BEFORE THE ENVIRONMENT COURT

Decision No. C 140/2008

IN THE MATTER	of the Resource Management Act 1991 (**the Act**)
AND	
IN THE MATTER	of an appeal under section 120 of the Act
BETWEEN	UPLAND LANDSCAPE PROTECTION SOCIETY INCORPORATED
	(ENV-2007-CHC-247)
	Appellant
AND	CLUTHA DISTRICT COUNCIL
	First Respondent
AND	OTAGO REGIONAL COUNCIL
	Second Respondent
AND	TRUSTPOWER LIMITED
	Applicant

Hearing: On the Papers at Christchurch

Court: Environment Judge J A Smith - presiding
Environment Commissioner W R Howie
Environment Commissioner C E Manning
Environment Commissioner D H Menzies

Submissions: Mr J R Welsh and Ms L C Daniell for TrustPower Limited (**TrustPower**)
Memoranda from Mr E R Carr for Upland Landscape Protection Society (**ULPS**)

Date of Decision: 15, December 2008

DECISION OF THE ENVIRONMENT COURT

A: Plans, engineering drawings and conditions as annexed in A, B and C are confirmed except to the extent modified in this decision including:

(a) Medium ecological areas (Condition 25)

(b) Use of roads (Condition 61)

(c) Consultative group (Condition 75)

B: Final conditions, plans and drawings are to be amended as necessary and filed for endorsement by the Court.

C: Costs are reserved to be addressed in a separate decision.

REASONS

Introduction

[1] By Decision C85/2008 this Court reached determinations in respect of the application by TrustPower to establish a 200 megawatt (**MW**) wind farm at Mahinerangi. The Court made directions in an interim decision confirming a consent in general terms.

[2] TrustPower was given an opportunity to reconsider both the number of turbines and their siting and to provide modified conditions to meet the concerns of the Court. Most of those conditions were on the same topics as those suggested by TrustPower but requiring redrafting, with the exception of particular issues identified in the Court decision, requiring new conditions.

[3] The Court gave directions as follows:

[256] TrustPower is to prepare and circulate to the other parties within 40 working days a siting plan indicating the number and position of turbines, landfill, tracks, cut and fill and lay-down areas as discussed in this decision. It is also to provide an updated set of conditions reflecting the decision of this Court and otherwise the conditions put to the Court during the hearing. Those are to be circulated to the other parties, namely the Regional Council, District Council and ULPS for comment. The parties are to enter into discussion to see if agreement can be reached as to the site plan and conditions.

[257] TrustPower is to provide a report to the Court of those discussions within 30 working days after the circulation of the plans and conditions advising:

- *(a) whether agreement has been reached, and if so providing a memorandum signed by all parties as to the proposed conditions and site plan;*
- *(b) in the event that agreement is not reached, what specific issues remain in relation to the Plans and/or conditions, and advising whether the parties seek to proceed:*
  - *(i) by way of written memoranda;*
  - *(ii) further pre-hearing conference; or*
  - *(iii) to a hearing.*

Subsequent progress

[4] TrustPower circulated to the other parties its proposals in respect of the matters, including redrafted plans, engineering drawings, and redrafted conditions of consent. TrustPower met with the respondent Councils and received full agreement in respect of the Plans, the drawings and the conditions. Annexed to this decision as **"A"**, and **"B"** are the Conditions & overall Plans. The engineering drawings are too extensive for simple duplication , but attached as example **"C"** is a drawing for Turbines 87, 92, 94, and 95.

[5] ULPS filed several comments, the first being on 26 October and comments on the revised siting plans on 31 October. No comment was received on the associated engineering details by 31 October.

The appropriate procedure

[6] In terms of the Court's decision, it was contemplated that either full agreement would be reached or there would be disagreement between the Applicant and the other parties. In this case all parties but ULPS have agreed to the terms and conditions of the consent and the accompanying maps. The documents supplied by ULPS provide detailed commentary on their concerns and enable the Court to understand the nature of the remaining concerns. For reasons we will discuss in due course, the Court does not have jurisdiction to deal with the majority of ULPS' concerns. Accordingly, we have concluded that there is little to be gained from allowing further submission or a hearing on matters where the Court has already reached a conclusion.

[7] The matters remaining where it could be said no firm conclusion was reached in the Court's decision are:

(a) the batter heights for cut or fill;
(b) the area and depth of fill disposal areas.

Cut and Fill Batters

[8] In respect of the batter heights, the Court did make general comment and cited comment from the applicant's engineer identifying that some of the roading and platforms may have batter heights in excess of ten metres. At that stage there was an indication that there might be batter and fill heights cumulatively totalling 32 metres (see para [138] of the decision).

[9] The Court has now received detailed information enabling us to ascertain the intended cut and fill batters, which seem to be a maximum of seven or eight metres respectively. We are unable to find any examples of cumulative cut and fill batters at this stage, but even if the same were combined, these would not exceed some 17 metres.

This information is sufficient for us to be able to reach factual conclusions as to whether or not these amended plans meet the Court's concerns to minimise cut and fill batter heights in terms of the Court decision. We are able to rely on evidence already given to the Court and confirmed by our site visit in reaching conclusions as to the appropriateness of the now proposed cut or fill batter heights. We note no evidence was advanced by ULPS.

Fill Disposal Areas

[10] In respect of fill disposal areas, we note firstly that the fill disposal areas are now intended to be increased from some 25 hectares to 61 hectares and that there is a significant increase in the number of these fill disposal areas which are, for the most part, now smaller in individual area. We note that no particular comments have been made by Mr Carr for ULPS about the fill disposal areas and these are agreed by the Council.

[11] We have concluded in the circumstances that we need not hear further evidence on this matter because:

(a) ULPS has made no comment in respect of this provision;

(b) although there is an increase in area, the fill volume now anticipated is less than the 464,000 m^3 originally envisaged at the Court hearing and has now reduced in condition 25(i)(e) to 456,550 m^3, the maximum coverage increase to 61.5 hectares with a maximum fill depth of three metres rather than two metres as expressed to the Court.

(c) Given that there is a limit as to the amount of fill which can be placed, it is clear to us that the average depth of fill is going to be less than one metre. There are now a number of sites so this will mean that less spoil will be placed on each site and fewer truck movements will be necessary given the proximity of the disposal areas to the works. Other conditions requiring ARCTP 90 to be adopted for sediment and erosion control are intended to ensure that the works do not have any adverse effect.

(d) The Regional Council has consented to the conditions. In particular the Regional Council would have been directing attention to these concerns.

(e) Finally, if any soil disposal area is within a buffer (and we will discuss the jurisdictional issue, which includes medium ecological areas, in due course), then any effects can be addressed through the use of the supplementary environmental management plan (**SEMP**) procedure for works within a buffer zone.

[12] From the plans produced and our recollection from site visits, the soil disposal areas now chosen are all within the development area (away from the buffer areas), and on easy country. Accordingly, we have concluded that we can address the question of the soil disposal areas as part of this decision.

General discussion of the conditions

[13] As can be seen from the conditions, a number of changes have been made to the proposal at hearing. The most significant of these is the inclusion of requirements for certification and monitoring. For the most part, any plans required are to be prepared by appropriately qualified independent persons. Similarly, in respect of monitoring, appropriately qualified independent persons are to undertake this.

[14] The other significant addition is the requirement for supplementary environmental management plans (25F). This applies to works within ecological buffer areas or other areas marked "D" on the appropriate plan. The SEMP is a method to address specific environmental concerns when works are being undertaken within a buffer area. The conditions do not prevent works within a buffer area but simply require a higher level of identification and management. This was an approach which was discussed by the Court as being generally appropriate. In the event that further areas are included within the buffer areas of the footprint (which we will discuss in the context of medium ecological areas in due course), then the consequence is that any works within those areas would require a SEMP.

The number and size of turbines

[15] A theme in both of Mr Carr's comments is a concern with the number of turbines. He suggests that by moving to a 6 MW turbine TrustPower could achieve less

than 40 turbines on the site. He suggests that the maximum number should be 66. With respect, this misinterprets the Court's decision. Although the Court noted that Mr Boffa had indicated he would prefer 66 turbines, the Court reached no final view as to the number of turbines on site. As was discussed at para [247], the Court noted:

> *To that extent we wish to give TrustPower an opportunity to consider whether it could meet the various requirements and still achieve 100 turbines on the site. It appears likely to us that with minimal changes, i.e. simply deletion of some turbines, TrustPower could achieve in excess of 80. Whether it wishes to consider more detailed positioning for up to 100 would in part turn upon how committed TrustPower is to retaining the option of using 2 MW turbines. 80 turbine sites would give TrustPower all choices above 2.5 MW, i.e. 80 x 2.5 = 200 MW.*

And at para [249]:

> *However, on balance we conclude that, given the area involved and the limited viewpoints, it might be possible to place up to 100 turbines in this area with more careful consideration of their precise siting. Clearly the simple deletion of 15 to 20 turbine sites would achieve significant improvement in visual impacts, while at the same time reducing the earthworks necessary and the cut and fill for roads and platforms.*

[16] We accept that TrustPower remains committed to up to 100 turbines (maximum 200 MW) and, as a result of undertaking a detailed revision of the siting of the turbines, to place the 100 turbines within areas that:

(a) are on easier contour;
(b) are within the general footprint already identified;
(c) avoid ecological areas or buffer areas;
(d) assist with minimising earthworks required;
(e) address visual impact.

[17] We have seen the detailed engineering drawings for the works. A copy of one of these is annexed as **"C"**. We conclude that TrustPower has taken on board the Court's comments about certain turbines (81, 82, 87, 42 and 4). They have deleted from the wind farm envelope the edges which form protrusions into ecological or other areas. These are shown as dark hatched areas on the plans.

[18] The result of this is to significantly increase ecological protection, decrease the envelope and mean less intrusion into the gully areas, even where the land is higher and would otherwise be available. As a result there has been a relocation of turbines onto strings that are generally available (i.e. 90, 91, 92 and 87 were on an area which the Court saw as being generally appropriate, being in pasture, which previously only had turbine 91). Relocation of others (e.g. 67, 68, 69, and 70) has enabled the addition of further turbines, as has the reconfiguration of the group 80, 81, 83, 84, 85, and 86). This is the type of resiting which the Court had contemplated in its decision.

[19] As we suspected, TrustPower have been able to reconfigure the turbines to minimise earthworks, utilise the existing contours and still maintain adequate separation between turbines with the same number of turbines. Looking at the wind farm as a whole, we believe the configuration is an improvement over the original, better utilising available areas and avoiding intrusion into ecological areas (such the Black Rock Tor), or towards Mahinerangi Village (i.e. 81, 82).

[20] We are also pleased to see that turbine 4 has been moved from the northern-most point. We recognise that the placement of turbines 1 to 10 is generally on land of easy contour which is currently in pasture. Our overall conclusion is that the maps which have been provided meet in full the Court's requirements. We are satisfied that when one looks at the engineering drawings supplied, these have minimised the fills and batters. In particular the design has moved from 16 metre cuts or fills to maximums of 8 and 7 metre cut and fill batters respectively.

[21] Although visual maps showing the reconfiguration were forwarded to us, we did not require further evidence on this and have not relied on these maps in reaching our conclusions. Nevertheless they reinforce the Court conclusions. We consider that we

are able to reach a conclusion as to the visual impacts based upon the previous evidence we have received and map placements. Overall we are satisfied that the visual impact is less than demonstrated in the original configuration and that this represents a better design, both from visual and practical viewpoints.

[22] Accordingly, we conclude firstly that it is not open to ULPS to suggest that there should be 66 turbines maximum, nor is it open to them to suggest that we should change the maximum size of turbines to require 6 MW turbines. This would require a ground to tip height of 160 metres. 145 metres was always a controlling aspect of the application and it is simply not open to this Court to revisit the total height of an individual turbine.

[23] Accordingly, we consider that even if it was jurisdictionally open to us to consider the number of turbines, we would conclude that the current configuration of up to 100 is appropriate and confirmed as the appropriate condition of consent. The second letter from Mr Carr dated 31 October relates to turbines being removed. We have already discussed this issue and conclude Mr Carr has misunderstood the Courts decision.

Individual concerns of ULPS

[24] TrustPower and the District and Regional Councils have agreed on conditions. ULPS had concerns about a number of these conditions and we shall deal with the individual concerns, identifying the relevant conditions annexed hereto as **"C"** as being part of the District Council conditions. Some of these conditions are also repeated in the Regional Council conditions and any relevant changes would need to be made.

District Council consent condition 4

[25] ULPS seeks that this be changed to a mandatory requirement to obtain peer review. We have concluded that a peer review required in every case would impose an unnecessary and complicating factor for both the District Council and the applicant. There are many reports which could be provided to the Council which may be simply

factual in nature and would not require to be peer reviewed. The Council already has an option to require a peer review at the applicant's cost if they so wish. We conclude that the current conditions are entirely appropriate and peer review is a discretion for the District Council rather than a special condition.

General : independent consultants' requirements

[26] ULPS seeks the insertion of a new condition prior to condition 11, requiring that the consent holder must obtain suitably qualified and independent consultants on every matter where there is a monitor or report required. This seems to be a continuation of the argument on condition 4. We note that throughout the conditions where monitoring or reporting is required on any matter of complexity, the applicant has added a reference to a suitably qualified independent consultant. We have concluded, again unanimously, that that is an entirely appropriate way to address the matter rather than having a blanket requirement for every monitor or report to obtain such independent advice.

Condition 12 : the number of turbines

[27] The Court decision concluded that up to 100 turbines could be constructed and we are satisfied that they can be placed appropriately within the envelope now identified by the Court in terms of the amended Plan. We do not have power to raise the tip height nor specify the type of turbine to be used, nor would we do so if we did have such power.

Condition 15

[28] There was a suggestion that there be a compounding fund set up as a bond to cover any assessed costs of decommissioning. This was strenuously opposed by TrustPower and was not sought by the Councils. In a jurisdictional sense we have concluded that we would require the Councils to be seeking such a condition as it is their role to seek and manage such a bond. Even if a bond was jurisdictionally before the Court we would be reluctant to impose one for the following reasons:

(a) no argument or evidence was advanced to this Court concerning the bond;

(b) we have no reason to believe that the condition would not be met, nor is it a standard requirement of conditions of consent;

(c) there was no evidence on which we could base a decision to impose a bond given that no evidence was advanced by any party specifically on this issue.

Condition 20

[29] ULPS seeks that the turbines be the same rather than *similar in size and appearance*. We agree entirely with TrustPower that a requirement for turbines to be the same may be an impossible requirement. Given that the consent is to be implemented over ten years, we consider it unlikely that any manufacturer would be manufacturing exactly the same turbine over that period. Furthermore, the Court had no particular concern if there was a change in the megawattage of a turbine. The intent of a clause was to try and maintain a visual similarity rather than an identical size or function.

Condition 26

[30] ULPS raises particular concerns with condition 25(1). The first appears to be a reliance on the 50 metre buffer and SEMP provisions of the Plan. They are also concerned that there is only a reference to *Eldons galaxias* and seek this be replaced by the words *native fish populations*.

[31] In paragraph [14] of our decision the Court noted it was suggested that within the footprint area *all works would be at least 50 metres from any medium or high value ecological areas*. At that stage it was not clear to the Court whether this included mitigation or sediment control works. The Court took it that the sediment control works might be included in the 50 metre buffer zone (e.g. at the base of fill batters). Accordingly the Court had anticipated that there may be works within the 50 metre buffer areas.

[32] The Court specifically discussed with witnesses and counsel that the roads would in some cases go through such buffer areas. This has been confirmed by the plans we have now received. There was no suggestion that the Court would refuse consent simply because the works were in buffer areas, but it was anxious to ensure (as discussed at paragraph [15]):

> *... conditions would need to be put in place to protect the balance of the site and impose conditions in relation to the covenanted areas and there would need to be some special conditions in respect of the three access locations identified as going through ecological areas and marked D on the site plan.*

[33] The Court discussed at paragraph [54] SEMPs for specific sites. At paragraphs [55] to [57] it noted:

> *It is unclear, at the present time, whether the SEMPS would apply to every turbine site or are intended to only apply where works are taking place in proximity, say within 50 metres, of the ecological boundary.*
>
> *Assuming that the SEMP was intended to apply only where works (including sediment control works) are taking place within 50 metres of ecological boundary, those areas should be identified at the time of the consent being granted and the plans provided at that time.*
>
> *Currently, there are at least three of these sites shown as* Development within constrained areas *on the site plan "C". It is likely that there will be others where the road and sediment control works are, for whatever reason, within 50 metres of the ecological boundary.*

[34] In our view the application of the buffer approach in the Plan is a direct adoption of that discussion and reflects the discussion contained between paragraphs [54] and [59] of the decision. Essentially an SEMP does allow a ***specific*** environment management plan and this might be a better descriptor to use for the condition than *supplementary*. However, given that the plan is supplementary to the main

environmental management plans, we have in the end resolved to retain the heading as shown. Nevertheless, the intention of condition 25F is to provide for specific management plans on sites. Accordingly, we consider that the concern of ULPS is already addressed in terms of the Plan and the further provisions as suggested by ULPS are not necessary.

[35] So far as the question of *Eldons galaxias* is concerned, this is again a matter which was not subject to further evidence. TrustPower point out that there is potential for native fish species to compete with other native fish. We are reluctant to change the reference to *Eldons galaxias* as that was the evidence before the Court. Accordingly we retain the wording of the Plan.

[36] ULPS then criticises the bullet points of clause 25(i) on the basis of their views as to the number of turbines and their placement. We have already ruled on this issue and accordingly make no changes to the exceptions provided in 25(i).

Batter and fill heights

[37] Clause 25(i)(c) gives a maximum height for cut or fill batters of ten metres. ULPS seek five metres. We reject such an approach on the following bases:

(a) there was no evidence given as to five metre batter heights or fill heights;

(b) the Court's concern was to minimise cut and fill batter heights where there was the potential for 16 metres for each. There is a significant difference between 16 and 5 metres. We consider that up to ten metres is in accord with the general discussion with the witness before the Court (see paragraph [138]). In the context of this site, rolling in nature with incised gullies, we consider that a cut or fill batter of ten metres would not be untoward and is acceptable in terms of adverse effect on visual amenity;

(c) the maximum cuts and fills are eight metres and seven metres respectively on the plans and ten metres then allows for variations during actual construction while providing a reasonable control parameter on the development.

Clause 25(i)(d)

[38] ULPS again seek the deletion of turbines. ULPS assert this would lead to a lowering of the soil disposal. Again, no evidence was given by ULPS as to any volumes of soil disposal. The figure now given of 456,550 m^3 is, in our view, over-precise, given the issues that will be encountered during actual construction. Nevertheless it represents a reduction from the 560,000 m^3 granted by the Council. The evidence before us was 464,000 m^3. We have concluded that a figure of 460,000 m^3 would be appropriate, being a more practical rounding of the volumes involved. On the other hand, the 61.5 hectares and three metres are maximum limits and well above the practical requirements which should be necessary to undertake the works.

Clause 25(i)(g)

[39] ULPS seek that the substation site be excavated and lowered into the surrounding ground and then screened by trees. We reject this approach for the following reasons:

(a) it was not the subject of evidence before us;
(b) excavation of the site will lead to further disposal spoil having to be accommodated and consequent effects upon excavation around the substation itself;
(c) the site is viewed from above and little would be gained by either recessing it into the ground or surrounding it by shrubs;
(d) the planting of trees or shrubs around the building would create an anomalous element into the environment and give the impression of curtilage or domestication of the building. We consider a plain structure on this site is likely to be better accepted, with less visual impact.

Medium and higher ecological areas

[40] ULPS seek the insertion of a reference to medium ecological areas. This is opposed by TrustPower. Nevertheless, as the Court has already cited, the decision itself was very clear that the applicant included both medium and higher ecological areas and

would provide a 50 metre buffer from those areas. The move by TrustPower to include high ecological areas and medium wetland ecological areas is, in our view, a clear departure from the Court's decision. The Court was clear in its decision (paragraph [14]) that the applicant offered that all works would be at least 50 metres from any medium or high value ecological areas. For the reasons we have discussed, the Court agrees that the buffer zone and SEMP approach is appropriate for works within those buffer areas. Nevertheless, it is equally clear that the ecological areas included all high and medium value areas. The consequence is that the condition 3 should have included in it after *confirming that [**medium and** ...] high ecological value areas.*

[41] In a jurisdictional sense this decision has already been made. The Court did not go on in its decision to discuss the distinction between medium and high ecological areas because of this concession by the applicant. In the circumstances we see no proper basis on which TrustPower can re-open the decision on this point. This may have a consequence on the plans which are attached to this decision.

[42] Accordingly, we ***direct*** that the plans are to be checked and any medium value ecological areas (given that medium value wetlands are already included) not already included are to be shown on the plan with the 50 metre buffer zones. That may increase the area in which works requiring SEMPs are required. However, from the Court's perspective, we do not consider that the conditions are intended to prevent works within the buffer areas, only that these are to be appropriately controlled by SEMPs. If this includes any turbine platforms or other specific works (i.e. substations) then particular consideration will need to be given to the contents of the SEMP.

[43] Accordingly, we ***direct*** that the plans are to be modified to show the medium ecological areas and these plans are to be given to the Council one month prior to the commencement of the works, in accordance with clause 25.

The advice note

[44] ULPS criticise the advice note and say that it should take into account taxonomic rarity or specifics of plant communities and their ecosystems. We do not agree. The definition of high quality vegetation communities is to define them by size and then to

require them to have 60% or more indigenous vegetation covering one or more of several types of flora. Although this does not discuss the question of medium ecological value areas, it is not necessary to define those for the purpose of subclause (iii). Accordingly we have concluded that the provisions, with the addition of *medium* to subclause (iii) should remain unchanged.

[45] Clause 25A(vi) has been amended to include the words *construction, rehabilitation and operation of the wind farm* as sought by ULPS. The Court rejects the lowering of the substation, for the reasons already outlined.

Reporting periods

[46] In respect of clause 25B(ii) ULPS seek six-monthly reporting rather than twelve monthly. We reject such an approach for the following reasons:

(a) there was no evidence produced as to why six monthly rather than twelve monthly reporting was necessary;
(b) we consider it would be an unreasonable imposition upon the consent holder to have to prepare reports at such close intervals;
(c) we are unable to ascertain any particular effects which might flow from the twelve monthly as opposed to the six monthly reporting periods;
(d) there is provision for emergency response in any event;
(e) the Council have not sought a more regular reporting period and we are concerned at costs being imposed upon the Council in receiving and considering such information at such regular intervals.

Condition 27

[47] Thereafter ULPS do not appear to have any significant concerns until condition 27. They sought within (i) a requirement that the consent holder show and initiate *a programme that is agreed by the Department of Conservation to monitor* .... We note that (iii) requires the consent holder to consult with the Department of Conservation in developing the monitoring programme. For our part we have concluded that the requirement to consult is appropriate but that a requirement for a third party to agree

would be beyond the jurisdiction of this Court. It is not for this Court to dictate to a third party that they must agree, nor that the consent itself should be conditional upon such agreement. We note that the Department of Conservation has agreed with the condition, including 25(iii), and in our view this is a sufficient condition to ensure that any monitoring programme developed properly takes into account the concerns of the Department of Conservation.

An additional condition for inspections

[48] ULPS would like to see an additional clause which facilitates notified inspections by representatives of ULPS and others to be undertaken periodically. They also seek that there should be a significant financial penalty if there is bird strike, and in particular, strike of the New Zealand falcon above the permitted death rate. We reject both suggestions for the following reasons:

(a) it is private land not owned for the most part by TrustPower;
(b) there is no proper reason given why community representatives would have any particular reason or expertise to assist with the monitoring programme;
(c) the suggestion of some financial penalty for a bird strike rate is completely inappropriate.

[49] In our view the proper course of action, if there is a death rate above that permitted, is for the conditions of consent to be reviewed. The Court's concern is to preserve endangered species and not represent this in terms of financial payment.

[50] We note that the section 128 revision provision specifically relates to avifauna and was intended to provide the ability to review the conditions of consent, including the operation of individual turbines, if a higher than permitted death strike occurred.

[51] Neither of these issues was the subject of the appeal or the hearing or any evidence before the Court.

Condition 29

[52] In respect of condition 29, ULPS seek that the target for invasive weeds is to reduce those on the site rather than maintain the status quo. Again, although we acknowledge the merits of lowering the weed species on the site, this was not the subject of evidence before the Court. The intent was that there be no increase in invasive or weedy species as a result of the construction of turbines. The particular steps envisaged by condition 29 were to ensure that there was no increase in weed species on the site due to importation of vehicles, roading works or turbines.

[53] Accordingly condition 29 represents the approach suggested by the applicant. We confirm that the bracketed words represent the position understood by the Court and the subject of general agreement by the Court at the hearing and in its decision.

[54] Similarly, we note that the noise conditions were not the subject of any submission or dispute before the Court. These were part of the conditions put before the Court at the hearing, and we understood that there was no dispute as to noise issues. The Court was told at the commencement that noise matters had been resolved. The changes now appear to seek to make minor changes, no particular reasoning being given. If anything, the turbines are now further from the boundaries than they were previously, and we do not consider there is any basis on which we should amend the noise conditions sought. Furthermore, we conclude that there is no jurisdiction for the Court to do so given that this was a matter not subject to our decision and resolved prior to the hearing.

[55] The suggestion that there be a financial penalty is, in our view, inappropriate for the following reasons:

(a) there is no basis in evidence for such an approach;

(b) the Court's concern is with sustainable management of the environment, not with financial penalties. Accordingly it is more interested in compliance than it is with the payment of money.

Clause 61(ii)(c)

[56] Currently the applicant is stating that an all-weather surface will be provided on roads with gradients 10% or steeper. ULPS seek that this be reduced to a 6% gradient to minimise the judder bar effects formed by slippage and traction. Again, this was not a matter covered in any particular evidence before the Court and we have no basis on which to understand the distinction between the 6% gradient now sought by ULPS and the 10% gradient included in the proposed conditions of consent at the hearing.

[57] Our understanding is that these gradients, where they are approached, are likely to be on the site and also potentially on part of El Dorado Track bounded by the site. We can see no basis to review the 10% gradient offered in the proposed conditions of consent.

Pick up and drop off points (clause 61(ii)(d))

[58] It seems to now be suggested that all residences will have a school bus bay. We are unclear as to what is meant by ULPS with this. We consider the words *at all pickup and drop-off points on routes* are sufficient.

Use of roads

[59] Condition 61(iii) refers to over-weight and over-dimensioned vehicles. It then states that these would be controlled to avoid El Dorado Track and Mahinerangi Road between the hours of 10.00 pm and 6.00 am. This does not reflect the decision of the Court on this matter. At paragraph [182] the Court noted:

> *We note particularly that the noise conditions and traffic conditions work together to mean no heavy construction traffic will access the site except via Mahinerangi Road and El Dorado Track between 7.00 am and 10.00 pm. As noted, this does not prevent use of other roads between the port and State Highway 87 outside these hours. Nevertheless we consider these effects are for a limited period (construction) and that the conditions reduce these effects to ones which are no more than minimal.*

[60] ULPS suggest that the hours in this clause should be changed. For our part we consider that the condition as worded does not properly reflect the Court's decision. The condition should provide after the first sentence:

> ***No heavy construction traffic will access the site except via Mahinerangi Road and El Dorado Track and between the hours of 7.00 am and 10.00 pm. This does not prevent the use of any other roads between the port and State Highway 87 outside these hours. This may require the development of a lay-by for temporary parking of such vehicles before they reach Mahinerangi Road.***

[61] Accordingly this condition should properly be changed to accord with the Court's decision. We assume its omission was an oversight. The matter is not jurisdictionally before the parties given that the Court already issued a decision on the matter.

[62] ULPS suggest that a similar condition should be replicated in respect of the DCC roads. As discussed in paragraph [182] of the decision, the Court concluded that general public roads, including those within the DCC, were available to TrustPower at any time they were available to the public. Thus no appropriate conditions can be imposed given the Court's existing decision.

Consultative Group (Clause 75)

[63] ULPS is concerned that the Consultative Group does not include a representative of ULPS. Our view is that the intent of a consultative group is to include parties which have a direct interest in the matter. Such groups perform best when they include any particular elements of the community which have been involved in appeals and/or complaints. To that end, given that there are already eight representatives on the committee, we can see no proper reason to exclude a properly elected delegate for ULPS on that committee for so long as ULPS remains incorporated. Accordingly, we would include a new (ix) to read:

(ix) A delegate elected by the members of the ULPS Incorporated Society while that group remains incorporated (1 rep.).

The use of GPS for spoil sites

[64] The letter of 31 October raises many of the same issues as previously discussed but also suggests that the plans should show the exact position of the various sites, including soil disposal sites. We reject this approach. We consider it would be impracticable in operation and that the current maps, particularly those engineering maps with the roading and turbine sites, properly identify the various areas in question.

The appropriate procedure

[65] Having gone through the merits of the various matters raised, the question arises as to the appropriate procedure. The Court did not envisage at the time of its decision that all parties but ULPS would be in agreement as to the conditions to apply. Nor did it advise the parties that it would necessarily be bound by any discussion or agreement they had reached as to the appropriate course of action.

[66] In the circumstances of this case, we are satisfied that we have received sufficient information and comment to enable us to understand the concerns of each party and to consider the matters as they arise. Most of the matters raised by ULPS are beyond the jurisdiction of the Court or the parties (given the existing decision of the Court), so little would be gained from obtaining further submissions or evidence on these matters.

[67] Given the very limited matters on which we do have jurisdiction, we have considered the type of evidence which would be necessary for us to reach conclusions. We already have sufficient evidence before us to determine the appropriate batter heights. The Court's concern was to minimise those and we acknowledge immediately that that is a compromise between a desire to prevent over-use of soil disposal sites while at the same time providing adequate sites for the works necessary. The engineering and topographical plans and evidence given to us confirm impressions from the site visits that the type of works now envisaged would address the Court's concerns.

We note particularly that the Court considered that the general visual effects of the activity were ones which could be accommodated with 100 turbines on the site. Our concerns were more with the specific siting and design, which issue has now been addressed satisfactorily.

[68] The question, therefore, which the Court must ask itself is what would be gained by allowing a further exchange of memoranda or evidence. In large part this would merely give the parties the impression that issues which are not open to the Court to decide may be revisited.

[69] Our concern is to ensure that fairness is achieved overall. In this regard we had reference to our earlier decision and evidence of the parties and the various submissions and comments which have been made. We keep in mind that ULPS did not produce any evidence at the hearing and that the interim decision does not give an opportunity to produce evidence which was not produced at the hearing. We keep in mind that the Court also determined explicitly that it considered that the conditions of consent were generally acceptable, subject only to drafting issues. Accordingly the issues for this Court were the drafting of the conditions and the accuracy of the plans, rather than a revisiting of its substantive decision.

[70] We have also considered each of ULPS's concerns and have been able to address each of these issues on the basis of the evidence we have already heard or the decision already issued. In those circumstances we have concluded that there are no further issues of fairness arising and that the Court should properly move to finalise its decision to give certainty to the parties as to the outcome.

Outcome

[71] We confirm the conditions, plans and drawings except to the extent they require to be modified by this decision. In particular:

(a) Inclusion of medium ecological areas requires identification in Plans and amendment of conditions

(b) Condition 61, use of roads, requires amendment

(c) Condition 75, consultants graph requires amendment

There may be consequential change to Plans, drawings and/or conditions. Final documents should be filed with the Court for endorsement. Costs are to be addressed by a separate decision.

DATED at CHRISTCHURCH this 15th day of **December** 2008

For the Court:

[redacted]

J A Smith
Environment Judge

Issued[1]: 19 DEC 2008

[1] Smithje/Jud_Rule/D/2007-CHC-247 Nov 2008.doc.

BEFORE THE ENVIRONMENT COURT

Decision No. C 85/2008

IN THE MATTER	of the Resource Management Act 1991 (**the Act**)
AND	
IN THE MATTER	of an appeal under section 120 of the Act
BETWEEN	UPLAND LANDSCAPE PROTECTION SOCIETY INCORPORATED
	(ENV-2007-CHC-247)
	Appellant
AND	CLUTHA DISTRICT COUNCIL
	First Respondent
AND	OTAGO REGIONAL COUNCIL
	Second Respondent
AND	TRUSTPOWER LIMITED
	Applicant

Hearing: at Dunedin 14-18 April 2008, 5-7, 12-14 May 2008 and 28-30 April 2008 (joint witnesses with Contact appeal ENV-2007-CHC-251)

Court: Environment Judge J A Smith - presiding
Environment Commissioner W R Howie
Environment Commissioner C E Manning
Environment Commissioner D H Menzies

Appearances: Mr L J Taylor, Mr J R Welsh and Ms L C Daniell for TrustPower Limited (**TrustPower**)
Mr P J Page for Clutha District Council and Otago Regional Council
Mr E R Carr for Upland Landscape Protection Society (**ULPS**)
Ms R B Chan and Ms S J Ritchie for the Minister for the Environment on behalf of the Crown (section 141(A) of the Act)
Ms A E L Joel – a section 274 party – leave granted to withdraw

Date of Decision: 25 July 2008

INTERIM DECISION OF THE ENVIRONMENT COURT

A: Consent granted subject to:

(1) site plan showing:

(a) number and position of turbines;

(i) up to 100 metre radius for micrositing;

(ii) up to 145 metres to blade tip;

(iii) 90 metres blade diameter;

(b) areas excluded from works;

(c) all access roads;

(d) all cut and fill batters;

(e) all surplus soil disposal areas;

(f) cut and fill calculation in each area;

(2) conditions of consent being redrafted to reflect decision and site plan;

(3) otherwise in accordance with decision.

