DECISION AND RECOMMENDATION OF THE JOINT HEARINGS COMMITTEE

In terms of the Resource Management Act 1991

HYDRO DEVELOPMENTS LIMITED

STOCKTON PLATEAU HYDRO SCHEME

Application for Resource Consents

RC08149/01 – RC08149/42 (WCRC)

RC08/131 A - G (BDC)

DATE 18 January 2010

Hydro Developments Ltd

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Chapter 1 : INTRODUCTION

FOREWORD

[1] After consideration of all the evidence presented to the committee during the course of the hearing and taking into account independent legal advice in regard to the derogation issues raised by Solid Energy New Zealand Limited in relation to its Stockton Coal Mine operations, the committee has recommended to the Minister of Conservation to grant consent to undertake a Restricted Coastal Activity in accordance with Section 119 of the Resource Management Act 1991 and has granted all the remaining consents sought. Details of the decision and recommendation in full, with the conditions, are contained in Chapter 8 and 9 of this Determination.

BACKGROUND

[2] Hydro Developments Ltd (HDL) is seeking resource consents from the West Coast Regional Council (WCRC) and the Buller District Council (BDC) to develop a hydro power scheme on the Stockton Plateau (Stockton Plateau Hydro Scheme – the "Proposal"). The location of the Proposal is shown in P**lan C-000.**

[3] The applications were lodged with WCRC and BDC on 13 November 2008 and were publicly notified on 12 and 13 December 2008, with submissions closing on 30 January 2009.

[4] BDC engaged Staig & Smith Ltd to provide planning evidence on the Council's behalf. The Councils jointly engaged Opus International Consultants Ltd to undertake independent technical audits of the applications. These same experts have reviewed further information that has been supplied and have provided technical input during the preparation of the Section 42A report.

[5] Following the completion of the initial technical audits, a request for further information was sent to HDL on 19 March 2009, under Section 92 of the Resource Management Act 1991 (RMA or "the Act"). Further information was provided in response to that request on 9 April 2009. After discussions between the Councils and HDL, further amendments were made by HDL to the response on 26 May 2009.

[6] Some additional information on bryophytes and hydrology was provided by 3 June 2009. HDL engaged an expert to undertake further studies on bryophytes in the reservoir footprints. The reporting on the conclusions of those studies was not completed prior to the writing of the Section 42A report, and was provided by HDL just prior to the hearing.

[7] It is noted that the timeframe for processing the resource consents has at each stage been extended.

[8] A total of 50 separate submitters lodged submissions on the consent applications. Of the 50 submitters, 6 submitted on the applications

received by BDC only, 12 submitted on the applications received by WCRC only and 32 submitted on both 'suites' of applications. In total, the WCRC received 44 submissions and BDC received 38 submissions on which further information is provided under Chapter 3.

HEARING PROCEDURE

[9] This was a joint hearing of the West Coast Regional Council and Buller District Council. As one of the consents related to a Restricted Coastal Activity (RCA), the provisions of Section 117 of the RMA requires both a Minister of Conservation appointed Commissioner to be made to the hearing committee, and a recommendation to be made to the Minister in regard to that specific RCA consent. The Hearings Commissioners, who were appointed and given the delegated authority to hear, decide and recommend the applications, were:

- Mr Terry Archer, Councillor with the West Coast Regional Council (Chair);
- Mr John Lumsden, a Civil Engineering Consultant, Christchurch; and
- Ms Sharon McGarry, a Resource Management Consultant, Christchurch who was appointed by the Minister of Conservation.

[10] The Commissioners are collectively referred to as "the Hearings Committee" in this decision.

[11] The Committee visited the site on the Stockton Plateau on 30 August 2009 accompanied by Mr Chris Coll. Mr Coll provided very extensive and helpful background information on the history of mining in the area, together with a thorough and detailed knowledge of the proposal before us.

[12] The hearing was held in the Westport Bridge Club building situated on Lyndhurst Street, Westport. The hearing commenced at 2.00pm on Thursday 30 August 2009, had six sitting days, and was adjourned at 11.20 am on 6 August 2009. The administering council for the process was the WCRC.

[13] In opening the hearing, the Chair advised that the process to be followed by the Committee would be with independent and open minds, and decisions and recommendations will be made on the basis of the application documents, the written submissions, and the evidence and submissions put before the Committee during the hearing. There would be no cross–examination, the applicant would speak first, followed by submitters, Council officers, and the applicant's right of reply. The Chair asked if there were any questions, or any procedural or jurisdictional matters the parties wished to raise, and there were none.

ACKNOWLEDGEMENTS

[14] The Committee wishes to acknowledge the contributions and help received from council staff, consulting officers, witnesses and submitters throughout the hearing process.

Chapter 2 : THE APPLICATION AND CONSENTS SOUGHT

DESCRIPTION OF THE PROPOSED ACTIVITY

[15] The applications are fully described in the documentation lodged by the applicant and will not be repeated in full here. In summary, 49 resource consent applications have been lodged with the WCRC and BDC for the construction, operation and maintenance of a hydro-electric power scheme within the Stockton Plateau. It is noted that these applications were 'in process' before the 1 October 2009 enactment of the Resource Management (Simplifying and Streamlining) Amendment Act, and are therefore subject to the RMA provisions prior to amendment.

[16] The Stockton Plateau Hydro Electric Power Scheme (HEPS or "the Scheme") will be located on the Stockton Plateau. The scheme will involve the diverting and damming of predominantly acid mine drainage (AMD) water behind two roller compacted concrete (RCC) dam structures. A number of small tunnels and weirs will be constructed to both capture and divert a number of tributaries into two reservoirs (Mt William and Weka).

[17] Two main tunnels are to be constructed to provide the fall from the reservoirs to the powerstations located at Weka and Granity. The powerstations will be located within the tunnel structures. Once the water has passed through the Granity power station, it will be discharged via an ocean outfall pipeline and diffuser into the Coastal Marine Area (CMA).

[18] The application included a project description, alternatives considered, Assessment of Effects on the Environment (AEE), summary of consultation, statutory assessment, supported by plans and maps of the proposal together with the following additional documents:

- Archaeological Values
- Dam Concept Design
- Hydrology and Water Quality Review
- Aquatic Ecology
- Ngakawau Ecological Area-Mangitini Stream Boundary
- Vegetation and Flora
- Terrestrial Fauna Review
- Terrestrial Fauna Survey
- Scheme Modelling Report
- Dam Break Assessment
- Water Quality and Hydrological Modelling
- Assessment of Offshore Acid Mine Drainage Effluent Disposal

- Geological and Geotechnical Assessments
- Correspondence with Affected Parties

CONSENTS SOUGHT

[19] The following summary of activities outlines the general nature of the consents sought with a full description of individual consents sought listed below as Table 1 (BDC Consents), and Table 2(WCRC Consents):

- To undertake geotechnical investigations by drilling core samples around the proposed dams, tunnels and power station locations.
- To disturb the beds of St Patrick Stream and Weka Creek to erect and maintain RCC dams and associated structures to create the Mt William and Weka reservoirs.
- To take, use and divert water from St Patrick, Darcy, Plover, Fly and T31 Streams to create the Mt William reservoir.
- To take, use and divert water from Weka, Sandy and Upper Mine Creeks and Mangatini and A.J. Streams to create the Weka reservoir.
- To undertake earthworks and vegetation clearance to construct structures such as tunnels, canals, portals, intake structures, penstocks, roads, embankments etc. on the Stockton Plateau and at Granity.
- To disturb the bed of Granity Stream during construction and the ongoing maintenance of an overflow diffuser for discharge of Granity power station tailwater in emergency situations.
- To disturb, erect and occupy space in the CMA with an ocean outfall pipeline (micro-tunnel) and diffuser.
- To discharge tailwater to the CMA from the Granity powerstation via the ocean outfall pipeline and diffuser.
- To discharge tailwater from Weka power station to Weka reservoir.
- To discharge spill water from Mt William reservoir to T35 Stream and from Weka reservoir into Weka Creek.
- To discharge tailwater from the Granity power station into Granity Stream during emergency overflow situations.
- To discharge dust to air associated with the construction, operation and maintenance of the Stockton Plateau HEPS.
- Consents associated with the discharge of groundwater seepage and stormwater.
- Consents to construct and operate tunnels, canals, portals, intake structures, penstocks, roads, embankments etc. on the Stockton Plateau and at Granity.
- To use and store hazardous substances during the construction and operation of the project.
- The realignment of the haul road to Stockton Mine, around the perimeter of Weka reservoir.

- To construct, operate and maintain temporary and permanent powerlines between existing lines and substations located at the two power stations, and to the erect telecommunication cables.
- To disturb and inundate the historic electric loco line.

Table 1 Buller District Council Consents

Activity	Description/Location	Activity Status	Plan	Rule
Land Use Consent (Stockton Plateau - Project infrastructure) **RC08/131A**	Earthworks and vegetation clearance to construct, operate and maintain the Project including RCC dams, inundation areas, embankments, saddle dams, spillways, diversion weirs, diversion intake sumps, tunnels, canals, inlet towers, drop shafts, portals, intake excavations, intake channels, penstocks, power stations, tracks, roads, silt traps, silt storage areas, stockpiling/fill areas, temporary buildings, construction plant and settling ponds. Located approx: N5948300 E2417600	*Vegetation clearance* – Restricted Discretionary *Earthworks* – Discretionary *Tunneling/excavations* - Discretionary *Geotechnical surveys/ drilling* - Discretionary *Power generation* – Discretionary *Batching plant* - Discretionary *Aggregate processing* - Discretionary *Dam height (Mt William 40m)* - Non-complying *Dam height (Weka 25m)* - Discretionary *Ground floor area (storage reservoirs)* - Non-complying *Riparian Margins* - Discretionary *Lighting* - Non-complying *Signage* – Discretionary	Buller District Plan	Rule 5.3.2.4.4 Rule 5.3.2.3.1 Rule 5.3.2.3.1 Rule 5.3.2.3.1 Rule 5.3.2.3.1 Rule 5.3.2.3.1 Rule 5.3.2.3.1 Table 5.7 & Rule 7.9.1.2 Table 5.7 Table 5.7 & Rule 7.9.1.2 Table 5.7 Rules 7.9.4.2 & 7.9.1.1 Rule 7.7.2.4.1
Land Use Consent (Granity Construction site) **RC08/131B**	Earthworks and vegetation clearance to construct, operate and maintain the Granity power station including construction of the portal outlet, access ramp, portal apron, surge chamber, ocean outfall pipeline, emergency outflow structures, settling pond, site access, the Granity construction yard and the Jacking Station. Located approx: N5952390	*Vegetation clearance* - Controlled *Earthworks* - Discretionary *Tunneling/excavations* - Discretionary *Geotechnical surveys/ drilling* -Controlled *Power generation* - Discretionary *Ground floor area*	Buller District Plan	Rule 5.3.2.2.1 Rule 5.3.2.3.1 Rule 5.3.2.3.1 Rule 5.3.2.3.1 Rule 5.3.2.3.1

Activity	Description/Location	Activity Status	Plan	Rule
	E2414660	*(apron/portal)* - Discretionary *Noise* - Non-complying *Access* - Restricted Discretionary *Riparian Margins* - Discretionary *Signage –*- Discretionary *Lighting* - Non-complying *Vehicle trips* - Non-complying *Hours of operation* - Non-complying *Storage* - Non-complying		Table 5.7 Rules 7.8.1 & 7.9.1.1 Rule 7.4.1.2 Table 5.7 Rules 7.7.1.5 & 7.7.2.4 Rules 7.9.4.1, 7.9.4.2 & 7.9.1.1 Rules 5.2.2.2.2 & 7.9.1.2 Table 5.1 & Rule 7.9.1.2 Table 5.1 & Rule 7.9.1.2
Land Use Consent (Tunneling) **RC08/131C**	Earthworks to construct, operate and maintain an ocean outfall pipeline beneath residential Granity. Located approx: N5952485 E2414524	*Tunnel (boundaries)* - Non-complying *Vehicle trips* - Non-complying *Hours of operation* - Non-complying *Noise* - Non-complying	Buller District Plan	Table 5.1 & Rule 7.9.1.2 Rules 5.2.2.2.2 & 7.9.1.2 Table 5.1 & Rule 7.9.1.2 Rules 7.8.1 & 7.9.1.1
Land Use Consent (Hazardous substance storage) **RC08/131D**	The use and storage of hazardous substances during construction and operation of the Project. Located approx: N5948300 E2417600 & N5952390 E2414660	Discretionary	Buller District Plan	Rule 6.4.2.7
Land Use Consent (Realignment	Earthworks and vegetation clearance to realign the Stockton Mine haul road over approximately	*Vegetation clearance* - Restricted Discretionary *Earthworks* -	Buller District Plan	Rule 5.3.2.4.4 Rule

Activity	Description/Location	Activity Status	Plan	Rule
of Stockton haul road) **RC08/131E**	1200m and undertake on-going maintenance. Located approx: N5948300 E2417600	Discretionary		5.3.2.3.1
Land Use Consent (Transmission spur lines, telecommunic-ation cables and switch yards) **RC08/131F**	To construct, operate and maintain a temporary overhead power line from the existing coastal BEL network to the Granity portal outlet, a new overhead electricity line from the Granity power station to the existing BEL distribution network at Granity and a new overhead electricity line from the Weka power station to SENZ's 33kV line on the Stockton Plateau. To erect and maintain tele-communication cables along the above described overhead electricity poles. To construct, operate and maintain a temporary transformer at Granity and switch yards within Granity and Weka power stations. Located approx: N5952390 E2414660 and N5951760 E2418490	*Vegetation clearance* - Controlled *Power lines* - Discretionary *Telecommunication lines* - Discretionary *Switch yard/substation* - Discretionary	Buller District Plan	Rule 5.3.2.2.1. Rule 6.4.2.2 Rule 6.4.2.3 Rule 6.4.2.4
Land Use Consent (Disturb a historic coal tramway) **RC08/131G**	To disturb a 460m section of the historic coal tramway during realignment of the Stockton Haul Road and inundation of Weka Reservoir. Located approx: N5952250 E2418500	Non-complying	Buller District Plan	Rules 7.9.7.2 & 7.9.1.1

Table 2 West Coast Regional Council Consents

Activity	Description/Location	Activity Status	Plan	Rule
Coastal Permit (Occupation of CMA) **RC08149/01**	To occupy land within the coastal marine area with an ocean outfall pipeline and diffuser, the occupation will extend approximately 600m offshore. Located approx: N5952750 E2414175	Discretionary	Regional Coastal Plan	Rule 7.5.1.5

