sec 5 Blk V Serpentine SD; Secs 1- 2 Blk VI Serpentine SD; Sec 3 Blk IV Serpentine SD; Lot 1 DP 21554; Secs 8 - 9 Blk IV Serpentine SD; Sec 3 Blk VI Logan Burn SD; Secs 1- 4 Blk IV Logan Burn SD; Secs 9 -10 Blk I Logan Burn SD; Secs 10- 14 Blk IV Serpentine SD; Road Reserve

Map reference:

Development Area bounded by: NZMS 260 H43:690-250 (north)

NZMS 260 H43:730-200 (east)

NZMS 260 H43:560-110 (west)

NZMS 260 H43:610-080 (south)

Old Dunstan Road between: NZMS 260 H44:801-938 and H43: 708-276

An unnamed road known as Pylon Road between: NZMS 260 H43:681-093 and H43:565-126

Conditions:

1. The fill shall be deposited as described in the application for consent dated 31 October 2006. If there are any inconsistencies between the application and this consent, the conditions of this consent shall prevail.

2. The consent holder shall ensure that any contractors engaged to undertake work authorised by this consent abide by the conditions of this consent. A copy of this consent shall be present on site at all times while the work is being undertaken.
3. The consent holder shall submit and implement a Construction Environmental Management Plan (CEMP) for all construction works authorised by this consent, to the Consent Authority at least one month prior to any works commencing. The CEMP will be to the satisfaction of the Consent Authority. The CEMP shall include but not be limited to the methods and procedures of this consent. The CEMP shall include, but not be limited to, the following:
 - roles and responsibilities, including the appointment of a representative for the consent holder for a primary contact person in regard to matters relating to this consent;
 - arrangement and conduct of a pre-construction site meeting between all relevant parties, including all contractors and relevant local authorities, prior to any works commencing on the site to discuss implementation of erosion and sediment control measures;
 - sequencing of works over the whole site;
 - the potential adverse effects of the works;
 - procedures for earthworks, disposal areas, erosion and sediment control and revegetation/stabilisation of the site;
 - monitoring, record-keeping and maintenance requirements;
 - contingency measures for the management of fire risks and hazardous substances;
 - principles and procedures for rehabilitation of exposed areas including rehabilitation methods and vegetation mixes;
 - techniques to be used to revegetate rock cuts;
 - procedures for the avoidance of new infestations of woody weeds (e.g. gorse and broom).

Note: The CEMP provides an umbrella document that identifies the management processes and techniques to ensure appropriate environmental management of the site.

Post-construction matters (the continued use and maintenance of structures and related activities) addressed by the CEMP shall not be limited in duration. The consent holder shall pass a copy of this consent, including any relevant site plans and attachments, to the contractor undertaking the works authorised by this consent, prior to the works commencing.

4. The consent holder shall submit a location specific Supplementary Environmental Management Plan (SEMP) for all construction works authorised by this consent, to the Engineering Unit of the Consent Authority at least 10 working days before the work commences. The SEMP shall be to the satisfaction of the Consent Authority. As a minimum, the programme of work shall include the following information:
 - (a) A map showing the specific location of each fill disposal area;

- (b) The timing and duration of the proposed works;
- (c) Cross-section and plan drawings to scale showing the dimensions of each fill area;
- (d) An assessment of the type and volume of material being deposited in each fill disposal area;
- (e) An assessment of flow carrying capacity of the watercourse prior to the deposition of the fill;
- (f) An assessment of flow carrying capacity of the watercourse following the deposition of the fill;
- (g) The methods used to deposit the fill;
- (h) The methods used to control sediment runoff into watercourses including use of control structures, compaction of material and revegetation.

Note: To ensure that an appropriate level of environmental management is applied, some activities will require Supplementary Environmental Management Plans (SEMP). The SEMPs are location or activity specific and will be prepared for each major component of on-site works.

4. No fill shall be deposited within 20 metres of a formed water channel.
5. Works shall be undertaken as far as practicable, when flows in the watercourses are low.
6. Works shall only be undertaken between the months of May to August to avoid the disturbance of trout spawning habitat, with the prior approval of the Consent Authority.
7. Works shall only be undertaken between the months of August to December to avoid the disturbance of galaxiid spawning habitat, with the prior approval of the Consent Authority.
8. During the exercise of this consent, the consent holder shall ensure that no contaminants, including fuel, oil, cement or cement products, enter the watercourses. In the event of contamination, the consent holder shall undertake remedial action and shall notify the Consent Authority as soon as practical.
9. Fuel storage tanks and machinery working and stored in the construction area shall be maintained at all times to prevent leakage of oil and other contaminants into the watercourses. No refuelling of machinery shall occur within the watercourse.
10. All machinery shall be water blasted prior to entering and leaving the site, to reduce the potential for pest species being introduced to the watercourses. At no time during the exercise of this consent shall machinery be washed within the bed of the watercourses.
11. All works shall be undertaken, as far as practicable, outside the wet bed of the watercourse.