B: Site plan and conditions to be prepared and circulated within forty working days. Discussion with other parties are to occur within thirty working days thereafter. TrustPower is to provide a report to the Court by the end of that period advising:

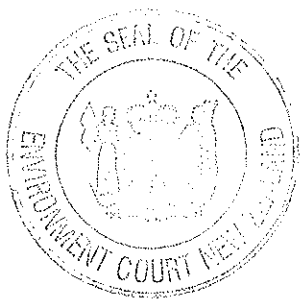
(a) whether agreement has been reached, and if so providing a memorandum signed by all parties as to the proposed conditions and site plan;

(b) in the event that agreement is not reached outlining the issues upon which the parties are not agreed identifying specific issues in relation to the site plan and/or conditions and advising whether the parties seek to proceed:

(i) by way of written memoranda;

(ii) further pre-hearing conference; or

(iii) to a hearing.



C: Costs:

(a) applications within seventy working days;

(b) replies within ten working days thereafter;

(c) TrustPower's reply five working days after that.

REASONS

Introduction

[1] TrustPower operates a hydroelectric scheme at Mahinerangi consisting of a man-made lake and a series of hydroelectric power stations (the **Waipori** scheme). Inland from Lake Mahinerangi it has recently developed, in conjunction with the Dunedin City Council, a hydroelectric scheme known as the **Deep Stream** Project. This has a lake at the foot of the Lammerlaw Range and directs water by various races and canals through two small stations with the expectation of producing between 5 and 6 megawatts (**MW**) of power. The Deep Stream canals and races cross land the subject of this application for a wind farm, being land between Lake Mahinerangi (which is around the 300 metre elevation) and the Lammerlaw Range (which is at about 900 metre elevation).

[2] TrustPower seeks to place up to 100 turbines of up to 145 metres in height to tip of blade, with a blade diameter of 90 metres, producing a maximum of 200 MW. The land the subject of this application (**the site**) fits between the 500 and 750 metres contours and the wind turbines are sought to be established between 620 and 720 metres above sea level. The site itself starts at the foot of the Lammerlaws (the Thomas block) and travels in a generally east to north-easterly direction on the southern side of a valley separating it from the Lammerlaw Range. The site is approximately 8 kilometres long and up to 3 kilometres wide. Attached and marked **"A"** is a map showing the site.

[3] Within the area of some 17 square kilometres TrustPower wishes to place the wind turbines, connecting by way of transmission lines from this point to the national grid, via the 110 kV system between Roxburgh and Berwick. Some of the power

generation may be routed through the Waipori scheme to the 33 kV lines servicing Dunedin.

[4] The appeal was pursued only by the ULPS who had not circulated evidence as required in terms of the timetable. An application for adjournment was refused by the Court for reasons set out in a separate decision. Mr Carr for ULPS then proceeded by way of cross-examination of each of the TrustPower and Council witnesses, and by detailed submissions.

The application for consent

[5] A fundamental contention for the ULPS was that the application could not be considered by the Commissioners or this Court on appeal because insufficient information was supplied to enable a proper evaluation under the RMA. This contention is currently the subject of proceedings before the High Court which have yet to be determined. This Court in refusing an adjournment on this ground noted that the proceedings of this Court may be curative of any failure of procedure by the Commissioners. Mr Carr pursued with most of the witnesses and in his submissions the question of whether the Court had been fully and fairly informed of the nature of the proposal.

[6] It would be fair to say that by the time of Mr Carr's submissions, he accepted that significantly greater information was now provided as to the precise nature of the application. In fact by the closure of TrustPower's case it had moved from a ***development envelope*** approach to one which was much closer to a site-specific approach, while still allowing for some variations in final positioning of turbines and roads.

[7] To understand the context of this argument it is necessary first to identify the proposal as originally filed. The consent application is discretionary in both the district and regional plan. The district plan is quite clear that all aspects of the application, including roading and earthworks, form part of the discretionary consent.

[8] Issues relating to sediment control works and subsequent effects upon the ecological values of the area must be judged by reference to the type of earthworks and road works referred to in the original application. It is clear from the original application that significant road works and earthworks are required. This includes estimates of around 1.1 M m^3 of earthworks, with an original estimate of some 800,000 m^3 surplus fill. It is intended this would be placed on the site. Although the Assessment of Environment Effects (**AEE**) provided some conceptual ideas as to where this fill might be placed, there were no conditions limiting the placement of the fill sought or imposed by the Council. Similarly although the application specified maxima of 200 MW, 100 turbines, 145 metre height to blade tip with 90 metre diameter blades, the placement of these turbines within the site was not specified.

[9] Nevertheless, it was indicated from a number of aspects of the AEE that ecological areas of high or medium quality would, wherever possible, be avoided. Similarly, issues as to other ecological areas were left to be controlled by certain conditions. The critical control appears to be clause 25 which specified that prior to any works being undertaken the plan detail and final location of all facilities and infrastructure, including turbines, tracks, lay-down sites, fill sites, substation sites etc would be identified – see attachment **"B"**. This clause 25 is from the District Council consent but similar conditions apply to the Regional consent. As can be seen generally from clause 25, it leaves decisions about positioning of the turbines and various parts of the infrastructure necessary for the project to be made subsequent to the grant of consent.

[10] In addition to this, Mr Carr argued that the failure to demonstrate on the photo-simulations the effect of the access tracks, cut and fill, and other infrastructure works meant that the true effect of the proposal was not disclosed to those affected and therefore they were not able to submit upon them.

[11] Issues arise as to whether condition 25 is a certifying condition or delegates decision-making power reserved to the Council or the Court. A delegation of decision-

making would offend against the principle in ***Turner v Allison*** and as discussed in ***Olsen v Auckland City Council and Others***[1]. As Salmon J noted in ***Olsen*** at page 8:

> *The dividing line between the function of certifier and arbitrator is not always easy to define.* ***Turner v Allison*** *remains the classic statement of the principle. The issue was dealt with in the judgment of Richmond, J. at pages 855-857. There were four conditions under challenge in that case. The first three required that external appearance of a proposed supermarket, site screening and landscape and planting should all be to the satisfaction to Miss Nancy Northcroft, a town planner and architect. The fourth condition required that where practicable the conditions were to be complied with before any business was commenced and that any dispute was to be settled by Miss Northcroft whose decision would be final and binding. The Court held that under the first three conditions Miss Northcroft's task was to set a standard using her own skill and judgment. Her role was that of a certifier. However, so far as the last of the four conditions was concerned it purported to confer upon Miss Northcroft the powers of an arbitrator and went beyond the power of the Town and Country Planning Board to impose conditions. The condition in effect ousted the ordinary jurisdiction of the Courts to determine the question of compliance or non-compliance with a condition properly imposed by the Board.*
>
> *It is clear that a Court entrusted with judicial duties cannot delegate the performance of such duties to someone else. The question for determination, therefore, is whether condition 9 constitutes a delegation of judicial duties.*

Thus the question arises as to whether:

(a) clause 25(ii) requiring an engineer and landscape engineer to provide details of earthworks and fill areas, substratum and buildings and how they will blend with surrounding landscape;

(b) clause 25(iii) setting goals for the ECMP;

(c) setting scope and methodology of the rehabilitation management plan 25(v)

[1] HC 14/8/1997, Salmon J M764/97.

are lawful conditions. Do these documents have to be provided and if so to whose satisfaction and to what level of detail?

The proposal as amended

[12] By the close of TrustPower's case, it acknowledged that there was a need for significantly greater certainty in respect of the conditions of consent and the proposals for which consent was granted. To that end, it accepted and produced a site plan showing the areas where works might be conducted. It was accepted by Mr Taylor and confirmed by the witnesses that no works were to occur outside the area marked in yellow on the site plan. Annexed hereto and marked **"C"** is a copy of the site plan produced to the Court reduced in size to A3.

[13] It was however also accepted that within the coloured area turbines could be sited within any part of the 100 metre radius circle indicated, if this met other criteria of the conditions. More importantly, the roading would be in the positions shown. The fill sites, although not shown on the site map, were intended to be in the positions demonstrated by a conceptual map produced by Dr R N Bartlett, annexed here as **"D"**.

[14] The end result is that of the 1723 hectares within the site, less than 700 hectares have been identified as generally available for works. Even within those areas, it was suggested that all works would be at least 50 metres from any medium or high value ecological areas. It was not clear to us whether this included any mitigation or sediment control works. However, we took it that these sediment control works might be included within the 50 metre buffer zone, for example at the base of fill batters.

[15] It was also acknowledged that conditions would need to be put in place to protect the balance of the site and impose conditions in relation to the covenanted areas and there would need to be some special conditions in respect of the three access locations identified as going through ecological areas and marked D on the site plan.

[16] By the end of the case it was acknowledged by Mr Taylor that site plan "C" as produced still did not correctly record the company's intention in that:

(a) it showed a number turbines and their base pads as within 50 metres of ecological areas and the edge of the development (yellow) areas;

(b) it showed roadworks and works relating to the turbine pads outside the development (yellow) areas in some cases to a significant degree i.e. between turbines 65 and 66 and between turbines 36 and 27.

Jurisdiction to consider the amended proposal

[17] We will discuss the details of the amended proposal in greater degree later.

[18] For current purposes the question is whether the amended proposal is within the jurisdiction of this Court. There is a clear line of authority that the Court on a full appeal is to be able to consider alternatives that are more restrictive than the original proposal. As was noted in ***Wakatipu Environmental Society v Queenstown Lakes District Council***[2] refinement is to be expected and encouraged by the Court to obtain the best possible outcome in environmental terms.

[19] It is almost the invariable experience of this Court that applications are refined, both during the Council hearing and Environment Court appeal process. The objective of the Act is to achieve sustainable management. Accordingly improvements to the application, which achieve that objective, must be within scope. In ***Blueskin Projects Ltd v Dunedin City Council and Anor***[3] the High Court (per France J) noted para 23:

> *The Act is silent on this amendment issue, although it is clear from the Act that the Court is authorised to act as a de novo decision-maker. In* ***Waitakere Council v Estate Homes Limited*** *[2007] 2 NZLR 149 (SC) McGrath J, speaking for the Court, observed*[4]*:*

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2 C164/2004, 3 November 2004 para 9.

3 High Court, Dunedin, CIV 2007-412-669.

4 ***Waitakere City Council v Estate Homes Ltd*** 2007 NZRMA 137 at paras 24, 29 and 30.

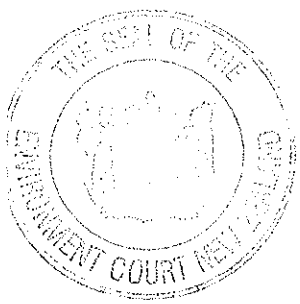
...

[29] We accept that within the course of its hearing the Environment Court may permit the party which applied for planning permission to amend its application, but we do not accept it may do so to an extent that the matter before it becomes in substance a different application. The legislation envisages that the Environment Court will consider the matter that was before the Council and its decision to the extent that it is in issue on appeal[5]*. ... In the planning context, the decision of the local authority will almost always be relevant because of the authority's general knowledge of the local context in which the issues arise. [citing section 290A of the Act]*

[30] The approach that must be followed where it is said that a tribunal has allowed an application on a different basis to that on which it was originally made is consistent with this principle. As the Court of Appeal has recently said:

> *We think it plain that jurisdiction to consider an amendment to an application is reasonably constrained by the ambit of an application in the sense that there will be permissible amendments to detail which are reasonably and fairly contemplatable as being within the ambit, but there may be proposed amendments which go beyond such scope. Whether details of an amendment fall within the ambit or outside it will depend on the facts of any particular case, including such environmental impacts as may be rationally perceived by an authority.*

[20] We keep in mind that in the ***Blueskin Projects*** case, the situation was one where the application had originally proceeded by way of a subdivision application with consent sought for building platforms. After the appeal was filed, and after the matter had been set on a timetable for hearing, the appellant decided it could achieve the subdivision outcome by amalgamation of titles and no longer required a subdivision



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5 ***Body Corporate*** 97010 at p 525.

consent. The wording of the Dunedin plan was such that in the absence of a subdivision consent, a resource consent was then required to be able to construct a residence as a restricted discretionary activity. In the ***Blueskin Projects*** case the High Court concluded (upholding the Environment Court) that such an application was a new application not within the scope of that applied for.

[21] The same cannot be said in the circumstances of this case. TrustPower seeks the same number of turbines, the same maximum MW, heights and blade diameter. In fact, all the amendment has done is further restrict where it may place the turbines and the extent of works that can be conducted. Essentially the amended application addresses the issues of avoiding, remedying or mitigating effects, and any potential difficulties with the wording of conditions which may have had the effect of delegating decision-making power to staff officers.

[22] We have carefully considered whether there is any potential extension beyond what was originally applied for and covered within the assessment of environmental effects. In many aspects, the changes now proposed merely clarify matters that are implicit within the application and accompanying documents in any case. It is clear that TrustPower always intended roading, lay-down platforms and other infrastructure to be included within the terms of consent. This point is essentially conceded by Mr Carr in his argument that TrustPower failed to show these in the visual simulations.

[23] We conclude that the amendment is no more than an acceptance by TrustPower that it is prepared to restrict the areas in which it can place the turbines more than is currently the case under the Council conditions. TrustPower is prepared to accept amended conditions which further constrain its activities on the site (within reasonable and flexible bounds). It is also an acknowledgement by TrustPower that in the event that it undertakes a substantive redesign of the wind farm it would need to obtain, at the very least, a variation of the consent under section 127.

[24] In practical terms, however, we accept that whether the application proceeded as a Development Envelope with more restrictions than currently proposed or as a more certain application with some flexibility of the placement of roads and turbines, by way of further plans and conditions of consent, the outcome in either event could be similar.

[25] Quite simply, none of the amendments proposed extend the scope of the application and all involve a more certain development and, in many instances, increased constraints. The clearest example, is that the Council conditions of consent envisaged construction within the ecological areas, and that the purpose of the Environmental Construction Management Plan (**ECMP**) plan would be established as part of the preparation of that plan. TrustPower accepted conditions that will avoid any works within the ecological areas and that both the purpose and main parameters (outcomes) of the ECMP (and other plans) would be established as part of the conditions of consent.

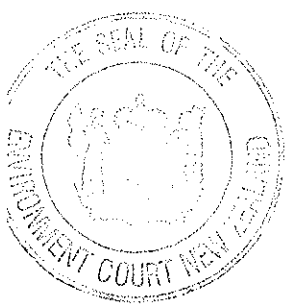
[26] The outcome of all of this is that there is greater certainty in respect of the activity to be conducted on the site and a reduction in flexibility compared with the original application and the conditions of consent as granted by the Clutha District Council.

[27] For its part, the Clutha District Council does not oppose the amendments although it considers the current conditions are certain enough. TrustPower accepts that there are problems with some wording of the existing conditions of consent and that there needs to be some amendment to those in any event.

[28] Accordingly, we reject the submission of ULPS that the application is now on a different basis from that on which it was originally made. Essentially the proposals of TrustPower are a further refinement and iteration of the original proposal to achieve the sustainable management purpose of the Act. Accordingly, the task for this Court is to assess whether the amended proposal now meets the purpose of the Act after consideration of the relevant criteria under section 104 and Part 2 of the Act.

The role of The Crown

[29] We cannot leave the jurisdictional questions without briefly discussing the role of the Minister for the Environment appearing for the Crown in the circumstances of this case. This is one of the first cases where the Minister for the Environment has utilised the powers under section 141A of the Act to intervene. The relevant provision provides that where the Minister receives a request to intervene either from one or more



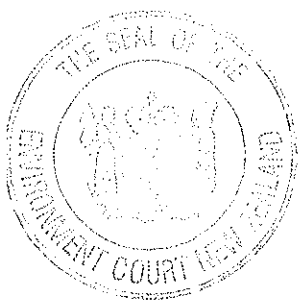
applicants or the local authority or decides to apply the section subsection (2), the Minister:

> *(a) must have regard to the factors described in subsection (3); and*
>
> *(b) may exercise 1 or more of the powers described in subsection (4).*
>
> *(3) The factors are-*
>
> *(a) the extent to which a matter is or is part of a proposal of national significance under section 141B(2); and*
>
> *(b) whether the local authorities that would process and decide the matter if the Minister did not call it in –*
>
> *(i) have the capacity to process and decide it; and*
>
> *(ii) consider that the exercise of any of the powers in subsection (4) would be appropriate.*
>
> *(4) The powers are-*
>
> *(a) to decide not to intervene:*
>
> *(b) to call in the matter under section 141B:*
>
> *(c) to make a submission on the matter for the Crown:*
>
> *(d) to appoint a project co-ordinator for a matter to advise the consent authority on anything relating to the matter:*
>
> *(e) if the matter involves more than 1 consent authority, to direct the consent authorities to hold a joint hearing on the matter:*
>
> *(f) if a consent authority appoints 1 or more hearings commissioners for a matter, to appoint 1 additional hearings commissioner for the matter.*

Subsections (5) and (6) are not directly relevant.

[30] In this case there is no dispute that the Minister has made a submission for the Crown under section 141A(4)(c). Subsection 141B(2) provides:

> *In deciding whether a matter is or is part of a proposal of national significance, the Minister may have regard to any relevant factor, including whether the matter –*



(a) *has aroused widespread public concern or interest regarding its actual or likely effect on the environment, including the global environment; or*

(b) *involves or is likely to involve significant use of natural and physical resources; or*

(c) *affects or is likely to affect any structure, feature, place or area of national significance; or*

(d) *affects or is likely to affect more than one region or district; or*

(e) *affects or is likely to affect or is relevant to New Zealand's international obligations to the global environment; or*

(f) *involves or is likely to involve technology, processes, or methods which are new to New Zealand and which may affect the environment; or*

(g) *results or is likely to result in or contribute to significant or irreversible changes to the environment, including the global environment; or*

(h) *is or is likely to be significant in terms of section 8 (Treaty of Waitangi).*

[31] It is submitted for the Crown that the Minister had regard particularly to subsections (2)(a), (b) and (d). No evidence was advanced suggesting any dispute as to this assertion. We conclude that section 141B essentially sets preconditions for the Minister's involvement. Although these might be subject to applications for declaration before this Court, concerns in relation to the utilisation of section 141B would normally be addressed by way of judicial review before the High Court.

[32] However, we are not able to conclude from the wording of section 141A or B, that the Minister's reasons for becoming involved give any particular weight or priority to the Minister's involvement under section 141A(4)(c). Essentially the power of the Minister is to make a submission for the Crown in terms of the Act. There is no other provision within section 141A to C or elsewhere, which indicates this is to be considered otherwise than under section 104 and Part 2 of the Act. To the extent that evidence is given as to national significance, this is a matter that can properly be considered under Part 2 and/or section 5 of the Act. The question of efficient use of natural and physical resources 7(b) and the benefits of renewable energy sources 7(j) are matters directly before the Court in terms of the legislation.

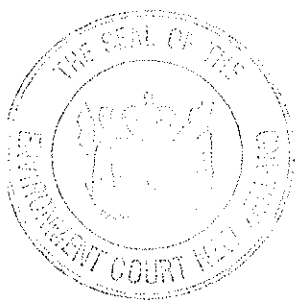
[33] To that extent, the Crown gave evidence relating to the transmission issues (the Contact Energy appeal determined separately) and also in relation to its perception of the efficient use of natural and physical resources and the benefits of renewable energy 7(b) and 7(j). However, to the extent that it was submitted by either the Crown and/or TrustPower that special weight needed to be given a Crown submission on these issues, we are unable to agree. The Act is clear that all evidence is to be evaluated in terms of the provisions of section 104 and Part 2 to reach an integrated decision as to the sustainable management of natural and physical resources as that term is described in section 5. That evidence is considered on its merits rather than on the basis of who the submitter is.

The Council's decision – section 290A

[34] The Court is of course explicitly directed to have regard to the decision of the Commissioners at first instance. The Commissioners' decision is particularly thorough, discussing all aspects of the matter, including those which were pursued before us on appeal.

[35] Because of the depth of that discussion it is not our intention to discuss every aspect of the decision. We have had general regard to the Commissioners' decision. We note in particular that the Commissioners, although granting a general consent, were presented with very similar evidence to that given to this Court, and particularly an indicative layout on the basis of which effects were assessed.

[36] Many of the issues on which detailed evidence was given, for example noise, traffic effects and dust, were not the subject of detailed debate before us. TrustPower's evidence on these matters was taken as read and settled without cross-examination. That evidence on traffic, noise and ecological effects were simply predicated on a scenario similar or identical to that presented to this Court. We note for example that Dr Bartlett's evidence and AEE showed indicative positions for turbines almost identical with those finally presented to this Court at the conclusion of TrustPower's case. It is possibly for this reason that Mr Page for the District and Regional Councils saw no inconsistency between TrustPower's amended application and that originally put to the Commissioners.



The Court's approach

[37] This is a full discretionary activity. It is clear that the Operative Clutha District Plan (**the District Plan**) recognises wind farms, within its energy section, as one of the activities which can properly be conducted within the rural resource area.

[38] Section 4.1.1 of the Plan states:

> *It must be recognised that such activities need the physical and natural resources of the rural resource area to survive. The purpose of the rural resource area is to provide a flexible framework that allows these activities to continue while ensuring they do not adversely affect the physical and natural resources upon which they rely. This enables these resources to be managed in a sustainable manner.*

[39] Categorisation of this activity, including all of its associated elements as full discretionary therefore reflects the desire of the Clutha District to enable these activities to occur while ensuring that they do not adversely affect the physical and natural resources upon which they rely.

[40] In summary, the District Plan is clear that the wind farm activity is generally acceptable within the rural resource area, but not at every site or at every scale. Essentially the provisions of the Plan, which relate to this matter, reinforce this position. To avoid detailed discussion of every provision we annex hereto and mark **"E"** a copy of the Clutha District Plan and Regional Plan provisions that the planners consider relevant.

[41] The Regional Plan applications include land use consents for bores and structures within the bed of watercourses and disturbance of those for bridges and culverts (x2); water permits (x4); a discretionary activity to take groundwater; to divert water courses, and to take and use waters from both Lake Mahinerangi and the Deep Stream Enhancement Reservoir for construction purposes.

[42] In addition, a series of discharge permits is sought. These are all discretionary activities relating to disposing of construction site run-off water, sediment to water, erecting bridges and culverts, de-watering construction sites and stormwater from construction sites and fill areas. All activities are discretionary with the possible exception of part of the land use consent, which is both restricted discretionary and discretionary. Overall there is no dispute that the activity is discretionary and that the ability to construct bores for de-watering the construction site is a controlled activity (206849).

[43] The Regional Policy Statement for Otago (**Policy Statement**) has general objectives such as:

> *5.4.1 promote the sustainable management of Otago's land resources in order:*
> *(a)...*
> *(b) to meet the present and reasonably foreseeable needs of Otago's people and communities.*
>
> *Objective 9.4.2*
> *To promote the sustainable management of Otago's infrastructure to meet the present and reasonably foreseeable needs of Otago's communities.*
>
> *Objective 12.4.3*
> *To encourage use of renewable resources to produce energy.*

[44] Policy 12.5.2 of the Policy Statement reflects these objectives directly in relation to renewable energy resources.

> *12.5.2 To promote the sustainable management and use of energy through:*
> *(a) Encouraging energy production facilities that draw on the Region's renewable energy resources; and*
> *(b) Encouraging the use of renewable energy resources, in a way that safeguards the life-supporting capacity of air, water, soil and ecosystems and avoids, remedies and mitigates adverse*

effects on the environment, as a replacement for non-renewable energy resources; and

(c) Encouraging the sustainable development of Otago's renewable energy resources.

[45] The Regional Plan Water for Otago (the **Water Plan**) addresses issues in relation to water quality and ground water which are identified within the Water Plan. These do not raise any particular issues in respect of wind farms, but nevertheless are relevant to the control of some of the effects which occur. The Regional Plan Air for Otago has similar provisions seeking to avoid, remedy or mitigate effects of dust.

[46] In short, both District and Regional Plans make it clear that the construction of renewable energy resources within the district is generally appropriate provided adverse effects can be avoided, remedied or mitigated adequately.

[47] It is our intention to examine the various criteria of section 104 and Part 2 of the Act. We intend to proceed firstly by examining provisions of the Plans, particularly the criteria for evaluation of applications. Thereafter, we will consider key effects, and then other matters under section 104(1)(c).

The Regional consents

[48] We have already noted the general provisions of the Regional Plans, which affect the application and these are set out in **"E"**. Curiously enough and for reasons that are not clear, the assessment by the planning witness for the Regional Council does not include any particular discussion of the rules and other matters of the various Plans, only the objectives and policies. There are, in fact, extensive rules within the Water Plan, chapter 12 relating to water use and management, chapter 13 relating to river beds, and chapter 14 land use other than in local river beds including bore construction.

[49] There is frequently a reliance by planners upon only the objectives and policies, which are relevant to threshold arguments for non-complying activities whereas all provisions of a plan are relevant under section 104(1)(b). However, the rules in this case

merely provide for the status of the activity without any particular criteria. Taking of ground water, for example, as a restricted discretionary activity has some criteria identified at 12.2.3.4. However, for discretionary activities, such as the current case, no criteria are identified. In certain instances, for example, discharge of stormwater is covered under 12.13.1 but if it does not meet any of the earlier rules and may result in contaminate entering water it becomes a discretionary activity. No specific criteria are given.

[50] One risk identified is from sediment being released from the earthworks relating to roads and other earthworks. The solution proposed was to adopt the Auckland Regional Council's Technical Publication 90 Erosion Sediment Control Guidelines for Land Disturbing Activities.

[51] The Commissioners, in their joint decision, at part 5.6 considered this issue and decided that the test was whether the effects were more than minor (a threshold test for non-complying activities). The basis upon which that test was adopted is unclear and may have been based upon the evidence of Mr Boothroyd. We note that the Commissioners identified that the effects on water quality will be limited to the construction period and as such were relatively short term.

[52] When it comes to the detail of the controls, the conditions of consent lack clarity. For example, the first requirement of the ECMP is to establish a goal for the construction of the Mahinerangi Wind Farm. Then it goes on to say that the ECMP will contain an explanation of how it is to work, how it will be implemented and the associated implementation responsibilities.

[53] The relevant conditions relating to water quality discharge appear to be reflected in conditions 55, 62, 66 and 71, which refer to conspicuous adverse change in colour or clarity of the water courses with the added rider under condition 62 of "beyond 20 metres downstream of the discharge point".

[54] Witnesses told the Court that TP90 has variable requirements, although specific details of the differing requirements under that guideline were not given to us. However, we conclude that in order for the conditions of consent to reflect the Regional

Water Plan and requirements in the criteria of that Plan, there would need to be a goal set for the works. In this case the goal might be that there would be no conspicuous change to water colour or clarity and the explanation would be that the TP90 guidelines would be adopted through the Environment Construction Management Plans and Supplementary Environment Management Plans (**SEMP**), which would be for specific sites.

[55] It is unclear, at the present time, whether the SEMPs would apply to every turbine site or are intended to only apply where works are taking place in proximity, say within 50 metres, of the ecological boundary.

[56] Assuming that the SEMP was intended to apply only where works (including sediment control works) are taking place within 50 metres of ecological boundary, those areas should be identified at the time of the consent being granted and the plans provided at that time.

[57] Currently, there are at least three of these sites shown as *Development within constrained areas* on the site plan **"C"**. It is likely that there will be others where the road and sediment control works are, for whatever reason, within 50 metres of the ecological boundary.

[58] No specific issues were raised in respect of other regional consents. Where works are to be undertaken in the beds of watercourses these should be specifically identified (as examples) and SEMP's required in each case. Again, as we understand it, the goal explanation would be the same as for the SEMPs but would be more detailed to the specific site. This would cover both the land use consents and the balance of the consents relating to the taking of water. No specific issues were raised with the Court, but quite clearly the proposed conditions remain relevant. For example condition 41 notes that the consent holder shall ensure that wetland habitats including sphagnum bogs and streams are not adversely affected by the de-watering.

[59] It would appear appropriate that conditions should be inserted to enable some monitoring of the regional consents to be undertaken during the construction phase to

ensure that this is the case. This would appear to involve undertaking baseline measurements, photographs etc, and also establishing and applying methodology for monitoring during and post construction.

The District Plan

[60] Issues relating to energy are contained within Chapter 3.4 and renewable energy resources identified include wind under 3.4.2 Issues of the District Plan. The explanation to that section also identifies the various forms of impact that may incur including relevantly land disturbance, modification of natural ecosystems and habitats, visual impact, and loss of landscape features.

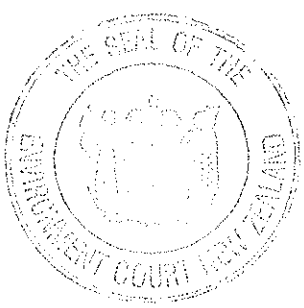
[61] The other potential effects listed in 3.4.2 were not identified in any evidence before us. The water pollution issue identified under 3.4.2 would probably only arise in respect of sediment discharge from land disturbance.

[62] Chapter 3.4.3 of the District Plan policy ENG 4 seeks to promote and encourage investigation into the use of energy sources that have minimal environmental impact and the explanation specifically identifies wind as one of those sources. Chapter 3.4.4 rule ENG 2 identifies the renewable energy activity as a discretionary activity and specifically notes:

> *This includes site preparation, earthworks, quarrying, concrete batching, plant construction, road construction and widening, traffic generation, reservoir formation, clearance or inundation of vegetation, but specifically excludes investigative activities such as geological sampling and surveys.*

Chapter 3.4.4 Rule ENG 2 goes on to state the assessment criteria (not part of the rule):

> *In considering any such application, Council would consider amongst other relevant issues the following:*



(i) impact upon communities;

(ii) the impact on infrastructure and services;

(iii) the impact on ecosystems and habitats;

(iv) the impact on amenity values (including visual and noise);

(v) health and safety issues;

(vi) Central Government's policy on greenhouse gas emission;

(vii) the potential loss of, or irreversible change to, landscape and landforms and uses associated with them;

(viii) whether the use of the energy source has adverse environmental effects on the sustainable use of land and the associated natural and physical resources for which the Council has responsibility under the Act;

(ix) whether the proposed use of land and its associated natural and physical resources for energy production is an efficient use and development of natural and physical resources;

(x) the benefit to the District;

(xi) ongoing effects of the development (for example climatic change, land instability, loss of particular landscape etc);

(xi) [sic]; the impact on heritage values; and

(xii) the degree to which any adverse effects are proposed to be avoided, remedied or mitigated.

[63] We note that not all these issues may be relevant to each type of energy production facility. The reason states:

> *development of energy facilities can have significant adverse effects. Discretionary activity status allows full consideration of all potential problems including ongoing problems that may occur.*

[64] Much of the case focussed around three particular criteria, being the visual amenity effects 3.4.4(iv), loss or change to landscape or landforms 3.4.4(vii) and effects on ecosystems and on avifauna habitats 3.4.4(iii). We intend to deal with these matters separately. However, we will now deal briefly with the other assessment criteria of 3.4.4 page 97 of the District Plan. We will deal with section 104(1) by:

(a) addressing these criteria from the Plan (which includes effects) 104(1)(b)(iv);

(b) addressing key effects 104(1)(a);

(c) addressing other matters 104(1)(c).

We note that we have discussed the Regional consents 104(1)(b)(iii) and (iv) already. Finally we will address Part 2 and section 5 of the Act to reach an integrated decision under the Act.

District Plan criteria 3.4.4

(i) Impact on communities (3.4.4(i))

[65] This area is sparsely populated. There are several owners of properties on or immediately adjacent to the site, most of whom appear to have given written consent e.g. Mr Thomas. Several others, who were originally appellants, e.g. Diack, withdrew their appeal prior to the commencement of the hearing. Nevertheless, we have considered visual simulations of the effect upon those properties. The closest community to this site would be Mahinerangi Fishing Village around about 3.5 km from the nearest turbine (T82). From certain positions in the fishing village the turbines would be clearly visible. This community is one which relates to Lake Mahinerangi, which is a hydro-electric lake manipulated for the purpose of providing power. It is subject to wide fluctuations in depth and is clearly part of, and operated as, a hydro-electric scheme.

[66] The only effect on the Mahinerangi Fishing Village we are able to detect in the absence of any evidence from persons from the farms relates to visual effects. We will discuss this as part of the visual assessment.