Activity	Description/Location	Activity Status	Plan	Rule
Coastal Permit (Ocean outfall structure) **RC08149/02**	To erect and place an ocean outfall pipeline approximately 600m long and outfall diffuser within the foreshore and seabed. Located approx: N5952750 E2414175	Restricted Coastal Activity (Discretionary)	Regional Coastal Plan	Rule 8.5.1.7c
Coastal Permit (Ocean outfall structure CMA disturbance) **RC08149/03**	The disturbance of the foreshore and seabed to facilitate burial of an ocean outfall pipeline approximately 600m long and outfall diffuser. Located approx: N5952750 E2414175	Discretionary	Regional Coastal Plan	Rule 9.5.3.7
Coastal Permit (Maintenance of ocean outfall structure**)** **RC08149/04**	To maintain an ocean outfall pipeline approximately 600m long and an outfall diffuser within the foreshore and seabed. Located approx: N5952750 E2414175	Discretionary	Regional Coastal Plan	Rule 8.5.2.3
Coastal Permit (Discharge into the CMA following hydro generation) **RC08149/05**	To discharge tailwater into the coastal marine area from the Granity power station, discharge to be via an ocean outfall pipeline and diffuser and to not exceed 9 cubic metres per second. Located approx: N5952920 E2413930	Discretionary	Regional Coastal Plan	Rule 10.5.7.2
Coastal Permit (Temporary structures) **RC08149/06**	To erect and place temporary structures on the foreshore and seabed including sheet piling, rock breast work, sea anchors and other navigational and securing structures for the purpose of constructing and maintaining an ocean outfall pipeline and diffuser. Located approx: N5952750 E2414175	Discretionary	Regional Coastal Plan	Rule 8.5.1.8
Coastal Permit (Temporary structures - occupation of CMA) **RC08149/07**	To occupy land within the coastal marine area with temporary structures on the foreshore and seabed including sheet piling, rock breast work, sea anchors and other navigational and securing structures for the purpose of constructing and maintaining an ocean outfall pipeline and diffuser.	Discretionary	Regional Coastal Plan	Rule 7.5.1.5

Activity	Description/Location	Activity Status	Plan	Rule
	Located approx: N5952750 E2414175			
Coastal Permit (Temporary structures - CMA disturbance) **RC08149/08**	The disturbance of the foreshore and seabed with temporary structures including sheet piling, rock breast work, sea anchors and other navigational and securing structures for the purpose of constructing and maintaining an ocean outfall pipeline and diffuser. Located approx: N5952750 E2414175	Discretionary	Regional Coastal Plan	Rule 9.5.3.7
Land Use Consent (Vegetation disturbance/ earthworks – drilling programme) **RC08149/09**	Vegetation disturbance and earthworks associated with exploration drilling within the Project footprint. The activity will occur within the full extent of the scheme. Located approx: N5948300 E2417600 and N5952390 E2414660	Discretionary	Proposed Regional Land and Riverbed management Plan	Rule 6.1.6.1
Land Use Consent (Earthworks/ vegetation removal for Project infrastructure) **RC08149/10**	Earthworks and vegetation clearance to construct, operate and maintain the Project including RCC dams, embankments, saddle dams, spillways, diversion weirs, diversion intake sumps, tunnels, canals, inlet towers, drop shafts, portals, intake excavations, intake channels, penstocks, power stations, tracks, roads, silt traps, silt storage areas, stockpiling/fill areas, temporary buildings, construction plant, settling ponds, transmission spur lines and ocean outfall pipeline. The activity will occur within the full extent of the scheme. Located approx: N5948300 E2417600 and N5952390 E2414660	Discretionary	Proposed Regional Land and Riverbed management Plan	Rule 6.1.5.3 and 6.1.6.1
Land Use Consent (Earthworks/ vegetation removal - Weka storage reservoir)	Earthworks and vegetation clearance, including excavations for intakes and placement of fill to establish, repair and maintain a storage reservoir of approximately 28 hectares, upstream of Weka Creek gorge.	Discretionary	Proposed Regional Land and Riverbed Management Plan	Rule 6.1.5.3 and 6.1.6.1

Activity	Description/Location	Activity Status	Plan	Rule
RC08149/11	Located approx: N5952245 E2418885			
Land Use Consent (Earthworks/ vegetation removal - Mt William storage reservoir) **RC 08149/12**	Earthworks and vegetation clearance, including excavations for intakes and placement of fill to establish, repair and maintain a storage reservoir of approximately 50 hectares on St Patrick Stream at Mt William. Located approx: N5947510 E2419410	Discretionary	Proposed Regional Land and Riverbed management Plan	Rule 6.1.5.3 and 6.1.6.1
Land Use Consent (Earthworks/ vegetation removal – roading) **RC08149/13**	Earthworks and vegetation clearance to construct, operate and maintain temporary and permanent access roads and tracks within the Project footprint, including realignment of the Stockton Mine haul road over approximately 1200m. Located approx: N5948300 E2417600	Discretionary	Proposed Regional Land and Riverbed management Plan	Rule 6.1.5.3 and 6.1.6.1
Land Use Consent (Disturb bed of Weka Creek – Weka dam) **RC08149/14**	To disturb the bed of Weka Creek to erect, place, repair and maintain a RCC dam, spillway and associated structures, including temporary diversion works in the creek channel for construction purposes and deepening of the creek channel in the vicinity of the proposed Weka power station. Located approx: N5952640 E2418910	Discretionary	Proposed Regional Land and Riverbed management Plan	Rule 6.2.6.1 (i) and (ii)
Land Use Consent (Disturb beds of Upper Mine and Mangatini Streams – weirs/intakes) **RC08149/15**	To disturb the beds of Upper Mine Creek and Mangatini Stream to erect, place, repair and maintain weir/intake structures to divert flows into the Weka reservoir, including temporary diversion of the stream channel for construction purposes. Located approx: N5951520 E2417850 and N5951520 E2419600	Discretionary	Proposed Regional Land and Riverbed management Plan	Rule 6.2.6.1 (i) and (ii)
Land Use Consent	To disturb the bed of Sandy Creek to create the Weka reservoir and	Discretionary	Proposed Regional	Rule 6.2.6.1 (i) and (ii)

Activity	Description/Location	Activity Status	Plan	Rule
(Disturb bed of Sandy Creek). **RC08149/16**	erect, place, repair and maintain the Upper Mine Creek diversion tunnel outlet, a silt trap and placement of a culvert during realignment of the Stockton haul road and temporary diversion of the stream channel for construction purposes. Located approx: N5951765 E2418250		Land and Riverbed management Plan	
Land Use Consent (Disturb bed of St Patrick Stream – Mt William dam) **RC08149/17**	To disturb the bed of St Patrick Stream to erect, place, repair and maintain a RCC dam and associated structures, including construction of a silt trap and temporary diversion works in the stream channel for construction purposes. Located approx: N5947615 E2419580	Discretionary	Proposed Regional Land and Riverbed management Plan	Rule 6.2.6.1 (i) and (ii)
Land Use Consent (Disturb bed of Darcy Stream – sump intakes) **RC08149/18**	To disturb the bed of Darcy Stream to erect, place, repair and maintain intake sumps to divert flows into Mt William storage reservoir, including temporary diversion of the stream channel for construction purposes. Located approx: N5946490 E2420460	Discretionary	Proposed Regional Land and Riverbed management Plan	Rule 6.2.6.1 (i) and (ii)
Land Use Consent (Disturb beds of Fly, Plover and T31 Streams) **RC08149/19**	To disturb the beds of Fly, Plover and T31 Streams to create the Mt William storage reservoir, including construction of silt traps and temporary diversion of stream channels for construction purposes. Located approx: N5947430 E2419120	Discretionary	Proposed Regional Land and Riverbed management Plan	Rule 6.2.6.1 (i) and (ii)
Land Use Consent (Disturb bed of Granity Stream – emergency overflow structure) **RC08149/20**	To disturb the bed of Granity Stream in constructing and maintaining an overflow diffuser for discharge of Granity power station tailwater in emergency situations and to disturb the bed in placing and maintaining rock work around the diffuser structure. Located approx: N5952545 E2414673	Discretionary	Proposed Regional Land and Riverbed management Plan	Rule 6.2.6.1 (i) and (ii)
Water Permit	To take and use water from St	Restricted	Proposed	Rule 12.1.5

Activity	Description/Location	Activity Status	Plan	Rule
(Take and use – drilling rig) **RC08149/21**	Patrick, Darcy, Weka, Mangatini, Mine, Sandy and Granity Streams and tributaries to supply water for operation of a drilling rig. The maximum rate of take to be 1 litre per second. Located approx: N5952640 E2418910 and N5947615 E2419580 and NN5952545 E2414673	Discretionary	Water Management Plan	
Water Permit (Take, use, dam and divert – St Patrick Stream) **RC08149/22**	To take, use, dam and divert St Patrick Stream by means of a RCC dam to create the Mt William storage reservoir, including temporary diversion for construction purposes Located approx: N5947600 E2419575	Discretionary	Proposed Water Management Plan	Rule 12.6.2(a) & (b) – links to Rules 12.1.7 (take & use), 12.4.6 (divert) and 12.4.7 (dam)
Water Permit (Take, use and divert Darcy Stream) **RC08149/23**	To take, use and divert Darcy Stream by means of intake sumps to create the Mt William storage reservoir, including temporary diversions for construction purposes. Located approx: N5946490 E2420460	Discretionary	Proposed Water Management Plan	Rule 12.6.2(a) – links to Rules 12.1.7 and 12.4.6
Water Permit (Take, use and divert Plover, Fly and T31 Streams) **RC08149/24**	To take, use and divert water from Plover, Fly and T31 Streams to create the Mt William storage reservoir, including temporary diversions for construction purposes. Located approx: N5947430 E2419120	Discretionary	Proposed Water Management Plan	Rule 12.6.2(a) – links to Rules 12.1.7 and 12.4.6
Water Permit (Take and use for hydro generation – PS2) **RC08149/25**	To take and use water collected in the Mt William reservoir via the Stockton tunnel and penstock to supply the Weka power station. Located approx: N5949380 E2418090	Discretionary	Proposed Water Management Plan	Rule 12.6.2(b) – links to Rule 12.1.7
Water Permit (Take, use, dam and divert - Weka Creek) **RC08149/26**	To take, use, dam and divert Weka Creek by means of a RCC dam to create the Weka storage reservoir, including temporary diversion for construction purposes.	Discretionary	Proposed Water Management Plan	Rule 12.6.2(a) - links to Rules 12.1.7, 12.4.6 and

Activity	Description/Location	Activity Status	Plan	Rule
	Located approx: N5952640 E2418910			12.4.6 and 12.4.7
Water Permit (Take, use, dam and divert Upper Mine and Mangatini Streams) **RC08149/27**	To take, use, dam and divert Upper Mine Creek, Mangatini and A.J. Streams by means of weirs and diversion tunnels to create the Weka storage reservoir, including temporary diversions for construction purposes. Located approx: N5951520 E2417850 and N5951520 E2419600	Discretionary	Proposed Water Management Plan	Rule 12.6.2(a) - links to Rules 12.1.7, 12.4.6 and 12.4.7
Water Permit (Take, use and divert Sandy Creek) **RC08149/28**	To take, use and divert Sandy Creek to create the Weka storage reservoir, including temporary diversions for construction purposes. Located approx: N5951765 E2418250	Discretionary	Proposed Water Management Plan	Rule 12.6.2(a) - links to Rule 12.4.6
Water Permit (Take and use for hydro generation – PS1) **RC08149/29**	To take and use water collected in the Weka reservoir via the Granity tunnel and penstock to supply the Granity power station. Located approx: N5951070 E2416830	Discretionary	Proposed Water Management Plan	Rule 12.6.2(b) – links to Rule 12.1.7
Water Permit (Take for construction de-watering) **RC08149/30**	To take groundwater seepage as a result of de-watering during tunnel construction. Located approx: N5948300 E2417600 and N5952390 E2414660	Discretionary	Proposed Water Management Plan	Rule 12.2.5
Water Permit (Take and use groundwater seepage) **RC08149/31**	To take groundwater seepage from the Project's tunnels and reservoirs for use in the Weka and Mt William storage reservoirs. Located approx: N5951790 E2418590 and N5946890 E2419620	Restricted Discretionary	Proposed Water Management Plan	Rule 12.2.5
Water Permit (Construction water supply) **RC08149/32**	To take and use water from St Patrick, Weka, Mangatini, Mine, Sandy and Granity Streams and tributaries to supply water for construction activities, including operation of the concrete and dam fill batching plants. The maximum	Discretionary	Proposed Water Management Plan	Rule 12.1.7

Activity	Description/Location	Activity Status	Plan	Rule
	rate of take to be 5 litres per second. Located approx: N5952640 E2418910 and N5947615 E2419580 and NN5952545 E2414673			
Discharge Permit - Water (Discharge from PS2 into Weka reservoir) **RC08149/33**	To discharge tailwater from the Weka power station into Weka reservoir. Located approx: N5952060 E2418900	Discretionary	Proposed Water Management Plan	Rule 12.6.2(c) – links to Rule 12.5.10
Discharge Permit – Water (Discharge of spill from Mt William dam) **RC08149/34**	To discharge spill from Mt William reservoir into T35 Stream. The maximum rate of discharge to be 300 cubic metres per second. Located approx: N5947830 E2419375	Discretionary	Proposed Water Management Plan	Rule 12.6.2(c) - links to Rule 12.5.10
Discharge Permit – Water (Discharge of spill from Weka dam) **RC08149/35**	To discharge spill from Weka reservoir into Weka Creek. The maximum rate of discharge to be 65 cubic metres per second. Located approx: N5952640 E2418910	Discretionary	Proposed Water Management Plan	Rule 12.6.2(c) - links to Rule 12.5.10
Discharge Permit – Water (Emergency outfall into Granity Stream) **RC08149/36**	To discharge tailwater from the Granity power station into Granity Stream during emergency overflow situations. The maximum rate of discharge to be 9 cubic metres per second. Located approx: N5952545 E2414673	Discretionary	Proposed Water Management Plan	Rule 12.6.2(c) - links to Rule 12.5.10
Discharge Permit - Water (Tunneling seepage into Granity Stream) **RC08149/37**	To discharge groundwater seepage during tunneling activities into Granity Stream, via the emergency outflow diffuser. Located approx: N5952545 E2414673	Discretionary	Proposed Water Management Plan	Rule 12.5.10
Discharge Permit – Water (Discharge of water during construction	To discharge stormwater from construction activities, plant process water and groundwater seepage from tunneling construction into St Patrick, Mangatini, Upper Mine and Weka, Sandy Streams or tributaries.	Discretionary	Proposed Water Management Plan	Rule 12.5.10

Activity	Description/Location	Activity Status	Plan	Rule
activities) **RC08149/38**	Located approx: N5946820 E2419530 and N 5951560 E2419585 and N 5951535 E2417850 and N5951640 E2418145			
Discharge Permit – Land (Silt storage areas) **RC08149/39**	To discharge solid contaminants, being sediment to land at fill locations adjacent to the Mt William and Weka reservoirs. Located approx: N5946655 E2418540 and N 5952055 E2418740	Discretionary	Regional Plan for Discharges to Land	Rule 28
Discharge Permit – Land (Construction stormwater) **RC08149/40**	To discharge stormwater and sediment associated with construction activities to land (in circumstances which may result in the stormwater entering water)	Controlled	Regional Plan for Discharges to Land	Rule 16
Discharge Permit – Land (Discharge from drill rig). **RC08149/41**	To discharge water containing sediment to land from operation of a drill rig. The activity will occur within the full extent of the scheme. Located approx: N5948300 E2417600 and N5952390 E2414660	Discretionary	Regional Plan for Discharges to Land	Rule 28
Discharge Permit – Air (Dust and ventilation emissions). **RC08149/42**	To discharge contaminants to air associated with the construction, operation and maintenance of the Stockton Plateau Hydro Scheme including but not limited to dust associated with the excavation, handling, conveying and processing of gravel, sand, soil, rock, and other natural materials; the operation of aggregate crushing and screening, and concrete batching plants and stockpiling activities; and dust /fumes emitted via tunnel ventilation systems. The activity will occur within the full extent of the scheme.	Discretionary	Regional Air Quality Plan	Rule 16

[20] There have been no formal changes to the proposal since notification. However, through the response to the Section 92 request, HDL advised that temporary powerlines are required to service the construction sites

at both Mt William and Weka dams, and to this end further consents will be required.