12. The consent holder shall ensure that any bed disturbance is limited to the extent necessary to carry out the works.
13. The works shall not result in any decrease of the cross-sectional area of the streambed, as the streambed exists prior to commencement of the works authorised by this consent.
14. The consent holder shall minimise damage to riparian vegetation when exercising this consent.
15. The consent holder shall ensure that fish passage is not impeded as a result of the deposition of the fill.
16. The consent holder shall ensure the works authorised by this consent do not cause any flooding, erosion, scouring, land instability or property damage. Should such effects occur due to the exercise of this consent, the consent holder shall, if so required by the Consent Authority and at no cost to the Consent Authority, take all such action as the Consent Authority may require to remedy any such damage.
17. Prior to, or immediately following completion of the works authorised by this consent, the consent holder shall ensure that all plant, equipment, chemicals, fencing, signage, debris, rubbish and any other material brought on site is removed from the site. The site shall be tidied to a degree at least equivalent to that prior to the works commencing.
18. The consent holder shall ensure that any damage to the stream banks, including riparian vegetation, be reinstated to a quality at least equivalent to that prior to the works commencing, within one month of completion of the works.
19. Representative photographs shall be taken of the site:
 - (a) before works commence; and
 - (b) immediately after the completion of works and rehabilitation of the site,These photographs shall be provided to the Consent Authority within one month of the final photographs being taken.
20. If the consent holder:
 - (a) discovers koiwi tangata (human skeletal remains), or Maori artefact material, the consent holder shall without delay:
 - (i) notify the Consent Authority, Manawhenua and New Zealand Historic Places Trust and in the case of skeletal remains, the New Zealand Police; and
 - (ii) stop work within the immediate vicinity of the discovery to allow a site inspection by the New Zealand Historic Places Trust and the appropriate runanga and their advisors, who shall determine whether the discovery is likely to be extensive, if a thorough site investigation is required, and whether an Archaeological Authority is required.

Any koiwi tangata discovered shall be handled and removed by tribal elders responsible for the tikanga (custom) appropriate to its removal or preservation.

Site work shall recommence following consultation with the Consent Authority, the New Zealand Historic Places Trust, Manawhenua, and in the case of skeletal remains, the New Zealand Police, provided that any relevant statutory permissions have been obtained.

- (b) discovers any feature or archaeological material that predates 1900, or heritage material, or disturbs a previously unidentified archaeological or heritage site, the consent holder shall without delay:
 - (i) stop work within the immediate vicinity of the discovery or disturbance; and
 - (ii) advise the Consent Authority, the New Zealand Historic Places Trust, and in the case of Maori features or materials, the Manawhenua, and if required, shall make an application for an Archaeological Authority pursuant to the Historic Places Act 1993; and
 - (iii) arrange for a suitably qualified archaeologist to undertake a survey of the site.

Site work shall recommence following consultation with the Consent Authority.

21. Under Section 125 of the Resource Management Act 1991, this consent shall not lapse for 10 years from the date of issue of this consent.

Issued at Dunedin this ## day of ## 2007.

LAND USE CONSENT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Meridian Energy Limited

Address: 15 Allen Street, Wellington

To erect defences against water
for the purpose of flood protection
for a term expiring 1 April 2042

Location of activity: Within an area of approximately 92 square kilometres of the Lammermoor Range, 69 kilometres north west of Dunedin, 40 kilometres southwest of Ranfurly and 15 kilometres west of Middlemarch, and also involving the Old Dunstan Road between Clarks Junction and Paerau and an unnamed road known locally as Pylon Road between its junction with Old Dunstan Road to Canadian Flat, Upper Taieri.

Legal description of land: Sec 17-41 SO 301750; Sec 3 and Pt Sec 5 Blk V Serpentine SD; Secs 1- 2 Blk VI Serpentine SD; Sec 3 Blk IV Serpentine SD; Lot 1 DP 21554; Secs 8 - 9 Blk IV Serpentine SD; Sec 3 Blk VI Logan Burn SD; Secs 1- 4 Blk IV Logan Burn SD; Secs 9 -10 Blk I Logan Burn SD; Secs 10- 14 Blk IV Serpentine SD; Road Reserve

Map reference:

Development Area bounded by: NZMS 260 H43:690-250 (north)
NZMS 260 H43:730-200 (east)
NZMS 260 H43:560-110 (west)
NZMS 260 H43:610-080 (south)

Old Dunstan Road between: NZMS 260 H44:801-938 and H43: 708-276

An unnamed road known as Pylon Road between: NZMS 260 H43:681-093 and H43:565-126

Conditions:

1. The works shall be as described in the application for consent dated 31 October 2006. If there are any inconsistencies between the application and this consent, the conditions of this consent shall prevail.
2. The consent holder shall ensure that any contractors engaged to undertake work authorised by this consent abide by the conditions of this consent. A copy of this consent shall be present on site at all times while the work is being undertaken.
3. The consent holder shall submit and implement a Construction Environmental Management Plan (CEMP) for all construction works authorised by this consent, to the Consent Authority at least one month prior to any works commencing. The CEMP will be to the satisfaction of the Consent Authority. The CEMP shall include but not be limited to the methods and procedures of this consent. The CEMP shall include, but not be limited to, the following:
 - roles and responsibilities, including the appointment of a representative for the consent holder for a primary contact person in regard to matters relating to this consent;
 - arrangement and conduct of a pre-construction site meeting between all relevant parties, including all contractors and relevant local authorities, prior to any works commencing on the site to discuss implementation of erosion and sediment control measures;
 - sequencing of works over the whole site;
 - the potential adverse effects of the works;
 - procedures for earthworks, disposal areas, erosion and sediment control and revegetation/stabilisation of the site;
 - monitoring, record-keeping and maintenance requirements;
 - contingency measures for the management of fire risks and hazardous substances;
 - principles and procedures for rehabilitation of exposed areas including rehabilitation methods and vegetation mixes;
 - techniques to be used to revegetate rock cuts;
 - procedures for the avoidance of new infestations of woody weeds (e.g. gorse and broom).