(ii) Impact on Infrastructure and Services (3.4.4(ii))

[67] There will be some minor upgrading of Mahinerangi Road and the El Dorado Track but we do not understand there to be any particular impact on infrastructure and services generally. Of course the addition of a further power generator in the area will

assist in supplying local requirements, but may also have impacts upon the national grid which we have discussed in more detail in the ***Contact*** decision[6].

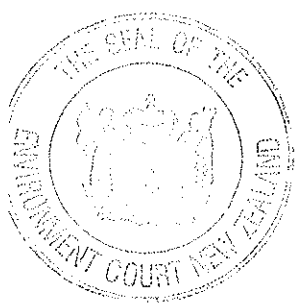
(iii) Safety issues (3.4.4(v))

[68] In practical terms the only health and safety issue that was raised indirectly with us through questions was in relation to vehicles using the El Dorado Track or Mahinerangi Road during the construction period. Given that the traffic evidence for TrustPower was not in dispute, we accept the evidence that the improvements to the road and the manner in which the works will be conducted will not constitute any significant increase in health or safety issues for other members of the travelling public.

(iv) Central Government's Policy on Greenhouse Gas Emission (3.4.4(vi))

[69] One of the significant advantages of this proposal, which we will discuss generally in terms of benefits is that wind power generation does not produce any greenhouse gases. It is arguable that it will assist in reducing the production of greenhouse gases in the future. Modelling undertaken by Mr Gleadow of the Electricity Commission indicates that there is potential for hydro-electric, geothermal and wind generation to undertake baseload power supply and thereby displace CO_2 emissions from thermal power sources. We accept that this application alone would not achieve that objective and we can not assume that the other renewable generation necessary to replace thermal baseload will necessarily all proceed. This is because a single wind plant cannot guarantee production during times of balanced demand. However as part of a more comprehensive adoption of wind, geothermal and hydro power, we accept it is entirely possible, even probable, that it would lead to a reduction of CO_2 emissions. It is likely to reduce future increase in CO_2 emissions from power production.

[70] Nevertheless, it is clear that Government Policy is to encourage the establishment of renewable energy, including wind. In that regard we refer to the New Zealand Energy Strategy and New Zealand Efficiency and Conservation Strategy published under the Energy Efficiency and Conservation Act 2000. There was also



6 ***Contact Energy v Clutha District Council*** Decision C73/2008.

comment made in respect of the Emissions Trading Scheme, Climate Change (Emission Trading and Renewable Preference Bill) and the Government policy statement on electricity governance.

[71] The submission for the Crown strongly supports the establishment of renewable energy resources including this wind farm as an appropriate response to greenhouse gas emissions and to provide for future energy requirements through renewable resources.

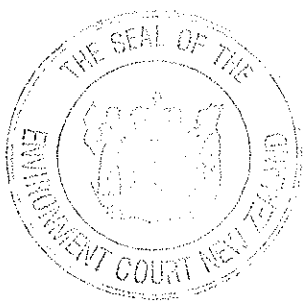
(v) Whether the use of the energy source has adverse environmental effects on the sustainable use of land and associated natural and physical resources for which Council has responsibility under the Act (3.4.4 (viii))

[72] We take this criterion to exclude the question of visual effects on people. We accept a significant benefit of this form of energy production compared even with other renewable sources such as hydro-electricity is that it does not result in any significant loss of productive land. All of the platforms and roads would cover less than 5% of land area. After rehabilitation, this is likely to fall to something in the order of 1%. We keep in mind that some of the farm tracks are already in place in this site and this figure is likely to be an over-estimate.

[73] Once the construction is completed, the land will continue to be able to be farmed in the usual way. TrustPower has identified an intention to retire some 68 hectares surrounding the location of turbines 63 to 70 known as the **Scrappy Pines** block, from production to allow the re-establishment of tussock land. We regard this as a positive benefit on the sustainable use of this land given the accepted importance of tussock lands. The proposal does not include any intention to retire gullies recognised for their ecological values from grazing. Essentially, TrustPower would be continuing the permitted activity, which is part of the existing environment that is undertaken on this site now. Although we considered whether there should be the establishment of other exclusion areas, we accept that the setting aside of the Scrappy Pines block is:

(a) achievable as it is on TrustPower land;

(b) utilises land which has a snow tussock cover recognised to be of high value;



(c) means that the current passive approach to the farming of this land is likely to continue in the future by allowing the land to yield income of another form i.e. through power. The only area where we consider there might be some merit in considering further fencing, would be around the Rocky Tor area i.e. between platforms 42 and 28, but we will discuss that in more detail when we come to deal with the ecological issues.

[74] There was debate and some concern among the ecologists about retaining all of the Thomas block in snow tussock and not allowing the proposed turbines in this area. We have considered this carefully and come to the view that the turbines proposed on the final site plan submitted to the Court (on the Thomas block) would have minimal effect because:

- exclusion of the turbines would not protect the snow tussock which is on private land;
- the owner of the Thomas block has already retired a substantial area of his land to protect the snow tussock cover on the adjacent Lammerlaw Range;
- the owner is permitted to graze the area, or could remove the snow tussock and resow in pasture grasses;
- the extended area originally shown as part of the development envelope has now been removed from the site plan by TrustPower so the turbines would be restricted to a confined area on the Thomas block close to the existing house;
- TrustPower have ownership of the Scrappy Pines block and intend to conserve the snow tussock on that land instead.

(vi) Whether the proposed use of the land and its associated natural and physical resources is an efficient use and development of natural and physical resources (3.4.4(ix))

[75] Evidence for TrustPower is that the utilisation of the installed capacity for these wind turbines would be between 35% and 45%. We are told that this is a world leading yield and that the company is relatively confident of around 40% utilisation.

[76] In practical terms, we understand that this may yield in the order of 788 gigawatt (GW hrs) hours of electricity per year. This is not inconsiderable compared with the Waipori scheme at around 120 GW hours.

[77] Given the installation cost of around $400m there is a significant capital investment to achieve the yield envisaged. However, we have concluded that any income derived from this site is additional to the existing farming. Given the very small loss in land from the development, we do not anticipate the farming income to be much affected. Furthermore, there is potential for a significant further return from the land as a result of its generation activities, even taking into account the cost of capital development.

[78] TrustPower observes that the efficiency in terms of profitability is a matter for them. We agree. It appears that this District Plan criterion is rather more aimed at ensuring that the value of existing natural and physical resources is not reduced. To that extent, we observe that the Deep Stream Project already goes through part of the site, farming activities will not be adversely effected, and that TrustPower is satisfied that the proposal is economically feasible.

(vii) The benefit to the District (3.4.4(x))

[79] We accept that there will be benefits to the district, region and nation as a result of this proposal becoming operative. We acknowledge that a number of jobs will be provided during the construction period and at least some of these jobs will be for local people. Subsequent to construction a number of jobs will continue to be provided by way of maintenance, both of the facilities and of the land and roads which will provide local employment.

[80] The employment in respect of the farming activity is unlikely to be reduced. We acknowledge that the provision of power within the district is likely to have potential benefits for the establishment of activities requiring such power sources and may have wider benefits for Dunedin and the region. In the provision of cost-efficient power supplies, Mahinerangi would have a role to play both at a District, Regional and National level.

[81] In practical terms Mahinerangi represents most of one year's power demand increase (150 MW capacity) although any long term electricity strategy obviously requires a series of developments of this sort. Nevertheless, this wind farm would provide a benefit as an advance in achieving national targets for the installation of renewable power.

(viii) Ongoing effect of development (3.4.4(xi))

[82] We will address visual, landscape, ecological and avifauna effects in due course. We are not able to conclude there is any climate change caused by the installation of this wind farm. The evidence suggested it would have no impact on climate. It was suggested by ULPS that the roading and platforms may, in certain places, create land instability. Given that the underlying geology is schist rock, we consider this most unlikely. With proper design of batters and cuts, we accept this land can be stabilised in such a way that there is no significant ongoing sediment discharge. We discuss landscape effects as part of our visual assessment shortly.

(ix) Impact on heritage values (3.4.4(xi))

[83] The site has a number of areas, which have old gold mining sites of considerable heritage value. The Lammerlaw Valley and other valleys through the region have been identified as having a significant number of former gold working sites. One of the critical advantages of the way in which the areas for both the turbines and for infrastructure are defined is that both ecological and heritage sites can be avoided.

[84] Accordingly, provided conditions are imposed and construction areas identified, we are unable to see any negative impacts on heritage values. There may be some limited positive effect from utilising the site for a more diverse range of activities and thus avoiding its potential development by greater intensification of either farming or sub-division. However, these prospects are not significant.

(x) Degree to which adverse effects are proposed to be remedied, avoided or mitigated (3.4.4(xii))

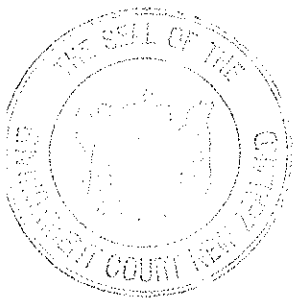
[85] A significant aspect of this application is that outside the site construction area it is intended to protect the ecological heritage areas from development. TrustPower accepts that conditions to do so can properly be incorporated as part of the consent. Although the conditions of consent as granted indicated that where necessary these ecological areas could be utilised, it is now TrustPower's intention to avoid these areas. As we have already indicated, this will require changes to the site plan and/or the deletion of certain turbine sites and roads to achieve this outcome.

[86] In respect to the turbines, roads, cuts and fills, the intention is to put in place a course of works to reduce the effect of the roads, cut and fill batters with revegetation, and the narrowing of roads in due course.

[87] In respect to the turbines themselves, beyond identifying the least visible colour, little more can be done to reduce their visibility except through careful placement. In that regard, the consideration of placement of the turbines is a matter that TrustPower's changed position enables us to consider in more detail. In that regard, there are certain turbines which are in close proximity to Mahinerangi Fishing Village and involve earthworks. These are 81, 82 and 87. Some other turbine sites, such as the site of turbine 4 which is accessed across a high value ecological gully and is a stand-alone, may also be inappropriately located. Turbine 42 is near the Black Rock Tor and shrubland. We note further that turbines 26 to 30 are accessed through an area which currently involves fill in an ecologically important gully.

[88] Questions as to whether or not these adverse effects can be avoided by deletion of these turbines or otherwise remedied or mitigated is a matter which we will consider later in this decision.

[89] Having dealt with a number of the criteria laid down in the district plan we now turn to the other statutory requirements, some of which involve consideration of the remaining criteria in the plan.



Particular potential effects – section 104(1)(a)

Visual effects and landscapes and landforms

[90] These issues are recognised in the Plan criteria 3.4.4(iv), (viii) and (xi) particularly. These effects can be identified in several ways:

(a) turbines;
(b) roads;
(c) cuts and fills

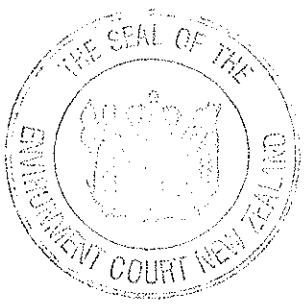
and from various locations:

(a) from Mahinerangi Fishing Village;
(b) from neighbouring farms (El Dorado Track) and Black Rock Reserve;
(c) Te Papanui; and
(d) from the proposed wind farm on the Lammermoors known as Project Hayes (**Project Hayes**);
(e) from more distant places like State Highway 87 and from 3 Mile Hill.

[91] The question of cumulative effect combined with Project Hayes also needs to be considered.

[92] The landscape evidence for TrustPower was given by Dr F Boffa and Ms M C Buckland, both of whom are practicing landscape architects with considerable experience. Ms Buckland acted as peer reviewer in respect of the work of Dr Boffa and reached conclusions broadly in line with those of Dr Boffa. Together with Mr Mike Moore, the landscape architect for the District Council, they prepared a joint statement for the Court. Mr Moore did not give evidence to the Court and thus the evidence of Dr Boffa and Ms Buckland was uncontested except through cross-examination.

[93] Generally we note that Dr Boffa's evidence reached conclusions as to whether effects were more or less than minor. This test appears to be derived from the threshold



tests under section 104D. However such a test is irrelevant to the substantive evaluation that must be undertaken under 104(1)(a) and under Part 2 of the Act[7].

[94] The Court is of course entitled to disregard effects that might be described as minimal (or *de minimis*) but it must properly have regard to all other effects. Case law clearly establishes that activities with very significant effects may be granted consents, while others without such particular effects may be refused consent[8]. The scale of the effect is clearly a matter which will go into the evaluation necessary under Part 2 of the Act but is not determinative of it. Any effects which are more than minimal must be had regard to in the overall evaluation which must occur under Part 2 of the Act and section 5 in particular. Fortunately Ms Buckland's evidence was able to evaluate the various effects identified by both herself and Dr Boffa. It is clear that there are a number of visual landscape and landform effects which must be taken into account and will be relevant to the integrated decision necessary under Part 2 of the Act and section 5.

[95] The Mahinerangi wind farm landscape is contained within that area north of Lake Mahinerangi, east of the Lammerlaw Range, west of State Highway 87 and south of Old Dunstan Road. It is contained within and surrounded by the Lammerlaw Range to the west and north, and the Lammermoor Range to the north and east. The site fits within the upper area of the Taieri Catchment which in turn falls to the Mosgiel Valley south of Dunedin and to the coast. Given the intermediate height of the plateau on which the proposed wind farm is situated, 600-700 masl, it is higher than Lake Mahinerangi at around 300 masl, but lower than both the Lammerlaw Range at around 900 masl and the Lammermoor around 1000 masl.

[96] The area is not so easily separated into components being a convex gently sloping plateau with side valleys. There is generally a low ground cover over the site and thus the land form is very visible throughout the area. The lower lying areas are more intensively farmed whereas the Lammerlaw and Lammermoor Range are extensively covered in various forms of tussock, including snow tussock. The Mahinerangi wind farm area represents an intermediate point between these features.

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7 See ***Bayley v Manukau District Council*** (CA) [1998] NZRMA 513 at 525.

8 See ***Pllu v Hutt City Council*** Decision W8/2006 para 42.

[97] Overall there is a complex mosaic of pasture and forest cover in the lowlands, moving through to the heights of the Lammerlaw and Lammermoor Ranges with their lower growing tussock covers. This Mahinerangi landscape was described by Dr Boffa as:

(a) having high rural character attributes;
(b) having high visual and rural amenity values;
(c) being a coherent landscape with a diverse and interesting landscape pattern;
(d) an open and uncluttered landscape offering expansive and attractive views;
(e) possessing well defined landscapes, landforms and scenery of high value containing in part landscapes identified in the Dunedin City Council District Plan as being outstanding landscapes.

[98] The witnesses did not identify nor do we find that there are any outstanding landscapes or features under section 6(b) within the site. Those outstanding landscapes associated with the area relate to the Lammerlaw and Lammermoor Ranges, across the valley, and include the Tapanui Conservation Estate. Lake Mahinerangi sits around 200 metres lower than the site which itself is 300-400 metres lower than the Lammermoor Range to the west and lower again than the range in the vicinity of Project Hayes and the Rock and Pillar Range. The site adjoins the Black Rock Scientific Reserve which has a distinctive rock outcrop and there are rock outcrops both on the site itself (including Black Rock Tor) and in the general vicinity. There are some significant areas of snow tussock within the Black Rock Scientific Reserve and also in the Te Papanui Reserve and the Lammermoor Ranges generally. The uplifts in the contour are relatively smooth and give signs of being well weathered. There are various areas of afforestation (generally introduced species) but overall the Mahinerangi landscape is open and pastoral. This is seen in the context of the very open areas of the Lammermoor Range and the longer views towards Middlemarch and the Rock and Pillar Range.

[99] This is not to say that the landscape is devoid of modification. Extensive modification can be seen both in the context of the effects of mining activities which includes old mine workings, water races and roads, including the El Dorado Track and

Old Dunstan Road. Superimposed on this is the general mosaic from farming activities including the Scrappy Pines area on the site itself which is a failed attempt at a pine plantation. Other areas show signs of cultivation and fertiliser application, shelter trees, farm buildings, fences and the like. Also superimposed on this Mahinerangi landscape is the clear evidence of energy workings including the Deep Stream reservoir (which is a small lake) adjacent to the north-western side of the site, water races, concreting and building works associated with the Deep Stream Hydro Electric and Water Project, Lake Mahinerangi and the works associated with that, and various high tension lines servicing both the Mahinerangi Project and the Roxburgh National Grid Project which includes not only lines through this landscape but also on the Lammermoor Ranges themselves.

[100] The wider context, including the Lammermoor Ranges, features the area of the proposed Project Hayes and also the Loganburn Dam which services the Maniototo Irrigation and Hydro Project. On the basis of this we accept the evidence of the expert witnesses that although the area has high landscape and amenity values, it has been subject to extensive modification for farming, mining, and electricity production.

Modifications to the landscape

[101] We did not understand the experts to disagree that the construction of the wind turbines and associated high tension lines would introduce another major electrical component to the landscape. The high tension lines themselves would repeat a feature already present within the landscape. However the wind turbines would introduce new moving elements being large (145 metres from base to blade tip), and a repetitious element (up to 100 turbines) within the Mahinerangi landscape.

[102] Given the current lack of structures generally and the proposed placement of these wind turbines on the site, questions of their size and dominance would be a matter of distance of the viewer from the turbines. The closer the viewer is to the turbines the greater the perception of visual dominance. This would be accentuated in places where there is a significant difference between the viewer's vertical height above sea level and the height of the turbines. Examples are those farms between Lake Mahinerangi and the site, or on El Dorado Track as it leads to the site, or where it is possible to view other

elements which may provide a comparative scale. This could be where the road and turbines could be seen together, for example from Te Papanui Conservation Estate.

[103] There did not appear to be any serious dispute that turbines would be visible from positions over a wide range of distances. In addition to various views of a number of turbines from El Dorado Track and Old Dunstan and Mahinerangi Roads turbines would also be visible from several farms in the El Dorado Track area and from a significant number of positions on State Highway 87.

[104] For the most part the turbines will not significantly affect land form. However, there is the potential for certain of the roads and certain of the turbine positions to involve more significant earthworks which may alter the land form. Such effects are likely to be only visible over comparatively short distances say less than 4 kilometers.

[105] Given the various viewpoints identified by the experts, we agree with Ms Buckland that the most significant impacts in terms of the visibility of the development are its impact on landscape, landforms and people visiting the fishing village on Lake Mahinerangi, people visiting the Te Papanui Conservation area and possibly the Black Rock Scientific Reserve.

[106] The largest viewing audience would be from State Highway 87 and in that context the site is seen from 10 – 12 kilometers away. Ms Buckland used a gradation between *no effect*, *no visual effects* through *low effect*, *moderate effect*, *high effect* and *severe effect*. Her view was that in general terms effects in the *no effect* to *moderate effect* range were acceptable in landscape and visual terms, provided mitigation is carried out for close-up residences and work places, and for particularly intrusive elements. She then discusses a series of viewpoints and reaches conclusions as to the overall visual effects. She concludes for example that views from the corner of El Dorado Track and Mahinerangi Road would be *moderate*, those from the fishing village *low to moderate*, those from Old Dunstan Road *moderate to high*, State Highway 87 south of Clarks Junction moderate, Fortification Peak, King George Memorial Drive *low to moderate*, Three Mile Lookout *very low*, El Dorado Track high, State Highway 87 junction with Mahinerangi Road *moderate*.

[107] In considering those viewpoints Ms Buckland concludes that the most serious effect is where the viewpoint is very close to the turbines and there is a lack of screening and homogeneity of the tussock grass cover. For the moderate impact areas she says the wind farm is viewed either in the context of farmland or across intervening farmland. Other low visual effects are a result of distance from which they are viewed. In this regard it transpired during the course of the hearing that the Black Rock Scientific Reserve is a Department of Conservation Reserve and the public is generally excluded from this area. We also understand that the Deep Stream Reservoir area may have public excluded because it relates to emergency water supply for Dunedin. Although the El Dorado Track is a publicly accessed track it appears to have very low usage. We agree that for people travelling on that track, particularly through the site, the effects of the turbines will be clear and visually dominant. People visiting Te Papanui Reserve will, from various positions within the Reserve, see the Mahinerangi wind farm at a higher elevation and from a distance. This will mean that not only the turbines but also the tracks and the earthworks are likely to be visible from 3-8 kilometers distance. More distant views from Old Dunstan Road are likely to be similar, although of lesser dominance.

[108] We do not understand TrustPower to be suggesting, nor do we find, that these effects are minimal. They are effects therefore that must be taken into account in the overall integration of a decision under the Act. The highest impacts are likely to be those upon people travelling on the El Dorado Track, farms in the vicinity of the track and from Mahinerangi Fishing Village and Lake Mahinerangi area.

Key conclusions on visual matters

[109] We conclude the single most important factor in the dominance or effect on amenity of the turbines is proximity. Viewed from the plains with the Lammerlaws and Lammermoors behind, the large scale of the turbines may not be as apparent as in some other settings. The turbines will be clearly visible at significantly greater distance than the transmission lines at 40 metres high for example. From certain positions, particularly on Mahinerangi Road, El Dorado Track and the Mahinerangi Fishing Village and from a number of farms in the area, their effects will be significant. The turbines will constitute a major change within the area.

[110] From greater distances, such as State Highway 87, questions of visibility and effect are more difficult to assess. Given other changes in the landscape, including transmission lines and the possibility of other wind farms, the change effected by the Mahinerangi wind farm may be less noticeable. Nevertheless the wind farm will be obvious and eye-catching.

[111] However, the connection between people's perception of amenity and the visual change in the landscape is not as clear as was suggested to us by Mr Carr. We accept that there are a wide range of opinions in relation to such structures on the basis of visual amenity. For example, it was noted that the Tramping Club had supported the proposal and sought access through the property. Not infrequently man-made physical structures provide a focus of interest within natural and other landscapes.

[112] We accept that there will be a diversity of opinion as to the effect on amenity as a result of these structures. Those perceptions of adverse effects on amenity will diminish with distance and in this case will be minimal in views from 10 kilometres or more.

[113] Even for closer views such as those from the tracks and even from Te Papanui Conservation Estate, we can not be confident that a viewer's reaction will necessarily be adverse. We accept that the maximum adverse effect is likely to occur during or immediately after the construction period since both aversion to the change to the environment and the visible effects of the works are likely to diminish over time.

Ecological effects

[114] The fundamental approach adopted by TrustPower in respect of both ecological and heritage issues, was that all identified sites containing ecological or heritage features were to be avoided by the works. To this extent, extensive studies had not been undertaken of the ecological features over the whole area. An evaluation had been made in respect of gullies that had high or medium value ecological features but not of those areas which had been subject to extensive modification.

[115] Largely identification of such sites was made on the basis of ground cover although there appears to have been consideration of rocky features, which may form habitat for species such as lizards. Two areas were identified as containing narrow-leaved snow tussock (*Chionochloa rigida*), the first being the Thomas Block, on which four proposed turbines (97 to 100) would be placed, and the other known as the Scrappy Pines area, where it is intended to place turbines 63-66 and 68-70. The evidence was clear that the values in respect of the Scrappy Pines area were lower than those in respect to the Thomas land, but that both areas did contain examples of high value snow tussock.

[116] Both Dr R M Bartlett and Dr I K G Boothroyd gave detailed ecological evidence in this matter. Field surveys were undertaken and other existing data was collated and reviewed. This involved site walkovers and utilised the methodology of Norton & Roper-Lindsay based on the criteria of rarity and distinctiveness, representativeness, ecological context and sustainability.

[117] An additional field survey was undertaken in 2006 to assess significance and sensitivity of vegetation contained within the gully areas and to map snow tussock grassland quality and location. Subsequently, in September 2007 further assessment was undertaken of gullies identified as low quality to assess whether any threatened or small animal species were present prior to commencement of any works. There was also a representative study undertaken of herpetofauna taking into account perceived risk of disturbance by development of habitat, grassland and rock outcrops.

[118] In ecological terms, Dr Bartlett tells us that there are three land systems – the upland plateau 600-1200 metres, which includes the tops of the Lammerlaw and Lammermoor Ranges and all the land north and west of these ranges; the upland rise zone, which has land grading down into mountain, shrub land and forest along the south and east of the upland plateau (between 400 and 800 metres above sea level) which includes this site; and the downlands similar in landform to the upland plateau, but with an altitude of only 300-400 metres above sea level where vegetation has been considerably modified. The site encompasses land on the margins of both the upland rise and downland systems with rock outcrops (stack formations or tors) in common and associated with periglacial processes within the Pleistocence period.

[119] Generally the Waipori ecological district is varied and includes forest, shrubland, grassland, wetland and snowbank vegetation. The Lammerlaws are noted for the uninterrupted cover of narrow-leaved snow tussock. The wetlands in the area have intact sphagnum and cushion bog species, together with undisturbed tor tussock grassland communities, which have a distinctive insect fauna. Rock outcrops provide habitat to geckos and skinks and there are avifauna species present such as South Island oyster catcher, banded dotterell, New Zealand pipit, grey warbler, New Zealand falcon and hawks.

[120] Neither the Clutha District Plan nor the Protected Natural Areas Program identifies any land of potential ecological value within the site. However, the nearby Lammermoor, Fiddlers Creek, Deep Stream Gorge, Lammerlaw Stream and Black Rock RAPs are all identified. The Black Rock RAP now known as the Black Rock Scientific Reserve, is immediately adjacent to the wind farm site. We again note that this scientific reserve is public excluded and that the Department of Conservation has consented to the proposal.

[121] Dr Bartlett stated that of the site as a whole, some 57% is in exotic pasture, while 25% is grazed snow tussock pasture, and the remaining 18% is in higher quality snow tussock, around half of which is grazed. It should be noted that the majority of the higher quality snow tussock is situated on the Thomas land. Within the Scrappy Pines area the tussock quality is of variable quality, some high. The selection of the site as a whole has avoided some of the nearby higher quality snow tussock land and the proposal now involves turbines only within a small proportion of the Thomas block, being that area on the flat plateau adjacent to the existing residence. Although snow tussock would be affected within the Scrappy Pines area, the turbines would be on the ridges and it is intended that the balance of the Scrappy Pines area would be fenced with stock excluded. It is currently grazed.

[122] Snow tussock within gullies are intended to be within the area excluded from development, as are all gully wetlands which cover approximately 376 hectares of the site. We were advised that of the gullies, some 24 hectares comprise low value gullies, which are highly degraded with relatively low ecological significance. From our site

inspection, these appeared to be at the head of valleys and in the areas where the boundary between the gully formation and the pastureland is less clear. We accept that these low ecological value gully areas are significantly compromised to the extent that most of them appear as general pasture.

[123] All medium and high value gully areas are to be excluded from development. This includes areas which have been modified and are subject to grazing but still retain some 30-60% of their native vegetation, as well as having some wetland or spring channel. High value gullies are ones with more than 60% native vegetation and include well developed cushion bog communities or shrubland. These compromise some 75.2% of all gullies and 15.5% of this site as a whole.

[124] There is little in the way of shrubland present on the site, except for an area around Black Rock Tor. This is an area to be excluded from development and comprises a large area between turbines 45, 42, and 28. As we will identify shortly, it is also an area that could be a possible habitat for the New Zealand falcon. Other tors, such as Bottle Rock Tor, have been avoided completely and lie outside the site.

[125] In addition to this, we were told that the areas to be excluded from development included a combination of these ecological areas and habitats with areas identified having other values, such as heritage values. Although initial plans by Dr Boffa did not fully reflect the ecological areas, we understand the plan now produced represents the cumulative effect of the exclusion of heritage areas, medium to high value ecological areas, and other areas considered unsuitable by reason of geotechnical or other matters.

[126] Accordingly, with the exception of the Thomas block and the Scrappy Pines area, we understand that the area within the remaining footprint is almost all within modified pasture area or at the heads of gullies which are of low quality. Even then it is not intended that the roads or turbine platforms themselves would be situated within the gullies. However fill batters may encroach into these low ecological value gullies, provided there is sufficient separation and protection from sediment transport in relation to the medium and high quality gullies situated beyond the low value areas.

[127] In practical terms, our observation from the site visit which included a helicopter over flight, was that the turbine sites were to be situated on or close to the ridges. Many of these ridges are already accessed by farm tracks, often within relatively flat plateau areas. Sometimes access to long and narrow ridges (as an example, the ridges running from 31 to 51) represent a ridge with spines and a number of fingers compromising areas of plateau and steeper land.

[128] There are a number of small natural plateaus throughout the site, many of which can be simply accessed currently by existing farm tracks, which connect them to the plateau land running along the northern edge of the site. Although the area is clearly managed and grazed, it is only in the lower lying areas, largely below 600 metres and particularly in the north-east that one sees evidence of more intensive pastoral development and application of fertiliser. This is not to say there are not areas throughout the site which have been subject to more intensive farming and pasture management, e.g. the area near turbine 58.

[129] We accept the ecological evidence that areas of high and moderate ecological value in terms of gullies, have been excluded and that the remaining footprint (with the exception of the Thomas land and Scrappy Pines area) is within modified pasture areas. However, we note that in the conditions imposed by the Council and in the evidence of the witnesses, there was some prevarication as to whether all ecological areas within the footprint had been identified. The intent was that a more detailed examination be undertaken prior to the final position of roads, set-down platforms, fill areas and the like being selected. Dr Bartlett's evidence indicates however that the more detailed assessment anticipated by the conditions of consent granted by the Council has now been undertaken.

[130] In answer to questions Dr Bartlett suggested that the purpose of the condition may have been to identify any particular rocky areas or small areas of indigenous species habitat within the general footprint. Nevertheless, we understood that Dr Bartlett was satisfied that within the general siting area of each turbine, turbines and roading could be sited so as to avoid any areas that may have any particular ecological values. Given the general modified nature of these tops and ridge lines, we agree that

the prospect of further significant ecological areas beyond those already identified is not great.

Earthworks, fills, cuts and batters

[131] A key concern for ULPS was the extent of works that were to be conducted on the site and the lack of information provided in visual simulations as to that work. Mr R M Dawson, Civil Engineer for Tonkin & Taylor Ltd with geotechnical and water resource experience, in addition to civil engineering, gave evidence in relation to this project. He confirmed that in general the turbines and access roads are sited along the crest of broad ridgelines, typically 100-500 metres wide. The underlying basement rock is Haast schist, topography being an ancient plateau (Pene Plain) which has been progressively eroded to form incised gullies between the broad ridge features. The bedrock has been covered by wind blown and slope washed deposits with the colluvial soils being typically less than 1 metre in depth. The gullies have greater accumulated alluvial deposits estimated to be up to 3 metres deep. Depending on the depth of the cut, the schist is likely to be between completely weathered, appearing as a very stiff to hard soil, to slightly weathered being a hard strong rock at depths of greater than 10 metres. Mr Dawson confirms that there were no active fault traces found within the site and that a seismic design recurrence interval of 150 years is considered appropriate.

[132] The turbine foundations are likely to be in the order of 2 metres in depth with a diameter of between 15 and 18 metres. Mr Dawson indicates that minor undercutting may be required to provide firm foundations for the concrete gravity (large diameter shallow) foundation. If there are particular difficulties at a particular turbine site then micro-siting should be able to identify a more favourable location. However there was also the prospect of using larger diameter foundations to reduce bearing pressure or install underpinning piles or tie-down anchors as part of the foundation.

[133] Mr Dawson tells us that generally the turbines will be located along the broad ridge lines and plateaus of the site and utilise existing access tracks (upgraded where necessary) with new tracks formed as required to provide access to each turbine. A

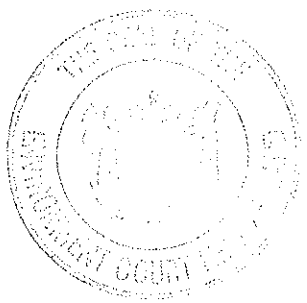
preliminary track layout has since been confirmed as part of the document produced to us as attachment **"A"**. The construction requires heavy vehicles to deliver:

(a) base tower sections of approximately 4.5 metres diameter;
(b) turbine blades of 45 metres length;
(c) crawler cranes with parts broken down into components.

[134] The horizontal and vertical curves of the access tracks are dictated predominantly by the turning circle of the transport vehicles. Where the internal radius reduces below 55 metres this will require a widening on corners with a general access width of some 5 metres. The running width may increase to some 8 metres on the internal radius. Also vertical gradients are limited to 15% and even there, transporters may require assistance in the form of additional tractor units, dozers or winching.

[135] It is intended to use an LR144/2 crawler crane (400 tonne with lattice boom) to lift and assemble the turbines and this requires a level area of some 100 metres by 20 metres to assemble and disassemble the crane. The cranes will move from one turbine site to the next. Given an outer track width of some 8.75 metres and an overall width of 12 metres, this would require a track width of some 10 metres minimum with an additional 1 metre on each side to accommodate a shoulder or berm and surface water drain. Mr Dawson notes that a narrower crane is now available in NZ and this may be able to be utilised on the site. However he still considers that a total width of some 10 metres is likely to be utilised even with this narrower crane.