Chapter 3 : SUMMARY OF EVIDENCE AND SUBMISSIONS RECEIVED

SUBMISSIONS RECEIVED FOLLOWING NOTIFICATION

[21] A total of 50 separate submitters lodged submissions on the consent applications.

A summary of submissions is given below:

Status	BDC only	WCRC only	Combined	Total
Neutral	1	1	4	10
Oppose	2	1	8	19
Support	3	9	20	52
Not Stated	0	1	0	1
Total	**6**	**12**	**32**	**82**

* When calculating total submissions, those who submitted to both Councils are counted as putting in two submissions.

[22] An affected party approval form from New Zealand Railways Corporation trading as OnTrack was received and submitted with the application.

[23] The WCRC also received an affected party approval from Holcim New Zealand during the submission period.

[24] A late submission was received from the EECA on 23 February 2009, three weeks after submissions closed. The consent authorities were informed that EECA wished to lodge a submission prior to the close of the submissions, and HDL did not oppose the acceptance of the late submission. The late EECA submission was subsequently accepted by the Councils under s.37 of the RMA, and is included in the table above.

[25] It was noted that there were a number of submitters who lodged identical or similar submissions with both Councils.

[26] As at the 15 July 2009, 24 submitters indicated they wished to be heard at a hearing; 24 indicated they did not wish to be heard; and two

submitters did not state whether they wished to be heard or not. A number of submitters withdrew their wish to be heard, however the content of their submissions remains as stated. Statements from those who had amended their submissions are attached in Appendix 6 to the s.42A report.

[27] **The Department of Conservation** withdrew its wish to be heard in relation to the proposal, which was of interest given that the application includes a Restricted Coastal Activity, and Department staff would normally be present to provide advice to the Minister of Conservation's representative on the Hearings Committee. The Department did however note that it still had concerns about some aspects of the application, but had determined that the best avenue to pursue those issues is through its own internal processes, and in particular during the proposed land swap process. It noted that it's independent assessment indicated that the marine environment and downstream freshwater environment values would not be adversely affected, if managed appropriately. The Department's withdrawal notification included two Memoranda reports prepared by **Dr Susan Clearwater** of NIWA titled 'Peer Review of Offshore Acid Mine Drainage and Effluent Disposal' and 'Review of Hydro Developments Ltd - Stockton Plateau Hydro Scheme Draft Conditions'.

[28] Dr Clearwater's findings from reviewing the Cawthron report, found that the Cormix modeling undertaken by Cawthron were appropriate, but further modeling must be undertaken to understand likely effluent (contaminant) dilutions at minimum and maximum flows, with alternative diffuser configurations. She indicated that the proposed 300metre mixing zone was appropriate, but that the current diffuser specifications was likely to result in exceedances of pH guidelines beyond the 300metre radius. Dr Clearwater also made a number of suggested consent condition amendments, which she considered would provide a comprehensive basis to regulate and monitor the discharge.

SUMMARY OF EVIDENCE ON BEHALF OF THE APPLICANT

[29] **Mr John Easther** presented the applicant's opening submissions and gave evidence on behalf of HDL. He described his role as the Project Manager, gave an overview of the proposal as a whole, and outlined the composition of the Company.

[30] Mr Easther explained that he was a director of the HDL Company, holding 20 % of the Company's shares.

[31] He holds a Bachelor of Engineering (Agriculture) qualification specialising in water resource development and catchment management, a Master of Arts (Applied) degree in Environmental

Studies specialising in economics, environment and development, and is a member of the Institute of Professional Engineers of New Zealand.

[32] Mr Easther impressed us with his extensive knowledge of the mining industry on the Stockton Plateau, and in particular his vast technical knowledge of the project, however Mr Easther must also be considered as an advocate for HDL and the proposal. He has until recently, been providing contracted professional management services to Solid Energy New Zealand Limited (SENZ) at the Stockton Mine through his company Riskworks Ltd.

[33] During the presentation of Mr Easther's evidence, he explained that his company had engaged the services of a number of technical experts to review the project and provide supporting reports to accompany the Application and AEE. While it was not his intention to call those technical experts, they were prepared to do so, if the Committee considered it was necessary to answer any specific questions in regard to their reports. For completeness, the applicant's technical experts reports, are summarised below under the subheading 'AEE Reports'.

[34] Mr Easther put significant emphasis on HDL's appreciation for the support and cooperation provided by SENZ towards the project, particularly in the provision of a vast array of monitoring results carried out by SENZ, which assisted HDL to provide valuable background information on the state of the environment on the Stockton Plateau.

[35] At different stages of his evidence, Mr Easther introduced other witnesses, to expand out on supporting elements of the proposal.

[36] Some of the evidence contained within the reports attached to the Application and AEE refer to an extension of the proposal to incorporate additional water supply from the St Patrick Dam and reservoir, with a further third additional power station being constructed above the Mt William reservoir. Mr Easther explained that this was a possible future option, but was not part of the suite of consents currently being sought.

[37] Throughout Mr Easther's evidence he referred to two additional documents titled "Attachment One" and "Attachment Two", which provided a series of maps, plans, charts, tables, monitoring results, graphs, photographs and the like, to clarify and expand on his evidence.

[38] He considered that the shareholders of HDL in their own rights have the specialist skills and knowledge to be involved in the hydro development, the assessment of geotechnical effects, civil engineering, hydraulic, hydrological and catchment engineering, land survey and tunneling. They had brought this knowledge to the Scheme throughout the design process he said.

[39] **Mr Anthony Black** holds a Bachelor of Science degree (Geology and Chemistry) and has in excess of 25 years post-graduate experience. He holds an "A" grade Tunnel Managers Certificate, and unrestricted blasting tickets for surface and underground operations. Mr Black is the owner of a specialist ground engineering company, called Geotech Limited, which employs 30 staff in underground and surface mining operations. He lives in Charleston and has lived 'on the Coast' for some 20 years. His company of very experienced men has developed drill and blast methods at an underground mine within the urban area of Reefton.

[40] Mr Black is also a shareholder of HDL and while it is acknowledged that he has significant qualifications and experience in mining activities from the evidence he gave during the hearing, like Mr Easther, Mr Black is an advocate for HDL and the proposal.

[41] Mr Black's evidence outlined the Company's history, overviewed his personal experience in hydro project investigations and provided an array of technical and geological matters. He was able to provide a chemical evaluation and explanation for the generation of acid mine drainage (AMD), and could explain the benefits of tunneling underground, capturing the AMD through drop sumps, generating electricity through underground power stations, before discharging the contaminated water into the sea from a diffuser approximately 600 metres offshore.

[42] **Mr Michael McSherry** is the Chief Executive of Buller Electricity Limited, the electricity line company operating in the Buller district. He holds a Bachelor of Electrical Engineering degree, is a chartered professional engineer and holds an International Professional Engineers Registration.

[43] He specialises in electricity distribution and has worked in the electricity sector for over 20 years in engineering, operational and senior executive roles. He gave an overview of the current electricity situation, discussed regional supply issues, and outlined the electricity related benefits of the HDL proposal.

[44] In his summary Mr McSherry said that if HDL were to inject 30 Megawatts (MW) into the 33 Kilovolts (kV) distribution network at Granity, under maximum loading conditions 2MW would transfer north to Karamea and 8MW to SENZ. 10MW would transfer south on each 33kV line from Ngakawau to Robertson Street in Westport, with 8MW going to the central Westport region and the remaining 12MW being exported to the national grid. He emphasised however that these were 'ball park' figures to illustrate the potential capacity and actual capacity limits would need further detailed investigations.

[45] **Ms Rebecca Inwood** is an associate planner of the Planning Institute of New Zealand. She holds a Bachelor of Law degree and has worked as a consents officer for the WCRC for 5 years. After ceasing work for a period to have a family, she re-entered the planning field in 2004, by processing resource consents and assessing annual work plans for mining operations within the Buller district for BDC. She has been engaged as an independent planning consultant for HDL since 2008.

[46] Ms Inwood has been involved in a number of significant marine, mining, land clearance and tourism projects.

[47] Her evidence included comment on the project description, environmental setting, relevant plans and applications, s.104 effects assessments, Part 2 Matters, relevant planning documents, other relevant matters, overall assessments and conclusions together with the preparation of draft consent conditions.

[48] In her review of s.104, Ms Inwood put some emphasis on the positive environmental benefits the proposal would have, by collecting all the tributaries of the Ngakawau River from the Stockton Plateau that are currently contaminated with AMD, and discharging them some distance off shore. This process would improve the river water quality and according to the reports prepared by GHD, it would be likely that macroinvertebrate, plant and fish species diversity and abundance within the Ngakawau River would improve over time. This would enhance amenity, natural character values and life supporting capacity of aquatic ecosystems in the river.

[49] Ms Inwood noted that the activities for which consents are sought, have different statuses under the relevant plans. Ms Inwood considered that as some of the consents sought were for non-complying activities in the Buller District Plan (BDP), case law indicated that such applications should be bundled together for evaluation under s.104D. In her opinion the effects of the proposal were minor and she was of the view that the first threshold test of s.104D would be met, but even if it is considered the first threshold test was not met, then the second threshold test of the proposal not being contrary to the policies and objectives of the BDP, would be met.

[50] In summary Ms Inwood was of the opinion that the proposal would meet the provisions of s.5 and that all consents sought, should be granted. We note that the authors of these reports did not present evidence at the hearing and we, thus, had no opportunity to question the content of their reports.

AEE Reports

[51] The following summaries are extracted from the technical reports which accompanied the Application and formed the AEE. We note that the authors of these reports did not present evidence at the hearing and we, thus, had no opportunity to question the content of their reports.

[52] **Ms Katherine Watson** is a consultant archaeologist and director of Underground Overground Archaeology Ltd. She holds a Bachelor of Arts degree with honours (Anthropology), and a Master of Arts degree (Anthropology), both from Otago University. Ms Watson has undertaken a number of archaeological projects of coal and goldmining on the West Coast. She undertook an Archaeology Survey of the proposal area focusing on the impacts of the Scheme on the archaeological remains. She noted in her survey report, that the plans for the Scheme at the stage of preparation of her report were 'indicative only' and that the final plans would be drawn based on the results of extensive geotechnical testing and further design work.

[53] Ms Watson's report noted that the only site that pre-dates 1900 is the site of the Granity Bins. As such, this is the only site covered by the provisions of the Historic Places Act. Specific studies focused on the electric loco line, Tintown, the Fly Creek workings and the Granity Bins. She concluded her report by stating that it was of paramount importance, that the main branch of the electric loco line (which she concluded was of national significance) is protected from any damage.

[54] **Mr Tim McMorran** is an engineering geologist with URS who undertook a Concept Design Assessment of the Weka and Mt William dams. He holds a Master of Science degree with honours (Engineering Geology) and a Bachelor of Science degree, both from the University of Canterbury.

[55] Mr McMorran has in excess of 16 years experience in engineering geology and has a thorough understanding of the geological and geotechnical characteristics of the Stockton Plateau. He confirmed that both dam sites were underlain by Brunner Coal Measures (BCM) and granite basement. He considered that it was possible to store up to 3 million cubic metres of water with RCC dams up to 25 metres in height at the Weka Stream, with saddle dams up to 10 metres in height. He was assisted in his design assessment by **Ms Rose Coulter** who is also an engineering geologist with GHD and holds a Bachelor of Science degree and a Post Graduate Diploma in Science.

[56] The assessment concluded that it was possible to store up to 7 million cubic metres of water on St Patrick Stream at the proposed Mt William dam site, and noted that the Mt William fault did not appear to cross the dam or reservoir footprint. The dam sites are to be supported on rock

foundation conditions and both sites have a presence of suitable rock for aggregate. Both dams are considered to be 'HIGH' potential impact category dams following the guidelines of the New Zealand Society on Large Dams (NZSOLD). Concept design drawings for typical RCC dams were included in the report.

[57] **Mr Mark Megaughin** is a senior water resources engineer for URS and has together with **Mr Richard Minson** (qualifications below) undertaken a Hydrology and Water Quality Review of the HDL proposal. Mr Megaughin holds a Master of Science degree (Biology) in Water Resource Management from Napier University in Edinburgh, UK and a Bachelor of Science in Environmental Management from the University of Abertay Dundee, UK. He has over 8 years experience as a water resources engineer in the UK and New Zealand, focusing on hydrological assessments relating to large scale water management projects, flood risk assessments and strategic water resource studies.

[58] Mr Megaughin undertook an analysis of likely flow changes for each of the catchments affected by the proposed Scheme, together with an analysis of the variations to be expected in several indicators to mine disturbance which included suspended solids, acidity and aluminium concentration. His analysis concluded that each of the contaminant factors was likely to improve under the Scheme, but the flow volumes below the dams would significantly decrease. The mean flow of the Mangitini Stream would reduce by about 40% (when it entered the Ngakawau River) and the mean flows of the Mine Creek and St Patrick Streams are likely to reduce to about 70% of the their existing mean flow volumes. Water quality in the Ngakawau River is likely to be greatly improved, returning to levels close to those in catchments unaffected by AMD contamination.

[59] **Ms Melissa Anthony** is a senior environmental scientist with GHD, she holds a Bachelor of Science degree in Zoology and Plant and Microbial Sciences, a Master of Science degree with honours (Zoology/Aquatic Ecology) both from the University of Canterbury, and a Post Graduate Diploma in Resource Management Studies from Lincoln University. Ms Anthony has 8 years experience in planning and water quality, stream ecological assessments and has carried out an AEE of the Aquatic Ecology of the Scheme. Ms Anthony undertook a review of the existing information on the four potentially affected sub-catchments with the purpose of:

- Identifying existing aquatic ecology values within the Ngakawau River catchment and the sub-catchments that may be impacted by the Scheme, based on existing reports prepared for the area;
- Assessing the likely impact of the Scheme on the aquatic ecological values within the impacted sub-catchments; and
- Providing recommendations to mitigate potential negative impacts on the aquatic ecological values.

[60] Ms Anthony noted that the Stockton Plateau and its immediate surrounds does not currently support diverse or abundant aquatic ecological values, with very limited significant macroinvertebrate, plant or fish species identified in studies conducted to date. This paucity in diversity and value is considered to be caused by historical and current coal mining activity, resulting in highly acidic and conductive water, and in some cases, the smothering of habitat by precipitated metal hydroxides and/or sediments. The Scheme would impact upon the existing aquatic ecology of the affected streams by significantly reducing flows in each of the sub-catchments; this is particularly true of the lower Mangatini and St Patrick Streams she said. In light of the absence of significant aquatic ecological values, the reduction of the flows in these streams was not considered to be significant from an aquatic ecological perspective.

[61] Ms Anthony reported that one of the key objectives of the Scheme is to restore the water quality in the Ngakawau River and estuary to the natural state typical of the river system before mining commenced. It is considered that the Scheme may in fact enhance environmental values within the general area, by reducing the rates of sedimentation and acidification in Plateau streams flowing into the Ngakawau River. This benefit was potentially substantial she said.