Note: The CEMP provides an umbrella document that identifies the management processes and techniques to ensure appropriate environmental management of the site.

Post-construction matters (the continued use and maintenance of structures and related activities) addressed by the CEMP shall not be limited in duration. The consent holder shall pass a copy of this consent, including any relevant site plans and attachments, to the contractor undertaking the works authorised by this consent, prior to the works commencing.

4. The consent holder shall submit a location specific Supplementary Environmental Management Plan (SEMP) for all construction works authorised by this consent, to the Engineering Unit of the Consent Authority at least 10 working days before the work commences. The SEMP shall be to the satisfaction of the Consent Authority. As a minimum, the programme of work shall include the following information:
 - (a) A map showing the specific location of each erect defence against water;
 - (b) The timing and duration of the proposed works;
 - (c) Cross-section and plan drawings to scale showing the dimensions of each erect defence against water;
 - (d) An assessment of the effect of each defence against water on high flows in each watercourse;

Note: To ensure that an appropriate level of environmental management is applied, some activities will require Supplementary Environmental Management Plans (SEMP). The SEMPs are location or activity specific and will be prepared for each major component of on-site works.

5. Works shall be undertaken as far as practicable, when flows in the watercourses are low.
6. Works shall only be undertaken between the months of May to August to avoid the disturbance of trout spawning habitat, with the prior approval of the Consent Authority.
7. Works shall only be undertaken between the months of August to December to avoid the disturbance of galaxiid spawning habitat, with the prior approval of the Consent Authority.
8. During the exercise of this consent, the consent holder shall ensure that no contaminants, including sediment, fuel, oil, cement or cement products, enter the watercourses. In the event of contamination, the consent holder shall undertake remedial action and shall notify the Consent Authority as soon as practical.
9. Fuel storage tanks and machinery working and stored in the construction area shall be maintained at all times to prevent leakage of oil and other contaminants into the watercourses. No refuelling of machinery shall occur within the watercourse.
10. All machinery shall be water blasted prior to entering and leaving the site, to reduce the potential for pest species being introduced to the watercourses. At no time during the exercise of this consent shall machinery be washed within the bed of the watercourses.
11. Machinery used to undertake works shall not be operated from within the wet bed of the watercourse.
12. The consent holder shall minimise damage to riparian vegetation when exercising this consent.

13. The consent holder shall ensure the works authorised by this consent do not cause any flooding, erosion, scouring, land instability or property damage. Should such effects occur due to the exercise of this consent, the consent holder shall, if so required by the Consent Authority and at no cost to the Consent Authority, take all such action as the Consent Authority may require to remedy any such damage.
14. Prior to, or immediately following completion of the works authorised by this consent, the consent holder shall ensure that all plant, equipment, chemicals, fencing, signage, debris, rubbish and any other material brought on site is removed from the site. The site shall be tidied to a degree at least equivalent to that prior to the works commencing.
15. The consent holder shall ensure that any damage to the stream banks, including riparian vegetation, be reinstated to a quality at least equivalent to that prior to the works commencing, within one month of completion of the works.
16. Representative photographs shall be taken of the site:
 - (a) before works commence; and
 - (b) immediately after the completion of works and rehabilitation of the site,These photographs shall be provided to the Consent Authority within one month of the final photographs being taken.
17. If the consent holder:
 - (a) discovers koiwi tangata (human skeletal remains), or Maori artefact material, the consent holder shall without delay:
 - (i) notify the Consent Authority, Manawhenua and New Zealand Historic Places Trust and in the case of skeletal remains, the New Zealand Police; and
 - (ii) stop work within the immediate vicinity of the discovery to allow a site inspection by the New Zealand Historic Places Trust and the appropriate runanga and their advisors, who shall determine whether the discovery is likely to be extensive, if a thorough site investigation is required, and whether an Archaeological Authority is required.

Any koiwi tangata discovered shall be handled and removed by tribal elders responsible for the tikanga (custom) appropriate to its removal or preservation.

Site work shall recommence following consultation with the Consent Authority, the New Zealand Historic Places Trust, Manawhenua, and in the case of skeletal remains, the New Zealand Police, provided that any relevant statutory permissions have been obtained.

- (b) discovers any feature or archaeological material that predates 1900, or heritage material, or disturbs a previously unidentified archaeological or heritage site, the consent holder shall without delay:
 - (i) stop work within the immediate vicinity of the discovery or disturbance; and

- (ii) advise the Consent Authority, the New Zealand Historic Places Trust, and in the case of Maori features or materials, the Manawhenua, and if required, shall make an application for an Archaeological Authority pursuant to the Historic Places Act 1993; and
- (iii) arrange for a suitably qualified archaeologist to undertake a survey of the site.

Site work shall recommence following consultation with the Consent Authority.

18. Under Section 125 of the Resource Management Act 1991, this consent shall not lapse for 10 years from the date of issue of this consent.