[136] In respect of assembling each turbine he indicates that a platform in the order of 58 x 20 metres is required to store, assemble and crane the components into place. Smaller 2 MW turbines may only require 48 x 20 metres. To achieve these platform sizes an assumption has been made that on occasions the depth of cut at platforms will be able to be reduced by raising the outside edge of the platforms by approximately 1 metre with compacted fill. The metal sections of track will be covered with a minimum of 100 mm of metal over graded sub-base. After completion of construction, track shoulders will be re-vegetated leaving a permanent metal track of approximately 5 metres width for access to the turbines.



[137] Mr Dawson discusses briefly the storage and batching plant areas which are required. No specific places or areas were given by Mr Dawson but we understand that these were considered to be adjacent to El Dorado Track and probably in the vicinity of turbine 58. At this stage only a preliminary cut and fill design has been done in respect of a proportion of the site. However Mr Dawson indicates that the sample design projects a surplus of cut material from construction earthworks in the order of 464,000 m^3. He says this material will be placed close to the proposed tracks and hard stand areas and designated fill disposal areas. Again he gives a conceptual design for this. In this regard Dr Bartlett gave more detailed information as to the proposed fill areas which is annexed as part of her diagram, attachment **"D"**.

[138] Mr Carr was particularly critical, both in questions and in his submissions, of the lack of detail as to the volumes of cut and fill. As we understand it, the 464,000 m^3 is the surplus which cannot be utilised in the construction of the hard stand, roads and platforms. There was some vagueness as to the actual amount of material to be cut which we understood to be somewhere around 1 million (M) m^3. Similarly Mr Dawson was somewhat reticent on the extent of cut and fill batters. After questioning he conceded that cuts for roading and platforms may be well in excess of 10 metres. He indicated maximum cuts in the order of 16 metres, with fill embankments of up to 16 metres. It was unclear whether these would be in the same place, i.e. a 16 metre fill batter and a 16 metre cut to a total height of 32 metres.

[139] Given the lack of detail in the information supplied it is difficult for the Court to understand the full extent of the works being conducted on the site. However there are high volumes of cut and fill given the general statement that most of the turbines and the access roads will be sited on the broad ridges. Our observation on the site is that the majority of the turbines (well over 60) could be placed on these broad ridges with minimal works required to establish the structures and generally accessed by upgrading existing farm tracks. We can only assume that the significant amount of earthworks is in order to obtain access to more remote sites which are not accessed by way of broad ridges. Certainly turbines 81 and 82 appear to be examples of turbines sited on the sides

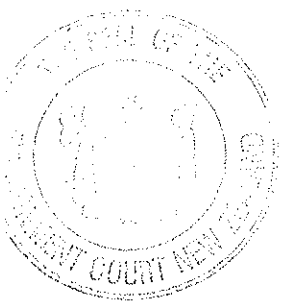
of ridges involving a significant amount of cut to form the platform and significant cut and fill to provide access to them.

[140] The evidence in respect of fill disposal management was equally vague. We were told that geotechnical hazards would be avoided and any visual or ecological adverse effects would be minimised in cases where total avoidance is not possible. The difficulty is that no particular detail as to how this would occur in the practical circumstances of the case were given. However, from our site visit we are satisfied that, for the great majority of the works on the broad ridges, these matters could be attended to with little or no impact. In particular it appears that the process of laying down sub-base and metalling roads would be easily accomplished. Top soils that might be released from that work could be utilised either in the immediate vicinity or to revegetate cuts where required elsewhere on the site.

[141] Given the fill sites identified by Dr Bartlett in attachment **"D"** we have concerns about those fill sites near turbines 81 and 82 and their proximity to Mahinerangi Village which is relatively visible. The balance of the fill sites however, appear to be acceptable and we suspect there may be other fill sites available in the vicinity of turbine 58 which is on the broad area of the plateau itself.

[142] In short, we consider many of the concerns that we have relating to cut and fill could be addressed by requiring a specific design showing the positions of roads, platforms, cut and fill areas and working areas, including for the batching plant substation and yards. If these are done in such a way that they avoid all high or medium value ecological areas and provide for sediment and other controls outside these ecological areas to the appropriate standard, then we would be satisfied that this aspect of the matter would be properly addressed.

[143] However, we have concerns about particular sites and areas where the maps show the roads encroaching into ecological areas. We suspect that these are the areas which are going to require significant amounts of cut and fill. This issue could be addressed by requiring a final siting plan and consideration as to whether or not turbines and roads should be placed in the positions currently shown. As we indicated, this is



likely to only affect a small number of turbine sites (no more than 20 and probably less than 15). We have concerns about cuts and fills of 16 metres in vertical height, given the batter and cut slopes that would be envisaged. Many of these would be visible to few, but we accept that in certain areas their impact may be significant, e.g. from Mahinerangi Fishing Village.

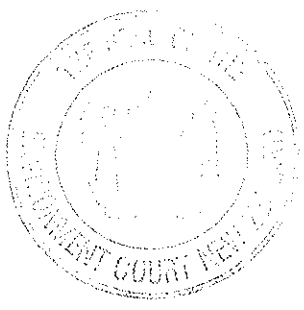
[144] Dr Bartlett was also asked extensively about the prospects of revegetating cuts and batters. From those answers, we are satisfied that with adequate topsoil most fill batters could be revegetated but steep cuts are likely only to weather or grow mosses. We also understand it was accepted that the revegetation may take some time and be affected by frost heave, shadowing and the like.

[145] Dr Bartlett accepted that proper sediment control methods would be necessary, particularly on the edges and heads of gullies to ensure that the areas of moderate and higher ecological value were not adversely affected by stormwater runoff. Both Dr Bartlett and Dr Boothroyd considered that if the general conditions were met with no conspicuous change in water colour or clarity, then it was unlikely that the gully areas would be significantly affected.

[146] In terms of sediment control, the most significant areas are those which involved large areas of fill, particularly during the initial period and before the vegetation re-establishes. Dr Bartlett accepted that one way to address such an issue would be to include engineering certification conditions requiring sediment controls to meet a certain standard such as a 20 year rainfall event with no adverse effect upon ecological areas of medium or high quality.

[147] It appears to be accepted by the ecologists that this would need to be achieved both by setting a standard for compliance such as the one we have discussed, and secondly by providing for some separation between the areas of ecological significance, high and medium quality ecological areas and the works.

[148] There was one rare rush mentioned in evidence. The experts agreed it could be propagated and planted in the Scrappy Pines area to minimise risk and enhance biodiversity. Provision for this should be included in the conditions.



[149] Finally, we should note that Dr Bartlett particularly stressed that the findings as to medium and high ecological value did not establish significance in terms of section 6(c) of the Act and that accordingly the ecological approach was cautious.

[150] From our site visit we agree that many of the areas would be unlikely to qualify as areas of significant indigenous vegetation or significant habitats. However, certain of the areas including the snow tussock area on the Thomas block and the Rocky Tor area and shrubland would probably meet such criteria. Given the lack of detailed ecological examination of these areas by TrustPower witnesses, we are not able to be positive. Nevertheless, we shall assume for current purposes that this application will protect those areas by avoiding development upon them. Whether TrustPower should go further and provide some positive benefits to the area is a matter we will discuss in due course.

[151] In respect of the spoil disposal areas (fill areas) there was some question as to the area, depth and slopes to be achieved on the edges of the fill areas. The various sites identified appear to total something in the order of 25 hectares and would therefore require something in the order of 2 metres in depth to accommodate the nearly 500,000 m^3 of fill. We are concerned about some of those areas and also the potential for erosion from that depth of fill. We have concluded that the risks of failure of the works through sediment runoff depends on the actual positioning of the fill, the level of compaction and revegetation involved, and the design of the sediment control works. It was not explained to us for example whether or not the sediment control works for such fill areas would cater for a 10 year, 20 year or 50 year event, and for what period of runoff. On a precautionary basis we would suspect that for the fill areas the standard should be cautious, assuming designing for a 50 year 24 hour event. We have concluded again this is an issue which might be addressed through appropriate imposition of conditions to achieve an outcome which ensures that the fill areas are not susceptible to runoff, could be adequately revegetated and would blend in with the natural landform. Where appropriate, sediment control areas could be installed prior to the spoil disposal work taking place. We shall assume for the purposes of consideration of this matter that appropriate conditions to meet this outcome can be included within the consent to avoid any adverse effects from sediment runoff from the fill areas.

Avifauna

[152] The issue of bird strike within wind farms is recognised internationally and was a specific matter addressed by TrustPower as part of its AEE. Professor J L Craig gave evidence as an expert witness in terrestrial ecology, particularly birds. Having undertaken a review of international research on mortality rates in relation to wind farms, he noted that the rates varied from .01 to 23 birds per turbine per annum. The very high mortality rates were rare and were in situations such as Altamont Pass in California, Tarifa and Navarre in Spain which are on the migration route for large numbers of birds. High blade strike rates also occur in particular topographical situations such as steep ridge tops, mountain passes and coastal sites. Professor Craig notes that raptors such as falcons and hawks, large waterfowl and night feeding shore birds, appear especially at risk. He notes that in New Zealand most birds do not migrate between breeding areas and thus there is a lower prospect of wind farms being on migration routes. He does not consider the Mahinerangi site to be on a migration route.

[153] A review of New Zealand wind farm operations showed a significantly lower death rate than the maximum found elsewhere. Of that blade strike rate, many are introduced species such as magpies, which are unlikely to be of major concern. However, Professor Craig did note that two ducks and one harrier hawk were killed along with a significantly larger number of magpies. At Te Apiti he indicated 13 magpies and one kingfisher reported killed and at the Brooklyn wind turbine, adjacent to Karori, one blackbird strike was reported.

[154] Professor Craig had significantly more concern about certain species such as the New Zealand falcon being killed by turbine blades and undertook a particular discussion of this.

[155] Having considered the evidence, including that of Dr N Lloyd, we agree that the site is within the range of habitat preferred by the New Zealand falcon and that the Black Rock Tor area may even constitute a preferred habitat although not currently occupied by them. In that regard we consider that turbine 42 may unnecessarily intrude into the area around Black Rock Tor. Its omission would increase the flying room around Black Rock Tor.

[156] It is clear that the site is already frequently used by harrier hawks. During the Court's site visit, no less than six Harrier hawks were seen, on one occasion in a pair. This is consistent with other sitings in the area. There are also a significant number of skylarks seen over the site, both the hawk and the skylark adding to the rural character of the site.

[157] Professor Craig made the point strongly that predation was a far more significant risk for these species than was wind turbine blade strike. Given that the conditions of consent included significant efforts for predation control, particularly of cats and ferrets, he considered that this would have far more significant effect on the bird population than the turbines. We agree entirely. Provided the question of wind turbine deaths is closely monitored and is within reasonable levels, we consider that the benefits to be gained from predation control significantly outweigh any risks from the turbine blades.

[158] Recognising a clear distinction between the species of birds, Professor Craig suggested alteration of the relevant condition to recognise the importance of particular species. Overall, we consider that such an approach would be overly clumsy. In practical terms, we conclude that there should be a monitoring provision and that there should be a condition for review of the consent in circumstances where the death rate over the scheme as a whole is significant.

[159] The review conditions would take into account:

(a) the species of birds involved;
(b) the overall performance of the wind farm as well as the individual turbine;
(c) whether there are any particular factors influencing the bird death at the turbine.

[160] The final wording of such a condition needs to be carefully re-examined. Quite simply, we are satisfied that with such a condition the benefits of the predation control programme would significantly outweigh any effects of blade strike while providing for an appropriate review in the event that bird deaths began to occur.

[161] We consider that the rate should be set on the site as a whole at 0.05% birds per annum, i.e. 5 per year, but requiring an annual monitoring report advising the Council of the number of birds killed, the turbines associated with each death and the species of bird involved. There should also be an ability for a review of the conditions of consent where the Council is concerned that any particular turbine seems to have a higher incidence of bird mortality or where a particular species appears susceptible (i.e. the New Zealand Falcon).

[162] Accordingly, we are satisfied that with some amendment, the conditions of consent can be worded so that the potential adverse effects on avifauna are avoided, remedied or mitigated, if necessary by a review of the conditions of consent. Clearly the review conditions can include identification of where endangered or declining species of birds are involved in bird strike, and this gives rise to more significant concerns as to the appropriate control mechanisms. Turbine 42 may also be better omitted or relocated further away from Black Rock Tor.

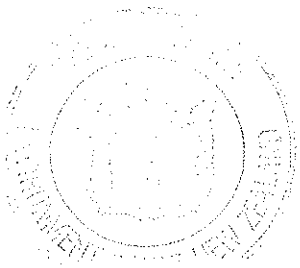
Traffic, noise and dust

[163] TrustPower's noise consultant, Mr N E Hegley, assumed an indicative layout as well as a scenario of 100 turbines generating 3 MW in order to record background noise and against this and the locations data to calculate likely noise effects at the notional boundaries of dwellings.

[164] His work was peer reviewed by Mr N R Lloyd and the two acoustic consultants agreed on outcomes and appropriate conditions and submitted a joint statement.

[165] The two consultants' evidence was read by the Court and admitted by consent.

[166] The two consultants recognised that the aerodynamic noise from turbine blades rotating and from mechanical noise had led to concerns about wind farms. In addition the Clutha District Plan recognised that the location and general district has a relatively quiet amenity. Therefore controls should recognise the amenity of the area as well as the different characteristics of wind turbines noise.



[167] Measurements were taken with respect to a number of dwellings in the area, as well as in response to particular requests by some residents. The highest calculated noise effect was identified at the notional boundary of the Thomas house (at 52dBA (Leq) downwind), but the owner of this site uses the bach infrequently and has given his written approval to the proposal. Accordingly any affect on this house must be disregarded under section 104(3)(b).

[168] The assessment of effects and conditions drafted to control and mitigate effects covered construction noise, operational non-turbine noise, operational turbine noise and review conditions.

[169] During construction road traffic noise is expected to be generated by over 11000 heavy vehicle trips over a 16 month period. This is calculated to be 35 heavy vehicles arriving and the same number departing each day during that period. Other construction noise such as cement batching was also taken into account. While there was agreement that the noise during the construction of the wind turbines would be well within the requirements of the appropriate construction noise standard: NZS 6803: 1999 Acoustics - Construction Noise, specific conditions were drafted and heavy construction vehicles were to be limited to day time access: that is 7am to 10pm on the El Dorado Track and Mahinerangi Road. We took this to mean that trucks carrying equipment and wind turbine parts could use other roads from the port including State Highway 87 but would be restricted from accessing the site outside those hours.

[170] Conditions relating to operational turbine noise were to meet the requirements of NZS6808:1998 Acoustics – The assessment and measurement of sound from wind turbine generators, as well as additional conditions. The consultants agreed that the noise from the wind farm will be within the requirements of the standard. In addition, the calculations of effects had taken a conservative scenario of both the largest turbine and the maximum number of turbines. If the largest turbine were to be selected (3 MW) then only 66 turbines would be required to deliver the maximum output of 200MW.

[171] The conditions include the requirement for a noise management plan, a maximum of 40dBA L95 at the notional boundaries of existing dwellings, the provision

of a contact person for community noise issues through a community liaison group, monitoring and a review clause.

[172] We accept the evidence and recommendations of the two consultants and conclude that noise from construction and operation of the wind farm will be minimal as mitigated by the conditions proposed by the noise consultants.

Traffic effects

[173] As with the acoustic evidence, the traffic consultants' evidence was read by the Court and not subject to cross-examination. This was evidence from Mr A A Metherall for TrustPower, which was peer reviewed by Mr P R Brown. Both are well experienced traffic engineers. Ms D J Anderson prepared evidence for the Council including a section 42A report which had been submitted to the Commissioners. The three consultants prepared a joint statement. The statement noted their collective view that:

- the traffic related effects associated with the construction of the Mahinerangi wind farm on the roading network and road users will be appropriately mitigated by the conditions; and
- the long term traffic related effects associated with the operation of the Mahinerangi wind farm will be appropriately mitigated by the conditions and will be minor;
- the stated conditions are appropriate from a traffic engineering perspective.

The traffic consultations concluded that they supported the grant of consent on traffic engineering grounds and did not disagree with traffic or roading-related conditions imposed by the Clutha District Council's conditions of consent.

[174] As background research a transport assessment had been commissioned to establish and evaluate any transportation effects the Mahinerangi project might have on the safety and convenience of road users and on residents adjacent to access roads.

[175] The wind turbine components are proposed to be shipped to Port Otago and transported by road to the wind farm site either from the port or the inner harbour. Most

of the turbine loads would be over-dimension. The transport network and local traffic environment together with traffic patterns were studied. Traffic generation included:

- transportation of turbine components from Port Otago;
- traffic to and from the site in order to provide labour and materials for construction;
- operational and maintenance traffic once the turbines are installed;
- sightseeing traffic.

[176] Annexed hereto and marked **"F"** is Table 2 prepared by Mr Metherill which summarises construction traffic generation. He estimated that the transport time from harbour to wind farm site for each over-dimension load would be 2-3 hours. Increases in traffic volumes from construction traffic along the route were assessed as from less than 1% through Mosgiel to less than 10% on Allanton Road: increases which were considered by Mr Metherill to have no material effect on traffic congestion. Over-dimension/over-weight load trips would be scheduled during periods of low traffic volumes.

[177] Beneficial effects through improvements to district roads between State Highway 87 and the site, to be undertaken or funded by TrustPower were noted.

[178] The peer review was presented concisely and concluded that the traffic investigations had been carried out in a particularly thorough manner. In addition, Mr Brown identified additional areas where localised work may be required, and where road use by construction vehicles to access State Highway 87 to Mahinerangi Road (as opposed to Lee Flat/Black Rock Road) should be restricted. His recommendations were included in the application and Council conditions.

[179] Mr Metherill presented a framework for a Construction Traffic Management Plan which in the view of Mr Brown presented a clear methodology to allow specific details of required works to be refined after further discussion with road controlling authorities. He saw it as a *living document* which would need to be discussed and amended in response to TrustPower and contractors experience and the views of Councils and others. He saw the document as the key to the success of the project from

a traffic engineering perspective. Pull-over/passing areas on State Highway 87 are provided for, as is liaison with authorities including Councils and New Zealand Police on transport of over-dimensioned loads.

[180] The traffic engineers advised that the State Highway network could accommodate the wind farm construction traffic.

[181] We accept the carefully researched advice submitted and note, as did Mr Brown, that all traffic engineers are in agreement. While the ULPS had raised traffic engineering concerns, we are confident that they have been considered; while there is potential for traffic issues during the construction phase, these have been addressed in the conditions of consent.

[182] We note particularly that the noise conditions and traffic conditions work together to mean no heavy construction traffic will access the site except via Mahinerangi Road and El Dorado Track between 7.00 am and 10.00 pm. As noted, this does not prevent use of other roads between the port and State Highway 87 outside these hours. Nevertheless we consider these effects are for a limited period (construction) and that the conditions reduce these effects to ones which are no more than minimal.

Dust

[183] This Court, separately constituted, had considered concerns of residents about dust in the re-consent hearing of the Waipori Dam. While dust was thought to be a concern when lake levels were low and an enlarged margin of silt was exposed, we heard evidence that there was general dust generated by shingle roads in the area, as was usual in many rural areas. We were therefore alerted to possible dust effects from access road widening and development of new access tracks and turbine pads and access areas.

[184] Dust was briefly addressed in evidence of Mr Metherill and Ms Anderson. Mr Metherill notes dust as a possible safety hazard and concludes that there could be a minor effect of dust on road safety. This has been addressed through a condition on suppression of dust on routes used to transport goods to the site.

[185] Mr R S Cudmore, an air quality management consultant with experience in dust impact and management, had assessed dust impact during the construction phase. He noted that separation distances between residential neighbours and dust generating activities can mitigate nuisance. In his view a separation distance of 500 metres from the construction site and 150 metres from existing shingle roads would be sufficient to minimise the potential dust nuisance.

[186] The pattern of wind in the location which in turn would affect dust generation and possible nuisance effect were assessed and the two main activities likely to generate dust impacts were:

- uncontrolled dust generating activities carried out on the construction site; and
- vehicle movements along Mahinerangi Road and the El Dorado Track.

[187] No residential properties are within 500 metres of the site, other than four which had given their written approval. However, some residential properties are within the 150 metre separation distance on Mahinerangi Road and El Dorado Track which have not given their written consent. Dwellings within 150 metres of the roads would experience occasions of noticeable dust suspended in the air. Dust mitigation is therefore required through application of water by water carts as provided for in the construction management plan on the access roads and earthworks/construction sites.

[188] Not surprisingly the overall assessment was that there was a high frequency and duration of strong winds blowing across the property, particularly towards the east, which the continuous dust monitoring programme is set up to address. The ambient continuous dust monitoring is to be undertaken to assess whether there is any need for additional dust mitigation measures, and the community liaison group together with a community complaints procedure is also to be established to provide feedback.

[189] We conclude that with the important mitigation measures in place through conditions required by the Commissioners, and prompt response to issues identified through the dust monitoring programme, the effects of dust will be minimal.

Permitted baseline – Section 104(2)

[190] Section 104(2) provides:

> *When forming an opinion for the purposes of subsection 1A, the consent authority may disregard an adverse effect of the activity on the environment if the plan permits an activity with that effect.*

[191] The parties are agreed that this provision gives the Court a discretion as to whether to disregard such effects. In this particular case, a number of effects are ones which could be said to be permitted, at least for other activities. The particular activities that were identified were earthworks and the cuts and fills associated with access tracking and roading.

[192] In particular, Mr Page, for the Clutha District Council, points out that forestry is a permitted activity, as are access tracks and earthworks associated with these activities. In those circumstances, he says, it is not fanciful that forestry activities might be conducted in this area and on this site which would involve a roading pattern similar to that currently envisaged. He points out that given the current approach of whole stem cartage when logs are harvested, gradients and turn radii very similar to those required for the wind farm construction would be required. Mr Page says that the roading pattern, cuts and fills and even width of the roads, would be similar overall to that which is envisaged by the wind farm applicants. Similarly, access tracks are specifically provided for as a separate activity within the Rural Resource Area (RRA.7(iv)). The relevant criteria may be met at least for part of the site. These provisions are contained in attachment **"E"** at page 15. The earthworks associated with forestry activities provide for lay-down areas and this has again some similarity with the wind farm.

[193] Notwithstanding the potential for a non-fanciful permitted activity which has similar effects, we have concluded that we should exercise our discretion in this case not to disregard those effects for the following reasons:

(a) the plan explicitly notes that these activities, including earthworks and access roads, are to be included within the discretionary activity. We have concluded that the plan intends decision makers to address all effects and enables a consideration of these on an holistic basis applying the assessment criteria we have identified;

(b) that to disregard the effects of access tracking and earthworks would be to disregard potential cumulative effects where there are significant earthworks, access tracking and turbines all in plain view with a cumulative effect upon the visual amenity of the area;

(c) policies within the engineering chapter of the plan for example, policy ENG 1, are intended to address all effects including a combination of effects due to the various aspect of the proposal.

Combined effects

[194] We have considered the question of combined effects of accessways, including cut and fill batters, platforms for turbines, and other lay-down areas and the effects of turbines themselves.

[195] We accept that there are circumstances where the combination of these effects could increase adverse effects on visual amenity impact beyond those produced by views of turbines alone. To that extent, we acknowledge that the photo simulations provided for this Court did not show any such combined effects. Mr Carr spent a considerable amount of time indicating that for members of the public this did not enable them to be fully informed of the effects of the activity. This is certainly the thrust of much of ULPS' concerns.

[196] Although the photo simulations might have assisted some members of the public, it is possible for the Court to envisage clearly from the documentation the combination of impacts. There can be no doubt that on reading the AEEs, any reasonable person

would have been aware that there was potential for tracking, cut and fill batters, and for earthworks to have visual effects in addition to those of the turbines themselves. We do not consider it is necessary that they be displayed in photo simulations and, to date, we have seen no evidence to establish whether the public attribute importance to photo simulations in influencing their reaction to projects.

[197] In practical terms, that combination effect is likely to be experienced in close and moderate to close views of the site. When seen from the El Dorado Track there are certain turbine positions where the combination of effects would be more significant than the turbine alone. In particular, turbines 82 and 81 include cut and fill batters. Others such as turbine 87 are not likely to add additional effect through the cut and fill batters.

[198] The views from other positions where the combination of effects might be visible are from a greater distance. Turbines 81 and 82 would be viewed from the Mahinerangi Fishing Village and from various points on the El Dorado Track, Mahinerangi Road and around Lake Mahinerangi.

[199] Mr Carr stressed the potential views from Te Papanui Conservation Estate. These effects would not be significant from the Visitor Information Area which is likely to be 5-6 kilometres from the site, but are more likely when people walking through the Estate overlook Mahinerangi from perhaps 3-4 kilometres away.

[200] As viewers at Te Papanui would be higher than the site, there is the potential for them to see cleared areas and cuts and fills in combination with the turbines. However, from this position there would be no vertical component (they are looking down on the site), but rather there would be additional unvegetated areas. To that extent, conditions requiring revegetation of batters, minimisation of cuts, together with revegetation of the widened road after development, are likely to have a significant effect on reducing the impact from the Te Papanui viewpoints over a longer period of time.

[201] Similarly, for long views of the site, for example, from State Highway 87 or various points on Mahinerangi Road 8 kilometres or more from the site, the combination effect of such cuts and fills are likely to be diminished over time with revegetation.

Accordingly we are satisfied that with sufficiently stringent revegetation conditions, such views could be mitigated in the medium to long term.

[202] With the exception of the turbines closest to Mahinerangi Village, particularly 81 and 82, we agree with Ms Buckland's assessment that the vertical component of the turbines is a much more significant component of visual effect than would be the cut and fill, platforms or roading.

[203] Mr Carr suggested to witnesses that the modification to the landform required for the roads and turbine platforms would leave significant scars on the landscape. That position was not accepted by the witnesses, and we agree with them. Given that the consent conditions would require the removal of the turbines and rehabilitation of the site if the consent ceased, we consider that any cut and fill or roading remaining, would become part of the modified but anticipated background views of this area. There is clear evidence of water races, tracks and goldmine workings throughout this region and the site is no different.

Overall approach to effects

[204] The approach of TrustPower is firstly to reduce the construction footprint within the site and provide conditions protecting the ecological/heritage, areas. Furthermore, there is a suite of mitigation conditions intended to reduce the effects of the turbines, access roads, turbine platforms, lay-down areas, and earthworks. There are several turbines where problems may arise in respect of earthworks, particular 81 and 82. There is also the potential for somewhat lesser effects on several other turbine sites for example, 71 and 51. Turbine 4 may create ecological difficulties. Turbine 42 intrudes on the Black Rock Tor shrublands and avifauna habitat. There are a number of other turbines that are close to ecological areas, require substantial earthworks or have access difficulties. We have concluded that in general terms, the potential effects may require either significant relocation of these turbines or their deletion from the proposal.

[205] For the balance of the turbine sites, we have concluded that the visual effects can be appropriately mitigated by the imposition of conditions minimising the earthworks required, controlling the colour of turbines, maximum height and diameter of the

turbines and the total number and their locations but with allowance for micro-siting at each location. The design would also need to avoid rows of turbines or giving the visual appearance of a wall from certain angles. It is the intention of the conditions currently proposed to achieve that aim, but in our view further improvements to the conditions are required to ensure that these outcomes are achieved.

[206] Provided that appropriate conditions are adopted and there is a detailed site location plan, we are satisfied that the adverse effects of the turbines, earthworks and roading associated with them can be avoided, remedied or mitigated. Whether this constitutes adequate avoidance, remedy or mitigation is a matter that needs to be examined in the context of the Part 2 evaluation in due course.

Positive effects

[207] We acknowledge a number of positive effects from the activity including:

(a) creation of employment during the construction period;
(b) creation of employment in managing the wind farm after construction;
(c) the provision of a renewable power source to meet New Zealand Energy's requirements;
(d) creation of a further energy source in the southern South Island, which may enable community and business activities.

[208] Mr Carr contended in his submission that the benefits of wind power were significantly overstated. In particular, he argued that it did not replace the requirement for thermal based power generation or reduce the generation of CO_2. However, we conclude it is not necessary for us to be satisfied that the wind farm would have any impact upon the existing configuration of power supply within New Zealand if it addresses future demand.

[209] It was clear and uncontested that the demand for power was growing by some 150-175 MW per annum (we assume peak demand). Every gigawatt hour which is supplied from a renewable source avoids the need to consider using or commissioning thermal production to supply that increase in demand. Accordingly in practical terms

we are satisfied that there is a benefit to the environment as a whole in the commissioning of new renewable resources rather than thermal.

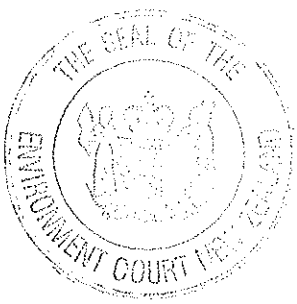
[210] Furthermore, we recognise that all forms of energy production, including the renewable resources, involve some levels of compromise. It is clear from the Waipori and Deep Stream projects, that both these hydroelectric projects involved inundation of areas, often with changes of natural catchment flows (concentration and discharge of waters). The area through Waipori is very different in its context, which now includes a hydroelectric scheme, than it was prior to the construction of that scheme. The manipulation of the water levels for the supply of electricity has impacts upon the margins of the lake. We discussed in detail the concerns raised by members of the public at the time of the renewal of these consents and decisions – ***Save Mahinerangi Protection Society Incorporated v Otago Regional Council***[9]. Public concerns relating to the Monowai and Manapouri schemes are further examples of issues that can arise.

[211] In respect of this wind farm, the effects are largely visual and are also ones which would cease if the activity ceased, given the requirement to remove the turbines.

[212] Accordingly, we have concluded that a positive benefit of this type of application is:

(a) it involves minimum irreversible long-term modification of the landform;
(b) the major visual effect of the activity will cease, if the activity ceases, with the removal of the turbines;
(c) existing farming activities can continue;
(d) there will be an improvement to the ecological values of the Scrappy Pines area.

We also acknowledge that the project envisages payment to a community group and strengthening of the values of the Te Papanui Conservation Reserve and its environs through the establishment of a community project and payment of monies and work



[9] Decision C1/04.

being provided to the extent of some $160,000. These effects will be of long term benefit to the district, regional and wider communities.

Other matters

Project Hayes

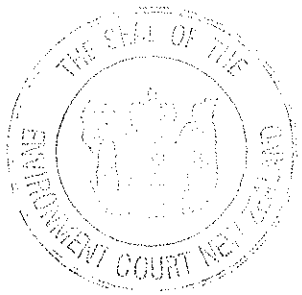
[213] Section 104(1)(c) enables the Court, in its discretion, to consider a wide range of additional matters.

[214] The first one which we discuss under this category, although it might also be considered in terms of effects, is the Project Hayes wind farm.

[215] There is a strong argument that any effect of Project Hayes are not effects on the environment we can consider given that the Project Hayes consent is subject to appeal. The wording of section 116 of the Act would indicate that where a consent is granted at first instance it remains granted but not operative until the appeal is resolved. This issue was not addressed directly in the ***Hawthorn v Queenstown Lakes District Council***[10] decision. However, there is also an argument that since the Project Hayes application was made first, then its effect on the environment, if relevant, should be considered first. In other words Mahinerangi wind farm effects should be considered as cumulative on those of Project Hayes.

[216] These issues are difficult to resolve given the current uncertain state of the law. However, in the circumstances we have concluded that even if the effect of Project Hayes as currently granted is taken into account, i.e. with 176 turbines, the combined and additional cumulative effect would be minimal. Either of the wind farms will bring a significant change to the scene. Together the change will not be much more significant.

[217] Our reasons for this conclusion are as follows.



[10] [2006] NZRMA 424.

(a) Dr Boffa showed a diagram identifying the areas where there might be a combined view of both Mahinerangi and Project Hayes. Of these the most relevant appeared to be locations along State Highway 87 and on Old Dunstan Road. In respect of those views on State Highway 87, both projects Hayes and Mahinerangi would be in the distance at greater than 10 kilometres to each. It is difficult for the two sites to be read together and one would have to be significantly further to the south to be able to do so. Views for example around Lake Mahinerangi would see the Mahinerangi wind farm in the near distance and Project Hayes more than 20 kilometres away. From those viewpoints we conclude the visual effects of the Mahinerangi wind farm would be significantly greater than those of the much more distant Project Hayes wind farm;

(b) from State Highway 87, there would be a disconnection between the Mahinerangi and Project Hayes wind farm. There is the potential for a cumulative effect if one looks from one wind farm to the next. Again views from Old Dunstan Road would be limited and a viewer would clearly read Mahinerangi separately from Project Hayes. Given the difference in height above sea level between Mahinerangi at 600-700 and Hayes in the region of 1000-1100 metres and the physical separation of some 15-20 kilometres, including a valley between the two sites, there are limited prospects for the two sites to be read together as producing a cumulative effect;

(c) there is also a prospect that the development of Project Hayes will serve to embed in the public mind the notion that wind farms are a normal part of this environment, since both the Hayes and the Mahinerangi projects would be seen within it. An example is the current number of transmission lines, which dot the landscape in this area including on the Lammerlaws and Lammermoors. We have concluded that the view of other transmission lines will become more acceptable;

(d) any incremental increase in cumulative effect is not such as to change our overall conclusion that these are minimal cumulative changes to the visual effects given they are longer views.