[62] A report prepared for the Department of Conservation (DoC) in 1997 by **Dr David Norton and Dr Judith Roper Lindsay** on the Ngakawau Ecological Area, Burma Road-Mangitini Stream was included within the AEE, which provided background information to support a proposed boundary change redefinition, for the proposed ecological area. The report first reviewed the ecological basis for ecological areas and the criteria used to define them, and then reviewed the historic proposal for the area.

[63] This information focuses on the Weka Creek area, as an area that had previously been identified as a potential hydroelectric site. The report authors subsequently made recommendations based on the ecological values found in the area, to redefine the boundaries and proceed with the gazettal of the Ngakawau Ecological Area. The purpose of including this report within the Scheme's AEE, appears to be based on clarifying that the Weka Creek reservoir area, will not compromise the adjoining ecological area's values, recognising that a comprehensive study of this area had been previously undertaken for specifically the purpose of development of a hydroelectric scheme reservoir.

[64] The subsequently gazetted ecological area's south–west boundary, borders on the northern side of the proposed Weka reservoir.

[65] **Mr Richard Nichol** holds a Bachelor of Science degree with honours (Zoology) and a Certificate of Proficiency in Environmental Law, both from the University of Otago. He prepared a report on the Vegetation

and Flora of the Proposed Lake William Area for HDL. He is currently engaged as a tutor for the West Coast Conservation Corps and provides ecological consultancy services.

[66] Mr Nichol was engaged to investigate the significance of the vegetation and flora values for the area likely to be affected by the proposed Mt William reservoir. He concluded that the current proposal to inundate the St Patrick's basin will have relatively minor impacts given the overall generating capacity of the Scheme. He recommended a number of mitigation measures for the loss of habitat and made some recommendations to enhance the habitat of the proposed reservoir.

[67] **Mr Rhys Buckingham** and **Mr Matt Charteris** jointly prepared two separate reports on terrestrial fauna for HDL. The reports were titled '*Review of Terrestrial Fauna in the Ngakawau, Millerton, Stockton and upper Waimangaroa areas*' and '*Terrestrial Fauna Survey of Avifauna , bats, lizards and Powelliphanta snails*' both for the proposed Mangitini Hydro-Electric Power Scheme.

[68] Mr Buckingham holds a Bachelor of Science degree from the University of Otago and has been engaged as a consultant in his own company of Wildlife Surveys, specialising in bird and bat survey and monitoring work, and offering advice regarding potential environmental impact effects caused by development for 15 years.

[69] Mr Charteris holds a Bachelor of Arts degree and Post Graduate Diploma in Science (Zoology), both from the University of Otago, and a Post Graduate Diploma in Parks, Recreation and Tourism (Ecology) from Lincoln University. He is an ecological consultant for Waybacks Ltd and has been involved in an extensive range of studies, monitoring and surveys of fauna for 10 years.

[70] The Review of Terrestrial Fauna Report in the Ngakawau, Millerton, Stockton and Upper Waimangaroa Areas, reviews previous surveys undertaken by SENZ that have been undertaken in and around the impact zone and provides a brief description of the fauna present in each of for the main habitat types. Several threatened birds including great spotted kiwi, western weka, kereru and South Island fernbird are known to be present in the general area. Also present are a range of threatened fauna including four *Powelliphanta* land snail taxa, the West Coast green gecko and the long tailed bat. Overall impacts on terrestrial fauna by the Scheme are predicted to be relatively low, however care will be required to avoid disturbance to sensitive ecological areas, and mitigation measures to offset losses are proposed.

[71] The objectives of The Terrestrial Fauna Survey of Avifauna, Bats, Lizards and *Poweliphanta* Snails in the footprint of the Scheme, were to evaluate and report on the presence, distribution and relative abundance of these species. Field surveys were carried out and a total of 20 indigenous and

9 introduced bird species were recorded, including 4 threatened species as noted above. There were no species with a critical threat ranking found in the proposed development area. Two species of lizard were found. *Powelliphanta* snails were not found in the area, but are known to be present within 3 kilometres (km) of the developments footprint. There were no bats detected. The report concluded that the overall impact of the proposed Scheme on fauna and habitat was considered to be minor.

[72] **Mr Richard Minson** holds a Bachelor of Civil Engineering degree and a Master of Engineering (Hydraulics) both from Auckland University, and he is a member of the NZ Society for Risk Management. His experience over the past 16 years includes river and flood risk engineering, risk consultancy and risk analysis. At the time he produced the two reports titled 'Scheme Modeling Report for the Ngakawau Restoration Project' and 'Preliminary Assessment of the Potential Effects of Dam Breach', he was employed by URS as a risk analyst.

[73] Mr Minson's first report constitutes an initial concept stage assessment of the design of the Scheme based on a simple water balance model using various datasets of very limited flow records obtained from SENZ. The modeling carried out used two separate scenarios (for each of three power stations and reservoirs (later reduced to two power stations and reservoirs) based on low flow records.

[74] Flows in sub-catchments were estimated based on catchment areas. The output of the model was based on the base power output available from the reservoir volumes and peak power potential during large rainfall events, for each of the three power stations.

[75] The report identified the main project risks as sediment control, dam design, achievable reservoir volume versus dam cost, minimising and mitigating the risk of dam breach, the lack of reliable flow records (2002-2007), and the restrictions on constructing canals and tunnels on the Plateau.

[76] Mr Minson's second report titled 'Preliminary Assessment of the Potential Effects of Dam Breach', presented an assessment of the likely effects of potential breaches of the proposed dams, and modelled the potential effects of flood flows resulting from two of the dams (Mt Williams and Weka). The flood flows that could result from a breach have been modelled for the range of crest levels (dam sizes) being considered by HDL, using 'DHI Mike-11' dam break hydraulic modeling software. Breach scenarios have assumed an erodible dam embankment where the entire embankment will erode away over a period of time. The flood flows have been modelled for a range of durations for the dam embankment to be completely removed through erosion. All breach scenarios that were modeled were of a conservative nature and assume catastrophic failure of the dam. The figures represent possible worst

cases for each of the dam heights proposed. They represent the upper bound of flood hazard that could be introduced through the construction of the Scheme of works.

[77] The larger of the flood flows summarised in the table would have significant effects on Hector township and the lower reaches of the Ngakawau River in terms of flooding, silt contamination and significant risk to life. The largest breach flows are likely to be in the same order of magnitude as the Probable Maximum Flood (PMF) for the Ngakawau River. The flood wave resulting from the fast breach of Mt William dam for a RL 570 m reservoir is exceptional. However, it is noted that the breach scenario used in the modeling is also exceptional, and would be unlikely to occur with an appropriately engineered structure.

[78] The report assumes that breaches are the result of catastrophic collapse of the impounding structures and that they are constructed of readily erodible materials. It is noted that specification of materials which are not readily erodible (mass concrete or rock abutments) in the final design of the impounding structures would result in less significant breaches occurring in overtopping or `piping' cases. It is noted that further evidence provided identified that the dams and embankments are to be constructed from RCC and that the assessment was based on previously proposed earth dams.

[79] **Ms Sioban Hartwell** holds a Bachelor of Engineering degree with honours from the University of Birmingham and is a member of the Institute of Professional Engineers of NZ. She is the principal water resources engineer for URS and has an extensive history of water engineering projects over the past 22 years including large dam design in the USA and Australia, and holds a position on the Board of Water New Zealand. She was engaged to prepare a report for the HDL proposal on Water Quality and Hydrological Modeling.

[80] Ms Hartwell concluded in her report that the hydrological analysis of the Ngakawau River, although based on limited hydrological data from a small part of the total catchment, was considered appropriate for investigating the Scheme and provided a conservative estimate of the volume of impacted flows and of the dilution potential of the remainder of the catchment. Flows in the lower Mangatini and St Patrick Streams, below the proposed impoundments, were identified as being significantly reduced. This was particularly true in low flow periods. Whilst it was critical to capture the low and medium flows to improve water quality, the removal of such flows from the watercourses will result in a noticeable reduction in flows, including over the Mangatini Falls.

[81] Within the Ngakawau River the contribution of flow from the remainder of the catchment reduces the impact of the Scheme on low flows. The loss of base flow in headwaters and the reduction in flow rates within

the Ngakawau River must be balanced with the significant water quality improvements which the Scheme presents. The proposed Scheme will have a positive impact on the water quality within the Ngakawau River and within the lower reaches of a number of its main tributaries by removing AMD affected waters from the wider catchment. The inclusion or exclusion of the Scheme's additional options (Upper Darcy, T35 Streams and Upper Mine Creek) has a negligible effect on the overall water quality of the Scheme. Modeling shows a noticeable difference in water quality in the Ngakawau River if all options are included in the Scheme. Modeling shows Iron (Fe) and Aluminium (Al) are likely to precipitate on discharge into the ocean, but that the overall effect of this precipitation and/or of metal loadings within close proximity to the outfall had not been investigated.

[82] **Dr Claire Conwell** is an environmental scientist with the Cawthron Institute and holds a Doctorate in Philosophy from the University of Melbourne, a Bachelor of Applied Science degree (Ecotoxicology) from the Royal Melbourne Institute of Technology University, and a Bachelor in Science (Zoology/Biochemistry) from Monash University in Australia. **Mr Paul Barter** is the senior marine scientist for the Coastal and Freshwater Group of the Cawthron Institute. He holds a Bachelor of Arts degree (Marine Biology) from the University of California and has been a practicing researcher for 21 years.

[83] They jointly produced a report titled 'Assessment of Offshore Acid Mine Drainage Effluent Disposal' for the HDL Scheme which undertook an assessment of the key ecological effects associated with discharging AMD from the Stockton Plateau to the ocean offshore from Granity. This report focused on the key components potentially directly affected by the discharge (i.e. the benthic fauna, plankton and plant communities, resident fish populations, shellfish, and marine mammals). Evaluation of potential effects focused on the relationship between concentration levels of contaminants and the dilution required to meet relevant water quality guidelines. The report concluded with a number of recommendations to undertake monitoring of the receiving environment, benthic monitoring and water quality monitoring, which would help determine the configuration of the final diffuser design, and appropriate mixing zone size and orientation.

[84] **Mr Anthony Black** is the author of a report titled 'Concept Design Geological and Geotechnical Assessments' of the HDL proposal which accompanied the AEE. Mr Black gave separate evidence during the hearing as noted above. The report provides a concept design assessment of the geological and geotechnical aspects of the proposal that are expected to be encountered. The Scheme design and layout has been developed to ensure that the project components are located in or on competent rock, cross fault lines at the most advantageous position, and take full advantage of the geological and geotechnical characteristics so that the proposal can be progressed with a high degree of certainty.

The report noted that the first stage of the Scheme construction will involve additional geotechnical drilling and geophysical investigations. All key sites are to be located in basement granite, which offers excellent engineering properties provided it has not suffered acid attack, weathering or structural degrading from tectonics. The report includes maps of underground geological formations, locations of fault lines, cross sections and an analysis of each of the key infrastructural elements.

[85] **Dr John Braggins** is the author of a report on issues with bryophytes that arise from the construction of dams and associated intake structures of the Scheme.

[86] Dr Braggins holds a Doctorate in Philosophy from the University of Auckland and a Bachelor and Masters degrees with honours in Science from Victoria University. He has 40 years experience in plant identification whilst a student tutor and lecturer at New Zealand universities. He taught courses at university level in plant morphology and diversity including plant identification through to PhD level. He has produced 60 published books, publications and journals in his specialty field. He has been engaged previously by SENZ and has produced his report based on his historical knowledge of the Stockton Plateau, without a further specific site visit. Dr Braggins provided an assessment of potentially rare or endangered bryophytes in the area that may be affected by the Scheme and identified the specific areas that may need some assessment to be undertaken. While he noted that some areas of bryophytes would be lost, he considered that most areas of reduced flow would result in little to no adverse effects.

SUBMISSIONS AND EVIDENCE ON BEHALF OF SUBMITTERS

[87] **Mr Stephen Christensen** is the legal counsel for Meridian Energy Limited (Meridian). Meridian supports others, such as HDL, seeking to generate renewable energy. Mr Christensen noted that increased electricity supply on the West Coast in turn has many positive benefits for local businesses and provides security of supply. As an embedded generation proposal, there was no transmission conflict between HDL's proposal and the other hydroelectric developments planned for the West Coast such as Meridian's Mokihinui Hydro Proposal (MHP) and Trustpower's Arnold Scheme he said.

[88] However, Mr Christensen said there were still some aspects of HDL's proposal which were unclear and where the potential effects of the proposal cannot be ascertained. This meant that Meridian could not unequivocally support the applications.

[89] Meridian considered there were four main reasons for this to be the case:

- Gaps in the information provided and in response to s.92 requests;
- Lack of evidence to support the claimed generation capacity;
- HDL has not fully considered the potential for cumulative visual effects; and
- How the proposal relates to a competing proposal utilising the same resource that is being advanced by SENZ.

[90] Meridian had sought opportunities to have these matters addressed, but HDL was yet to provide any further detailed information.

[91] Mr Christensen included two additional reports from **Mr Nigel Connell** of Damwatch and from **Mr Ray Brown** of Meridian respectively.

[92] **Mr Connell** is a chartered professional engineer who has over 40 years professional experience internationally, he is a member of the NZSOLD and has been employed for the last 6 years by Damwatch, as a water resources development specialist. His review of the application and AEE concluded that the AEE and s.92 response by HDL failed to supply the level of detail required to adequately understand and assess the potential effects of the proposal from a generation or dam safety and design perspective. To support his conclusions he considered that:

- There was insufficient hydrological data;
- Economic factors are likely to influence the reservoir sizes, resulting in lower capture of polluted water;
- There was inadequate geological data to verify that RCC dams could be adequately founded;
- Tunnels could compromise underground water supply to Millerton and Granity;
- Gravel removal from tunnels would be lengthy;
- Power output appears to be overstated; and
- Sediment management appears to be insufficiently explained.

[93] **Mr Ray Brown** is the transmission manager for Meridian Energy Ltd and his report concluded that the existing Buller Electricity network could accept the power from the HDL proposal, but some upgrades would be required to the 33kV lines to export the full 50 MW capacity. He said however, that the wider power system could not accept the combined capacity of Meridian's MHP, TrustPower's Arnold Scheme and HDL when all schemes are generating at high levels. Significant upgrades would be required to export the excess generation capacity to the Nelson region, which would be costly but would be likely to have minor environmental effects.

[94] **Mr Mark Christensen** is legal counsel for SENZ and he indicated that the HDL proposal had the potential to jeopardize SENZ's existing and future mining operation at the Stockton Plateau and Upper Waimangaroa. He requested that consents only be granted if suitable conditions are imposed to protect SENZ's existing and future mining operations. Mr Christensen said that potentially the most significant

aspect of the HDL proposal, was that the water catchment under application, was the same catchment as those affected by SENZ existing water rights that were currently being used for their existing mining operations. He said that as mining activities were progressively being developed, it was not possible to determine their operational needs (including water management) at any given point in advance, and gave case law examples of protection of current users rights. Mr Christensen sought a number of conditions be included as part of the consents sought, which would ensure that SENZ current and future mining operations are not jeopardized. However, he acknowledged imposition of these conditions would require HDL's specific agreement. The SENZ submissions are further addressed below under Chapter 5 – Other Matters.