Issued at Dunedin this ## day of ## 2007.

LAND USE CONSENT

Pursuant to Section 104A of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Meridian Energy Limited

Address: 15 Allen Street, Wellington

To construct bores

for the purpose of dewatering construction sites

for an unlimited term

Location of activity: Within an area of approximately 92 square kilometres of the Lammermoor Range, 69 kilometres north west of Dunedin, 40 kilometres southwest of Ranfurly and 15 kilometres west of Middlemarch, and also involving the Old Dunstan Road between Clarks Junction and Paerau and an unnamed road known locally as Pylon Road between its junction with Old Dunstan Road to Canadian Flat, Upper Taieri.

Legal description of land: Sec 17-41 SO 301750; Sec 3 and Pt Sec 5 Blk V Serpentine SD; Secs 1- 2 Blk VI Serpentine SD; Sec 3 Blk IV Serpentine SD; Lot 1 DP 21554; Secs 8 - 9 Blk IV Serpentine SD; Sec 3 Blk VI Logan Burn SD; Secs 1- 4 Blk IV Logan Burn SD; Secs 9 -10 Blk I Logan Burn SD; Secs 10- 14 Blk IV Serpentine SD; Road Reserve

Map reference:

Development Area bounded by: NZMS 260 H43:690-250 (north)
NZMS 260 H43:730-200 (east)
NZMS 260 H43:560-110 (west)
NZMS 260 H43:610-080 (south)

Old Dunstan Road between: NZMS 260 H44:801-938 and H43: 708-276

An unnamed road known as Pylon Road between: NZMS 260 H43:681-093 and H43:565-126

Conditions:

1. If this consent is not given effect to within a period of ten years from the date of commencement of this consent, this consent shall lapse under section 125 of the Resource Management Act 1991. The consent shall attach to the land to which it relates.

2. Within two weeks after completion of each bore construction, the consent holder shall forward the following information to the Consent Authority:
 - (a) a map showing the specific location of each bore; and
 - (b) copies of the results of any pumping tests carried out.
3. Copies of the results of any water quality analyses performed on the groundwater shall be forwarded to the Consent Authority within two weeks of the analysis being undertaken.
4. Work carried out during the construction of the bore shall be to the New Zealand Standard “Environmental Standard for Drilling of Soil and Rock” NZS 4411:2001.
5. The bore head casing and reticulation shall be suitably constructed and sealed to avoid ingress of surface water and other foreign matter.
6. The bore integrity shall be maintained at all times unless abandoned. If the bore is abandoned, it shall be appropriately sealed/grouted and backfilled to prevent contaminants from entering the bore at any level.

Notes to Consent Holder

1. *If there is a discharge of contaminants, including human sewage, onto land within 50 metres of a bore used to supply water for domestic purposes or drinking water for livestock, a resource consent may be required for the discharge under the Regional Plan: Water for Otago.*
2. *If there is a discharge of contaminants, including contaminants from offal pits, farm landfills, silage production and greenwaste landfills, onto land within 100 metres of a bore used to supply water for domestic purposes or drinking water for livestock, a resource consent may be required for the discharge under the Regional Plan: Waste.*

Issued at Dunedin this ## day of ## 2007.

WATER PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Meridian Energy Limited

Address: 15 Allen Street, Wellington

to take ground water from an unnamed aquifer

for the purpose of dewatering construction sites

for a term expiring 1 April 2042

Location of activity: Within an area of approximately 92 square kilometres of the Lammermoor Range, 69 kilometres north west of Dunedin, 40 kilometres southwest of Ranfurly and 15 kilometres west of Middlemarch, and also involving the Old Dunstan Road between Clarks Junction and Paerau and an unnamed road known locally as Pylon Road between its junction with Old Dunstan Road to Canadian Flat, Upper Taieri.

Legal description of land: Sec 17-41 SO 301750; Sec 3 and Pt Sec 5 Blk V Serpentine SD; Secs 1- 2 Blk VI Serpentine SD; Sec 3 Blk IV Serpentine SD; Lot 1 DP 21554; Secs 8 - 9 Blk IV Serpentine SD; Sec 3 Blk VI Logan Burn SD; Secs 1- 4 Blk IV Logan Burn SD; Secs 9 -10 Blk I Logan Burn SD; Secs 10- 14 Blk IV Serpentine SD; Road Reserve

Map reference:

Development Area bounded by: NZMS 260 H43:690-250 (north)

NZMS 260 H43:730-200 (east)

NZMS 260 H43:560-110 (west)

NZMS 260 H43:610-080 (south)

Old Dunstan Road between: NZMS 260 H44:801-938 and H43: 708-276

An unnamed road known as Pylon Road between: NZMS 260 H43:681-093 and H43:565-126

Conditions:

1. The dewatering of the excavations shall not give rise to any land instability, subsidence or property damage.

2. The consent holder shall ensure that wetland habitats, including Sphagnum bogs, and streams are not adversely affected by the dewatering.
3. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent for the purpose of determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage.
4. Under Section 125 of the Resource Management Act 1991, this consent shall not lapse for 10 years from the date of issue of this consent.

Issued at Dunedin this ## day of ## 2007.