Government policies

[218] We have already discussed in general terms the relevant Government policies. These do not take effect as policy statements or environmental standards and at best therefore could be seen as advice of the current government attitude for consideration by the Court. Given the clear statutory directions towards the benefits of renewable energy in section 7(j) of the Act and the plan provisions which also give a clear preference to renewable energy, we see that little extra is gained from particular reference to the various current policies of the Government in the circumstances of this case beyond our consideration of the statutory requirements and the Plan provisions. These non-statutory documents provide little guidance beyond that contained in the District Plan.

Wind power as an energy source

[219] Mr Carr pressed upon us that we should have particular consideration to the use of the power and its availability. He made the point that wind generation does not necessarily generate at peak times of demand or on a regular basis. We acknowledge that. However, with respect, that misses the key point.

[220] Hydroelectricity in New Zealand is a significant source of generation. That is a form of power which can be stored within reasonable parameters. If the use of hydroelectricity can be avoided, this allows water to remain within storage lakes and increases their capacity to generate at times when there is a lack of other generation sources. We have no doubt that the production of 600-800 GWhrs per annum of electricity from the Mahinerangi wind farm has the potential (if delivered to the national grid unconstrained) to result in hydroelectric storage being utilised to preserve lake volumes for times of peak demand when other resources are not available.

[221] As discussed in the ***Contact*** decision[11], we are not prepared to assume that no upgrades to the national grid will be undertaken to reduce delivery constraints to the grid and the market. Furthermore, Mr Gleadow told us that the Electricity Commission is

[11] Decision C73/2008.

satisfied that a combination of the various renewable resources, geothermal, wind, water could provide for 90% of the country's requirements. This would, of course, require a combination of these resources to provide both base and peak load supply.

Part 2

[222] Consideration under section 104 is subject to consideration of the various provisions of Part 2 of the Act. No evidence addressed takata whenua issues and we do not understand any matters under section 8 to arise. No evidence was produced to this Court suggesting that the landscape on the site was either an outstanding natural landscape or part of an outstanding natural landscape under section 6(b) of the Act.

[223] Mr Carr submitted that it was near to the outstanding natural landscape of Te Papanui and Lammermoor. We do not accept that the wind farm site is part of an outstanding natural landscape if that was the purport of Mr Carr's submission. The site is on the intermediate slopes between the lower land and the upland plateaus of Lammerlaw and Lammermoor. The physical separation of the application site, both in terms of height above sea level, Lake Mahinerangi to the south and the valley to the north, clearly separates the site in landscape terms. To that extent we accept the evidence of Dr Boffa and Ms Buckland.

[224] Matters under section 6(a) of the Act are addressed by protecting any areas of wetlands and margins of waterways from use and development. Thus section 6(a) is addressed directly by avoidance of the wind farm activity within wetlands or the margins of waterways. Further conditions would reinforce the preservation of these areas in respect of section 6(a).

[225] We accept that there are some areas of significant indigenous vegetation on this site and these areas may involve significant habitats of indigenous fauna which we are required to recognise and provide for in accordance with section 6(c). The particular areas that we accept fall within this category are any Sphagnum wetlands, the Thomas block, the Scrappy Pines area, and the Rocky Tor with its associated shrublands. Some development is proposed in both the Thomas land and Scrappy Pines area. However, we conclude that the fencing of the Scrappy Pines area, and the predator control over the

site including the Thomas block, will result in a net protection of those areas. Firstly, there will be significant increase in snow tussock quality and protection within the Scrappy Pines area. The Thomas block will involve four turbines near the existing house. The tussock affected will be minimal. All areas of significant indigenous flora and fauna will benefit from predator control. This will have the effect of protecting habitats of indigenous species. In particular we are satisfied it will benefit the indigenous avifauna in the area. However, conditions need to be imposed to ensure that the predator control is undertaken and that the area of the Scrappy Pines is appropriately protected by a Queen Elizabeth covenant (or consent notice conditions) registered on the titles of the land. Also appropriate conditions to monitor bird strike will need to be included (as discussed) together with review provisions.

[226] Similarly, in respect of item 6(d), (e), (f) and (g), the exclusion areas within the site will have the effect of better protecting those areas. Improvement of public access is difficult to envisage directly in terms of this consent, but we are satisfied the consent will not reduce those prospects. On the other hand, the community project payment supported by the wind farm will significantly improve access to the Te Papanui Conservation reserve and its values. We understand a visitors centre at Te Papanui is one of the projects proposed.

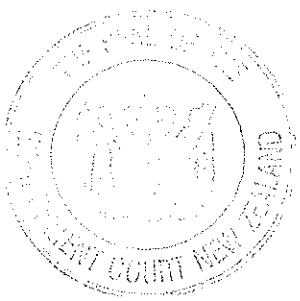
[227] Overall we are satisfied there will be a net gain in recognising and providing for the various matters of national importance.

Section 7

[228] We have considered all of the matters under section 7 and concluded that the following are particularly relevant:

7(b) Efficient use and development of natural and physical resources

[229] We acknowledge that this area has the potential for power generation from wind. That natural resource is one which can be efficiently harnessed through an appropriate wind farm. To that end, there are economies of scale, which suggest a number of machines should be placed on the site. Given the amount of land involved, something



between 60 and 100 turbines appears to provide for an efficient project to harness this wind power. On the other hand, the Court is concerned with sustainable management and efficiency and those terms would suggest that any development should not exceed the capacity of the landform and area to accommodate the generation envisaged.

7(c) The maintenance and enhancement of amenity values

[230] Considering our earlier discussion on visual impacts it appears to us that there is a balance between 7(b) and 7(c) achieved if between 60 and 100 turbines are located on the site. Currently there are problems with achieving both an efficient and acceptable development (in terms of amenity) with the turbines in the positions shown by TrustPower. It may be that up to 100 turbines can be accommodated on easier terrain on the site. On the other hand, it may be necessary to reduce the number of turbines. Even at 66 turbines; this would permit the 200 MW envisaged (at 66 at 3 MW each). At 80 turbines, this would only require 2.5 MW generators to achieve the desired megawatt output. Further there was no suggestion that even at 130 or 140 MW, this wind farm would be uneconomic. (A significant change to the scene would occur with just 66 turbines. 100 turbines has a similar effect so from the viewpoint of efficient use of the wind resource, 100 turbines may be better. However Dr Boffa considered the effects of 66 turbines was less than those from 100 turbines. Fewer large turbines make good use of the wind and present a more acceptable visual effect. The landscape dimensions are large and the viewing distances are mostly long so the site can accommodate larger turbines).

7(i) and 7(j) Climate change and renewable generation

[231] The parties spent some considerable time addressing the questions of section 7(i) and 7(j). 7(i) requires the Court to have particular regard to the effects of climate change. Our view is that this provision is aimed at considering the effects of climate change on the application itself. In that regard, no evidence was given to us and we are satisfied that climate change would have no effect on the proposal at all. Nor do we consider it is necessary for an applicant to establish that there are beneficial effects of this application on climate change. To require an applicant to demonstrate this would

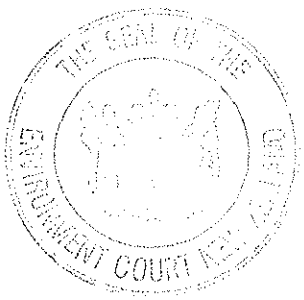
require a level of precision which is simply not available in terms of the current state of scientific knowledge.

[232] We have concluded that section 7(i) addresses the potential effect of climate change on an application. It has particular ramifications in areas of coastal development for example.

[233] On the other hand, we accept that section 7(j) is directly relevant to this application. 7(j) provides that the Court should have particular regard to the benefits to be derived from the use and development of renewable energy. Without 7(j) benefits of renewable energy could still be raised and debated in general terms under Part 2 and section 104(1)(a). We conclude that the purpose and effect of the insertion of 7(j) is to avoid relitigating on a case by case basis the benefits of renewable energy over those which use non-renewable energy sources (coal, gas etc). If Parliament had intended to require such benefits to be proven in each case there is little point for 7(j). If so *any benefits* or *benefits (if any)* were simple drafting solutions. Although no particular benefits are identified nevertheless we must conclude 7(j) prefers renewable over non-renewable energy. Like all criteria of Part 2 the outcome will be influenced by the particular benefits and their magnitude in a particular case.

[234] Although Mr Carr attempted to argue before this Court that wind generation had no benefits, the Court concludes section 7(j) requires the Court to assume benefits. Unfortunately, the Act does not go onto specify these benefits. TrustPower's evidence on this issue was somewhat diffuse. Dr Brent Layton who was called as a witness on both this matter and the Contact matter identified that a key portion of his evidence relates to *the economic effects of the Mahinerangi wind farm and the context of Part 2, in particular sections 7(j) of the Resource Management Act.*

[235] However, his actual evidence itself ranges broadly over economic matters and it is difficult to tell what, if any, are the particular benefits identified relevant to section 7(j).



[236] For assistance, it is probably apposite that we quote the decision of the Court in ***Meridian Energy and others v Wellington City Council, Wellington Regional Council***[12] at 399:

> *It is largely self evident that supply of electricity through the use of wind energy assists with the supply security by diversifying New Zealand's generating base. There is as, Mr Melhuis agreed, a strong synergy between wind generation and hydro, allowing hydro resources to be stored during dryer periods. Meridian, with the control of some 74% of the nation's hydro resource, is in a position to take full advantage of that. Additionally, wind generated electricity has very limited exposure to energy supply disruptions or fuel price fluctuations. As Mr Glennie points out, the cost of generation from a wind turbine is largely fixed and known on the day on which its construction is completed. The electricity generated close to a major source of demand minimises the load on the national grid and delays the need for transmission upgrades, and there are further benefits in the reduction of transmission losses.*

[237] Not all benefits identified here would necessarily apply to all wind farms. There may be other benefits in particular cases. There is a lack of clarity as to whether others are advanced in this case. We acknowledge that renewable energy has very limited exposure to supply disruptions and fewer price fluctuations. The major component of cost is the capital cost of installing and maintaining the turbines. Unfortunately, the ***Meridian*** decision quoted does not fully address the benefits of renewable energy sources as opposed to other energy (which we assume would include thermal or nuclear energy).

[238] It must therefore follow that one key benefit of renewable energy which we are required to assume under section 7(j) is the avoidance of the use of non-renewable energy resources. This, in turn, we agree must be a reflection of the potential environmental effects of such energy sources in terms of carbon emissions or other effects on the environment.

[12] Decision W31/2007.

[239] It is unfortunate that the matter was not addressed more directly in the evidence of Dr Layton or the planning evidence of Mr Serjeant. Mr Cubitt in his planning evidence does identify benefits of the wind farm generally. We conclude for current purposes that the benefits of this wind farm under section 7(j) include:

(a) it does not involve permanent long term alteration of the environment;
(b) it does not utilise any finite resource, other than the site itself;
(c) it avoids emissions of substances such as CO_2 which may cause adverse effects on the environment and/or be subject to constraint in terms of international or national obligations;
(d) it supplies a demonstrable public need for power;
(e) it involves minimal displacement of other productive uses of the land;
(f) it is subject to limited exposure to supply disruptions or prime fluctuations;
(g) it uses the wind resource without affecting that resource in any meaningful way.

Section 5

[240] The Act has a single purpose of sustainable management as that term is defined in section 5. Achieving that outcome in these circumstances requires integrating the various factors we have identified. It is clear that certain aspects may prevail over others in this final analysis. In that regard we consider that the enabling of the national, regional and district communities in their requirement for renewable sources of power is a significant factor in reaching a conclusion. On the other hand we recognise, as does the Plan, that not all development of such renewable energy is appropriate.

[241] Having considered all the evidence, the various adverse effects, Plan criteria and other matters addressed in this decision, in particular those in terms of visual amenity, we conclude that the activity is appropriate within the footprint subject to constraints as to the number of turbines, total production of 200 MW, a height of 145 metres to the blade tip and a blade diameter of 90 metres.

[242] We are concerned about the placement of certain of the turbines and roads in relation to the earthworks, platforms and cut and fill and batters associated with them.

We are confident the site can accommodate more than 66 turbines, but are not so confident that the 100 turbines envisaged can be accommodated. However, we consider that if significant cuts, fills and batters can be avoided, the site may be able to accommodate up to 100 turbines if placed and sited appropriately. To that end, we consider the activity is appropriate if it is conducted:

(a) in general accordance with the type of conditions we have described, many of which are developments of the conditions proposed; and
(b) with a siting plan showing the position of all the aspects of the works.

[243] We conclude that turbines 81, 82 and 87 are too close to Mahinerangi Village and involve too great a volume of earthworks. That area and turbines should be deleted from the footprint. There are a number of other areas onto which access would be difficult and these are currently showing no turbines, those also should be deleted from the footprint. Attachment **"G"** has endorsed Map **"C"** with hatching on the areas of concern. These are usually small tongues of land peripheral to the footprint sought. Areas around 4, 42, 81 and 82 are also omitted.

[244] On the balance of the construction footprint there are constraints relating to:

(a) formation of access roads to avoid unnecessary cuts and fills;
(b) avoiding unnecessary cuts or fills to create platforms or lay down areas;
(c) avoiding any ecological features such as rock areas that provide habitats for indigenous fauna;
(d) avoiding tors or other ecological features;
(e) avoiding clustering or lining up turbines to create either a wall or dense cluster effect.

[245] There are also constraints relating to proper location of turbines to maximise wind pressure and avoid turbulence with other turbines.

[246] Even with the constraints we have mentioned there is still significant scope for placement of the turbines. The majority of the existing positions shown in the diagrams

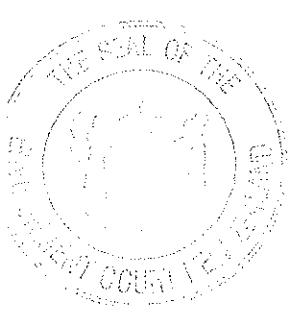
would meet all of these requirements. However, there appears to be a number (perhaps as many as 20) which currently would be subject to some form of constraint, particularly relating to earthworks. The movement of those turbines (including 81, 82 and 87) to more appropriate positions may require different placement or spacing of the remaining turbines.

[247] To that extent we wish to give TrustPower an opportunity to consider whether it could meet the various requirements and still achieve 100 turbines on the site. It appears likely to us that with minimal changes, i.e. simply deletion of some turbines, TrustPower could achieve in excess of 80. Whether it wishes to consider more detailed positioning for up to 100 would in part turn upon how committed TrustPower is to retaining the option of using 2 MW turbines. 80 turbine sites would give TrustPower all choices above 2.5 MW, i.e. 80 x 2.5 = 200 MW.

[248] In general terms we agree with the comment of Dr Boffa and Ms Buckland that fewer turbines will have less visual impact. We have concluded that the height or the tip span of the turbines are not critical factors. The number of turbines is governed by associated earthworks and proximity to close viewing points, particularly Mahinerangi Village.

[249] However, on balance we conclude that, given the area involved and the limited viewpoints, it might be possible to place up to 100 turbines in this area with more careful consideration of their precise siting. Clearly the simple deletion of 15 to 20 turbine sites would achieve significant improvement in visual impacts, while at the same time reducing the earthworks necessary and the cut and fill for roads and platforms.

[250] The final position of the turbines will need to be confirmed in a final siting plan. This would provide up to 100 metres radius circle within which the turbines might finally be placed. Those circles cannot include any ecological areas or be within 50 metres of such an area. Accordingly we suspect that the end result will be to limit the micrositing areas for some turbines to avoid these areas (i.e. part circle only). This would need to be clearly marked on the site plan. Further, the site plan would need to show the surplus fill disposal areas with the same constraints we have just discussed and any fill or lay-down/platform site.



[251] In addition to that a number of changes will need to be made to the conditions we have discussed through the course of this hearing. Assuming all of those changes are made the question for this Court is does such an application achieve sustainable management as that term is defined while avoiding, remedying or mitigating adverse effects?

[252] Commissioner W R Howie has been involved in a number of applications for wind farm consents, including Unison (2), Hawkes Bay Wind Farms and Makara. We are grateful for his experience and that he is able to consider this site in comparison with others that have been considered by the Court. Commissioner Howie has concluded that this site is one of the best suited to such an activity compared with others for which the Court has granted consents in cases in which he has been involved.

[253] The Court also has wide experience in dealing with siting various activities (not necessarily wind farms) within rural landscapes. We conclude this area is a modified working landscape which has been utilised in the past and currently for the production of power. It has also been extensively mined for its natural resources. It is part of a mosaic of activities that take place between the Lammermoor Range and the Taieri Plains. In our view the wind farm in this location would enable the district, regional and national communities to provide for their health and wellbeing, while the controls discussed would appropriately avoid, remedy or mitigate adverse effects on the environment provided the site plan and conditions we have discussed are implemented.

[254] In our view the proposed Mahinerangi wind farm provides a good example of the ways in which the energy needs of this country can be met from renewable resources without unduly compromising the natural and physical environment.

Conclusion

[255] Accordingly this Court issues an interim decision confirming a consent in general terms. We give TrustPower an opportunity to reconsider both the number of turbines and their siting, and to provide modified conditions to meet the concerns of the Court. Where we have not discussed specific conditions those proposed by TrustPower

at the hearing are considered by the Court generally acceptable subject only to drafting issues.

Directions

[256] TrustPower is to prepare and circulate to the other parties within 40 working days a siting plan indicating the number and position of turbines, landfill, tracks, cut and fill and lay-down areas as discussed in this decision. It is also to provide an updated set of conditions reflecting the decision of this Court and otherwise the conditions put to the Court during the hearing. Those are to be circulated to the other parties, namely the Regional Council, District Council and ULPS for comment. The parties are to enter into discussion to see if agreement can be reached as to the site plan and conditions.

[257] TrustPower is to provide a report to the Court of those discussions within 30 working days after the circulation of the plans and conditions advising:

(a) whether agreement has been reached, and if so providing a memorandum signed by all parties as to the proposed conditions and site plan;
(b) in the event that agreement is not reached, what specific issues remain in relation to the Plans and/or conditions, and advising whether the parties seek to proceed:
    (i) by way of written memoranda;
    (ii) further pre-hearing conference; or
    (iii) to a hearing.

Costs

[258] This is a matter in which TrustPower has been largely successful on appeal. However, core concerns of ULPS have been addressed during the course of this decision and the resulting consent is somewhat more constrained than TrustPower proposed, and in those circumstances it appears (tentatively) that this is not a case to consider an award of costs. However, costs are reserved and any application for costs is to be filed with the Court within 70 working days of this decision, response within 10 working days and final response 5 working days thereafter. The delay is to give the parties an opportunity

to see if issues in relation to the site plan and conditions can be settled prior to addressing costs.

DATED at CHRISTCHURCH this **25th** day of **July** 2008

For the Court:

[redacted]

J A Smith
Environment Judge

Issued[13]: 25 JUL 2008

[13] SmithjeJud_Rule\d\2007-CHC-247.doc

OTAGO REGIONAL COUNCIL: CONSENTS 2006.841-2006.851

For the purposes of attaching consent conditions, eleven separate activities as identified in Schedule A below have been bundled together. The conditions that follow have been listed under two headings: Standard Conditions which apply to all eleven consents, and Special Conditions that apply only to each particular consent.

Date of commencement: As provided in s.116 of the Resource Management Act 1991.

Term of consent: As specified in Schedule A below

Date of lapsing of consent (if not given effect to): Ten (10) years as provided in s.125 of the Resource Management Act 1991.

Purpose of consent: The various activities for which consents from Otago Regional Council have been granted, are as described below in Schedule A:

Schedule A:

Consent No	Type	Description	Term
2006.841	Land Use Consent	To erect structures within the bed of watercourses and the associated disturbance of the bed of the watercourses for the purpose of erecting bridges and culverts.	35 years
2006.842	Water Permit	To take groundwater for the purpose of dewatering construction sites.	15 years
2006.843	Water Permit	To temporarily divert watercourses whilst erecting bridges and culverts as well as to temporarily divert stormwater around fill disposal areas.	15 years
2006.844	Discharge Permit	To discharge water to land in a manner that may enter water for the purpose of disposing construction site run off water.	15 years
2006.845	Discharge Permit	To discharge sediment to water for the purpose of erecting bridges and culverts.	15 years
2006.846	Discharge Permit	To discharge water to land in a manner that may enter water for the purpose of dewatering construction sites.	15 years
2006.847	Discharge Permit	To discharge water and sediment to land in a manner that may enter water for the purpose of disposing of stormwater from construction sites and fill areas.	15 years
2006.848	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.	15 years
2006.849	Land Use Consent	To construct bores for the purpose of dewatering construction sites.	Unlimited

2006.850	Water Permit	To take and use up to 55,000 litres per day from Lake Mahinerangi in conjunction with water permit 2006.851 for construction purposes.	15 years
2006.851	Water Permit	To take and use up to 55,000 litres of water per day from the Deep Stream Enhancement Reservoir in conjunction with water permit 2006.850 for construction purposes.	15 years

Legal Description of the Land: The relevant parts of the land described in Schedule B (below), otherwise as more specifically described in this permit and in the various plans and other information submitted by the applicant.

Schedule B:

1	TrustPower Limited	Sections 16-19, Block IV, Hedgehope Survey District in OT12C/1173.
2	Landcorp	Sections 1-8, Survey Office Plan 23490 in OT13D/952; and Sections 1-5 and 7-20, Survey Office Plan 23526, Part Section 1, and Sections 3-4, Survey Office Plan 19939, Part Sections 12-16, Block IV, and Part Sections 1 and 17, Block V Waipori Survey District in OT13D/954.
3	Thomas Family	Section 24, Block IV, Hedgehope Survey District on Survey Office Plan 22457 in OT11D/1371.
4	Beattie Family	Part Run 186B, Survey Office Plan 900 in OT14C/1133.
5	Hall Familly	Part Section 5, Block X Lee Stream Survey District in OT14C/331, and Section 3, Block X Lee Stream Survey District, Survey Office Plan 21969 in OT12C/797.

STANDARD CONDITIONS OF CONSENT:

1. The consent holder shall undertake all activities authorised by these consents in general accordance with the plans and information submitted with resource consent applications, dated 7 December 2006 and numbered 2006.841-851 by Otago Regional Council, and any other documentation relevant to the application including Boffa Miskell Plans W07190 Layout Development dated 18 March 2009 ("BMP W07190"). Any change or cancellation must be made in accordance with s.127 of the Resource Management Act 1991.

2. The consent holder shall notify the Compliance Manager, Otago Regional Council, at least fifteen (15) working days in advance of the date of the commencement of works associated with these consents.

3. Unless it is otherwise specified in the conditions of these consents, compliance with any monitoring requirement imposed by these conditions shall be at the consent holder's expense.

4. Where conditions of these consents require the provision of further information such as reports or management plans by the consent holder, Otago Regional Council may commission a peer review of this information to certify its accuracy. This peer review shall be at the consent holder's expense.

5. The consent holder shall supply any agent or contractor working under these consents with a copy of the consent conditions on-site so that these conditions can be presented to an officer of the consent authority upon request.

6. Any works carried out during the life of the wind farm, whether maintenance, decommissioning, or otherwise, shall be consistent with the conditions attached to these consents.

7. The consent holder shall pay to Otago Regional Council all required administration costs and charges fixed by the Council pursuant to s.36 of the Act in relation to any:

   (i) administration, monitoring and inspection relating to these consents; and

   (ii) chages authorised by regulations.

8. In accordance with s.128 of the Resource Management Act 1991 (and in addition to the more specific monitoring conditions attached), Otago Regional Council may at two years after the commencement of these consent and at two yearly intervals thereafter, after giving not less than one month's notice in writing, serve notice on the consent holder of its intention to review any of the conditions of these consents for either of the following purposes:

   (i) To deal with any adverse effect on the environment that may arise from the exercise of these consents, including noise, and which it is appropriate to deal with at a later stage.

   (ii) To require the consent holder to adopt the best practicable option to avoid, remedy or mitigate any adverse effect on the environment.

9. Upon completion of construction of the wind farm, the consent holder shall advise the Compliance Manager, Otago Regional Council, in writing (and as appropriate supplemented by photographs) that all relevant conditions of these consents have been complied with.

10. The consent holder shall ensure that copies of all Management Plans are also supplied to the Planning and Environment Manager, Clutha District Council.

CONSTRUCTION CONDITIONS

Site Development Plan and Associated Expert Certification

11. Not less than one month prior to the commencement of any site works or construction activity, the consent holder shall submit a detailed Site Development Plan to the Compliance Manager, Otago Regional Council for confirmation that it is in accordance with the conditions of consent and provides the following information:

    (i) Details of the final location of all facilities and infrastructure to be built. The Site Development Plan shall be generally in accordance with BMP W07190. Subject to the exceptions noted below, all facilities and infrastructure shall be inside the Windfarm Development Area depicted on BMP W07190/1 and shall maintain a buffer zone of at least 50m to any area of high ecological value as depicted on BMP W07190/1. High ecological value areas are generally described and identified in the Ecological

Assessment that forms Appendix 3 in Volume II of the resource consent application documents and are depicted on BMPW07140/1. Areas of high ecological value consist of sites containing any of the following: high and medium quality wetlands, rocky gully sides, high quality vegetation communities, rocky tors of sufficient size and/or configuration to provide lizard refuge, areas containing threatened plants as defined by Hitchmough et al, 2007 [New Zealand Threat Classification System Lists - 2005, Rod Hitchmough, Leigh Bull and Pam Cromarty (comp), January 2007, Department of Conservation, 194p (ISBN 0-478-14128-9)], or any successive publication, and waterbodies in the first order streams with resident *Eldons galaxias*.

The exceptions are:

- turbine locations 63, 64, 65, 66, 68, 69, and 70 being development within the covenanted area and turbine locations 97, 98, 99 and 100 being development within high quality tussock referred to as the Thomas Block and as marked on BMP W07190/1;
- access tracks in two areas as marked "D" on BMP W07190/1 which are within or near areas of high ecological value;
- access tracks and associated earthworks within ecological buffer areas as generally marked on BMPW07190/1; and
- any sediment controls and associated earthworks that need to be located within ecological buffer areas to avoid adverse effects upon adjacent areas of high ecological value.

The plan shall include but not be limited to:

a) all finalised turbine locations, which shall only be located within the circles depicted on BMP W07190/1;

b) all access tracks which shall be located generally as shown on BMP W07190/1, with:

   i) a maximum overall length of 37 km; and

   ii) a width for construction of 12 m narrowing to 5m post-construction.

c) cut and fill batters associated with tracking, which shall have a maximum height of 10m and slopes which are generally consistent with the typical cross section depicted in Appendix A.

d) all hard stand areas, which shall be located within the circles depicted on BMP W07190/1 so as to minimise the total volume and area of earthworks, shall have a maximum area of 1400m^2 and a maximum depth of fill of 12m;

e) all fill sites for excess spoil, which shall have a maximum volume of fill to be disposed of 460,000 m^3, a maximum coverage of 61.5 ha and a maximum fill depth of 3m;

f) sediment ponds, which shall have a maximum bund height of 3m;

g) the substation site, which shall be located generally as shown on BMP W07190/1;

h) the operations and maintenance building and associated waste and water services, and construction site office and depot, which shall be located generally as shown on BMP W07190/1;

i) the transmission line;

j) the concrete batching area, which shall be located generally as shown on BMP W07190/1;

k) the internal transmission system;

l) meteorological masts and equipment; and

m) any other areas of land disturbance.

Environmental Construction Management Plan

12. Prior to undertaking any activities authorised by this resource consent, the consent holder shall provide to the Compliance Manager, Otago Regional Council, a comprehensive Environmental Construction Management Plan *(ECMP)* prepared by an independent and suitably qualified and experienced person. The ECMP shall generally be in accordance with Appendix 12 of the application documentation entitled *Mahinerangi Wind Farm Draft Environmental Construction Management Plan*, prepared by Kingett Mitchell Ltd. The ECMP shall set out the practices and procedures to be adopted to ensure that all resource consent conditions relating to with the construction of the Mahinerangi Wind Farm are complied with. This shall include management procedures for the establishment, operation, and rehabilitation phases of the wind farm.

(i) Subject to any other conditions of this consent, all activities shall be undertaken in accordance with the latest version of the ECMP and related plans (as listed in condition 12(vi)(h) (below).

(ii) The ECMP and associated plans shall be reviewed by the consent holder and may be amended accordingly to take into account:

(a) Any recommendations of independent experts engaged to undertake works in respect of the Mahinerangi Wind Farm.

(b) Any required actions identified as a result of monitoring under these consents.

(c) Any required actions to ensure that appropriate monitoring and reporting of all activities is undertaken in accordance with the resource consent conditions.

(iii) The ECMP and related plans shall not be amended in a way that contravenes the objectives set out for the respective plans, in accordance with conditions 14 and 15.

(iv) A copy of the latest version of the ECMP and associated plans shall be kept on site at all times and all key personnel shall be made aware of each Plans' contents.

(v) If amendments are made to the ECMP (or associated plans) in accordance with condition 12(ii) above, updated plans must be provided to the Compliance Manager, Otago Regional Council.

Purpose and Content of ECMP

(vi) The purpose of the ECMP is to detail the practices and procedures to be adopted to ensure that all resource consent conditions relating to construction rehabilitation and operation of the Mahinerangi Wind Farm are complied with and that adverse potential effects on the environment associated with construction are appropriately avoided, remedied or mitigated. The ECMP shall provide for the following objectives:

(a) To minimise the overall area of disturbance, so as to reduce the potential impact on flora, fauna and waterways.

(b) To minimise the sediment generation and sediment laden runoff.

(c) To ensure that appropriate monitoring and reporting of all activities is undertaken in accordance with the resource consent conditions.

(d) To ensure that the earthworks are undertaken in a manner that provides for final surfaces which are suitable for rehabilitation.

(e) To ensure that earthworks are undertaken in a manner that provides for compliance with relevant resource consent conditions in respect of water quality criteria applicable to discharge permits.

(f) To ensure that earthworks and associated sediment controls are managed in a manner that does not give rise to effects set out in section 107(1) of the Resource Management Act 1991.

(g) To ensure that any low quality gully sites be appropriately used for spoil disposal.

(h) To provide a framework for the individual management plans including, but not limited to:

- an Environmental Monitoring Plan and Report;
- an Earthworks Management Plan; and
- SupplementaryEnvironmental Management Plans (*SEMPs*) associated with the construction of tracking and sediment control devices and any associated earthworks located within the ecological buffer areas.

(vii) The ECMP shall contain an explanation of how it will be implemented and associated implementation responsibilities. This shall include a description of the documentation and information management and approvals processes to be used in implementing the plan, and a description of the process for monitoring performance and changes to the plan based on monitoring activity.

(viii) The consent holder shall ensure that the construction of the Mahinerangi Wind Farm is undertaken in accordance with the requirements of the ECMP.

13. **Environmental Monitoring Plan and Report**

(i) An Environmental Monitoring Plan and Report shall be prepared by the consent holder that sets out a schedule of monitoring to be undertaken and requirements for reporting of these results in accordance with the conditions of resource consent.

(ii) The consent holder shall prepare and submit to the Compliance Officer, Otago Regional Council, an annual Environmental Monitoring Report, prior to each anniversary of the commencement of the resource consents. The monitoring period to be included in each report shall be for the preceding 12 month period.

(iii) As a minimum, the Environmental Monitoring Report shall:

(a) Summarise all environmental monitoring undertaken;

(b) Summarise all the data collected, as required under the Environmental Monitoring Plan outlined above, and any other conditions of resource consent. This may include graphical presentation, statistical summations of monitoring data, critical analysis of the information in terms of compliance and environmental effects;

(c) Highlight and discuss any important environmental trends;

(d) Report and discuss any difficulties in compliance with the conditions of the consent and the measures adopted to rectify problems; and

(e) List any maintenance works needed, proposed or undertaken to ensure compliance with the conditions of the consent or to facilitate operations.