[95] **Mr David Horn** is the national consents and environmental programme manager for SENZ. He holds a Bachelor of Agricultural Science degree and has held several senior roles in regional councils throughout the South Island and has been involved in policy and planning under the RMA since its inception. Mr Horn said that if HDL are not prepared to voluntarily accept the suggested conditions offered by SENZ, the consents sought should be declined. Mr Horn brought our attention to another hydro scheme under consideration by SENZ on the Stockton Plateau, which had not yet advanced to the stage of lodging resource consent applications. He noted that SENZ's concerns were not to promote their own hydro scheme in preference to HDL's, but to ensure that SENZ were able to manage their business into the future without increased costs or restrictions. Mr Horn emphasised the importance of coal mining to the area and noted the significant costs and efforts undertaken by SENZ to improve the quality of water discharged from current mining areas on the Plateau. He outlined the need for HDL to gain access agreement from SENZ and indicated there were a number of unresolved issues. Mr Horn acknowledged that HDL did not wish to constrain SENZ's activities, but without specific consent conditions, he was not sure how this could be done.

[96] **Mr Mark Pizey** is the national health, safety and environmental manager for SENZ and he made a brief oral presentation and answered questions about the project development of the Stockton mining operations. He outlined SENZ's safety concerns in relation to the development of a steeper road gradient required to bypass the proposed Weka reservoir. In response to questions, he advised that it was SENZ's current policy to continue to treat mine discharge water even if the HDL proposal was consented and commenced.

[97] **Mr Malcolm Duff** is the general manager, of the Southern Regional Office of the NZ Historic Places Trust (NZHPT). He opened the NZHPT submission and introduced their two other witnesses, Mr Robert McLean and Ms Bridget Mosley. Mr Duff outlined the NZHPT statutory roles and emphasised the importance of the protection of the full length

of the electric loco line. He considered that the line was nationally important and was 'one of only one'. He advised that the Trust had commissioned preliminary engineering assessments, which indicated that it was feasible to construct a saddle dam around the electric loco line to avoid inundation of part of the line.

[98] **Ms Bridget Mosley** is a regional archaeologist for the NZHPT. She holds a Master of Arts degree (Anthropology) from the University of Auckland, and a Master of Science degree (Human Osteology and Funerary Archaeology) from the University of Sheffield, in the UK, and has over 7 years experience in archaeological consultancy and heritage management. Ms Mosley overviewed the statutory framework of the RMA, as it applied to the proposal, with the majority of her evidence focusing on the protection of the electric loco line from partial inundation. On questioning, it was established that the electric loco line was first established in 1906, which put the archaeological remains outside the statutory protection of the Historic Places Act 1993, recognising that this Act focuses on pre-1900 activity. She explained the reasons why the NZHPT preferred the protection of the electric loco line in its entirety, and presented estimated cost for doing so.

[99] **Mr Robert McLean** is the senior heritage policy adviser for the NZHPT. He holds a Bachelor of Resource Environmental Planning degree and a Masters of Arts degree (Historical Geography) from Massey University, and has 12 years experience in heritage and resource management research and planning. Mr Mclean also overviewed the statutory framework of the RMA, the Buller and West Coast Regional Councils' planning documents and discussed the required protection levels of historic buildings in the Granity area. Like Mr Duff and Ms Mosley, Mr Mclean considered the electric loco line should be protected by an additional saddle dam, which was estimated to cost $1.7 million. Mr McLean tabled a copy of a NZ Historic Places Trust report titled 'Assessment of Heritage Values for Stockton Hydro Project' dated 25 June 2009.

[100] **Ms Tania Hood** is a renewable energy advisor with the Energy Efficiency and Conservation Authority (EECA). She holds a Bachelor of Resource and Environmental Planning degree and has practiced in this field for six years. She is a graduate member of the NZ Planning Institute and member of the Resource Management Law Association. Ms Hood overviewed the role of the EECA, New Zealand's electricity context, the RMA and the effects of climate change and our obligations in this regard. EECA supported this proposal because it was a renewable energy development, would increase New Zealand's commitment to reduction of carbon dioxide (CO_2) emissions and would improve electrical security of supply, meet current and future regional electricity demands and would contribute towards the national renewable energy target. Ms Hood said the proposal was of national significance and would provide

national and local benefits with positive effects, and was therefore consistent with s.7 of the RMA.

[101] **Ms Frida Inta** is a local resident who supported renewable energy generation where environmental, cultural and social impacts could be adequately mitigated. She outlined a number of specific concerns relating to fernbird habitat loss, offshore discharge of AMD contaminated water, preservation of archaeological artefacts, provision of a dam breach warning system, seismic effects, and other effects. Ms Inta acknowledged that the proposal would reduce the Ngakawau River flows by up to 30%, but considered that if the existing contaminants entering the river could be eliminated and her other concerns met, she would have no other concerns about the proposal and recognised that it was a good answer to the chronic energy needs of the Buller area.

[102] **Ms Joanna Parsons** is a former resident of Westport and now resides in Hokitika. She is the programme coordinator for Tai Poutini Polytechnic's Advanced Leadership and Guiding Certificate and teaches in the outdoors, primarily as a kayak instructor. Ms Parsons stated unconditional support for the proposal and outlined the current usage of the Ngakawau River for kayaking and the limited opportunities it provided. In offering her support, she considered it was a smart idea taking degraded water from a degraded area and making power.

[103] **Ms Donna Field** and **Ms Vicki Ford** are sisters, who presented a joint submission. They own property in Millerton that they use for family holidays and have a long historical association with the area. Their submission and comment focused on the lower part of the proposal from the Mangatini Stream down. They would prefer not to have the electric loco line inundated, but could accept an enhancement of the line, providing access was assured. They support active weed control measures and vehicle cleaning. They have concerns for the losses of bryophytes from waterways where flows would be depleted, and are opposed to A.J. Stream, Weka and Sandy Creeks being part of the water intake, and recommend bypassing of these sources. They do not support the take of water from Mine Creek and would prefer minimal residual flows down the Mangatini. During construction, they would like to be assured that public access into the Repo Basin is preserved. They would also like to see flow monitoring undertaken and stronger investigations into the impacts on streams, landscapes, ecological and recreational values in the nearby Ecological District and Historical Park.

[104] **Mr Peter Lusk** is the spokesman for the Buller Conservation Group. Their group was sympathetic towards small scale hydro schemes that minimise damage to the environment and cause limited social disruption. They support schemes that reduce transmission losses and have the potential to lower power prices to local consumers. In this case they neither support nor oppose the proposal. Some concerns they have relate to flooding part of the coal plateau, but they support protection of

coastal rain forest and would prefer to see an enhanced pest and weed control programme. They are opposed to polluted water being discharged to the sea and would prefer the treatment of the water before it enters the Scheme. They would prefer to have Upper St Patrick Stream and Weka Creek excluded from the Scheme and would like to ensure that public access to the Repo Basin, Ngakawau Ecological Area, Blackburn Pakihi and Happy Valley is preserved.

[105] **Royal Forest and Bird Society Incorporated (Forest and Bird)** submission was presented by Mr Peter Lusk. He said that Forest and Bird has tried to weigh up the impacts and risks of the Scheme on different parts of the environment, and would normally consider such a large reduction of flow in the Ngakawau River and its tributaries to be unacceptable. However, Forest and Bird support the goal of removing AMD contamination from the Ngakawau River and consider its removal is a significant net benefit of the Scheme. It considered other impacts of the Scheme need careful assessment, with stringent consent conditions imposed to ensure that such impacts are less than minor. Forest and Bird outlined particular concern about the potential impacts of discharged water on marine ecosystems. Given the proposed Scheme will go a long way towards meeting the West Coast's energy needs and it will reduce the demand for further hydro schemes on other West Coast rivers, Forest and Bird provide conditional support to the Scheme.

[106] **Mr Stewart Robertson** attended the hearing several times to present his evidence, but was unable to remain to present it in person. Our apologies are proffered for his inconvenience. Mr Robertson is the chairman of the Planning Sub-Committee of the West Coast Tai Poutini Conservation Board and his evidence was presented on the Board's behalf. Mr Robertson advised that the Board supports the HDL Scheme as the number of positive effects, are considered to outweigh any negative effects. The Board considers that the Scheme will generate electricity from a renewable resource, reduce transmission losses, contribute to West Coast electricity generation, reduce additional transmission corridors, minimise visual intrusion on landscape by underground tunneling, and reduce pollution levels into the Ngakawau River. The Board considers that the proposal would not detract from existing amenity values and that the area is not considered to be an area of outstanding natural landscapes. In providing its support, the Board acknowledges that the majority of adverse effects can be adequately addressed by consent conditions, appropriate land exchange of public land, reduced or eliminated inundation of electric loco line, and ensuring the acidic offshore discharges are appropriately monitored.

[107] **Mr Barrie Brown** also attended the hearing on several occasions to present his evidence, but was unable to remain to present it in person. Our apologies are also proffered for his inconvenience. Mr Brown supports the Scheme as he considers there will be benefits in reduced transmission losses, and possible reduction of electricity costs, which

would be of significant benefit to most industries, commerce and residential users. Mr Brown provided with his evidence a number of supporting document extracts that support renewable energy generation.

[108] **Ms Rachel McCann** was unable to attend the hearing and provided a written submission. Ms McCann is an owner of 91 Torea Street, Granity, which is located opposite the proposed Granity construction and portal site. She is opposed to the location of the Granity site and requests that it be relocated, as she considers that it will have significant adverse effects on her particularly with regard to noise, vehicle movements, storage of hazardous goods, lighting, and the destruction of natural landscape and wildlife. Ms McCann considered there would be no guarantees to provide local jobs and it was unlikely that there would be financial benefits to Buller residents.

[109] **Mr Terence McLaughlin** was unable to attend the hearing and provided a written submission. Mr McLaughlin is an owner of 91 Torea Street, Granity, which is located opposite the proposed Granity construction and portal site. He is opposed to the location of the Granity site and requests that it be relocated, as he considers the site is unstable, slips will take decades to rejuvenate, native bush will be removed, and there will be constant vehicle movements. He is concerned at the likely level of noise pollution from trucks and loaders, delivery of materials, blasting, drilling, sheet piling, jacking and micro tunneling noise. Mr McLaughlin is also concerned that the proposed 24 hours per day, 7 days per week operation will adversely effect his quality of life. Mr McLaughlin is concerned about adverse effects on his property, and building damage likely to be inflicted by blasting, construction and micro-tunneling. He considers there are no positive benefits to the Scheme.

APPLICANT'S RIGHT OF REPLY

[110] **Mr Easther** responded to some individual submitters during the applicant's 'Right of Reply' and in particular he addressed the submissions from SENZ, Meridian, NZHPT, Ms Inta, and Ms Field. Each of these responses are subsequently summarised below:

Solid Energy NZ Ltd (SENZ)

[111] Mr Easther re-emphasised the importance that SENZ had made, and would continue to make to the HDL Scheme being able to achieve its long term goals and benefits. He said that the operation of the Stockton mine was critical to the Coast. This had been a position of HDL throughout, where the shareholders of HDL, and in fact the entire community that we are committed to, sees mining of the Stockton Plateau to under-right the viability of not only our businesses, our

lifestyles and enjoyment of this part of the world. HDL had no interest whatsoever in placing these at risk. Mr Easther did not share SENZ's concerns of the possible threat that HDL could bring to their future mining operations. He said in regard to the proposed SENZ condition, that it would be unworkable, as he considered it would not be possible to discontinue the exercise of consents, once they had been exercised.

[112] Mr Easther said that HDL had proposed to SENZ that the appropriate mechanism to provide security to SENZ was through the access agreement, if not already provided through the CML as had been previously discussed. Mr Easther concluded by saying that the SENZ's concerns could be met through mechanisms outside the consent process, and that their submission should be considered as not relevant to the consent application.

Meridian Energy Ltd

[113] Mr Easther considered the Meridian submission was a blatant commercial submission based on delaying the decision on a similar hydro scheme and avoidance of the suppression of power prices, and by putting doubts in the Commissioner's minds as to uncertainties of design. He disputed a number of claims made by Meridian and considered their submission was aimed at frustrating the HDL application. Mr Easther reiterated his former evidence that the annual output of the hydro scheme was an intentional understatement. He questioned the qualifications of Mr Connell of Damwatch, to discuss the merits of RCC dams and the design work of URS.

New Zealand Historic Places Trust (NZHPT)

[114] Mr Easther disputed the evidence of the NZHPT with regard to the significance of the section of electric loco line proposed to be inundated and considered that NZHPT had failed to consider the unique significance of the remaining accessible portions of the line. Mr Easther also disputed the estimates of $1.7 million, prepared by Tonkin & Taylor Ltd of the costs to construct shoulder dams to protect the electric loco line. Mr Easther's estimates to construct such shoulder dams would be an additional $33 million, which is a vastly different sum than the proffered NZHPT estimates. He also stated that the additional development of shoulder dams would create additional issues of hydraulic inundation to the sub-grade of the haul road and would create flooding of the electric loco line from a created small lake, which would then need diversion down the side of the haul road, resulting in further additional costs. Mr Easther reaffirmed that these matters had been previously considered during feasibility studies and were found to be not feasible. He said that "*HDL's evidence has suggested that the value of the loco formation, both above ground and within the tunnel sections underground, are significantly greater than the section that will be affected by the construction of the reservoir, both in terms of the current*

condition of these remaining sections, public accessibility to it, and the potential to provide real interest value for the public in the future." Mr Easther concluded that HDL had "*stated our intention to establish a visitor interpretation centre near the outlet of the Stockton tunnel and to create a walking track of public interest. I have attached to this evidence some photographs and display material that HDL has already researched. The relocation of artefacts found within Weka reservoir and the construction of the visitor displays and tracks around the reservoir will be on HDL land and will not require 3rd party approval. There can be no doubt that they will be built. Construction can be covered by the proposed performance bond."*

Ms Inta

[115] Mr Easther noted that Ms Inta's submission largely supported the proposal and confined his comments to some of the effects noted by Ms Inta. He outlined a range of options that could be included as consent conditions in the unlikely event that Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (ANZECC guidelines) discharge guidelines may be exceeded. He suggested that the inclusion of wetlands would be unlikely to gain support as the areas required to be effective in treating AMD would be too great. Mr Easther was not opposed to the inclusion of alarms being installed in the Ngakawau/Hector area, if they were deemed to be an appropriate safety feature. As a final observation Mr Easther considered that the flow over the Mangatini falls would continue to be quite significant and considerably more than a trickle.

Ms Field

[116] Mr Easther observed that future changes to Mine Creek flows will be significantly different to those that currently exist, from the proposed additional flows from the Millerton water treatment plant. The water quality will also be different, as the increased mine discharges may become discoloured by metal precipitation. He considered that the water levels, if the Mine creek diversion was constructed, would remain, but water quality would be improved and as a result the water may take on a more natural quality. He noted that there was no current mining in the catchments of Mine Creek and the current proposal is the only option currently available to fully manage the effects of mining and AMD in Mine Creek.

[117] **Ms Inwood** as part of the applicant's 'Right of Reply' summarised a number of matters raised during the hearing. She noted that the proposed 14.6 ha 'land swap' area with DoC was not covered by any form of covenant, and does not consider it as being necessary. If the current proposed 'land swap' area did not proceed, then HDL would need to identify another block of land of similarly high conservation values to enable the exchange to proceed.