WATER PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Meridian Energy Limited

Address: 15 Allen Street, Wellington

To temporarily divert watercourses whilst extending and erecting culverts as well as to permanently divert watercourses around fill disposal areas

for the purpose of sediment control

for a term expiring 1 April 2042

Location of activity: Within an area of approximately 92 square kilometres of the Lammermoor Range, 69 kilometres north west of Dunedin, 40 kilometres southwest of Ranfurly and 15 kilometres west of Middlemarch, and also involving the Old Dunstan Road between Clarks Junction and Paerau and an unnamed road known locally as Pylon Road between its junction with Old Dunstan Road to Canadian Flat, Upper Taieri.

Legal description of land: Sec 17-41 SO 301750; Sec 3 and Pt Sec 5 Blk V Serpentine SD; Secs 1- 2 Blk VI Serpentine SD; Sec 3 Blk IV Serpentine SD; Lot 1 DP 21554; Secs 8 - 9 Blk IV Serpentine SD; Sec 3 Blk VI Logan Burn SD; Secs 1- 4 Blk IV Logan Burn SD; Secs 9 -10 Blk I Logan Burn SD; Secs 10- 14 Blk IV Serpentine SD; Road Reserve

Map reference:

Development Area bounded by: NZMS 260 H43:690-250 (north)

NZMS 260 H43:730-200 (east)

NZMS 260 H43:560-110 (west)

NZMS 260 H43:610-080 (south)

Old Dunstan Road between: NZMS 260 H44:801-938 and H43: 708-276

An unnamed road known as Pylon Road between: NZMS 260 H43:681-093 and H43:565-126

Conditions:

1. This consent shall be exercised in conjunction with land use consent 2006.483 and discharge permit 2006.490.

2. The diversions shall be undertaken as described in the application for consent dated 31 October 2006. If there are any inconsistencies between the application and this consent, the conditions of this consent shall prevail.
3. The consent holder shall ensure that any contractors engaged to undertake work authorised by this consent abide by the conditions of this consent. A copy of this consent shall be present on site at all times while the work is being undertaken.
4. The consent holder shall submit a location specific Supplementary Environmental Management Plan (SEMP) for all construction works authorised by this consent, to the Engineering Unit of the Consent Authority at least 10 working days before the work commences. The SEMP shall be to the satisfaction of the Consent Authority. As a minimum, the programme of work shall include the following information:
 - (a) A map showing the specific location of each diversion;
 - (b) The timing and duration of the proposed works for each diversion;
 - (c) Cross-section and plan drawings to scale showing the dimensions of each diversion channel;
 - (d) An assessment of flow carrying capacity of the watercourse prior to being diverted;
 - (e) An assessment of flow carrying capacity of the diversion channel;
 - (f) A statement as to whether each diversion is permanent or temporary;
 - (g) The methods used to construction each diversion.

Note: To ensure that an appropriate level of environmental management is applied, some activities will require Supplementary Environmental Management Plans (SEMP). The SEMPs are location or activity specific and will be prepared for each major component of on-site works.

5. The diversion of water from the watercourse shall only occur once the diversion channel has been fully excavated.
6. The consent holder shall ensure that fish passage is not impeded as a result of the diversion works.
7. The consent holder shall ensure that the diversion is undertaken such that no fish become stranded.
8. When diverting water into the new diversion channel, all reasonable steps shall be taken to ensure that sediment and discolouration of water are kept to a minimum.
9. The consent holder shall undertake all reasonable measures to promote bank stability of the new channel as rapidly as possible.
10. There shall be no reduction in the surface flow of the watercourse as a result of the diversion.
11. No lawful take of water shall be adversely affected as a result of the diversion.

12. The consent holder shall ensure the diversion does not cause any flooding, erosion, scouring, land instability or damage of any other persons property. Should such effects occur due to the diversion, the consent holder shall, if so required by the Consent Authority and at no cost to the Consent Authority, take all such action as the Consent Authority may require to remedy any such damage.
14. Representative photographs shall be taken of the site:
 - (a) before works commence; and
 - (b) immediately after the completion of works and rehabilitation of the site,These photographs shall be provided to the Consent Authority within one month of the final photographs being taken.
15. If the consent holder:
 - (a) discovers koiwi tangata (human skeletal remains), or Maori artefact material, the consent holder shall without delay:
 - (i) notify the Consent Authority, Manawhenua and New Zealand Historic Places Trust and in the case of skeletal remains, the New Zealand Police; and
 - (ii) stop work within the immediate vicinity of the discovery to allow a site inspection by the New Zealand Historic Places Trust and the appropriate runanga and their advisors, who shall determine whether the discovery is likely to be extensive, if a thorough site investigation is required, and whether an Archaeological Authority is required.

Any koiwi tangata discovered shall be handled and removed by tribal elders responsible for the tikanga (custom) appropriate to its removal or preservation.

Site work shall recommence following consultation with the Consent Authority, the New Zealand Historic Places Trust, Manawhenua, and in the case of skeletal remains, the New Zealand Police, provided that any relevant statutory permissions have been obtained.

- (b) discovers any feature or archaeological material that predates 1900, or heritage material, or disturbs a previously unidentified archaeological or heritage site, the consent holder shall without delay:
 - (i) stop work within the immediate vicinity of the discovery or disturbance; and
 - (ii) advise the Consent Authority, the New Zealand Historic Places Trust, and in the case of Maori features or materials, the Manawhenua, and if required, shall make an application for an Archaeological Authority pursuant to the Historic Places Act 1993; and
 - (iii) arrange for a suitably qualified archaeologist to undertake a survey of the site.