14. **Earthworks Management Plan**

i) An Earthworks Management Plan shall be prepared and shall be submitted by the consent holder to the Compliance Officer, Otago Regional Council, one month prior to the commencement of construction activities. The Earthworks Management Plan shall set out the practices and management procedures to be adopted to ensure that all resource consent conditions relating to earthworks are complied with. The Earthworks Management Plan shall form part of the ECMP required under Condition 12.

ii) Matters to be provided for by the management procedures include, but are not limited to, relevant matters contained within Part C – Earthworks Management Plan of the draft ECMP which formed Appendix 12 of Volume II of the resource consent application documentation.

iii) The Earthworks Management Plan shall provide for the following objectives:

a) To ensure that earthworks do not adversely areas of high ecological value (acknowledging the provision of relevant ecological buffer areas (as marked on BMPW07190/1 and SEMPs)) and waterbodies within the Mahinerangi Wind Farm site;

b) To minimise sediment generation and sediment laden runoff;

c) To ensure the control and/or mitigation of adverse effects of any sediment run-off or contamination of stormwater.

d) To avoid adverse effects from sediment run-off from fill areas and provide for sediment control works that will be capable of safely passing a 50 year 24 hour event.

e) To ensure that earthworks and associated sediment controls are managed in a manner that does not give rise to effects set out in section 107(1) of the Resource Management Act.

iv) The Earthworks Management Plan shall generally comply with the requirements of Auckland Regional Council's "*Erosion and Sediment Control Guidelines for Land Disturbing Activities*" (Technical Publication No.90).

v) The consent holder shall ensure that all earthworks associated with the construction of the Mahinerangi Wind Farm are undertaken in accordance with the requirements of the Earthworks Management Plan.

vi) The Earthworks Management Plan shall, as a minimum address the following:

a) The objectives set out in 14(iii) above, and methods appropriate to the Mahinerangi Wind Farm site.

b) The overall design of the rehabilitated landscape, taking into account the need to:

(i) ensure that where appropriate, sediment control areas are installed prior to soil disposal work;

(ii) minimise erosion from fill areas by providing for appropriate and stable:

- sediment compaction levels; and
- revegetation.

(iii) ensure that sediment control devices for fill areas are designed to cater for a 50 year, 24 hour event;

vii) The Earthworks Management Plan shall include details in circumstances where low quality gully sites are used for spoil disposal, of how the following criteria are to be met:

(a) That fill disposal must not result in siltation of downstream streams.

(b) That fill disposal must not result in changes to downstream stream water nutrient concentrations or to other chemical stream water parameters.

(c) How the composition and structure of potentially affected adjacent wetland vegetation within the affected catchment will be monitored prior to and for 5 years after spoil deposition, using quantitative sampling methodology undertaken by an independent and suitably qualified ecologist reporting to the Compliance Officer, Otago Regional Council.

(d) How any adverse vegetation changes revealed by monitoring required by condition (vii)(c) above are to be remedied or mitigated by the consent holder.

viii) The consent holder shall define the active construction zone which is comprised of the various sites detailed in Condition 11 (i) by clearly marking (i.e. fence, tape or other appropriate mechanism) the limits of the construction zone.

15. **Supplementary Environmental Management Plans**

i) The consent holder shall submit to the Compliance Officer, Otago Regional Council, at least 10 working days prior to commencement of construction activities associated with the establishment of access tracks and/or sediment control works in the areas within the ecological buffer areas or areas marked "D" on BMPW07190/1, specific Supplementary Environmental Management Plans (*SEMPs*). The SEMPs will form part of the ECMP. The SEMPs shall set out the practices and procedures to ensure that access tracks and associated

earthworks and sediment control works within the ecological buffer areas or areas marked "D" on BMPW07190/1, are constructed so as to avoid, remedy or mitigate adverse effects upon adjacent areas of high ecological value and waterbodies.

ii) The SEMPs shall, as a minimum, address the following construction related activities:

a) the erection of structures across and/or within the bed of watercourses;

b) the establishment of diversion channels when erecting structures across and/or within the bed of watercourses;

c) the establishment of fill disposal areas;

d) the disturbance of the bed of any watercourses resulting from any construction activity within the bed of watercourses;

e) the diversion of water associated with any construction activity within the bed of watercourses;

f) construction related discharges; and

g) any other activity which is within the ecological buffer identified on Plan BMP W07190/1.

iii) As a minimum, the SEMP for each specific construction activity identified in Condition 15(ii) shall include the following information:

a) a map showing the specific location of each structure and/or component related to the construction activity and the high ecological value area for which protection is required, including sphagnum bogs and streams;

b) identification of whether the structure and/or component related to the construction activity is temporary or permanent and confirmation of the risk of potential adverse effects on high ecological value areas;

c) the timing and duration of the activity (i.e. structure erection or discharge etc);

d) cross-section and plan drawings to scale showing the dimensions and nature of each structure and/or component related to the construction activity;

e) construction methods that will be utilised, including identification of erosion and sediment control measures that will be put in place;

f) for activities within watercourses, confirmation of flow carrying capacity of the watercourse prior to following installation of each structure and/or component related to the construction activity, confirmation of the flow capacity of the new structure and/or component and identification of secondary flow paths;

g) for discharges, the maximum rate of discharge, which will comply with relevant resource consent conditions; and

h) The mechanisms, procedures, and practices to be followed to ensure that all works within the ecological buffer areas are undertaken to avoid adverse effects upon the adjacent areas of high ecological values and waterbodies.

ACCIDENTAL DISCOVERY PROTOCOL

16. The consent holder shall ensure that all construction personnel involved in site disturbance activities are suitably trained in the requirements of the Accidental Discovery Protocols, and identification of archaeological sites and/or artefacts.

17. If *koiwi tangata* (human skeletal remains), *taonga* or archaeological artefacts are discovered during site construction, the consent holder shall, without delay:

    i) Cease all work within a 50 m radius of the discovery and secure the area.

    ii) Notify their nominated archaeologist, the consent authority, the appropriate *runanga*, the New Zealand Historic Places Trust, and in the case of *koiwi tangata* (skeletal remains), the New Zealand Police.

    iii) Enable a site inspection by the New Zealand Historic Places Trust and the appropriate *runanga*, and their advisors, who shall determine the nature of the discovery and the further action required, including whether an Archaeological Authority is required under the Historic Places Act 1993.

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

    v) Ensure that the further action identified in accordance in part (iii) of this condition is undertaken.

    vi) Upon completions of tasks (i) to (v) above, and provided all statutory permissions have been obtained, the consent holder may recommence site construction following consultation with the consent authority, appropriate *runanga*, the New Zealand Places Trust, and in the case of *koiwi tangata* (skeletal remains), the New Zealand Police.

18. The consent holder shall, in consultation with *manawhenua* and the Historic Places Trust, develop a comprehensive Accidental Discovery Protocol, which will form part of the consent holder's Environmental Construction Management Plan. The protocol shall develop in more detail the processes required in Conditions 18(i) and (ii) above. The protocol shall also include, but not be limited to, identifying the roles and responsibilities of the consent holder and the other involved parties, providing contact details and identifying reporting requirements.

SPECIAL CONDITIONS OF CONSENT:

Land use Consent – Erection of bridges and culverts (Consent No. 2006.841)

19. The exercise of this consent is subject to the Standard Conditions as provided above.

20. The culverts shall be designed to carry a minimum of 1 in 10 year flow and a secondary flow path to carry up to a 1 in 100 year flow.

21. The gradient of any culvert must match that of the existing channel invert.

22. Works shall be undertaken as far as practicable, when flows in the watercourses are low.

23. Works, during the months of May to August (inclusive), may only be undertaken with the prior approval of the consent authority, to avoid the disturbance of trout spawning habitat.

24. In waterbodies containing resident Eldons galaxias, works may only be undertaken during the months of September to November (inclusive) with the prior approval of the consent authority, which must be satisfied that such works will avoid the disturbance of Eldons galaxias spawning habitat.

25. Any refuelling, lubrication or mechanical repairs shall be undertaken in such a manner so as to ensure that no spillages of hazardous substances occur onto the land surface or into water. If a fuel or oil spillage in excess of 10 litres occurs, the consent holder shall:

    i) immediately take such action or execute such work as may be necessary to stop and/or contain such escape; and

    ii) take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the escape; and

    iii) inform the Compliance Manager, Otago Regional Council, within 24 hours of its occurrence and the steps taken or being taken to clean up the spill, remedy any adverse effects, and prevent any recurrence of such escape.

26. 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 watercourses.

27. All machinery shall be water-blasted prior to entering and leaving the site to reduce the potential for aquatic pest species being introduced to the watercourses. At no time during the exercise of this consent shall machinery be washed within the bed of any watercourse.

28. All works shall be undertaken, as far as practicable, outside the wet bed of the watercourse.

29. The consent holder shall minimise damage to riparian vegetation when exercising this consent.

30. The consent holder shall ensure that fish passage is not impeded as a result of the placement of the culverts.

31. 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 actions as the consent authority may request to remedy any such damage.

32. 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.

33. The consent holder shall ensure that any damage to the stream banks, including riparian vegetation, is reinstated to a quality at least equivalent to that prior to the works commencing, within one month of completion of the works.

34. Representative photographs shall be taken of the site:

i) before works commence; and

ii) immediately after the completion of works and rehabilitation of the site.

These photographs shall be provided to the Compliance Manager, Otago Regional Council, within one month of the final photographs being taken and shall be used to confirm compliance with conditions 32 and 33.

Water Permit – Groundwater take (Consent No. 2006.842)

35. The exercise of this consent is subject to the Standard Conditions as provided above.

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

37. The consent holder shall ensure that wetland habitats, including sphagnum bogs and streams, are not adversely affected by the dewatering.

38. Prior to undertaking dewatering as authorised by this consent, the consent holder shall provide a baseline report which details the nature, extent and values of the sphagnum bogs and streams that may be potentially affected by the dewatering activities. The baseline report shall be prepared by an independent and suitably qualified expert and shall be provided to the Compliance Manger, Otago Regional Council prior to undertaking the dewatering activities. The baseline report shall provide sufficient qualitative and quantitative analysis including photographic evidence, to enable any changes to the nature, extent and values of the sphagnum bogs and streams as a result of exercising this consent to be determined.

39. The consent holder shall monitor characteristics of the sphagnum bogs and streams that were the subject of the baseline report, in order to confirm compliance with condition 37. Copies of any further analysis reports shall be provided to the Compliance Manager, Otago Regional Council prior to providing notice pursuant to condition 9.

Water Permit – Erection of bridges and culverts (Consent No. 2006.843)

40. The exercise of this consent is subject to the Standard Conditions as provided above.

41. This consent shall be exercised in conjunction with land use consent 2006.841 and discharge permit 2006.845.

42. The diversion of water from the watercourse shall only occur once the diversion channel and/or pipework has been completed.

43. The consent holder shall ensure that fish passage is not impeded as a result of any diversion works and shall undertake any diversion works in such a manner that no fish become stranded.

44. When diverting water into any new diversion channel and/or pipe, all reasonable steps shall be taken to ensure that sediment and discolouration of water are kept to a minimum.

45. The consent holder shall undertake all practicable measures to promote bank stability of the new channel as rapidly as possible.

46. There shall be no reduction in the surface flow of the watercourse as a result of the diversion.

47. No lawful take of water shall be adversely affected as a result of the diversion.

48. The consent holder shall ensure the diversion does not cause any flooding, erosion, scouring, land instability or damage of any other person's 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 actions as the consent authority may request to remedy any such damage.

49. Representative photographs shall be taken of the site as follows:

    i) before works commence; and

    ii) immediately after the completion of works and rehabilitation of the site,

    These photographs shall be provided to the Compliance Manager, Otago Regional Council, within one month of the final photographs being taken and shall be used to confirm compliance with condition 48.

Discharge Permit – Site run-off water (Consent No. 2006.844)

50. The exercise of this consent is subject to the Standard Conditions as provided above.

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

52. The consent holder shall ensure that the discharge does not give rise to any significant adverse effects on aquatic life.

53. 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.

Discharge Permit – Erection of bridges and culverts (Consent No. 2006.845)

54. The exercise of this consent is subject to the Standard Conditions as provided above.

55. This consent shall be exercised in conjunction with land use consent 2006.841.

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

57. The consent holder shall take all practicable steps to minimise the release of sediment into the water while disturbing the bed of the watercourses.

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

59. The consent holder shall ensure that the discharge does not give rise to any significant adverse effects on aquatic life.

60. 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.

Discharge Permit – Construction site dewatering (Consent No. 2006.846)

61. The exercise of this consent is subject to the Standard Conditions as provided.
62. No lawful take of water is to be adversely affected as a result of any discharge.
63. The consent holder shall ensure that the discharge does not give rise to any significant adverse effects on aquatic life.
64. 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.

Discharge Permit – Construction site stormwater (Consent No. 2006.847)

65. The exercise of this consent is subject to the Standard Conditions as provided above.
66. No contaminants other than silt and sediment shall enter into watercourses as a result of the exercise of this consent.
67. No lawful take of water is to be adversely affected as a result of any discharge.
68. The consent holder shall ensure that the discharge does not give rise to any significant adverse effects on aquatic life.
69. 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.

Land use Consent – Disposal of fill material (Consent No. 2006.848)

70. The exercise of this consent is subject to the Standard Conditions as provided above.
71. No fill shall be deposited within 10 metres of a formed water channel containing permanently flowing water.
72. Works shall be undertaken as far as practicable, when flows in the watercourses are low.
73. Works, during the months of May to August (inclusive) may only be undertaken with the prior approval of the consent authority, to avoid the disturbance of trout spawning habitat.
74. In waterbodies containing resident Eldons galaxias works may only be undertaken during the months of September to November (inclusive) with the prior approval of the consent authority, which must be satisfied that such works will avoid the disturbance of *Eldons galaxias* spawning habitat.

75. Any refuelling, lubrication or mechanical repairs shall be undertaken in such a manner so as to ensure that no spillages of hazardous substances occur onto the land surface or into water. If a fuel or oil spillage in excess of 10 litres occurs, the consent holder shall:

    i) immediately take such action or execute such work as may be necessary to stop and/or contain such escape; and

    ii) take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the escape; and

    iii) inform the Compliance Manager, Otago Regional Council, within 24 hours of its occurrence and the steps taken or being taken to clean up the spill, remedy any adverse effects, and prevent any recurrence of such escape.

76. 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 watercourses.

77. 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.

78. All works shall be undertaken outside the wet bed of the watercourse.

79. The consent holder shall ensure that any bed disturbance is limited to the extent necessary to carry out the works.

80. 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.

81. The consent holder shall minimise damage to riparian vegetation when exercising this consent.

82. The consent holder shall ensure that fish passage is not impeded as a result of the deposition of the fill.

83. 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 actions as the consent authority may request to remedy any such damage.

84. 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.

85. The consent holder shall ensure that any damage to the stream banks, including riparian vegetation, is reinstated to a quality at least equivalent to that prior to the works commencing, within one month of completion of the works.

86. Representative photographs shall be taken of the site:

    i) before works commence; and

ii) immediately after the completion of works and rehabilitation of the site.

These photographs shall be provided to the Compliance Manager, Otago Regional Council, within one month of the final photographs being taken and shall be used to confirm compliance with conditions 83, 84 and 85.

Land use Consent – Construction of bores for dewatering (Consent No. 2006.849)

87. The exercise of this consent is subject to the Standard Conditions as provided above.

88. Where an excavation results in groundwater being taken to enable construction to proceed, the consent holder shall identify on a map the specific location of the excavation, noting its dimensions, the water level and when the excavation was backfilled. The consent holder shall forward this information to the Compliance Manager, Otago Regional Council, on a monthly basis.

    Note: The definition of a bore in the Regional Plan: Water for Otago includes "...pit....which results in groundwater being taken ...". Therefore, any excavation where groundwater is taken to reduce water levels is deemed to be a bore.

Water Permit – Water take from Lake Mahinerangi (Consent No. 2006.850)

89. The exercise of this consent is subject to the Standard Conditions as provided above.

90. The rate of abstraction in conjunction with Consent 2006.851 shall not exceed 55 cubic metres per day.

91. The consent holder shall keep a record of the extent to which this consent is exercised by recording the weekly volume of water (cubic metres) taken. A copy of that record shall be forwarded to the Compliance Manager, Otago Regional Council, by 31 May each year and upon request.

92. The intake shall be screened so as to prevent the ingress of small fish and elvers.

Water Permit – Water take from Deep Stream Enhancement Reservoir (Consent No. 2006.851)

93. The exercise of this consent is subject to the Standard Conditions as provided above.

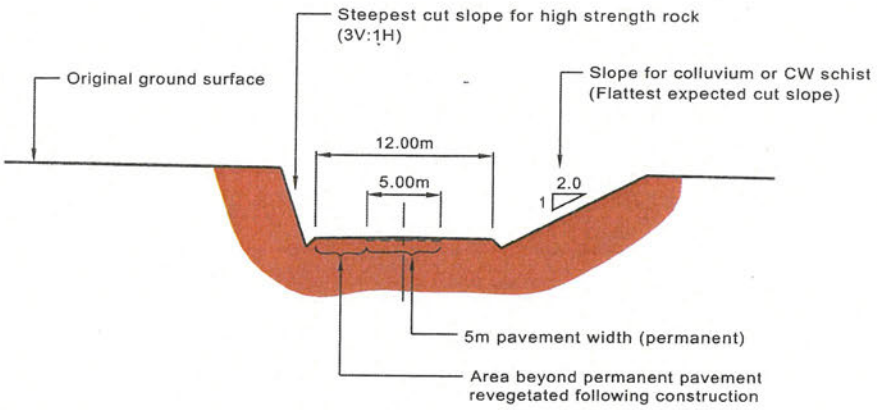
94. The rate of abstraction in conjunction with Consent 2006.850 shall not exceed 55 cubic metres per day.

95. The consent holder shall keep a record of the extent to which this consent is exercised by recording the weekly volume of water (cubic metres) taken. A copy of that record shall be forwarded to the Compliance Manager, Otago Regional Council, by 31 May each year and upon request.

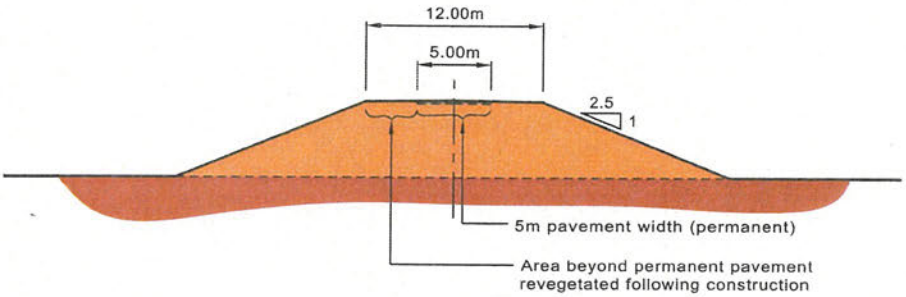
96. The intake shall be screened so as to prevent the ingress of small fish and elvers.

APPENDIX A

TYPICAL ACCESS TRACK CROSS-SECTIONS



Ridge Line Track (cut)



Ridge Line Track (fill)

CLUTHA DISTRICT COUNCIL: RM1409, LAND USE CONSENT

Date of commencement: As provided in s.116 of the Resource Management Act 1991.

Date of lapsing of consent (if not given effect to): Ten (10) years as provided in s.125 of the Resource Management Act 1991.

Purpose of consent: The various activities for which consent from Clutha District Council has been granted are:

i) to construct, commission, operate and maintain the Mahinerangi Wind Farm;

ii) to emit noise from the Mahinerangi Wind Farm that will comply with the requirements of NZS 6808:1998 *"Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators"*, and NZS 6803:1999 *"Acoustics – Construction Noise"*;

iii) to generate heavy traffic movements during the construction of the Mahinerangi Wind Farm; and

iv) to clear vegetation and undertake earthworks during the construction of the Mahinerangi Wind Farm including those associated with the construction of access tracks when they are within 10 metres of natural watercourses.

Legal Description of the Land: The relevant parts of the land described in Schedule A (below), otherwise as more specifically described in this permit and in the various plans and other information submitted by the applicant.

Schedule A:

1	TrustPower Limited	Sections 16-19, Block IV Hedgehope Survey District in OT12C/1173.
2	Landcorp	Sections 1-8, Survey Office Plan 23490 in OT13D/952; and Sections 1-5 and 7-20, Survey Office Plan 23526, Part Section 1 and Sections 3-4, Survey Office Plan 19939, Part Sections 12-16, Block IV and Part Sections 1 and 17, Block V Waipori Survey District in OT13D/954.
3	Thomas Family	Section 24, Block IV Hedgehope Survey District on Survey Office Plan 22457 in OT11D/1371.
4	Beattie Family	Part Run 186B, Survey Office Plan 900 in OT14C/1133.
5	Hall Familly	Part Section 5, Block X Lee Stream Survey District in OT14C/331, and Section 3, Block X Lee Stream Survey District, Survey Office Plan 21969 in OT12C/797.

STANDARD CONDITIONS OF CONSENT:

1. The consent holder shall undertake all activities authorised by this consent in general accordance with the plans and information submitted with the resource consent application dated 7 December 2006 and numbered RM1409 by the Clutha District Council, and any other documentation relevant to the application including Boffa Miskell Plans W07190 Layout Development dated 18 March 2009 ("BMP W07190") . Any request to change or cancel a consent condition must be made in accordance with s.127 of the Resource Management Act 1991.

2. The consent holder shall notify the Planning and Environment Manager, Clutha District Council, at least fifteen (15) working days in advance of the date of the commencement of works associated with this consent.

3. Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by these conditions shall be at the consent holder's expense.

4. Where conditions of this consent require the provision of further information such as reports or management plans by the consent holder, Clutha District Council may commission a peer review of this information to certify its accuracy and compliance with conditions of consent. This peer review shall be at the consent holder's expense.

5. The consent holder shall supply any agent or contractor working under this consent with a copy of the consent conditions on-site so that these conditions can be presented to an officer of the consent authority upon request.

6. Any works carried out during the life of the wind farm, whether maintenance, decommissioning or otherwise, shall be consistent with the conditions attached to this consent.

7. The consent holder shall pay to Clutha District Council all required administration costs and charges fixed by the Council pursuant to s.36 of the Act in relation to any:
   i) administration, monitoring and inspection relating to this consent; and
   ii) charges authorised by regulations.

8. In accordance with s.128 of the Resource Management Act 1991 (and in addition to any more specific monitoring conditions attached), Clutha District Council may at two years after the commencement of this consent and at two yearly intervals thereafter, after giving not less than one month's notice in writing, serve notice on the consent holder of its intention to review any of the conditions of this consent for either of the following purposes:
   (i) To deal with any adverse effect on the environment that may arise from the exercise of this consent, including noise, and which it is appropriate to deal with at a later stage.
   (ii) To require the consent holder to adopt the best practicable option to avoid, remedy or mitigate any adverse effect on the environment.

9. Upon completion of the construction of the wind farm, the consent holder shall advise the Planning and Environment Manager, Clutha District Council, in writing (and as appropriate supplemented by photographs) that all conditions of this consent have been complied with.

10. The consent holder shall ensure that copies of all Management Plans are also supplied to the Compliance Manager, Otago Regional Council.

SPECIAL CONDITIONS OF CONSENT:

GENERAL

11. The maximum installed generation capacity of the Mahinerangi wind farm shall not exceed 200MW.

12. The maximum number of turbines in the Mahinerangi wind farm shall not exceed 100.

13. The turbines to be located within the land identified as the Thomas Block, legally described as Section 24, Block IV Hedgehope SO 22457, certificate of title OT 11D/1371, shall only be accessed from Eldorado Track. No tracking is permitted across the wetlands within this block.

14. No later than six months after the construction of the turbines and the rehabilitation of tracks within the area known as the "Scrappy Pines Block" [Part of Section 18 Block IV Hedgehope Survey District (CT OT12C/1173)] and shown on Figure 2 (attached), the consent holder shall remove all woody weeds from this block and provide legal protection from stock grazing via a QEII covenant or similar legally binding mechanism. Evidence that this condition has been complied with shall be supplied to the Planning and Environment, Manager Clutha District Council.

15. If the wind farm ceases operation for a continuous 18-month period, or is decommissioned for any other reason, then all turbines and other above ground structures shall be removed and turbine footings covered and re-vegetated in accordance with the Rehabilitation Management Plan required under Condition 25 (vi)(j) and 25C.

16. Any refuelling, lubrication or mechanical repairs shall be undertaken in such a manner as to ensure that no spillages of hazardous substances occur onto the land surface or into water. If a fuel or oil spillage in excess of 10 litres occurs, the consent holder shall:

    i) immediately take such action or execute such work as may be necessary to stop and/or contain such escape; and

    ii) take all reasonable steps to remedy or mitigate any adverse effects on the environment resulting from the escape; and

    iii) inform the Planning and Environment Manager, Clutha District Council, within 24 hours of its occurrence and the steps taken, or being taken, to clean up the spill, remedy any adverse effects, and prevent any recurrence of such escape.

TURBINE CONSTRUCTION

17. The maximum turbine height to the tip of the blade shall not exceed 145 metres.

18. The wind turbine structures shall all be finished in the same neutral off-white or light grey, low reflectivity colour system.

19. Lattice pylons shall not be used for the wind turbine structures.

20. All turbines used within the wind farm site shall be similar in size and appearance.

21. The consent holder shall install navigational lighting in order to eliminate the potential for any danger to aircraft (whether direct or indirect) and will obtain an aeronautical report confirming that the final design achieves that requirement.

22. All navigational lights required on the turbines or meteorological masts pursuant to Condition 21 shall be shielded to screen downward light spill. The consent holder shall provide a copy of the written advice from the Civil Aviation Authority identifying the turbines upon which the navigational lights are installed to the Planning and Environment Manager, Clutha District Council, within seven days of receiving such advice.

TURBINE OPERATION

23. The consent holder shall ensure that the extent of any shadow flicker caused by the wind turbines at any residential dwellings existing at date of consent does not exceed the duration specified in the May 2003 "*Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria*"[Sustainable Energy Authority Victoria, May 2003, 37p (ISBN 0 9581184 9 3)]. The consent holder shall submit a report to the Planning and Environment Manager, Clutha District Council that confirms compliance with this condition for the 12 month period following the completion of construction of the last turbine authorised by this consent.

24. Where the wind turbines are shown to affect television reception as assessed by an independent and suitably qualified and experienced radio engineer at dwellings existing at the date of consent and located within 2 km of any turbines, the consent holder shall provide an alternative television reception arrangement (at no cost to the occupier) to those dwellings such that television reception is no worse than that present prior to the construction of the wind farm.

CONSTRUCTION CONDITIONS

Site Development Plan and Associated Expert Certification

25. Not less than one month prior to the commencement of any site works or construction activity, the consent holder shall submit a detailed Site Development Plan to the Planning and Environment Manager, Clutha District Council for confirmation that it is in accordance with the conditions of consent and provides the following information:

    i) Details of the final location of all facilities and infrastructure to be built. The Site Development Plan shall be generally in accordance with BMP W07190. Subject to the exceptions noted below, all facilities and infrastructure shall be inside the Windfarm Development Area depicted on BMP W07190 and shall maintain a buffer zone of at least 50m to any area of high ecological value as depicted on BMPW07190/1. High ecological value areas are generally described and identified in the Ecological Assessment that forms

Appendix 3 in Volume II of the resource consent application documents and are depicted on BMPW07190/1. Areas of high ecological value consist of sites containing any of the following: high and medium quality wetlands, rocky gully sides, high quality vegetation communities, rocky tors of sufficient size and/or configuration to provide lizard refuge, areas containing threatened plants as defined by Hitchmough et al, 2007 [New Zealand Threat Classification System Lists - 2005, Rod Hitchmough, Leigh Bull and Pam Cromarty (comp), January 2007, Department of Conservation, 194p (ISBN 0-478-14128-9)], or any successive publication, and waterbodies in the first order streams with resident *Eldons galaxias.*

The exceptions are:

- turbine locations 63, 64, 65, 66, 68, 69, and 70 being development within the covenanted area, and turbine locations 97, 98, 99 and 100 being development within high quality tussock referred to as the Thomas Block and as marked on BMP W07190/1;
- access tracks in two areas as marked "D" on BMP W07190/1 which are within or near areas of high ecological value;
- access tracks and associated earthworks within ecological buffer areas as generally marked on BMPW07190/1; and
- any sediment controls and associated earthworks that need to be located within ecological buffer areas to avoid adverse effects upon adjacent areas of high ecological value.

The plan shall include, but not be limited to:

a) all finalised turbine locations, which shall only be located within the circles depicted on BMP W07190/1;

b) all access tracks which shall be located generally as shown on BMP W07190/1, with:

   i) a maximum overall length of 37 km; and

   ii) a width for construction of 12 m narrowing to 5m post-construction.

c) cut and fill batters associated with tracking, which shall have a maximum height of 10m and slopes which are generally consistent with the typical cross section depicted in Appendix A.

d) all hard stand areas, which shall be located within the circles depicted on BMP W07190/1 so as to minimise the total volume and area of earthworks, shall have a maximum area of 1400m^2 and a maximum depth of fill of 12m. In particular the hard stand areas for turbines located at sites T80, T81 and T86 shall be located to minimise the visual effects from Lake Mahinerangi;

e) all fill sites for excess spoil, which shall have a maximum volume of fill to be disposed of 460,000 m^3, a maximum coverage of 61.5 ha and a maximum fill depth of 3m;

f) sediment ponds, which shall have a maximum bund height of 3m.

g) the substation site, which shall be located generally as shown on BMP W07190/1;

h) the operations and maintenance building and associated waste and water services, and construction site office and depot, which shall be located generally as shown on BMP W07190/1;

i) the transmission line;

j) the concrete batching area, which shall be located generally as shown on BMP W07190/1;

k) the internal transmission system;

l) meteorological masts and equipment; and

m) any other areas of land disturbance.

ii) Not less than one month prior to any stage of the construction commencing, the consent holder shall submit to the Planning and Environment Manager, Clutha District Council a report from an independent and suitably qualified and experienced ecologist confirming that the sites (subject to the exceptions in condition 25(i) above) affected by the development of the infrastructure identified in 25(i) above do not contain areas of high ecological value.

iii) Not less than one month prior to any stage of the construction commencing, the consent holder shall submit to the Planning and Environment Manager, Clutha District Council a report from an independent and suitably qualified and experienced ecologist confirming that high ecological value areas and associated buffer zones adjacent to tracks and defined construction zones have been identified and have been clearly marked as such prior to construction commencing and that the buffer zones and/or methodologies provided for in the relevant Supplementary Environmental Management Plans are sufficient to avoid any adverse effects upon such adjacent high ecological value areas.

Advice Note:

For the purpose of this condition, the following definitions are provided:

High quality vegetation communities (including high and medium quality wetlands) are areas that are no less than 50 m in longitudinal length with regards to gullies, and no less than 400 m^2 (i.e., 20 m by 20 m) for grasslands. Such areas will possess greater than 60% indigenous vegetation covering one of more of the wetland, tussockland, shrubland or flaxland attributes.

Rocky tors of sufficient size and/or configuration to provide lizard refuge are any rock slab and/or any pile or multilayer of rocks greater than 3 m in diameter, with crevices and refuges.

Environmental Construction Management Plan

25A. Prior to undertaking any activities authorised by this resource consent, the consent holder shall provide to the Planning and Environment Manager, Clutha District Council, a comprehensive Environmental Construction Management Plan *(ECMP)* prepared by an independent and suitably qualified and experienced person. The ECMP shall generally be in accordance with Appendix 12

of the application documentation entitled *Mahinerangi Wind Farm Draft Environmental Construction Management Plan*, prepared by Kingett Mitchell Ltd. The ECMP shall set out the practices and procedures to be adopted to ensure that all resource consent conditions relating to the construction of the Mahinerangi Wind Farm are complied with. This shall include management procedures for the establishment, operation, and rehabilitation phases of the wind farm.

i) Subject to any other conditions of this consent, all activities shall be undertaken in accordance with the latest version of the ECMP and related plans (as listed in condition 25A(vi)(j) (below).

ii) The ECMP and associated plans shall be reviewed by the consent holder and may be amended accordingly to take into account:

(a) Any recommendations of independent experts engaged to undertake works in respect of the Mahinerangi Wind Farm.

(b) Any required actions identified as a result of monitoring under these consents.

(c) Any required actions to ensure that appropriate monitoring and reporting of all activities is undertaken in accordance with the resource consent conditions.

iii) The ECMP and related plans shall not be amended in a way that contravenes the objectives set out for the respective plans, in accordance with conditions set out in 25A, 25B. 25C, 25D, 25E, 25F, 25G.

iv) A copy of the latest version of the ECMP and associated plans shall be kept on site at all times and all key personnel shall be made aware of each Plans' contents.

v) If amendments are made to the ECMP (or associated plans) in accordance with condition 25A(ii) above, updated plans must be provided to the Planning and Environment Manager, Clutha District Council.

Purpose and Content of ECMP

vi) The purpose of the ECMP is to detail the practices and procedures to be adopted to ensure that all resource consent conditions relating to construction, rehabilitation and operation of the Mahinerangi Wind Farm are complied with and that adverse potential effects on the environment associated with construction are appropriately avoided, remedied or mitigated. The ECMP shall provide for the following objectives:

(a) To minimise the overall area of disturbance, so as to reduce the potential impact on fauna, flora and waterways.

(b) To minimise the sediment generation and sediment laden runoff.

(c) To ensure that appropriate monitoring and reporting of all activities is undertaken in accordance with the resource consent conditions.