[118] Ms Inwood provided copies of correspondence to NZHPT outlining attempts and reasoning to mitigate or avoid any damage to the electric loco line, and reiterated that HDL have committed to protecting a remnant portion of the historic electric loco line that runs adjacent to Mine Creek, terminating in the vicinity of 'A' tunnel portal. She said that "*Development of a walking track along this portion of the loco formation will be undertaken in conjunction with the on-site interpretative display planned at Weka power station to create a broad heritage experience. Access is already provided up to the area of 'A' tunnel via the Pack Track walkway (which commences at Millerton) and HDL will undertake to maintain this existing walkway and link the new loco walkway to the Weka interpretative display area".*

[119] Ms Inwood summarised Dr Braggins report on bryophytes and also noted that there was unlikely to be any adverse effect on *Powelliphanta* snails recognising that these species had only been found outside the Scheme's footprint area.

[120] She made comments in regard to a further review of consent conditions relating to specific topics and provided further clarification on bond related matters, noise and vibration conditions and ocean outfall issues.

[121] In conclusion, Ms Inwood noted the reporting officers' conclusions, that in their opinion the proposal passed the second threshold test of s.104D and drew our attention to her responses to the 14 outstanding matters listed in the s.42A report. Ms Inwood considered that the proposed conditions were both robust and specific and unlike the officers' view, she considered that the management plan conditions did not 'internalise' potentially measurable standards. She felt that the proposal readily achieved sustainable management of both natural and physical resources and that the proposal to generate renewable energy from historic AMD contaminated water into the local network, were significant benefits of the Scheme.

Chapter 4 : SECTION 42A PLANNING REPORTS

[122] Recognising that this hearing was conducted as a joint hearing, the council officers' planning reports prepared under s.42A, were prepared as a joint report (s.42A report). The report was prepared by **Ms Rachel Clark**, senior consent officer for the WCRC and by **Ms Jane Bayley,** consultant planner (Staig & Smith Ltd) on behalf of the BDC.

[123] Following receipt of the application and AEE, a significant amount of additional information was requested from the applicant under s.92. The report outlined a background overview, the notification and submission process, the statutory framework, an assessment of actual and potential effects, the statutory assessment, conclusions and recommendations, and possible consent conditions.

[124] HDL's application, AEE report and additional information were reviewed by the council officers and a number of technical experts acting in the fields of their professional expertise. The technical expert peer reviews are contained in Appendix 5 to the s.42A report.

[125] The s.42A report was set out in a helpful, easy to follow format, and included a series of Appendices which addressed the individual consents sought, with relevant and applicable rules, policies and evaluations, suggested consent conditions with comment, further information requests and responses, and finally the technical expert reviews. Attached to the report was additional information which had been previously requested under s.92, but was received too late to be summarised and commented upon within the report.

[126] Key environmental considerations identified and separately discussed, within the report were:

- Construction effects
- Social effects
- Cultural and Heritage effects
- Noise effects
- Ground Borne-vibration effects
- Visual impacts and effects on landscape and natural character
- Terrestrial ecology effects
- Traffic effects
- Geotechnical aspects
- Hydrology effects
- Freshwater ecology effects
- Geochemistry and water quality
- Hazard management
- Air quality effects
- Hazardous substances management

[127] The report noted, that as part of the proposal was a non-complying activity, the entire application needed to be considered under the threshold tests of s.104D, and that the relevant plan for consideration was the BDP. The report concluded that the council officers had

difficulty reaching an overall judgement as to whether the effects were minor, due to the lack of detail and 'conceptual' nature of the application. In their conclusion, the officers listed 14 items of additional information that should be provided by the applicant at the hearing to enable a full assessment of the proposal to be undertaken.

[128] At this point, and based on the available information, they considered the application did not pass the first threshold test (s.104D(1)(a). Turning to the second threshold test (s.104D(1)(b)), they considered there was insufficient information available to reach a conclusion. In regard however, to the RCA consent, which requires us to make a recommendation to the Minister of Conservation, they considered that the effects were minor and recommended that these consents be granted.

[129] The technical review reports were prepared on subject specific matters shown below, and these reports are further referred to, when we deal with the Principal Issues in Chapter 5:

- **Mr Lambert Anderson** (Opus) reviewed Dam Works
- **Ms Alice Bradley** (Opus) reviewed Freshwater Ecology
- **Dr Jenny Webster-Brown** (Geokem) reviewed Geochemistry and Water Quality
- **Mr Gregory Saul** (Opus) reviewed Geotechnical aspects
- **Mr Peter Cenek** (Opus) reviewed Ground –Borne Vibrations
- **Ms Cathryn Barr** (Opus) reviewed Historic Heritage
- **Dr Jack McConchie** (Opus) reviewed Hydrology
- **Ms Wendy Hoddinott** (Opus) reviewed landscape and Visual effects
- **Mr Vincent Dravitzki** (Opus) reviewed Noise
- **Mr John Turner** (Opus) reviewed Terrestrial Ecology

[130] At the conclusion of the adjourned hearing on the 6 August 2009, the council officers each provided an Addendum to the initial report. These addenda included a number of additional comments from technical reviewers and other documents requested during the hearing, which provide helpful information to assist us in our deliberations. Ms Bayley noted that there were at least two policies and objectives of the BDP that the proposal was at least partially 'contrary' to, and these related to the loss of fernbird habitat and the protection of cultural and historical places and sites.

[131] Ms Clark noted that there remained a number of issues that remained outstanding, which included bryophytes and understanding the effects and risks of a dam break.

[132] **Mr Colin Dall** who is the consents and compliance manager for the West Coast Regional Council, addressed a number of residual matters which had been raised during the hearing and required clarification. These matters were discharge of sewage, derogation issues, water quality matters and an overview of existing and proposed consents to take, dam or divert water on the Stockton Plateau.

[133] In 'the round' however, the addenda reports considered that there was now sufficient information available, which on balance, indicated that the proposal passed the second threshold test and therefore the applications could be further assessed under s.104 and Part 2 of the Act.

Chapter 5 : PRINCIPAL ISSUES

INTRODUCTION

[134] This section provides an outline with some commentary on the various issues relevant to this application. Because of the effects-based nature of the RMA, we shall review the effects of the works in total on a range of relevant matters, largely as identified in the Fourth Schedule of the RMA. This approach is consistent with s.104 of the RMA.

[135] We have reviewed the evidence concerning each of the principal issues and the effects on the environment that were brought to our attention. This includes the more important aspects of the evidence we heard on behalf of the applicant and from submitters, as well as from the council officers from WCRC and BDC and/or their consultants. At the conclusion of our discussion of each issue we provide our findings and conclusions with respect to that issue. This, in due course, provides the basis for our decision and, in terms of our duties under the RMA, this section is consistent with s.113(1)(ac) and s.113(1)(ae).

TANGATA WHENUA

[136] The RMA requires each application to be considered in terms of the impact (if any) an application will have on the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga, and on the protection of historic heritage from inappropriate subdivision, use, and development. HDL has considered this, and has advised us they have consulted with the papatipu runanga, Ngati Waewae.

Issues

[137] The issues raised by Ngati Waewae in their letter dated 15 September 2008, were in terms of the use of the water, and its cultural impact,

rather than effects on any heritage sites. The adverse cultural impact is in diverting the water from the Plateau and artificially conveying the water directly to the coast, instead of allowing the waters to flow off the Plateau naturally. The proposal affects the mauri (defined as the life principle, special nature, a material symbol of a life principle, source of emotions) of the place and awa (water).

[138] Ngati Waewae does however acknowledge that removal of AMD contaminated waters would presumably improve the quality of the balance of the waters in the Ngakawau River. The correspondence from Ngati Waewae included in the attachments to the application, noted that Ngati Waewae were proposing to undertake a Cultural Impact Assessment (CIA) for HDL, which was to accompany the application. This has not been received and as such, it has not been possible to consider the specific views of Tangata Whenua, or to assess the effects the proposal may have, on their cultural values.

[139] HDL advised at the hearing that it had expected to receive further correspondence from Ngati Waewae during the hearing, but this failed to eventuate. HDL has provided a copy of SENZ's CIA that was prepared for the Cypress Mine, in response to a request for further information. This CIA was created for the nearby mining operation, but the recommendations within it are not easily drawn down for the current proposal.

[140] It is noted that the application was served on five iwi groups associated with the Buller District, and that no submissions were received from any iwi group.

Evaluation

[141] We concur that the diversion of AMD contaminated water from the current receiving waters of the Ngakawau River, will improve the water quality of that river and the estuary, even though the flow volume in the receiving waters will be reduced. We acknowledge that the AMD contaminated water will be discharged directly to the sea offshore, and consider it will then be adequately diluted by discharge through a diffuser and after reasonable mixing, so that it will have no more than minor effects.

[142] Nothing within the s.42A report alerts us to any other cultural matters about which we should be concerned and, in light of the lack of evidence presented, we have concluded that the culture and traditions of *tangata whenua* will not be adversely affected by the proposal to any significant extent.

NATURAL CHARACTER, LANDSCAPE AND VISUAL AMENITY

[143] This section reviews the issues surrounding the impact the proposal will have on natural character, landscape values and visual amenity. These are matters that while the applicant did not provide a great deal of information, Council officers, their technical assessor and some submitters made more extensive comment.

[144] The need to recognise and provide for (as matters of national importance) '*the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development*', together with '*the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development*' is stated in s.6(a) and (b). The requirement to have regard to visual amenity is directed through s.7(c) relating to the *maintenance and enhancement of amenity values*, and we shall refer to this in a more general sense, below. We have included visual amenity here together with natural character because they are frequently treated as indivisible parts of a common issue.

Issues

The Stockton Plateau

[145] The Stockton Plateau is a rolling, dissected tableland lying some 500-1100m above sea level. The predominant landscape feature of the Plateau is the Brunner Coal Measures.

[146] Over geological timeframes, the Plateau has been tilted and dissected by earthquake faulting, and is deeply incised by streams and the tributaries of the Ngakawau River. Stunted vegetative growth is located on the exposed coal measures, while larger indigenous vegetation is located within the valleys.

[147] The Plateau has been considerably modified by historic and current mining activities dating from the late 1800s. These modifications include formation of roads, open cast mines and infrastructure. Further more recent modification of the Plateau has been approved by the granting of the SENZ's Cypress Mine within the Upper Waimangaroa area. There remains however large areas on the Plateau of undisturbed coal measures in their natural state.

[148] The proposal is to form two large reservoirs on the Stockton Plateau. The dams are to be contained by RCC dams, with additional RCC shoulder dams. Associated with the reservoirs are a number of silt traps in some of the tributaries. The penstocks to the two power stations are tunnels. At this stage, it is proposed that the Weka power station,

control room and amenities will be located within the Stockton tunnel, however depending on geotechnical investigations, an above ground power station may be required. The applicant proposed that if an 'above ground' power station became necessary then a landscape architect would undertake the external design to ensure that the structure did not compromise the landscape and that this design became part of the consents before us.

[149] We are not swayed by the proposal that an applicant should be permitted to construct any structure, simply with the consent of their landscape architect who undertook the design. We consider it quite appropriate that the preferred design, carried out by a landscape architect, should be submitted to the consent authority for approval, before the required building consents are sought and have imposed a condition to this effect.

[150] The Ngakawau River is a receiving environment for a number of tributaries from the Stockton Plateau. Alongside the true left bank of this river is an extremely popular walking track called the Charming Creek walkway, which passes a popular feature called the Mangatini Falls. The Scheme will reduce the mean flow of the Mangatini Stream over these falls by approximately 40% that will have a visible effect on the falls during low water flows, which will be noticeable by regular users but will not be discernable to casual visitors that make up the bulk of visitor numbers.

[151] In order to mitigate the effects of the loss of flow over the Mangatini falls, HDL will undertake enhancement to the area in consultation with Ngakawau River Watch and DoC.

[152] Enhancements that have been proposed include, undertaking replanting and rehabilitation around the margins of the falls to re-establish the native vegetation and enhance the visual experience. Also proposed are improvements to the Charming Creek track, in order to provide improved outlook points and locations where visitors can rest and enjoy the enhanced river environment.

[153] A new powerline will be constructed on the Plateau to the Weka power station, with a temporary spur line erected to the staging area during construction. The existing line to the Mt William Mine will be upgraded and reactivated to the reservoir area, again with a temporary spur line erected to the staging area during construction.

[154] The application did not contain a specific assessment on the effects the proposal will have on visual and landscape values and in light of this a review report has been provided by **Ms Wendy Hoddinott** on behalf of the Councils.

[155] Ms Hoddinott advises that the landscape and visual effects of the proposal at Stockton Plateau are considered to be minor; considering the modified nature of the existing environment and the distance and visibility of the site from Millerton. In particular, in response to concerns raised in submissions, Ms Hoddinott does not consider that the new spur line to Weka power station will be visible from Millerton township, and that the proposed haul road cutting will not be obvious from Millerton in the context of the expansive mountain landscape.

[156] Part of the Meridian submission by **Mr Christensen**, said that "*HDL was not prepared to assess cumulative effects of both the MHP transmission line and the HDL proposed spur line".* Ms Hoddinott responded by email, (presented as part of the Council officers' Addenda report) *when she said "Based on information provided by HDL, I believe the cumulative visual and landscape impacts of HDL's proposed transmission line to be insignificant. The contribution that HDL's line will make in relation to the proposed Meridian line and the existing Solid Energy 33 KV line will be minor. Figure 17.4 illustrates the potential effect of this clearly by showing two major transmission lines in parallel that already exist on the Plateau".* We have no reason, nor have we been provided with any conflicting evidence, that would give us any cause, other than to accept this opinion.

[157] It was commonly accepted by all parties, that neither the BDP nor WCRC's Plans contain any classification that the Stockton Plateau is an outstanding natural feature or landscape. It is however important to keep such a statement in context, and also recognise that the BDP does not yet contain any of the s. 6 matters specifically classified, to enable the *"recognise and provide for*" requirements of the Act to be readily identified. On this basis, it is consequently necessary, for every applicant seeking resource consent, to undertake a statutory assessment of these requirements.

[158] Of some assistance to the applicant in this case, and as correctly pointed out by **Ms Inwood,** is that the Environment Court in its decision on *Solid Energy New Zealand Ltd v West Coast RC and Buller DC C074/05(2005)* concluded that the Stockton mine site was not part of an outstanding natural landscape, due to the amount of human interaction and present mining activities. The applicant has relied on this decision without further assessment.

Granity

[159] Granity is a small, lineal coastal town, constrained by the coast and the escarpment that forms the Stockton Plateau. The township is divided into three lineal strips by State Highway 67 and Westport-Ngakawau railway line. The application site at Granity is located between the Granity Museum and Granity Creek, within the lee of the escarpment.

[160] The portal to the Granity tunnel and powerstation is to be located part way up the escarpment, while the construction site and access ramp will be located between the escarpment and the railway line. A new vehicle crossing (over the railway line) is proposed to the construction site along the southern side of the Granity Library, while the ocean outfall tunnel will be located on the north side of the Granity Library.

[161] HDL proposes to plant trees and shrubs around a security fence erected around the Granity construction site, which will reduce the visual impact of the fence from the aspect facing Granity village. HDL note that with agreement with the neighbours, mature plants will be recovered from the access construction area and planted using direct vegetative transfer techniques.

[162] Both the s.42A report, and Ms Hoddinott considered the landscape and visual effects of the access ramp, Granity portal outlet and apron at Granity, to be minor, as the area will be either screened with vegetation, or at and below ground level.