Site work shall recommence following consultation with the Consent Authority.

16. Under Section 125 of the Resource Management Act 1991, this consent shall not lapse for 10 years from the date of issue of this consent.

Issued at Dunedin this ## day of ## 2007.

DRAFT

DISCHARGE PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Meridian Energy Limited

Address: 15 Allen Street, Wellington

To discharge storm water to land in a manner that may enter water

for the purpose of disposing of stormwater

for a term expiring 1 April 2042

Location of activity: Within an area of approximately 92 square kilometres of the Lammermoor Range, 69 kilometres north west of Dunedin, 40 kilometres southwest of Ranfurly and 15 kilometres west of Middlemarch, and also involving the Old Dunstan Road between Clarks Junction and Paerau and an unnamed road known locally as Pylon Road between its junction with Old Dunstan Road to Canadian Flat, Upper Taieri.

Legal description of land: Sec 17-41 SO 301750; Sec 3 and Pt Sec 5 Blk V Serpentine SD; Secs 1- 2 Blk VI Serpentine SD; Sec 3 Blk IV Serpentine SD; Lot 1 DP 21554; Secs 8 - 9 Blk IV Serpentine SD; Sec 3 Blk VI Logan Burn SD; Secs 1- 4 Blk IV Logan Burn SD; Secs 9 -10 Blk I Logan Burn SD; Secs 10- 14 Blk IV Serpentine SD; Road Reserve

Map reference:

Development Area bounded by: NZMS 260 H43:690-250 (north)

NZMS 260 H43:730-200 (east)

NZMS 260 H43:560-110 (west)

NZMS 260 H43:610-080 (south)

Old Dunstan Road between: NZMS 260 H44:801-938 and H43: 708-276

An unnamed road known as Pylon Road between: NZMS 260 H43:681-093 and H43:565-126

Conditions:

1. No lawful take of water is to be adversely affected as a result of any discharge.

2. The consent holder shall ensure that the discharge does not give rise to any significant adverse effect on aquatic life.
3. The exercise of this consent shall not give rise to a conspicuous adverse change in the colour or clarity of the watercourses.
4. The Consent Authority may, in accordance with sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within three months of each anniversary of the commencement of this consent for the purpose of:
 - (a) determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the consent; or
 - (b) ensuring the conditions of this consent are consistent with any National Environmental Standards; or
 - (c) requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment arising as a result of the exercise of this consent
5. Under Section 125 of the Resource Management Act 1991, this consent shall not lapse for 10 years from the date of issue of this consent.

Issued at Dunedin this ## day of ## 2007.

DISCHARGE PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Meridian Energy Limited

Address: 15 Allen Street, Wellington

To discharge sediment to water

for the purpose of replacing, extending and erecting culverts and constructing diversion channels.

for a term expiring 1 April 2042

Location of activity: Within an area of approximately 92 square kilometres of the Lammermoor Range, 69 kilometres north west of Dunedin, 40 kilometres southwest of Ranfurly and 15 kilometres west of Middlemarch, and also involving the Old Dunstan Road between Clarks Junction and Paerau and an unnamed road known locally as Pylon Road between its junction with Old Dunstan Road to Canadian Flat, Upper Taieri.

Legal description of land: Sec 17-41 SO 301750; Sec 3 and Pt Sec 5 Blk V Serpentine SD; Secs 1- 2 Blk VI Serpentine SD; Sec 3 Blk IV Serpentine SD; Lot 1 DP 21554; Secs 8 - 9 Blk IV Serpentine SD; Sec 3 Blk VI Logan Burn SD; Secs 1- 4 Blk IV Logan Burn SD; Secs 9 -10 Blk I Logan Burn SD; Secs 10- 14 Blk IV Serpentine SD; Road Reserve

Map reference:

Development Area bounded by: NZMS 260 H43:690-250 (north)

NZMS 260 H43:730-200 (east)

NZMS 260 H43:560-110 (west)

NZMS 260 H43:610-080 (south)

Old Dunstan Road between: NZMS 260 H44:801-938 and H43: 708-276

An unnamed road known as Pylon Road between: NZMS 260 H43:681-093 and H43:565-126

Conditions:

1. This consent shall be exercised in conjunction with land use consents 2006.483.

2. The consent holder shall submit a location specific Supplementary Environmental Management Plan (SEMP) for all discharges authorised by this consent, to the Compliance Unit of the Consent Authority at least 5 working days before the discharge commences. The SEMP shall be to the satisfaction of the Consent Authority. As a minimum, the discharge plan shall include the following information:
 - (a) A map showing the specific location of each culvert and diversion channel;
 - (b) The timing and duration for each discharge;
 - (c) The maximum rate of each discharge;
 - (d) The name of the receiving watercourse;
 - (e) The erosion and sediment control measures for each discharge.

Note: To ensure that an appropriate level of environmental management is applied, some activities will require Supplementary Environmental Management Plans (SEMP). The SEMPs are location or activity specific and will be prepared for each major component of on-site works.