(d) To ensure that the earthworks associated with the construction of the access tracks be contoured so that, to the greatest extent practicable, they will blend the tracking with the surrounding landscape;

(e) To ensure that the earthworks are undertaken in a manner that provides for final surfaces which are suitable for rehabilitation.

(f) To ensure that the areas of fill disposal are contoured so that, to the greatest extent practicable, they blend with the surrounding landform;

(g) To ensure that the design and appearance of the substation and operations building (including colour schemes) will blend with the environment.

(h) To ensure that the earthworks associated with the construction of the turbine, hard stand areas and any other landing and lay-by sites will be contoured to blend with the surrounding landform.

(i) To ensure that any low quality gully sites be appropriately used for spoil disposal (consistent with condition 25E(vii)(b)(iv) below).

(j) To provide a framework for the individual management plans including, but not limited to:

- a Rehabilitation Management Plan;
- an Environmental Monitoring Plan and Report;
- an Ecological Monitoring and Management Plan;
- an Earthworks Management Plan;
- A Construction Traffic Management Plan;
- SupplementaryEnvironmental Management Plans (*SEMPs*) associated with the construction of tracking and sediment control devices and any associated earthworks located within the ecological buffer areas; and
- a Fire Management Plan.

vii) The ECMP shall contain an explanation of how it will be implemented and associated implementation responsibilities. This shall include a description of the documentation and information management and approvals processes to be used in implementing the plan, and a description of the process for monitoring performance and changes to the plan based on monitoring activity.

viii) The consent holder shall ensure that the establishment, operational and rehabilitation phases of the Mahinerangi Wind Farm are undertaken in accordance with the requirements of the ECMP.

ix) A joint report from an independent and qualified landscape architect and an independent and qualified engineer shall be provided to the Planning and Environment Manager, Clutha District Council, three months post-construction confirming that the ECMP requirements have been complied with (and relevant objectives met) in respect of the following:

(a) the earthworks associated with the construction of the access tracks have been contoured to ensure that, to the greatest extent practicable, they have blended the tracking with the surrounding landscape;

(b) the areas of fill disposal have been contoured to ensure that, to the greatest extent practicable, they have blended with the surrounding landform;

(c) the design and appearance of the substation and operations building (including colour schemes) have blended with the environment; and

(d) the earthworks associated with the construction of the turbine, hard stand areas and any other landing and lay-by sites have been contoured to blend with the surrounding landform.

25B Environmental Monitoring Plan and Report

(i) An Environmental Monitoring Plan and Report shall be prepared by the consent holder that sets out a schedule of monitoring to be undertaken and requirements for reporting of these results in accordance with the conditions of resource consent.

(ii) The consent holder shall prepare and submit to the Planning and Environment Manager, Clutha District Council, an annual Environmental Monitoring Report, prior to each anniversary of the commencement of the resource consents. The monitoring period to be included in each report shall be for the preceding 12 month period.

(iii) As a minimum, the Environmental Monitoring Report shall:

(a) Summarise all environmental monitoring undertaken;

(b) Summarise all the data collected, as required under the Environmental Monitoring Plan outlined above and any other conditions of resource consent. This may include graphical presentation, statistical summations of monitoring data, critical analysis of the information in terms of compliance and environmental effects;

(c) Highlight and discuss any important environmental trends;

(d) Report and discuss any difficulties in compliance with the conditions of the consent and the measures adopted to rectify problems; and

(e) List any maintenance works needed, proposed or undertaken to ensure compliance with the conditions of the consent or to facilitate operations.

25C Rehabilitation Management Plan

i) The Rehabilitation Management Plan shall be prepared by an independent and suitably qualified and experienced person and provided to the Planning and Environment Manager, Clutha District Council one month prior to the commencement of construction activities. The Rehabilitation Management Plan shall define the scope and methodology for rehabilitation of the areas affected by the construction activities and the on-going maintenance of the rehabilitation work and shall be implemented under the supervision of a suitably qualified, experienced and independent person.

ii) The consent holder shall undertake rehabilitation and revegetation of areas affected by construction activities to achieve an outcome generally in accordance with the following objectives:

(a) In the short-term to create stable landforms by establishing vegetation cover (which may include pasture) and erosion-resistant surfaces that have characteristics that favour growth of sustainable plant communities and manage run off and sediment generation;

(b) To prevent weeds and pests invading the site in a manner that is consistent with the weeds and pests control programme required pursuant to condition 31.

iii) The Rehabilitation Management Plan shall provide details and methodologies for achieving the rehabilitation objectives set out in 25C(ii) above, and those to be adopted during construction and operation of the wind farm and the post-construction phase, in order that compliance with all other conditions of resource consent can be achieved.

iv) The Rehabilitation Management Plan shall, as a minimum, address the following:

(a) The rehabilitation objectives set out in condition 25C(ii) above.

(b) The personnel who will be on-site and their responsibilities, such that the provisions of the plan can be implemented at all times.

(c) The means by which weeds will be controlled and targets for weeds met during the wind farm construction and operation stages in accordance with the control programme required pursuant to condition 29.

(d) The methodology for rehabilitation shall include but not be limited to:

i. Thomas Block and Scrappy Pines Block and other areas listed as exceptions in 25(i): removal of tussock for direct transfer, storage and maintenance of tussock, replacement of tussock vegetation on track edges and turbine sites, planting of additional tussock and other species as necessary such that a communities is reestablished and is similar to that which existed prior to construction commencing as determined in accordance with (e) below.

ii. Pasture grassland: recontouring, regrassing, erosion controls, control of woody weeds.

iii. Softening of batters by hydroseeding (on steep batters) or by direct transfer and/or planting (on gentle slopes) to match the vegetation of the adjacent terrain.

(e) The survey methodology to be employed prior to works commencing to characterise the vegetation communities present in the 'Scrappy Pines Block', Thomas Block , and other areas listed as exceptions in 25(i), such that the percentage cover, and the species present are confirmed.

v) The Rehabilitation Management Plan shall contain completion criteria, that, when met, will show that rehabilitation has succeeded. That criteria, shall include, as a minimum, measures which confirm:

(a) Establishment of snow tussock communities on the 'Scrappy Pines Block', Thomas Block and areas that are specified as exceptions in condition 25(i), which are of similar species composition and percentage cover of the vegetation that was present, prior to the works commencing (as identified in (iv)(e) above;

(b) Establishment of pasture grassland in all other areas.

(c) Management of runoff and sediment generation;

(d) The outcomes for weed and pest control programmes.

25D Ecological Monitoring and Management Plan

i) An Ecological Monitoring and Management Plan shall be prepared by an independent and suitably qualified and experienced person in accordance with Appendix 2 of the Mahinerangi Wind Farm Ecological Assessment prepared by Kingett Mitchell Ltd. The

Ecological Monitoring and Management Plan shall form part of the ECMP required under Condition 25A. That Plan shall set out the practices and procedures to be adopted to ensure that all resource consent conditions relating to ecological monitoring and management are complied with. The Ecological Monitoring and Management Plan shall make provision for the following (as a minimum):

a) Monitoring, and associated reporting (as required by Conditions 26 – 30) in relation to:

- bird strike;
- New Zealand Falcon (*Falco novaseelandiae);*
- mammal pests and predators;
- *Carex tenuiculmis;* and
- invasive weeds..

b) A requirement that all contractors shall be required to ensure that all vehicles shall, as far as is practicable, be confined to formed access routes and the active construction zone (see Condition 25E(vi)).

c) A requirement that construction vehicles must be cleaned of adhering soil before entering the site.

d) A requirement that the consent holder use its reasonable endeavours to source weed free aggregate for all construction, operational and maintenance related requirements.

25E Earthworks Management Plan

i) An Earthworks Management Plan shall be prepared and shall be submitted by the consent holder to the Planning and Environment Manager, Clutha District Council, one month prior to the commencement of construction activities. The Earthworks Management Plan shall set out the practices and management procedures to be adopted to ensure that all resource consent conditions relating to earthworks are complied with. The Earthworks Management Plan shall form part of the ECMP required under Condition 25A.

ii) Matters to be provided for by the management procedures include, but are not limited to, relevant matters contained within Part C – Earthworks Management Plan of the draft ECMP which formed Appendix 12 of Volume II of the resource consent application documentation.

iii) The Earthworks Management Plan shall provide for the following objectives:

a) to ensure that earthworks do not adversely affect areas of high ecological value (acknowledging the provision of relevant ecological buffer areas (as marked on BMP WO7190/1) and SEMPs) and water bodies within the Mahinerangi Wind Farm site;

b) to ensure that adverse visual effects are minimised;

c) to minimise sediment generation and sediment laden runoff;

d) To ensure the control and/or mitigation of adverse effects of any dust, sediment run-off or contamination of stormwater.

e) To avoid adverse effects from sediment run-off from fill areas and provide for sediment control works that will be capable of safely passing a 50 year 24 hour event.

iv) The Earthworks Management Plan shall generally comply with the requirements of Auckland Regional Council's "*Erosion and Sediment Control Guidelines for Land Disturbing Activities*" (Technical Publication No.90).

v) The consent holder shall ensure that all earthworks associated with the construction of the Mahinerangi Wind Farm are undertaken in accordance with the requirements of the Earthworks Management Plan.

vi) The consent holder shall define the active construction zone which is comprised of the various sites detailed in Condition 25 (i) by clearly marking (i.e. fence, tape or other appropriate mechanism) the limits of the construction zone.

vii) The Earthworks Management Plan shall, as a minimum address the following:

a) The objectives set out in 25E(iii) above, and methods appropriate to the Mahinerangi Wind Farm site;

b) The overall design of the rehabilitated landscape, taking into account the need to:

(i) ensure that where appropriate, sediment control areas are installed prior to soil disposal work;

(ii) minimise erosion from fill areas by providing for appropriate and stable:

- sediment compaction levels; and
- revegetation.

(iii) ensure that sediment control devices for fill areas are designed to cater for a 50 year, 24 hour event;

(iv) The Earthworks Management Plan shall include details in circumstances where low quality gully sites are used for spoil disposal, of how the following criteria are to be met:

a) That fill disposal must not result in siltation of downstream streams.

b) That fill disposal must not result in changes to downstream stream water nutrient concentrations or to other chemical stream water parameters.

c) How the composition and structure of potentially affected adjacent wetland vegetation within the affected catchment is to be monitored prior to and for 5 years after spoil deposition, using quantitative sampling methodology undertaken by an independent and suitably qualified ecologist reporting to the Planning and Environment Manager, Clutha District Council.

d) How any adverse vegetation changes revealed by monitoring are to be remedied or mitigated by the consent holder.

25F Supplementary Environmental Management Plans

i) The consent holder shall submit to the Planning and Environment Manager, Clutha District Council, at least 10 working days prior to commencement of construction activities

associated with the establishment of access tracks and/or sediment control works in the areas within the ecological buffer areas or areas marked "D" on BMPW07190/1, specific Supplementary Environmental Management Plans (*SEMPs*). The SEMPs will form part of the ECMP. The SEMPs shall set out the practices and procedures to ensure that access tracks and associated earthworks and sediment control works within the ecological buffer areas or areas marked "D" on BMPW07190/1, are constructed so as to avoid, remedy or mitigate adverse effects upon adjacent areas of high ecological value.

ii) The SEMPs shall, as a minimum, address the following construction related activities:

a) the erection of structures across and/or within the bed of watercourses;

b) the establishment of diversion channels when erecting structures across and/or within the bed of watercourses;

c) the establishment of fill disposal areas;

d) the disturbance of the bed of any watercourses resulting from any construction activity within the bed of watercourses;

e) the diversion of water associated with any construction activity within the bed of watercourses;

f) construction related discharges; and

g) any other activity which is within the ecological buffer identified on Plan BMP W07190/1.

iii) As a minimum, the SEMP for each specific construction activity identified in Condition 25F(ii) shall include the following information:

a) a map showing the specific location of each structure and/or component related to the construction activity and the high ecological value area for which protection is required, including sphagnum bogs and streams;

b) identification of whether the structure and/or component related to the construction activity is temporary or permanent and confirmation of the risk of potential adverse effects on high ecological value areas;

c) the timing and duration of the activity (i.e. structure erection or discharge etc);

d) cross-section and plan drawings to scale showing the dimensions and nature of each structure and/or component related to the construction activity;

e) construction methods that will be utilised, including identification of erosion and sediment control measures that will be put in place;

f) for activities within watercourses, confirmation of flow carrying capacity of the watercourse prior to following installation of each structure and/or component related to the construction activity, confirmation of the flow capacity of the new structure and/or component and identification of secondary flow paths;

g) for discharges, the maximum rate of discharge, which will comply with relevant resource consent conditions; and

h) the mechanisms, procedures, and practices to be followed to ensure that all works within the ecological buffer areas are undertaken to avoid adverse effects upon the adjacent areas of high ecological value.

25G Fire Management Plan

i) The consent holder shall prepare a Fire Management Plan in accordance with the following conditions:

a) The purpose of the Fire Management Plan shall be to establish management procedures to ensure that the fire risk associated with the Mahinerangi Wind Farm is minimised and, should fires occur, that immediate and appropriate action is instigated. The Fire Management Plan shall be part of the ECMP.

b) The Fire Management Plan shall be structured in general accordance with the Forest and Rural Fire Act 1977.

c) A copy of the Fire Management Plan is to be submitted to the Planning and Environment Manager, Clutha District Council, one month prior to commencement of construction of the Mahinerangi Wind Farm.

d) The consent holder shall at all times comply with the requirements of the Fire Management Plan.

Advice Note:
The Department of Conservation, Clutha District Council and Dunedin City Council, as parties responsible for the management of rural fires, are to be consulted during the development of the Fire Management Plan.

ECOLOGICAL MONITORING AND MANAGEMENT

Bird Strike

26. The consent holder shall monitor the instances of bird strike at the wind farm as follows:

i) The consent holder shall retrieve any bird carcasses located at the site. For the first two years of operation, retrieval of any carcasses will be on a weekly basis during the breeding season (spring and early summer) and on a monthly basis during the remainder of the year. Thereafter, carcass retrieval will be associated with the routine maintenance at each turbine with increased surveillance for bird carcasses during the breeding season (spring and early summer) if considered necessary as a result of the first two years of monitoring.

a) During the first two years of the operation of the Mahinerangi Wind Farm, all retrieved bird carcasses will be assessed by identifying the species, gender, age class (i.e. juvenile or adult) and where possible, the cause of death, location of carcass in relation to turbines, whether there are any particular factors associated with the Mahinerangi wind farm, and/or any particular turbine influencing the bird deaths, and antecedent weather conditions. This assessment is to be undertaken by an independent and qualified avifauna expert.

b) Following the first two years of operation, the consent holder shall, annually, submit a report to the Planning and Environment Manager, Clutha District Council, detailing all bird fatalities, known or likely cause of death, species and seasonal or spatial patterns, particularly in relation to the operation of any individual turbine or the prevalence of avifauna species listed as nationally endangered (Hitchmough *et al*, 2007), nationally

critical, or in serious or gradual decline. A copy of this report shall also be supplied to the Department of Conservation.

c) If the monitoring undertaken in accordance with Conditions (i)(a) and (i)(b) above, identifies a significant adverse effect as a result of the operation of the Mahinerangi Wind Farm, then the consent holder shall develop a mitigation programme and continue monitoring for a further period, as determined appropriate following consultation with both the consent authority and the Department of Conservation. The mitigation programme shall include, but not necessarily be limited to, relevant matters identified in the Ecological Assessment, which formed Appendix 3 of Volume II in the resource consent application documentation.

d) A significant adverse effect is defined as being a strike rate of more than 0.05 individuals per turbine per year on all species as a result of the operation of the Mahinerangi Wind Farm.

ii) The bird strike carcasses shall be disposed of off-site and at an appropriate facility.

iii) The consent holder shall undertake, in order to minimise the visibility of any carcasses in the vicinity of the turbines that may attract raptor species, reasonable endeavours to ensure enhanced vegetation growth and density in the vicinity of the wind turbines.

iv) In the event that there are significant adverse effects (as defined in (i)(d) above) the consent authority may review this resource consent pursuant to section 128 of the Resource Management Act 1991 to consider:

a) the species of birds involved and in particular, the level of protection afforded to that species under the Wildlife Act 1953.

b) the overall performance of the wind farm in respect of bird strike rate;

c) the performance of individual turbines within the wind farm;

d) whether there are any particular factors influencing the bird death rate at individual turbines; and

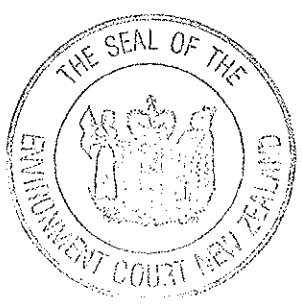
e) whether additional mitigation is required as a result of the significant adverse effect.

27. The consent holder shall undertake monitoring of the New Zealand Falcon as follows:

i) The consent holder shall initiate a programme to monitor New Zealand Falcon, in the vicinity of the Mahinerangi Wind Farm. The monitoring programme shall commence at least two summers prior to the first turbines associated with the wind farm becoming operational, and continue for two years after it becomes operational. Any subsequent monitoring will be determined after the results of the first two years of operational monitoring are evaluated in accordance with Condition (iv).

Advice Note:
Some monitoring in accordance with this condition has been undertaken prior to the implementation of this resource consent.

ii) The monitoring programme shall include, but not be limited to, the following:



a) Identification of any New Zealand Falcon nesting sites inside and within 5 km outside the boundaries of the Mahinerangi Wind Farm.

b) Monitoring, during the breeding season (i.e., spring and early summer), any visits by New Zealand Falcon to the Mahinerangi Wind Farm site and the occupancy of the identified nesting sites. As a minimum, monitoring shall be undertaken during three consecutive days of fine conditions, at least three times throughout the breeding season.

c) A record of New Zealand Falcon bird strike as monitored in accordance with Condition 27, attached to this resource consent.

d) A record of all incidental observations of New Zealand Falcon within the Mahinerangi Wind Farm site.

iii) The consent holder shall consult with Department of Conservation in developing the monitoring programme. Once the scope of the monitoring programme has been developed, an outline of the activities that constitute the monitoring programme shall be submitted to the Planning and Environment Manager, Clutha District Council.

iv) If the monitoring undertaken in accordance with conditions (i) to (iii) above, identifies breeding failure of New Zealand Falcon as a result of the operation of the Mahinerangi Wind Farm, then the consent holder shall develop a mitigation programme and continue monitoring as determined appropriate after consultation with the consent authority and Department of Conservation. The mitigation programme shall include, but not necessarily be limited to, relevant matters identified in the Ecological Assessment that formed Appendix 3 of Volume II of the resource consent application documentation.

Mammal Pest Control

28. The consent holder shall develop and implement a mammal pest control programme. The purpose of the programme will be to ensure that the densities of predators, such as feral cats, stoats, weasels, ferrets, hedgehogs and prey species such as rabbits and hares are at low densities in the area. To achieve this, the consent holder shall comply with the following:

i) Undertake predator control measures to a level no greater than 10% residual trap interference.

ii) Control measures may include, but will not be limited to, trapping and baiting.

iii) The consent holder shall ensure that all predator carcasses are disposed off-site and at an appropriate facility.

Control of Invasive Woody Weeds

29. The consent holder shall develop and implement a monitoring and management programme for the control of invasive woody weeds during the construction and rehabilitation of the Mahinerangi Wind Farm and for four years after construction and rehabilitation has been completed, or for such a period until these species cease colonising the areas disturbed by the construction activity. The purpose of the programme will be to ensure that invasive woody weeds (i.e., wilding pines, gorse, Spanish heath and broom) within the Mahinerangi Wind Farm site (in excess of the status quo) are targeted for control. To achieve this, the consent holder shall identify and document the extent of invasive woody weeds within the site at the commencement of the project and target the invasive

weeds (in excess of the status quo) for control using manual and/or herbicide treatment. Thereafter, each spring, during the term specified within this condition, the consent holder shall survey the extent of invasive weed species, with a particular focus on areas most susceptible to invasive weeds (i.e., disturbed areas), and undertake control measures as appropriate.

Management of Carex tenuiculmis

30. Should construction activities directly (for example by way of earthworks) or indirectly (for example by way of changes in surface drainage patterns) adversely affect the population of *Carex tenuiculmis* then the following measures shall be carried out:

    i) An independent and qualified ecologist shall assess the size and quality of the affected population of *Carex tenuiculmis* as a proportion of the broader population within the Mahinerangi Wind Farm site and immediately surrounding environment. That independent ecologist shall determine whether the risk to the broader population is such that remedial steps should be taken. Should remedial steps be required then a plan shall be prepared and submitted to the Planning and Environment Manager, Clutha District Council and may include but not be limited to the following activities:

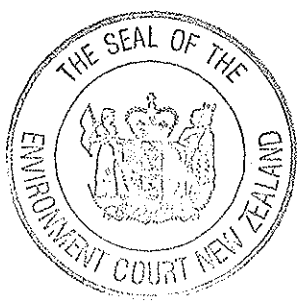
- Assessing the habitat within which the species is present;
- Assessing potential translocation habitat within the 'Scrappy Pines Block';
- Collecting seed and propagating seedlings;
- Translocating the at-risk individuals to selected locations either within the 'Scrappy Pines Block' or at a location where they will not be adversely affected by direct earthworks or surface drainage patterns, or grazing within the Mahinerangi Wind Farm site;
- Planting additional seed raised individuals at locations either within the 'Scrappy Pines Block' or at a location where they will not be adversely affected by direct earthworks or surface drainage patterns, or grazing within the Mahinerangi Wind Farm site; and
- Monitoring the new population for a period of 12 months to ensure that the plants have been successfully established.

NOISE

Construction Noise

31. A Construction Noise Management Plan shall be prepared and implemented prior to commencement of construction. This shall be generally in accordance with Section 8 and the relevant annexes of New Zealand Standard NZS6803:1999 *Acoustics – Construction Noise,* which details the types of construction and procedures that will be carried out to ensure compliance with the Standard. The noise management plan shall be prepared by independent and appropriately qualified and experienced persons, prior to relevant construction stages commencing, and shall be submitted to the Planning and Environment Manager, Clutha District Council, prior to construction commencing.

32. Noise from all construction and decommissioning work, including (but not limited to) the following, shall be measured, assessed and controlled in accordance with New Zealand Standard NZS6803:1999 *Acoustics - Construction Noise.*



i) Site works

ii) Wind turbine generator assembly and placement

iii) Concrete placement

iv) Wind turbine removal

v) Foundation demolition and removal

vi) Land reinstatement

The noise limits shall be those set out in Table 2 of NZS6803 for works of '*long term*' duration.

33. The noise associated with concrete manufacture shall be measured in accordance with NZS6801:1991: *Measurement of Sound* and assessed in accordance with NZS6802:1991: *Assessment of Environmental Sound.* All aspects of concrete manufacture shall not exceed the following noise limits:

7.00am to 10.00pm	55dBA L_{10}
10.00pm to 7.00am	45dBA L_{10}
10.00pm to 7.00am	75dBA L_{max}

at or within the notional boundary of any dwelling (excluding any dwelling on the wind farm site). Concrete shall not be manufactured outside of the hours of 6.30am to 8.00pm from Monday to Friday, and 7.30am to 6.00pm on Saturdays.

Operational Noise (Non-turbine)

34. Noise from all other activities on the site (other than wind turbine generator operation and construction activities) shall not exceed the following limits within the notional boundary of any dwelling (excluding any dwelling on the wind farm site):

7.00am to 10.00pm	55dBA L_{10}
10.00pm to 7.00am	45dBA L_{10}
10.00pm to 7.00am	75dBA L_{max}

The noise shall be measured in accordance with NZS6801:1991 *Measurement of Sound* and assessed in accordance with NZS6802:1991 *Assessment of Environmental Sound.*

Operational Noise (Turbines)

35. Except as required by Condition 36 below, wind turbine sound levels when measured at the notional boundary of dwellings existing at the date of this consent shall not exceed the appropriate regression curve of the A-weighted background sound level (L_{95}) by more than 5dBA, or a level of 40dBA L_{95}, whichever is the greater.

36. Wind turbine levels when measured at the notional boundary of dwellings existing at the date of this consent at Sites 5 and 6 of Figure 2 of the Hegley Acoustic Consultants Report No. 7511, dated November 2006, shall not exceed the appropriate regression curve of the A-weighted background sound level (L_{95}) by more than 5dBA, or a level of 35dBA L_{95}, whichever is the greater.

37. Prior to installation of any wind turbine generator the consent holder shall submit the following to the Planning and Environment Manager, Clutha District Council:

i) An acoustic emissions report to the Council for each of the selected wind turbine generators. The report shall be in accordance with IEC61400-11, *Wind Turbine Generator Systems Part 11, Acoustic noise measurement techniques,* and shall include the A-weighted sound power levels, spectra, and tonality at integer wind speeds from 6 to 10 m/s and up to 95% of rated power for each type and mode of individual wind turbine to be installed.

ii) A noise prediction report from an independent and suitably qualified and experienced acoustical consultant that demonstrates that the sound levels from the wind farm will not exceed those levels set out in Conditions 35 and 36 above. Modes of operation and the type of turbine must be specified. For the avoidance of doubt, this resource consent does not authorise the use of a stall turbine design.

iii) A report setting out the results of pre-installation testing in accordance with Condition 38. Upon receiving this report Council may consider the background sound levels at the qualifying dwellings at times when wind turbine generators would be operating and review whether these dwellings are appropriately protected by the provisions of Condition 36. Qualifying dwellings are those dwellings that are not already referred to in Condition 36, that are inside the predicted 35dBA contour, and from which written approval for the wind farm has not been obtained.

Pre-installation Measurements

38. Background sound levels shall be measured and assessed using NZS6808:1998 *Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators* within the notional boundary of any dwelling, except for lots where written approval has been obtained, but with the following requirements to be met. Where these differ from NZS6808:1998, the following requirements shall prevail:

i) Representative measurement locations shall be selected for all dwellings within the predicted 35dBA L_{eq} noise contour.

ii) The requirements for background sound level measurements under this condition shall not apply to any property where:
- written approval has been obtained; or
- where access for measurement purposes has been refused by the property owner or tenant, and monitoring cannot take place at a nearby representative location.

iii) Sufficient data must be collected to assess the background sound levels in accordance with NZS6808:1998 but also specifically at the following times:
- when operational wind speeds of the wind turbines are fairly representative of the cut-in wind speed and the rated power wind speed at the wind farm and at wind speeds in between; and
- between 10pm and 5am, to allow a separate analysis to be undertaken during this time period.

Sufficient data is when regression curves are representative of the range of wind speeds and wind directions generally expected at the wind farm site.

iv) Care will be taken to eliminate periods of contamination of the noise data by other noise sources, i.e. seasonal cicadas, crickets, frogs, rainfall periods, etc.

Post-installation Testing

39. Post-installation compliance testing shall commence as soon as practicable once turbines are installed and commissioned. If possible the testing shall be carried out at the same locations as the background sound monitoring or, if that position is not available, then at a nearby location where the background sound monitoring is still representative.

40. The same requirements as in Condition 38for the background noise monitoring shall also be measured for the post-installation compliance testing. The cut-in operation times of the wind turbine generators shall also be recorded and this shall be indicated on the results.

41. The best fit regression curves shall be provided in accordance with Condition 38.

42. The appropriate regression curve of the L95, 10min of the wind turbine generator sound levels corrected for any special audible characteristics is not to exceed the noise limits specified in Conditions 35 and 36.

43. As compliance testing takes place at each site, the consent holder shall make available the raw results of noise and wind monitoring to the Planning and Environment Manager, Clutha District Council, in a form that will allow the Council to undertake its own analysis and assessment of the results should it choose to do so.

44. The consent holder shall provide reports to the Planning and Environment Manager, Clutha District Council, as soon as possible following testing at each location but no longer than 21 days after the completion of each test.

45. In the event that substantiated complaints are received in circumstances not specifically provided for in these conditions, Clutha District Council may reasonably direct testing to take place at any location, and nothing in these conditions shall prevent compliance monitoring of wind farm noise from being undertaken at any wind speed and direction, or time of day.

46. If Clutha District Council wishes to undertake separate compliance testing of part, or of all of the wind farm operation then the consent holder shall share with Clutha District Council any wind data to allow noise monitoring to be analysed in accordance with the requirements of these conditions.

47. Thereafter, compliance testing shall be carried out following any reasonable request by Clutha District Council. This may be as a result of what the council considers to be substantiated complaints regarding increased levels of noise from the wind farm, or any change in the character of the noise emanating from the wind turbine generators.

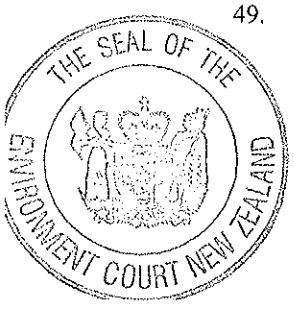
48. Sound monitoring shall conform to the following measurement standards:

    i) The complete measurement and analysis system shall conform to the requirements of NZS6808:1998 *Acoustics - The Assessment and Measurement of Sound from Wind Turbine Generators* and the Standards referred to by NZS6808.

    ii) Microphones shall be fitted with a wind shield such that the noise generated by wind on the wind shield is, to the extent practicable, at least 10dBA below the noise being measured.

    iii) All sound monitoring shall be carried out by independent and suitably qualified and experienced persons.

49. The operator of the wind turbines shall pay all costs associated with compliance testing.



Assessment of Special Audible Characteristic

50. When wind farm sound within the notional boundary of a dwelling has a special audible characteristic, i.e. impulsiveness, tonality and/or an audible modulation, the measured sound level of the source shall have a 5dB penalty applied by adjustment of the measured sound level by the arithmetic addition of the penalty. If the Joint Nordic Method Version 2 is used to assess tonality then the penalty shall be as described in that Standard. If more than one penalty is relevant to any measured sound level then only the penalty with the greatest numerical value shall be applied.

51. Sound with a special audible characteristic includes clearly audible tones. A test for the presence of tonality shall be made by comparing the levels of neighbouring one-third octave bands in the sound spectrum. An adjustment of +5dB for tonality shall be applied if the level (L_{eq}) in any one third octave band exceeds the arithmetic mean of the L_{eq} levels in the two adjacent bands by more than the values given in Table 1.

Table 1 – One-third Octave Band Level Differences

One-third octave band	Level difference
25 - 125Hz	12dB
160 - 400Hz	8dB
500 - 10,000Hz	5dB

52. There might be cases where this analysis does not result in a tonal component being defined although the sound is in fact tonal. For these cases it will be necessary to undertake a narrow band analysis in order to determine if a sound is tonal using Joint Nordic Method Version 2 with the penalties in that document applied.

53. A test for modulation is if the measured peak to trough levels exceed 5dBA on a regularly varying basis or if the spectral characteristics, third octave band levels, exhibit a peak to trough variation that exceeds 6dB on a regular basis in respect of the blade pass frequency.

Non-compliance with Noise Conditions

54. Where compliance is not achieved with these Noise Conditions then the consent holder shall operate the wind turbine generators at reduced noise output until remedies are identified and implemented. If sound emissions cannot be reduced such that they comply, then the consent holder shall cease to operate the non-compliant wind turbine generators until modifications are made to reduce the noise. Further operation of the non-compliant wind turbine generators shall only be for sound measurement checks as specifically agreed with Planning and Environment Manager, Clutha District Council, to demonstrate compliance. This condition shall not limit or restrict any statutory right or power to take enforcement action that Clutha District Council may have under the provisions of the Resource Management Act 1991.

Noise Management Plan

55. Prior to the commencing operation of the wind farm the consent holder shall prepare and implement a Noise Management Plan to manage the potential effects of noise. The Noise

Management Plan shall be prepared by an independent person suitably qualified and experienced in noise assessment and control. That person shall act in liaison with the consent holder.

56. The Noise Management Plan shall include, but not be limited to, the following:

i) An assessment of the contribution to the overall sound levels from individual wind turbine generators.

ii) An assessment of how individual wind turbine generators can be made to comply with Conditions 35 and 36.

57. The information collected as part of the implementation of the Noise Management Plan shall be provided to the Planning and Environment Manager, Clutha District Council.

Contact and Complaints Procedure

58. The consent holder shall establish and publicise a local telephone number so that members of the local community have a specified and known point of contact should they to raise any noise related issues that may arise during construction and operation of the wind farm. A log book of all calls made shall be kept, and details of all calls received and any action taken shall be made available to the Planning and Environment Manager, Clutha District Council, within five working days. Any issues arising shall be reviewed and addressed by revising the Noise Management Plan where appropriate.

59. The consent holder shall nominate an appropriately experienced staff member to be responsible for the following:

i) Liaison with residents.

ii) Overseeing the assessment procedure.

iii) Receiving and dealing with complaints.

Review of Noise Conditions

60. Not withstanding the provisions in Condition 8, Clutha District Council may review the noise conditions set out above, by giving notice of its intention to do so under s.128 of the Resource Management Act 1991, one, three and five years after the wind farm completion or, if the wind turbine generators are installed in stages, then one year after the completion of each stage and then three and five years after the final completion, for the following purposes:

i) To deal with any adverse effects on the environment resulting from wind farm sound, including sound with any special audible characteristics, which may arise from the operation of the wind turbines.

ii) To review the adequacy of any recommendations of the Noise Management Plan.

iii) To address any issues arising out of complaints.