Coastal Area

[163] In assessing the application under the coastal environment provisions of s.6(a), we note that the only remaining structure to be considered is the ocean outfall. Indications are that, when the works have been completed, there will be no visible structure between the seaward end of the access ramp and the offshore diffuser, recognising that the outfall pipe will be buried and the diffuser will lie on the seabed floor. Evidence provided for the applicant by the Cawthron Institute, and reviewed by NIWA on behalf of DoC, indicates that in terms of visibility, it is possible that a plume could develop and be visible around the diffuser, although this is likely to be only visible from an elevated position. Such a plume, if it developed, is likely to reduce in visibility within a reasonable distance from the diffuser, and within the 300 metre mixing zone around the diffuser. Although we have received no other evidence as to likely adverse visible effects of the proposal, we will address potential visual effects below when we consider s.107 matters.

Evaluation

[164] Overall, we accept the views outlined in the s.42A report and supported by Ms Hoddinott, that the effects of the proposal on natural character, landscape, visual amenity (including the CMA), will be no more than minor. We accept that there will be unavoidable landscape effects and certainly changed landscapes, than those which currently exist, which some people may consider, as adverse. However, we are satisfied, that any outstanding matters can be adequately addressed both through appropriate consent conditions, and/or implementation of the proposed Landscape and Rehabilitation Management Plan.

AMENITY VALUES

[165] The need to have particular regard to those qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes, is covered in several ways in the RMA, but in particular, in s.7(c) as: '*the maintenance and enhancement of amenity values*.' The principal reference here is to "amenity values" but, as we have discussed above, it also includes visual amenity aspects.

Issues

[166] There is little doubt that significant construction activities such as those proposed by HDL, are likely to have very large impacts on small rural towns in regard to amenity values, particularly during the construction period. This proposal is likely to have an impact on amenity values which are currently enjoyed at the Stockton Plateau, the Ngakawau River and Granity through the potential effects of:

- Noise
- Blasting and vibrations
- Dust
- Glare
- Traffic
- Heritage
- Recreation

[167] Three of these potential adverse effects: traffic; heritage; and recreation; are to be dealt with under separate headings below, and for completeness we will address each of the remaining matters in the order they are listed.

[168] **Ms Margaret Jones** submitted in her opposition to the proposal, that the effects of noise, lighting, visual, public access and traffic pollution, which are all amenity value matters, that could seriously inconvenience about 300 people from Millerton and Granity in their daily lives, and would personally affect her as a resident of Millerton and a teacher at Granity.

[169] **Mr Terence McLaughlin** and **Ms Rachel McCann** own property at 91 Torea Street, Granity, and have future plans to build a beachfront home in close proximity to the line of the underground micro-tunnel. They each provided written submissions in opposition to the proposal and listed visual pollution, noise pollution, 24 hour/7day per week operation, vehicle movements and potential damage to buildings, as principal issues of concern. Under each of these headings, they further listed amenity value impacts including drilling, blasting, lighting, removal of native bush, loader and truck movements, and building damage as matters which would have an impact on them. Mr McLaughlin said the proposal would bring only negatives for a small

community and he considered that the proposal would result in between 5 and 10 years, loss of quality of life, during the construction period.

Noise

[170] Noise can have substantial adverse reaction and can be a cause of stress and at worst can lead to ill-health. Several submitters who reside in the Granity area in close proximity to the 'portal' and 'jacking station,' have expressed their concerns about the potential impacts that noise will have on their quality of life, during the construction period. The Council officers in their s.42A report, list requests for further information made under s.92 to the applicant to provide further information relating to noise effects, however the information provided did not appear to be adequate, under peer review.

[171] Throughout the course of the hearing, the applicant, through both **Mr Easther** and **Ms Inwood,** has repeatedly maintained that construction noise levels will comply with the relevant noise standards. These standards are set out in the BDP at Part 7.8, which refers to New Zealand Standard 6803P:1984 "The Measurement and Assessment of Noise from Construction, Maintenance, and Demolition Work". We note that this standard has been replaced by NZS 6803:1999.

[172] While the applicant has provided tables of indicative machinery noise levels (Fig. 21.4 of Mr Easther's evidence at Attachment Two) and concentric circles around the two Granity works areas illustrating expected noise levels at various distances, the applicant has not presented any specific evidence from a qualified acoustic engineer that would support these views.

[173] The noise evidence has been reviewed by **Mr Vince Dravitzki** (Opus) in a report appended to the s. 42A report, which in essence found the applicant's evidence to be 'asserting compliance' without providing an evidential basis for these assertions.

[174] Mr Dravitzki notes concern with some of HDL's responses to information requests. For example he said, "*HDL correctly identify that the construction noise should comply with NZS 6803:1999, and identify that they will use the table from that standard, modified for work of long duration as their noise limits. That table has much lower noise limits on Sunday, sufficiently low that usually normal construction activity cannot occur on Sundays. HDL however advise that both sheet piling and blasting will be carried out on Sundays suggesting that they have a poor understanding of the Construction Noise standard or a poor commitment to meeting acceptable noise limits".*

[175] A further example is that HDL, according to Mr Dravitzki, states the likely noise of sheet piling as being about 82 dBA but claim that this will be acceptable because it is only for a short time. Exceeding standards if

there is no other way, may be acceptable he said, but HDL need to show the necessity for this particular noise event and should ensure that they have a condition to permit the emission of higher noise levels and for the periods and durations for which the exceedances will occur.

[176] In an email from Mr Dravitzki which was provided as an attachment to the officers' Addenda report, he said "*The tables and distance rings help show that there should not be much of a problem most times when your noise limit is going to be 70 dBA, but for a 24/7 construction operation you can see the problem immediately, which is that for night-times and Sundays when the limit is 45 dBA that without effective mitigation the noise will exceed 45 dBA up to 500 – 3000 metres away. Also plant needs to be considered in combination. Two things of the same loudness working at the same time increase noise by 3 dBA above the levels in the table and the distance to comply will increase by 5%.*

[177] He further said: *"Overall I would say that the same weakness in their noise assessment continues. They either just make assertions without any substantiating facts or calculations that provide the basis for their assertion, or they present some noise data but fail to deal with the details as outlined above gives no confidence that they actually know what they're doing with regards to noise."*

[178] It would appear to us, that potential noise related matters are only likely to become a possible issue at Granity, as this is the only occupied area close to the area of proposed operations. Most problematic noise sources are likely to be from tunnelling commencement, blasting, loading and unloading of vehicles, plant noise and sheet piling, but there may well be others. It is imperative that all these noise sources are fully understood and appropriate measures implemented to ensure that they do not cause problems.

[179] We are not satisfied that we have received sufficient evidence from the applicant, to give us an assurance that noise emissions generated from the Granity operation will not become a problem to nearby residents. We do not however consider that noise related issues are insurmountable, and are of the view that provided the potential noise levels are calculated by a qualified and competent acoustic engineer, and appropriate mitigation measures are designed and implemented, these issues can be overcome. It is subsequently our view that these matters could be adequately addressed by the imposition of appropriate consent conditions, and/or implementation of the proposed Noise and Vibration Management Plan.

Blasting and Vibration

[180] Blasting, sheet piling, earthmoving equipment, vehicles and tunneling operations can cause ground borne vibrations which can result in disturbance to residents and create fears and concerns of instability

which often results in differential settlement causing building damage, and land forms to subside.

[181] The applicant both within their application and from the evidence provided at the hearing through **Mr Easther, Mr Black and Ms Inwood**, indicated that blasting and vibration effects are unlikely to result in significant adverse effects. However most of these assertions appear to be tempered by words such as "*Once tunneling is beyond the slope debris and within bedrock*" and "*similar operations in New Zealand".* Other descriptors such as in regard to sheet piling *"to minimise resident discomfort" and "people become aggravated by blasting well below any building damage thresholds"* cause us some level of concern.

[182] **Mr Peter Cenek** (Opus) undertook an assessment of the proposal when he made a technical assessment of Ground Borne Vibrations from the AEE and responses to s.92 requests. Mr Cenek was somewhat critical of the proposal to rely on a 'complaints based approach' when he listed a number of reasons why such a philosophy was in his opinion, inadequate. These reasons included:

- Peer pressure not to complain;
- Lack of immediate response;
- Time interval to implement monitoring; and
- Delays in ceasing non compliant work.

[183] Mr Cenek included within his report a number of other matters with which he had concern, and he included a number of suggested recommendations to address those concerns. Most of these identified concerns have been reflected within amended draft conditions, including identifying all buildings to be assessed, prior to work commencing, which are reassuring to us. We note that it appears that the only recommendation that has not been met, was to provide a detailed Noise and Vibration Plan to us for assessment. Generally we are satisfied that the proposed conditions, will be an appropriate mechanism, to adequately address community concerns relating to blasting and vibration, and acknowledge these activities will be temporary.

Dust

[184] Most construction projects have a propensity to generate dust which causes a nuisance to nearby residents. Generation of dust has been specifically addressed within the AEE and was included under a general heading of 'Air Quality' with vehicle emissions and odours/fumes from blasting.

[185] We note that that the most likely potential sites affected by air borne emissions are Millerton and Granity. In our view, we concur with the AEE, which concludes that as Millerton is approximately 2 km away

from the site of the Weka reservoir, that these discharges are unlikely to have an adverse effect on the Millerton township. We do however accept that an increased vehicular use of the 'haul' road into Stockton, together with work in the two proposed reservoirs will also result in additional dust generation, but are of the view that this will not increase the level of nuisance to any level, above that which currently exists.

[186] It is possible that vehicles leaving the Granity work area will 'track' particles of earth and gravel onto adjoining roads, where it is exposed to pulverising by wheeled vehicles and as a result create a nuisance from wind borne dust to adjacent properties. Provision for constant monitoring of this potential nuisance should be included within the proposed Construction Management Plan.

[187] The AEE notes that there is likely to be some air emissions from the Granity portal during initial blasting, which is likely to be limited to small events and over a short period, and is expected to disperse before reaching any adjoining properties. We agree with this view and consider that the mitigation measures contained within the AEE together with the proposed conditions, with the additions mentioned above, will be appropriate to address dust or emission generation.

Glare

[188] Glare from night lighting can spill into adjoining properties causing a nuisance. The AEE indicates that activities will be undertaken at night and will require lighting at both Stockton and Granity. The nearest community to Stockton is Millerton which is located approximately 2 km from the Weka dam site and it is expected that lighting will be temporary and focused on specific work areas and should not create any light spill or adverse effect.

[189] Similarly at Granity, lighting will be required at both the tunnel portal area and the 'jacking station' due to work being undertaken on a 24 hour basis. While the AEE notes that some light spill may occur from the 'jacking station' area, it is expected to be minimal and able to be contained with appropriate fencing around the area. It is noted from the AEE that the nearest residents are approximately 150 m from the portal, but significantly closer to the 'jacking station'.

[190] We consider that appropriate light spill management procedures will be contained within the Construction Management Plan to ensure that light spill does not become a nuisance.

RECREATIONAL ACTIVITIES

[191] There is little evidence of recreational activity on the Stockton Plateau itself, with the exception of tramping and perhaps people interested in locating the historical remains of early mining activity.

Issues

[192] Submissions were received from the **Buller Tramping Club** and the **Buller Conservation Group** seeking assurances that public access through the Tin Town Track, which provided further access to areas serving the Repo Basin, Ngakawau Ecological Area, Blackburn Pakihi and Happy Valley would remain open at all times. Similar comments were received in a submission from the **Federated Mountain Clubs of NZ Inc.**

[193] Mr Easther said in his evidence *"Concern has also been expressed about public access through the Weka reservoir, site through to the Repo Basin during the construction phase. HDL has undertaken to maintain access through the site for the duration of construction and thereafter. Figure 19.9 shows the access routes that will be available after construction and during construction. Normal requirements to protect the safety of users through a construction site will be enforced, but access will not be otherwise restricted".* Figure 19.9 shows proposed access routes both during construction and after construction, which indicates to us that access will continue to be provided. It should however be noted that track replacement will be dependent on approvals from DoC and SENZ being obtained.

[194] Due to the high AMD contaminant levels in the watercourses on the Plateau, fish surveys have found that the only species located, were some freshwater crayfish (koura), and these have been presumed to be in streams of higher water quality. Fish surveys of the Ngakawau River have found that the only migratory species found in the middle and lower stretches of the river were long finned eels and koaro (whitebait), the latter being head water breeders. Anecdotal evidence indicates that whitebait numbers have been increasing in the Ngakawau River, since SENZ has been treating the AMD water discharged from the current mining site. However not all watercourses have been surveyed.

[195] The Ngakawau River is used from time to time by recreational kayakers, according to the evidence presented by **Ms Joanna Parsons** on behalf of herself and **Mr Dave Ritchie** of Whitewater New Zealand and from the submission from **Mr Tony Ward-Holmes** of the NZ Recreational Canoeing Association. They noted that kayakers carry their kayaks up the Charming Creek Walkway, normally after rain events, and kayak down the class iv – v whitewater run.

[196] They understood that the proposal would reduce the average flows in the Ngakawau River by 17%, but considered the improved water quality would offset the number of kayakable days available, when they gave their support to the proposal.

[197] Ms Parsons said that the river rises and falls considerably more than 100 mm after a decent rainfall event. She said that the reduced flow coming

from the Plateau would simply mean that the river needed to be paddled sooner after the rain, but that any improvement in water quality would be a welcome trade off. Her final comment was "*We support this scheme unconditionally due to its merits in the larger picture of power generation and wise natural resource use".*

[198] We note that there have been a significant number of 'pro forma' submissions supporting the proposal, and one of the reasons quoted in those submissions is "*Significant improvements to water quality in the Ngakawau River is expected as a result of the hydro scheme intercepting tributaries affected by acid mine drainage".* We acknowledge that **Dr Jenny Webster–Brown** has reviewed water quality and has concluded that diverting AMD water from the Ngakawau River will improve its quality. However she also said that there was a lack of water quality monitoring data for the streams and river systems, and that assumptions have had to be made.

Evaluation

[199] Improvement of water quality, is in our minds, an '*enhancement of amenity values'* and an '*enhancement of the quality of the environment'* as described in s. 7(c) and (f), however the officers' s.42A report when assessing s.104D matters, suggests that improved water quality may be an 'offset' rather than mitigation and cannot be taken into account when considering whether or not the effects are more than minor. We consider that the strict application of this principle may in this case, be 'too narrow a view'.

[200] There has been no evidence presented, or submissions received, relating to any adverse impact the proposal would have in the Granity area or receiving environment on recreational activities.

[201] Having considered all the evidence put before us, we are of the view that it would be highly likely that the activity in so far as amenity values are concerned, will have an adverse effect on some members of the community, particularly to those living or working in close proximity to the Granity portal, jacking station and micro-tunnel. While we acknowledge these effects, we do not consider that these effects, will outweigh the on-going positive benefits of the proposal as a whole, and are of the view that strict compliance with consent conditions and implementation of the proposed Construction Management Plan and the Noise and Vibration Management Plan, will ensure any adverse effects during the construction phase will be adequately mitigated so that amenity values, will not be unduly compromised.

PUBLIC ACCESS

[202] The "*maintenance and enhancement of public access to and along the coastal marine area"* is a matter of national importance in the RMA that

we are required to recognise and provide for under s.6(d). We note the applicant's evidence that there are no above ground construction works required in the CMA, and all construction activities will be undertaken within the defined 'works areas' and underground. No evidence was presented to suggest public access to and along the CMA would be compromised by the Scheme.