3. No contaminants other than silt and sediment shall be discharged into the watercourses.
4. The consent holder shall take all practicable steps to minimise the release of sediment into the water while disturbing the bed of the watercourses.
5. No lawful take of water is to be adversely affected as a result of any discharge.
6. The consent holder shall ensure that the discharge does not give rise to any significant adverse effect on aquatic life.
7. The exercise of this consent shall not give rise to a conspicuous adverse change in the colour or clarity of the watercourses beyond 20 metres downstream of the discharge point.
8. The Consent Authority may, in accordance with sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within three months of each anniversary of the commencement of this consent for the purpose of:
 - (a) determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the consent; or
 - (b) ensuring the conditions of this consent are consistent with any National Environmental Standards; or
 - (c) requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment arising as a result of the exercise of this consent

9. Under Section 125 of the Resource Management Act 1991, this consent shall not lapse for 10 years from the date of issue of this consent.

Issued at Dunedin this ## day of ## 2007.

DRAFT

DISCHARGE PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Meridian Energy Limited

Address: 15 Allen Street, Wellington

To discharge water to land in a manner that may enter water
for the purpose of disposing construction site run off water
for a term expiring 1 April 2042

Location of activity: Within an area of approximately 92 square kilometres of the Lammermoor Range, 69 kilometres north west of Dunedin, 40 kilometres southwest of Ranfurly and 15 kilometres west of Middlemarch, and also involving the Old Dunstan Road between Clarks Junction and Paerau and an unnamed road known locally as Pylon Road between its junction with Old Dunstan Road to Canadian Flat, Upper Taieri.

Legal description of land: Sec 17-41 SO 301750; Sec 3 and Pt Sec 5 Blk V Serpentine SD; Secs 1- 2 Blk VI Serpentine SD; Sec 3 Blk IV Serpentine SD; Lot 1 DP 21554; Secs 8 - 9 Blk IV Serpentine SD; Sec 3 Blk VI Logan Burn SD; Secs 1- 4 Blk IV Logan Burn SD; Secs 9 -10 Blk I Logan Burn SD; Secs 10- 14 Blk IV Serpentine SD; Road Reserve

Map reference:

Development Area bounded by: NZMS 260 H43:690-250 (north)
NZMS 260 H43:730-200 (east)
NZMS 260 H43:560-110 (west)
NZMS 260 H43:610-080 (south)

Old Dunstan Road between: NZMS 260 H44:801-938 and H43: 708-276

An unnamed road known as Pylon Road between: NZMS 260 H43:681-093 and H43:565-126

Conditions:

1. The consent holder shall submit a location specific Supplementary Environmental Management Plan (SEMP) for all discharges authorised by this consent, to the Compliance Unit of the Consent Authority at least 5 working days before the

discharge commences. The SEMP shall be to the satisfaction of the Consent Authority. As a minimum, the discharge plan shall include the following information:

- (a) A map showing the specific location of each discharge;
- (b) The timing and duration for each discharge;
- (c) The maximum rate of each discharge;
- (d) The name of the receiving watercourse;
- (e) The erosion and sediment control measures for each discharge.

Note: To ensure that an appropriate level of environmental management is applied, some activities will require Supplementary Environmental Management Plans (SEMP). The SEMPs are location or activity specific and will be prepared for each major component of on-site works.

2. No lawful take of water is to be adversely affected as a result of any discharge.
3. The consent holder shall ensure that the discharge does not give rise to any significant adverse effect on aquatic life.
4. The exercise of this consent shall not give rise to a conspicuous adverse change in the colour or clarity of the watercourses.
5. The Consent Authority may, in accordance with sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within three months of each anniversary of the commencement of this consent for the purpose of:
 - (a) determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the consent; or
 - (b) ensuring the conditions of this consent are consistent with any National Environmental Standards; or
 - (c) requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment arising as a result of the exercise of this consent
6. Under Section 125 of the Resource Management Act 1991, this consent shall not lapse for 10 years from the date of issue of this consent.

Issued at Dunedin this ## day of ## 2007.

DISCHARGE PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Meridian Energy Limited

Address: 15 Allen Street, Wellington

To discharge sediment to water

for the purpose of depositing fill material

for a term expiring 1 April 2042

Location of activity: Within an area of approximately 92 square kilometres of the Lammermoor Range, 69 kilometres north west of Dunedin, 40 kilometres southwest of Ranfurly and 15 kilometres west of Middlemarch, and also involving the Old Dunstan Road between Clarks Junction and Paerau and an unnamed road known locally as Pylon Road between its junction with Old Dunstan Road to Canadian Flat, Upper Taieri.

Legal description of land: Sec 17-41 SO 301750; Sec 3 and Pt Sec 5 Blk V Serpentine SD; Secs 1- 2 Blk VI Serpentine SD; Sec 3 Blk IV Serpentine SD; Lot 1 DP 21554; Secs 8 - 9 Blk IV Serpentine SD; Sec 3 Blk VI Logan Burn SD; Secs 1- 4 Blk IV Logan Burn SD; Secs 9 -10 Blk I Logan Burn SD; Secs 10- 14 Blk IV Serpentine SD; Road Reserve

Map reference:

Development Area bounded by: NZMS 260 H43:690-250 (north)

NZMS 260 H43:730-200 (east)

NZMS 260 H43:560-110 (west)

NZMS 260 H43:610-080 (south)