Such reviews may take place within six months of the specified dates.

TRAFFIC CONDITIONS

61. A Traffic Management Plan shall be prepared and submitted by the consent holder to the Chief Executive of Clutha District Council before any access to the site by construction traffic begins. The purpose of the Traffic Management Plan will be to set out and detail the extent and timing of construction traffic activity, and any temporary traffic management provisions to be put in place during this time. The Traffic Management Plan shall include the following requirements:

i) The plan shall be prepared after consulting with the Dunedin City Council and Transit New Zealand as road controlling authorities, and shall implement the outcome of that consultation.

ii) Set out the nature and timing of local physical improvement works to be undertaken on the roading network at the consent holder's cost to accommodate access to the Mahinerangi Wind Farm. These works shall include the following as a minimum:

a) The upgrading of routes used for transport of materials by other than light vehicles to ensure the safe operation of the road including works to ensure that two vehicles (other than over-dimension vehicles) can safely pass each other based on vehicle tracking that is consistent with the operating speed of the road.

b) The upgrading of routes used for transport of over-weight and over-dimension vehicles to provide for the swept path of vehicles on horizontal curves.

c) The upgrading of local access routes used for transport of materials by heavy vehicles (defined as vehicles that require a heavy vehicle licence to operate) to an all-weather surface where necessary and only on those uphill sections of the routes heading towards the Mahinerangi Wind Farm with gradients 10% or steeper.

d) The provision of school-bus bays beyond the traffic lane at all pickup and drop-off points on routes used for transport of materials by other than light vehicles.

e) The installation of suitable passing/stopping bays, in agreed locations, if considered necessary by the road controlling authority.

iii) Detail the intended traffic arrangements and provisions for the delivery of over-weight and over-dimensioned major components to the site, including any time restrictions for the movement of over-weight and over-dimensioned vehicles. No heavy construction traffic will access the site except via Mahinerangi Road and El Dorado Track and between the house of 7.00 am and 10.00 pm. This does not prevent the use of any other roads between the port and State Highway 87 outside these hours. This may require the development of a layby for temporary parking of such vehicles before they reach Mahinerangi Road.

iv) Manage construction traffic (other than component delivery by over-dimension and over-weight vehicles) during the construction phase. This shall include as a minimum:

a) Identification of all roads within Clutha District that are to be used by construction traffic (Waipori Falls Road shall not be used for any construction traffic).

b) The provision for the notification of the principals of all schools along routes to be used by construction traffic of the commencement and cessation of seasonal construction periods.

c) The provision for dust suppression on the routes used for the transport of goods to the site.

d) Ensuring that all construction traffic within Clutha District utilises those roads that have been identified for use by construction traffic in the Traffic Management Plan.

e) Ensuring that all heavy vehicles associated with construction are clearly identified with labels to confirm that they are associated with the Mahinerangi Wind Farm to facilitate the monitoring of vehicle movements. The labels shall also provide a phone number to enable any complaints to be made.

f) The management practices to be adopted to avoid conflict with stock droving on the affected roads.

62. The existing condition of all roads to be used by construction traffic, other than light vehicles, in Clutha District (as identified in the Traffic Management Plan) shall be investigated and reported upon in a Base Condition Report that shall be prepared by the consent holder. The Base Condition Report shall contain information including classified traffic counts, high speed data capture, system recording – profile, texture and roughness and falling weight deflectometer. The Base Condition Report shall identify the existing condition of roads, those roads that require upgrading, potential remedial works during construction, and monitoring requirements during and at the end of the construction period. A Draft Base Condition Report shall be lodged with the Chief Executive of the Clutha District Council not less than nine months prior to the commencement of construction works at the project site.

63. The Chief Executive of Clutha District Council may appoint a technical peer reviewer to review the Draft Base Condition Report and to certify its adequacy prior to the Base Condition Report being formally accepted by the Chief Executive and construction works commencing at the project site. The cost of retaining the services of the technical peer reviewer shall be met by the consent holder.

64. The consent holder shall be responsible for the maintenance of roads subject to the Base Condition Report for the duration of the construction period except for any maintenance, repairs or reconstruction of these roads arising from unusual or extreme weather events. The consent holder shall prepare a Maintenance Standard Report that will detail the minimum level of service to be provided by the consent holder on the roads. A Draft Maintenance Standard Report shall be lodged with the Chief Executive of Clutha District Council not less than nine months prior to the commencement of construction works at the project site.

65. The Chief Executive of Clutha District Council may appoint a technical peer reviewer to review the Draft Maintenance Standard Report and to certify its adequacy prior to the Maintenance Standard Report being formally accepted by the Chief Executive and construction works commencing at the project site. The cost of retaining the services of the technical peer reviewer shall be met by the consent holder. The Chief Executive may require the consent holder to produce an Additional Base Condition Report during the construction period, where road condition

appears to be worse than determined in the Maintenance Standard Report. The Additional Base Condition Report may be subject to review by a technical peer reviewer, with the cost met by the consent holder.

66. For the avoidance of doubt, the consent holder will only be responsible for the costs of maintenance of the roading network to the extent that the costs are additional to those that would be anticipated by Clutha District Council in the normal course of events (ie the consent holder will pay a reasonable proportion of the costs of maintenance required as a result of the use of the roads by wind farm construction traffic).

67. The consent holder shall be responsible for preparing a Post-construction Condition Report at the conclusion of construction works with respect to all roads subject to the Base Condition Report. A Draft Post-construction Condition Report shall be lodged with the Chief Executive and shall provide data with respect to road conditions that is consistent with that contained in the Base Condition Report. The Post-construction Condition Report may be reviewed by a technical peer reviewer at the cost of the consent holder prior to the Post-construction Condition Report being formally accepted by the Chief Executive.

68. The consent holder shall ensure that roads subject to the Base Condition Report are restored to a standard that is consistent with or exceeds the condition recorded in the Base Condition Report.

ACCIDENTAL DISCOVERY PROTOCOL

69. The consent holder shall ensure that all construction personnel involved in site disturbance activities are suitably trained in the requirements of the Accidental Discovery Protocols, and identification of archaeological sites and/or artefacts.

70. If *koiwi tangata* (human skeletal remains), *taonga* or archaeological artefacts are discovered during site construction, the consent holder shall, without delay:

i) Cease all work within a 50 m radius of the discovery and secure the area.

ii) Notify their nominated archaeologist, the consent authority, the appropriate *runanga*, the New Zealand Historic Places Trust, and in the case of *koiwi tangata* (skeletal remains), the New Zealand Police.

iii) Enable a site inspection by the New Zealand Historic Places Trust and the appropriate *runanga*, and their advisors, who shall determine the nature of the discovery and the further action required, including whether an Archaeological Authority is required under the Historic Places Act 1993.

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

v) Ensure that the further action identified in accordance in part (iii) of this condition is undertaken.

vi) Upon completions of tasks (i) to (v) above, and provided all statutory permissions have been obtained, the consent holder may recommence site construction following consultation with the consent authority, appropriate *runanga*, the New Zealand Places Trust, and in the case of *koiwi tangata* (skeletal remains), the New Zealand Police.

71. The consent holder shall, in consultation with *manawhenua* and the Historic Places Trust, develop a comprehensive Accidental Discovery Protocol, which will form part of the consent holder's Environmental Construction Management Plan. The protocol shall develop in more detail the processes required in Conditions 70(i) and (ii) above. The protocol shall also include, but not be limited to, identifying the roles and responsibilities of the consent holder and the other involved parties, providing contact details and identifying reporting requirements.

COMMUNITY CONSULTATION

72. The consent holder shall establish and co-ordinate a Consultative Group for the Mahinerangi Wind Farm that is to be consulted, as a minimum, at least six monthly during the construction phase and the first two years of the operation of the wind farm and thereafter at a frequency to be determined by a majority of the Consultative Group itself. This does not restrict the ability of individual Consultative Group members from calling meetings at shorter intervals to deal with any interim matters that need to be addressed before the next scheduled meeting.

73. The objective of the group will be to facilitate information flow between the consent holder's management team and the community, and will be an on-going point of contact between the consent holder and the community. The functions of the group shall also include acting as a forum for relaying community concerns about the construction and on-going operation of the wind farm to the consent holders on-site management, developing acceptable means of addressing (where possible) and managing those concerns, and reviewing the implementation of measures to resolve and manage community concerns.

74. The consent holder shall be responsible for convening the meetings of the group and shall cover the direct costs associated with the establishment and operation of the group. The consent holder shall be responsible for the keeping and distribution of the group's minutes to all participants in the group.

75. The consent holder shall notify its intention to establish a Consultative Group for the Mahinerangi Wind Farm project by public notice. As a minimum, the consent holder shall invite the following to participate in the Consultative Group:

i) Representatives of property owners and occupiers on local roads identified for use by construction traffic as nominated by the relevant Council. (1 rep. from each Council area)

ii) Representatives of the Lee Stream School (1 rep.).

iii) The operator of the school-bus routes in the area (1 rep.).

iv) Clutha District Council or relevant Community Board (1 rep.).

v) Dunedin City Council or relevant Community Board (1 rep.).

vi) The Otago Conservator or delegate or Department of Conservation.

vii) *Iwi* representatives (1 rep. from each *runanga*).

viii) Local residents (1 rep.).

ix) A delegate elected by the members of the ULPS Incorporated while that group remains incorporated (1 rep.).

The consent holder shall not be in breach of this condition if any one or more of the above parties specified above do not wish to be members of the group or to attend any particular meeting.

76. The Consultative Group shall cease to exist if a 75% majority of the group vote that it is no longer necessary.

COMPLAINT REGISTER

77. Notwithstanding the requirements of Condition 58, which refers to noise, the consent holder shall maintain and keep a Complaints Register to record any complaints about the construction activities and operation of the wind farm received by the consent holder in relation to traffic, noise, dust, shadow flicker or blade glint. The Register shall also record, where the following information is available:

i) The date, time and duration of the incident that has resulted in a complaint.

ii) The location of the complainant when the incident was detected.

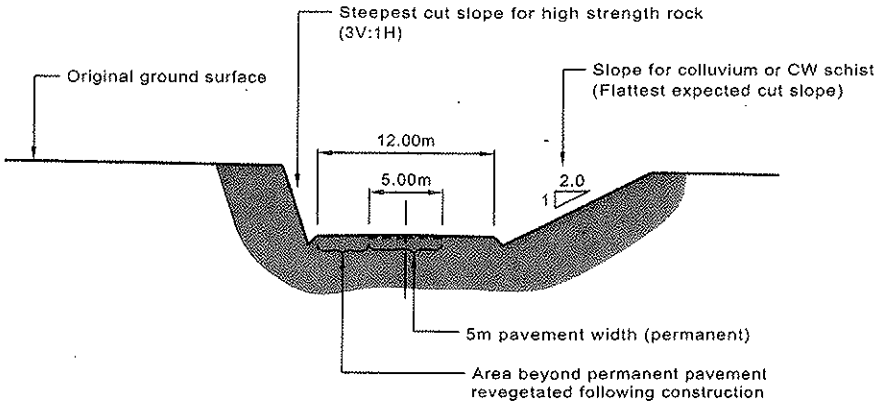
iii) The possible cause of the incident.

iv) Any corrective action undertaken by the consent holder in response to the complaint, including timing of that corrective action.

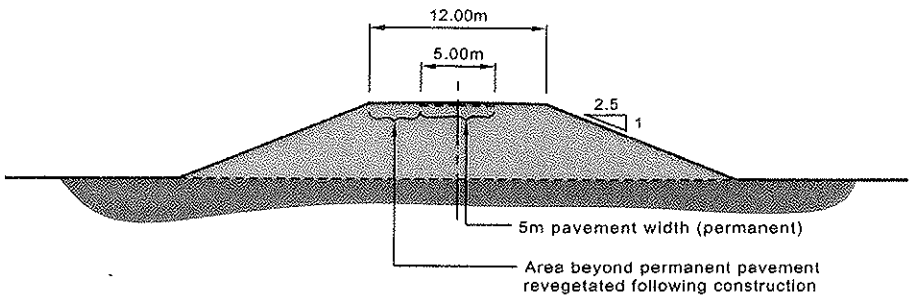
80. The Complaints Register shall be available to Clutha District Council and the Consultative Group at all reasonable times upon request. Complaints received by the consent holder that may infer non-compliance with the conditions of this resource consent shall be forwarded to the Planning and Environment Manager, Clutha District Council, within 48 hours of the complaint being received.

APPENDIX A

TYPICAL ACCESS TRACK CROSS-SECTIONS



Ridge Line Track (cut)



Ridge Line Track (fill)

MAHINERANGI WINDFARM
WINDFARM LAYOUT

Indicative Substation / O&M Compound Location

Indicative Batching Plant Location

- Proposed Turbine Location & Contingency Zone (100m radius)
- Anemometer Mast
- Windfarm Site
- Windfarm Development Area
- Windfarm Buffer Area
- Area excluded from development by the Environment Court
- Development within either the high-quality tussock (T) or the covenanted (C) areas
- Development within constrained areas

0 0.5 1 km

March 18, 2009 W07190_1_WindfarmLayout_A1.mxd

Boffa Miskell

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MAST 1
716
656

MAST 2
783
713

MAST 3
797
727

1	793 748 648	
2	814 769 669	
3	811 766 666	
4	807 762 662	
5	831 786 686	
6	813 768 668	
7	817 772 672	
8	840 795 695	
9	832 787 687	
10	839 794 694	
11	844 799 699	
12	841 796 696	
13	817 772 672	
14	807 762 662	
15	813 768 668	
16	798 753 653	
17	787 742 642	
18	871 826 726	
19	861 816 716	
20	871 826 726	
21	855 810 710	
22	869 824 724	
23	859 814 714	
24	859 814 714	
25	842 797 697	
26	800 755 655	
27	803 758 658	
28	802 757 657	
29	787 742 642	
30	750 705 605	
31	856 811 711	
32	850 805 705	
33	859 814 714	
34	863 818 718	
35	855 810 710	
36	837 792 692	
37	870 825 725	
38	866 821 721	
39	829 784 684	
40	865 820 720	
41	865 820 720	
42	856 811 711	
43	855 810 710	
44	855 810 710	
45	803 758 658	
46	765 720 620	
47	757 712 612	
48	833 788 688	
49	805 760 660	
50	773 728 628	
51	749 704 604	
52	853 808 708	
53	860 815 715	
54	859 814 714	
55	858 813 713	
56	854 809 709	
57	857 812 712	
58	878 833 733	
59	874 829 729	
60	856 811 711	
61	824 779 679	
62	843 798 698	
63	869 824 724	
64	859 814 714	
65	831 786 686	
66	793 748 648	
67	850 805 705	
68	851 806 706	
69	827 782 682	
70	785 740 640	
71	767 722 622	
72	804 759 659	
73	799 754 654	
74	796 751 651	
75	789 744 644	
76	761 716 616	
77	780 735 635	
78	757 712 612	
79	799 754 654	
80	768 723 623	
81	780 735 635	
82	838 793 693	
83	763 718 618	
84	765 720 620	
85	771 726 626	
86	781 736 636	
87	783 738 638	
88	893 848 748	
89	884 839 739	
90	898 853 753	
91	877 832 732	
92	816 771 671	
93	871 826 726	
94	859 814 714	
95	828 783 683	
96	800 755 655	
97	862 817 717	
98	864 819 719	
99	860 815 715	
100	863 818 718	

835 Tip RL
790 Hub RL
690 Ground RL

Reduced Level (RL) expressed in metres above sea level and derived from platform levels (supplied by Riley, Oct 2008).

- Cut
- Fill
- Disposal Area
- Turbine Location (proposed)
- Anemometer Mast
- Windfarm Envelope
- Contours (3m interval)

0 0.5 1 km

nuary 23, 2009 W07190_2_EngineeringWorks_A1.mxd

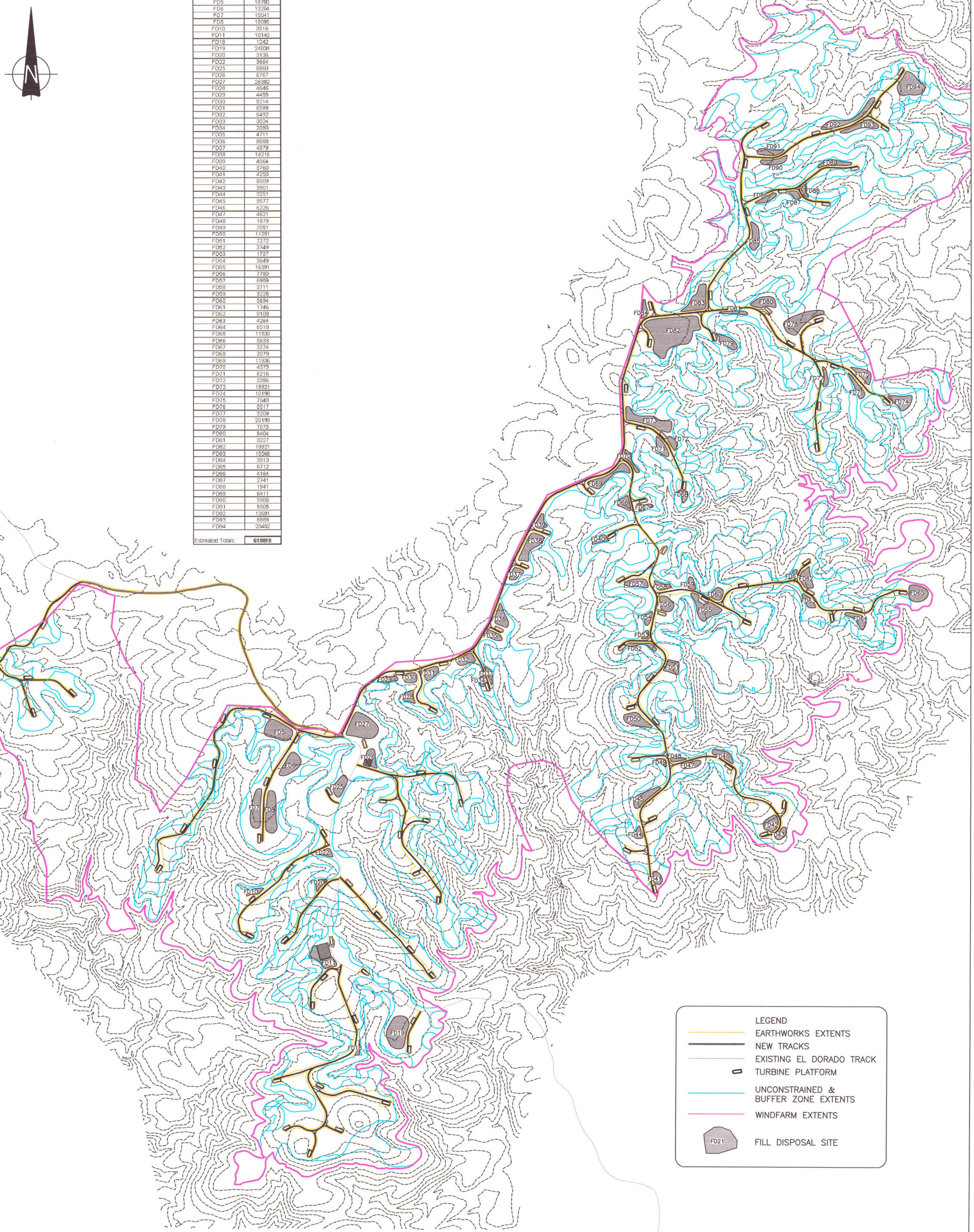
Boffa Miskell

MAHINERANGI WINDFARM
ENGINEERING WORKS
(PRE-REHABILITATION)

TrustPower

FILL DISPOSAL SITES - SUMMARY OF QUANTITIES

Fill Disposal Location Reference	Surface Area (m^2)
FD5	18700
FD6	13254
FD7	15041
FD8	18095
FD10	3516
FD11	10140
FD18	1242
FD19	24834
FD20	3136
FD22	3664
FD25	8860
FD26	6767
FD27	26382
FD28	4646
FD29	4455
FD30	5214
FD31	6599
FD32	6492
FD33	3024
FD34	2090
FD35	4711
FD36	8688
FD37	4879
FD38	14216
FD39	4564
FD40	3760
FD41	4250
FD42	8009
FD43	3901
FD44	3251
FD45	9577
FD46	6226
FD47	4621
FD48	1879
FD49	2051
FD50	11251
FD51	7272
FD52	3749
FD53	1737
FD54	3649
FD55	16391
FD56	7780
FD57	6989
FD58	3711
FD59	3228
FD60	5694
FD61	1746
FD62	8108
FD63	4264
FD64	6510
FD65	11533
FD66	5633
FD67	3274
FD68	3079
FD69	11936
FD70	4375
FD71	6216
FD72	3356
FD73	19921
FD74	10198
FD75	7040
FD76	5517
FD77	3209
FD78	20199
FD79	7075
FD80	9404
FD81	3227
FD82	19921
FD83	15568
FD84	3513
FD85	8712
FD86	4164
FD87	2741
FD88	1941
FD89	6411
FD90	5906
FD91	5905
FD92	13691
FD93	8868
FD94	20452
Estimated Totals:	**615818**



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0 250 500 750 1000 1250 (m)

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MAHINERANGI WINDFARM

SITE PLAN SHOWING POTENTIAL FILL DISPOSAL SITES

DWG. No. 05ELD/ENV-5 REV. 1

TrustPower

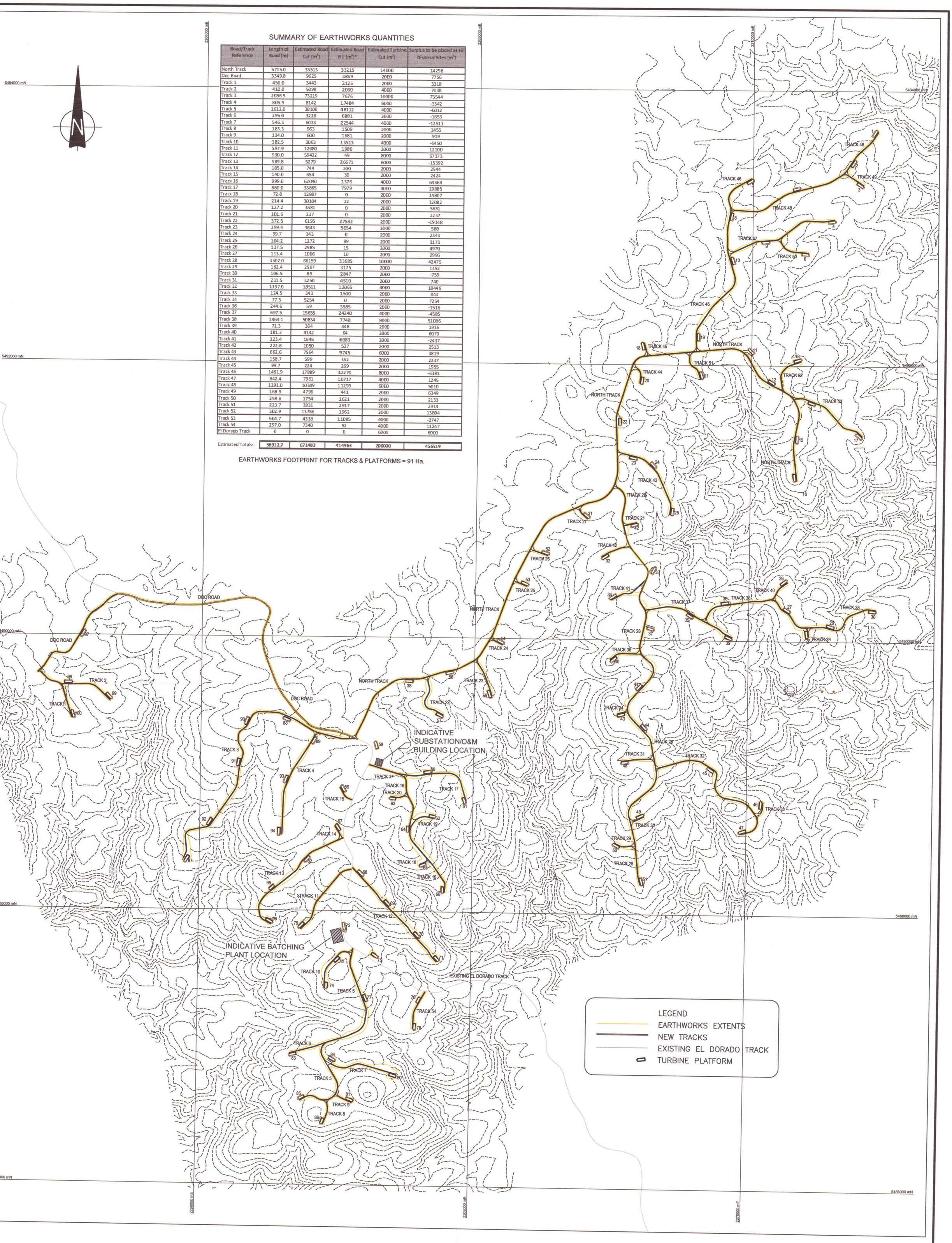
CONSENT ISSUE

RILEY CONSULTANTS

SUMMARY OF EARTHWORKS QUANTITIES

Road/Track Reference	Length of Road (m)	Estimated Road Cut (m^3)	Estimated Road Fill (m^3)*	Estimated Turbine Cut (m^3)	Surplus to be placed at Fill Disposal Sites (m^3)
North Track	5715.0	33513	33215	14000	14298
Doc Road	3349.8	9625	3869	2000	7756
Track 1	450.0	3443	2125	2000	3318
Track 2	410.0	5098	2060	4000	7038
Track 3	2086.5	73219	7676	10000	75544
Track 4	805.9	8142	17484	6000	-3342
Track 5	1612.0	38100	48112	4000	-6012
Track 6	295.0	3228	6881	2000	-1653
Track 7	546.3	6033	22544	4000	-12511
Track 8	183.3	963	1509	2000	1455
Track 9	134.0	600	1681	2000	919
Track 10	382.5	3063	13513	4000	-6450
Track 11	597.9	12080	1980	2000	12100
Track 12	930.0	59422	49	8000	67373
Track 13	989.8	5279	26671	6000	-15392
Track 14	105.0	744	200	2000	2544
Track 15	140.0	454	30	2000	2424
Track 16	999.0	62040	1376	4000	64664
Track 17	860.0	33865	7979	4000	29885
Track 18	72.0	12807	0	2000	14807
Track 19	214.4	30104	22	2000	32082
Track 20	127.2	3681	0	2000	5681
Track 21	101.6	237	0	2000	2237
Track 22	372.5	6195	27542	2000	-19348
Track 23	299.4	3643	5054	2000	588
Track 24	99.7	343	0	2000	2343
Track 25	104.2	1272	99	2000	3173
Track 26	137.5	2985	15	2000	4970
Track 27	113.4	1006	10	2000	2996
Track 28	3302.0	66159	33685	10000	42475
Track 29	162.4	2567	3175	2000	1392
Track 30	106.5	89	2847	2000	-759
Track 31	231.5	3250	4510	2000	740
Track 32	1197.0	18511	12065	4000	10446
Track 33	124.5	343	1500	2000	843
Track 34	77.3	5254	0	2000	7254
Track 36	244.6	69	3585	2000	-1516
Track 37	697.5	15655	24240	4000	-4585
Track 38	1464.1	50834	7748	8000	51086
Track 39	71.3	364	448	2000	1916
Track 40	181.2	4142	64	2000	6079
Track 41	223.4	1646	6083	2000	-2437
Track 42	222.6	1050	537	2000	2513
Track 43	662.6	7564	9745	6000	3819
Track 44	158.7	599	362	2000	2237
Track 45	99.7	224	269	2000	1955
Track 46	1461.9	17889	32270	8000	-6381
Track 47	842.4	7961	10717	4000	1245
Track 48	1291.0	10309	11299	6000	5010
Track 49	168.9	4790	441	2000	6349
Track 50	259.6	1754	1621	2000	2133
Track 51	223.7	3831	2917	2000	2914
Track 52	302.9	13766	1962	2000	13804
Track 53	604.7	4338	11085	4000	-2747
Track 54	297.0	7340	92	4000	11247
El Dorado Track	0	0	0	6000	6000
Estimated Totals:	36912.7	671482	414963	200000	456519

EARTHWORKS FOOTPRINT FOR TRACKS & PLATFORMS = 91 Ha.



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CONSENT ISSUE

TRUSTPOWER LTD.

MAHINERANGI WINDFARM

OVERALL SITE PLAN

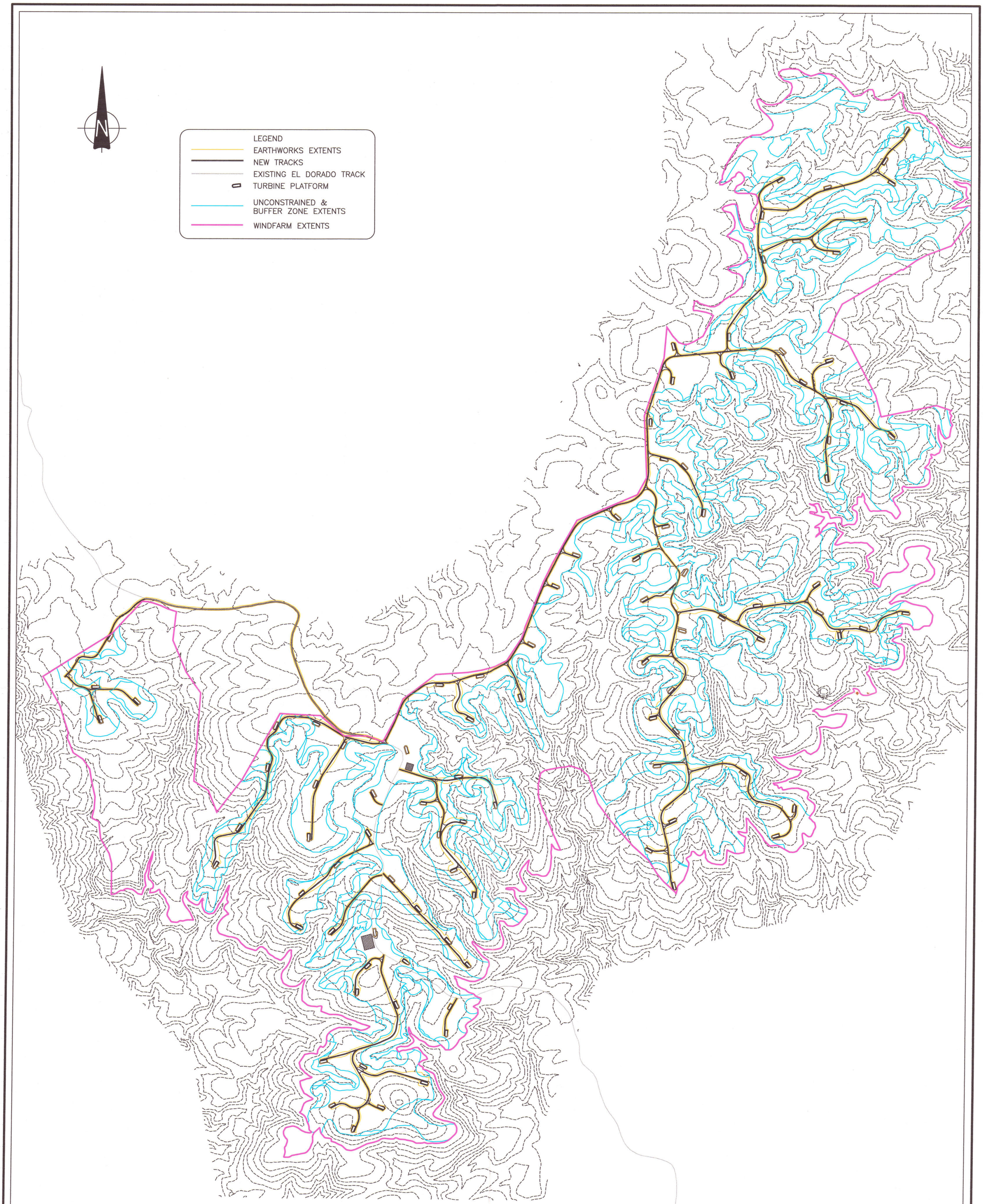
DWG. No. 05ELD/ENV-3 REV. 1

RILEY CONSULTANTS

N

LEGEND

- EARTHWORKS EXTENTS
- NEW TRACKS
- EXISTING EL DORADO TRACK
- TURBINE PLATFORM
- UNCONSTRAINED & BUFFER ZONE EXTENTS
- WINDFARM EXTENTS



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CONSENT ISSUE

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MAHINERANGI WINDFARM

SITE PLAN SHOWING UNCONSTRAINED & BUFFER ZONES

DWG. No. 05ELD/ENV-4 REV. 1

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