Old Dunstan Road between: NZMS 260 H44:801-938 and H43: 708-276

An unnamed road known as Pylon Road between: NZMS 260 H43:681-093 and H43:565-126

Conditions:

1. No contaminants other than silt and sediment shall be discharged into the watercourses.

2. The consent holder shall submit a location specific Supplementary Environmental Management Plan (SEMP) for all discharges authorised by this consent, to the Compliance Unit of the Consent Authority at least 5 working days before the discharge commences. The SEMP shall be to the satisfaction of the Consent Authority. As a minimum, the discharge plan shall include the following information:
 - (a) A map showing the specific location of each fill disposal area and each associated discharge point;
 - (b) The timing and duration for each discharge;
 - (c) The maximum rate of each discharge;
 - (d) The name of the receiving watercourse;
 - (e) An assessment of flow carrying capacity of the watercourse prior to the fill disposal;
 - (f) An assessment of flow carrying capacity of the watercourse after the fill disposal;
 - (g) The erosion and sediment control measures for each fill disposal area.

Note: To ensure that an appropriate level of environmental management is applied, some activities will require Supplementary Environmental Management Plans (SEMP). The SEMPs are location or activity specific and will be prepared for each major component of on-site works.

- 3 The consent holder shall take all practicable steps to minimise the release of sediment into the water while disturbing the bed of the watercourses.
- 4 No lawful take of water is to be adversely affected as a result of any discharge.
- 5 The consent holder shall ensure that the discharge does not give rise to any significant adverse effect on aquatic life.
- 6 The exercise of this consent shall not give rise to a conspicuous adverse change in the colour or clarity of the watercourses beyond a 20 metre mixing zone downstream of the discharge point.
7. The Consent Authority may, in accordance with sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within three months of each anniversary of the commencement of this consent for the purpose of:
 - (a) determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the consent; or
 - (b) ensuring the conditions of this consent are consistent with any National Environmental Standards; or
 - (c) requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment arising as a result of the exercise of this consent

8. Under Section 125 of the Resource Management Act 1991, this consent shall not lapse for 10 years from the date of issue of this consent.

Issued at Dunedin this ## day of ## 2007.

DRAFT

DISCHARGE PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Meridian Energy Limited

Address: 15 Allen Street, Wellington

To discharge water to land in a manner that may enter water

for the purpose of dewatering construction sites

for a term expiring 1 April 2042

Location of activity: Within an area of approximately 92 square kilometres of the Lammermoor Range, 69 kilometres north west of Dunedin, 40 kilometres southwest of Ranfurly and 15 kilometres west of Middlemarch, and also involving the Old Dunstan Road between Clarks Junction and Paerau and an unnamed road known locally as Pylon Road between its junction with Old Dunstan Road to Canadian Flat, Upper Taieri.

Legal description of land: Sec 17-41 SO 301750; Sec 3 and Pt Sec 5 Blk V Serpentine SD; Secs 1- 2 Blk VI Serpentine SD; Sec 3 Blk IV Serpentine SD; Lot 1 DP 21554; Secs 8 - 9 Blk IV Serpentine SD; Sec 3 Blk VI Logan Burn SD; Secs 1- 4 Blk IV Logan Burn SD; Secs 9 -10 Blk I Logan Burn SD; Secs 10- 14 Blk IV Serpentine SD; Road Reserve

Map reference:

Development Area bounded by: NZMS 260 H43:690-250 (north)

NZMS 260 H43:730-200 (east)

NZMS 260 H43:560-110 (west)

NZMS 260 H43:610-080 (south)

Old Dunstan Road between: NZMS 260 H44:801-938 and H43: 708-276

An unnamed road known as Pylon Road between: NZMS 260 H43:681-093 and H43:565-126

Conditions:

1. The discharge authorised by this permit shall only be of dewatering water as described in the consent application submitted to the Consent Authority dated 31 October 2006.

2. The consent holder shall submit a location specific Supplementary Environmental Management Plan (SEMP) for all discharges authorised by this consent, to the Compliance Unit of the Consent Authority at least 5 working days before the discharge commences. The SEMP shall be to the satisfaction of the Consent Authority. As a minimum, the discharge plan shall include the following information:
 - (a) A map showing the specific location of each discharge;
 - (b) The timing and duration for each discharge;
 - (c) The maximum rate of each discharge;
 - (d) The name of the receiving watercourse;
 - (e) The erosion and sediment control measures for each discharge.

Note: To ensure that an appropriate level of environmental management is applied, some activities will require Supplementary Environmental Management Plans (SEMP). The SEMPs are location or activity specific and will be prepared for each major component of on-site works.

3. No lawful take of water is to be adversely affected as a result of any discharge.
4. The consent holder shall ensure that the discharge does not give rise to any significant adverse effect on aquatic life.
5. The exercise of this consent shall not give rise to a conspicuous adverse change in the colour or clarity of the watercourses downstream of the discharge point.
6. The Consent Authority may, in accordance with sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within three months of each anniversary of the commencement of this consent for the purpose of:
 - (a) determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the consent; or
 - (b) ensuring the conditions of this consent are consistent with any National Environmental Standards; or
 - (c) requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment arising as a result of the exercise of this consent
7. Under Section 125 of the Resource Management Act 1991, this consent shall not lapse for 10 years from the date of issue of this consent.

Issued at Dunedin this ## day of ## 2007.