[203] As discussed in the 'Recreational Activities' section above, submitters seek assurance that existing public access to the Stockton Plateau and conservation land above, is maintained. The applicant confirmed public access routes will be maintained both during and after the construction phase.

Evaluation

[204] On the basis of the evidence presented, we are satisfied that construction and operation of the Scheme will not impede or restrict public access to or along the CMA, or existing access to the Stockton Plateau and surrounding conservation land. We note public access to the reservoir areas is currently quite limited and that any changes to the existing tracks would require the approval from DoC and SENZ.

ECOLOGY

[205] This section considers the effects of the proposal on the ecology of the area, a matter that is enshrined in Part 2 of the RMA. In particular, s.6(c) requires us to recognise and provide for the "*protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna"* as a matter of national importance. In addition, s.7 requires us to have particular regard to - (d) "*the intrinsic value of ecosystems"* and (f) *"maintenance and enhancement of the quality of the environment"*.

Issues

[206] The Scheme has the potential to impact on ecological values by affecting water quantity and quality in the Ngakawau River and its tributaries, discharging contaminants to the CMA, and loss of terrestrial flora and fauna by inundation and the construction of access ways. The applicant included a number of technical reports with the AEE to support the contention that the Scheme will have only minor adverse effects on the CMA, and terrestrial flora and fauna, and beneficial effects on freshwater aquatic ecology. None of the submitters presented evidence contrary to this contention; nevertheless, Council officers sought independent reviews of the applicant's technical reports.

Freshwater Ecology

[207] The applicant's AEE included a report by **Ms Anthony** that reviewed the existing information on the ecological values of the Ngakawau River and

its sub-catchments, assessed the likely impacts of the Scheme on aquatic ecological values, and made recommendations for mitigation. Ms Anthony considered impacts on water quality and quantity, and highlighted the fact the Stockton Plateau and its surrounds currently do not support abundant aquatic ecological values. She noted the rare moss *Blindia lewinskyae* was found in Weka Creek, St Patrick Stream and T35, and a rare liverwort, *Allisoniella scottii* within the St Patrick Stream's sub-catchment. With regard to the Ngakawau River, Ms Anthony discussed the impacts of existing low water quality, and the potential benefits to the aquatic ecology that could result from improved water quality. While acknowledging the Scheme will reduce flows in the Ngakawau River, overall, Ms Anthony was of the view "*the impact of the proposed Stockton Plateau Hydro Scheme on aquatic ecology is considered to be beneficial".*

[208] HDL provided copies of studies on bryophyte communities undertaken for SENZ, and **Dr Braggins**, a recognised bryophyte expert, assessed the impact of the proposal on the rare moss *Blindia lewinskyae*. Dr Braggins concluded that while there would be some loss of the species, improved water quality would lead to improved downstream habitat. He was of the view that transferring bryophytes from the reservoir area was neither necessary nor viable.

[209] A review of the applicant's AEE and potential impacts on freshwater ecology was provided for the Councils by **Ms Bradley**, and was generally consistent with the findings of Ms Anthony. However, Ms Bradley noted that not all tributaries (proposed to be diverted) are impacted by AMD, little specific information is known about Weka and Sandy Creeks, little information has been provided on current and predicted flow regimes, and that predicting any increase in ecological value from improved water quality is difficult. She stated that with no specific bryophyte survey undertaken within the streams of the reservoir footprints, she is not satisfied that the applicant has demonstrated the effects on bryophyte communities will be avoided, remedied or mitigated. Ms Bradley suggested the imposition of consent conditions for retaining water depths and velocities in the Ngakawau River, and requiring the preparation of an Aquatic Ecology Management and Monitoring Plan.

Marine Ecology

[210] The applicant's view is that any adverse effects on marine ecology will be minor and localised to a small area surrounding the point of discharge.

[211] The applicant's AEE included the Cawthron's technical report titled 'Assessment of Offshore Acid Mine Drainage Effluent Disposal' by **Dr Conwell** and **Mr Barter**, which assessed the key ecological effects associated with discharging AMD contaminated water into the sea. The report concluded no significant scientific or ecological values were

identified in the marine receiving environment at the outfall, and that while there is potential for biota in the immediate vicinity of the outfall to be affected by low pH and metal precipitates, fish and marine mammals (Hector dolphins) would avoid any discharge plume. The report noted that coastal communities in the receiving environment are already affected by contaminants and low pH from the Ngakawau River. In relation to any adverse effects from the construction of the pipeline and outfall on marine ecology, the report noted this would be limited to where the diffuser caisson is situated and that it is in a high energy, dynamic environment.

[212] **Dr Clearwater** peer reviewed the Cawthron report and noted the need to survey benthic fauna pre and post-construction once the final outfall design and location is decided, and agreed that construction of the outfall is likely to have minimal long term effects on the receiving environment.

[213] The s.42A report concluded the effects of construction of the micro-tunnel, outfall and diffuser (which are RCAs) are likely to be minor and recommended the Hearing Committee make recommendation to the Minister of Conservation to grant this consent.

Terrestrial Ecology

[214] The applicant's view is that the inundation of approximately 80 ha of vegetation, for the creation of two reservoirs, will have only a minor adverse effect on indigenous flora and fauna. Evidence to support this contention was included with the AEE in the form of a report prepared for DoC on the Weka reservoir area, and reports prepared for HDL on the vegetation and flora in Mt William reservoir area, and terrestrial fauna.

[215] The report prepared for DoC in 1997 by **Dr Norton** and **Dr Roper-Lindsay,** concluded that exclusion of the Weka reservoir area from the Ngakawau Ecological Area would not reduce the value or the long-term viability of the ecological area. The report prepared for HDL by **Mr Nichol,** provided a survey of vegetation in the Mt William area, and concluded inundation would have relatively minor impacts given the communities found in the footprint are represented outside the area. The report prepared for HDL by **Mr Buckingham** and **Mr Charteris**, on potential adverse effects on terrestrial fauna reviewed previous surveys undertaken and surveyed the footprint of the proposed reservoirs. Mr Buckingham and Mr Charteris concluded that: all species detected in the footprint areas (including threatened species) are found outside the area and are widely distributed along the West Coast; threatened species of most concern were found in low density (great spotted kiwi) or were absent (*Powelliphanta* snails) in the footprint areas; much of the area has been modified by mining and settlement; and disturbed areas will

re-vegetate in 5-15 years allowing recolonisation by weka, fernbird and kiwi.

[216] A review of the applicant's evidence and a technical assessment of terrestrial ecology was provided for the Councils by **Mr Turner**. In general, Mr Turner agreed with the applicant's assessments, and concluded *"…the loss of vegetation will be less than a minor effect providing works are confined to the areas described in the AEE"* and that overall *"…there are no issues relating to vegetation that cannot be adequately avoided, remedied or mitigated".*

[217] In relation to effects on fauna, Mr Turner stated, *"It is agreed that in most respects the effects on fauna are likely to be no more than minor"*, but that *"…fernbirds are likely to suffer localised displacement and population loss.",* and he questioned the value of recolonised areas for threatened species. Mr Turner stated, *"While, the losses of vegetation are relatively small and have undergone varying degrees of modification, they are in my view, when considered in total and as part of a cumulative loss, more than minor, and therefore require mitigation."* With regard to mitigation, Mr Turner considers the proposed 'land swap' stating, *"While this is not like for like habitat, in my view this would be an acceptable offset to compensate for the loss of indigenous vegetation to the project footprint."*

[218] In relation to the loss of fernbird habitat, Mr Turner highlighted the potential displacement of up to 96 breeding pairs and outlined potential options for mitigation, including creation or enhancement of alternative habitat and undertaking a detailed baseline assessment.

[219] The s.42A report highlighted two species found in the footprint of the Mt William reservoir that were uncommon in the Ngakawau Ecological District (*Exocarpus bidwilli* and Cedar *Libocedrus bidwilli*) and small areas of red tussock. Council officers noted a number of aspects of the proposal that had not been surveyed to check for threatened species such as new and permanent access roads, transmission line routes, and intake drop shafts and exit portals, and recommended this be required before construction commences. The report highlighted the need to reduce transportation of weeds and maintain weed control during the initial years of operation. Overall, the Council officers concluded the effects of the Scheme on terrestrial ecology is considered to be minor, with the exception of the effect on fernbirds, which is considered to be more than minor and requires mitigation.

[220] **Ms Inwood** confirmed the applicant would mitigate for habitat loss by completing the proposed 'land swap' (or an alternative swap), rehabilitating all disturbed areas (through the salvage of disturbed vegetation and providing additional native plantings), monitoring re-vegetated areas, cleaning all machinery, and undertaking weed and pest control. She provided further comment from Mr Buckingham outlining that the loss of fernbird habitat represents only approximately 1.3% of

the habitat and that in his opinion this effect is considered to be "minor to less than minor". In relation to mitigating effects on kiwi, Ms Inwood noted construction works on the Plateau would be undertaken outside of the breeding season, and that prior to commencement areas will be searched, with any kiwi pairs found being relocated. Similarly, any lizards or *Powelliphanta* snails found would be relocated into the Ngakawau Ecological Area.

Evaluation

[221] Having considered the evidence before us, we concur with the applicant that overall the adverse effects of the proposal on ecological values are likely to be minor. We note the loss of 80 ha of fernbird habitat and the concern this is difficult to mitigate, but consider the compensation of the proposed 'land swap' combined with mitigation proffered by HDL (e.g. re-vegetation, pre-work surveys and weed and pest control) and imposition of a condition requiring a baseline assessment of the local population would reduce the potential impact to an acceptable level. We are of the view the loss of fernbird habitat cannot be considered to be 'significant', as stated in the s.42A report, but acknowledge it will potentially displace approximately 96 breeding pairs and that this adverse effect warrants mitigation additional to that proffered by the applicant. We see merit in Mr Turner's suggestion to undertake further study of the local fernbird population and consider it will assist in future management of the species.

[222] In consideration of the mitigation proposed and imposition of a further requirement to undertake a baseline assessment of the fernbird population, we are satisfied the loss of fernbird habitat is likely to have a minor adverse effect on the local population.

[223] In relation to the need for further snail surveys in the MAPPS area, we do not consider the evidence presented supports the need for this requirement.

[224] In making an overall assessment of the actual and potential adverse effects on the freshwater, marine and terrestrial environments, we are satisfied that the proposal is not likely to have more than a minor effect on existing ecology, and that any adverse effects can be adequately avoided or mitigated by the imposition of appropriate consent conditions.

WATER QUALITY

[225] This section focuses on the effects of the proposal on water quality. The maintenance and enhancement of water quality in the freshwater and marine environments is a fundamentally important matter under Part 2 of the RMA, and the discharge requires consideration under s.105 and

s.107. Our consideration of s.105 and s.107 is undertaken in Chapter 7: Statutory Provisions.

Issues

[226] The proposal has the potential to adversely affect water quality at the point of discharge into the CMA, by discharge into the Ngakawau River and its tributaries from overflow from the reservoirs, and by emergency discharge to the Granity Stream. However, the proposal also has the potential to improve water quality in the Ngakawau River by removing 95% of the AMD water from its catchment.

Freshwater Environment

[227] The applicant considers that the potential improvement in water quality in the Ngakawau River from diverting AMD contaminated water will be substantial and contend there will be no adverse effects on water quality in the diverted watercourses. HDL maintains all the watercourses to be dammed or diverted have poor water quality (with the exception of A.J. Stream) and do not support diverse or abundant aquatic ecological values. It is acknowledged some spillage will occur infrequently over the dam spillways, but that these flows exist under the natural regime and will occur when there is high flow in the Ngakawau River. The discharge of sediment laden water will be mitigated by use of silt traps and sumps.

[228] The applicant's AEE included a URS report titled "Stockton Plateau Hydro Project – Water Quality & Hydrological Modelling" by **Mr Megaughin** and **Mr Mulliner** that estimated the water quality of the discharge and potential improvements to the Ngakawau River**.** The modeling undertaken indicated significant water quality improvements in relation to pH and dissolved Fe and Al concentrations if all options of the Scheme are implemented.

[229] **Dr Webster-Brown** reviewed the applicant's assessment of water quality effects on behalf of the Councils, and addressed reservoir water quality issue and expected water quality improvements in the Ngakawau River. She was of the view the emergency discharge to the Granity Stream was unlikely to have any major impact, as it is already impacted by AMD, and confirmed mitigation measures during construction have the capacity to be effective. She emphasised the URS modelling is considered to be indicative only, is not representative over a range of flows, and is not reliable enough to provide the basis for a consent decision. Dr Webster-Brown outlined the reservoir water quality is likely to be poor, and that metal concentrations could be considerably higher than predicted.

[230] In relation to water quality improvements Dr Webster-Brown acknowledged some water quality improvement must occur from

diverting AMD water, but that insufficient modeling had been carried out to confirm this and significant improvement would depend on all 'optional' watercourses being included and SENZ's current water treatment continuing.

[231] **Dr Clearwater** stated there was insufficient information to characterise the AMD effluent, no concentration data, and no assessment of the effect at discharge capacity of 9 cubic metres per second. She noted *"…discharge of AMD to an exposed and turbulent marine environment will be highly diluted compared to the existing multiple discharges to small waterways and discharge of the contaminants to a marine environment will have reduced toxicity compared to discharge in a freshwater receiving environment".*

[232] Given the evidence presented, the Council officers were of the view that regardless of whether the applicant had overstated water quality improvements in the Ngakawau River, it is accepted that effect on water quality will be positive.

Marine Environment

[233] As discussed above the applicant's AEE included a report by **Dr Conwell** and **Mr Barter**, which assessed the key ecological effects associated with discharging AMD contaminated water into the sea. The report focused on the dilution of AMD with seawater and potential effects on the receiving environment from the discharge. The report concluded the discharge is likely to meet recognised water quality standards after reasonable mixing and recommended receiving water, benthic and effluent monitoring, with review after the discharge commences. It also recommended a one off dispersion and dilution study when the diffuser is commissioned and if it is changed.

[234] Additional information by Cawthron provided in HDL's s.92 response, suggested a 300m mixing zone would be appropriate, and suggested further dilution assessments be undertaken to assist in determining the optimum configuration of the outfall diffuser.

[235] Also included with the applicant's AEE was a URS report by **Mr Megaughin** and **Mr Mulliner**, which included modeled water quality effects at the outfall and a preliminary laboratory test evaluating the effects of mixing AMD and seawater. It concluded it is possible a visible plume of Fe and Al could develop at the outfall, but that it is difficult to deduce without considering factors such as pipe length, speed of dispersal and dynamics of the environment.

[236] **Dr Webster-Brown** undertook an assessment of water quality issues at the outfall on behalf of the Councils, and in general agreed with the findings of the URS modeling and the Cawthron report. Dr Webster-Brown concluded that given the nature of the discharge a visible plume

is likely at the outfall and highlighted the need for more comprehensive modeling and further experimentation. She was of the view pH effects were unlikely to be a problem and focused on the bioaccumulation of trace metals such as zinc (Zn) and cadmium (Cd), and potential toxicity of the plume to fish. Dr Webster-Brown recommended receiving water, effluent and shellfish monitoring, and compliance with ANZECC (2000) 95% species protection outside the mixing zone.

[237] **Dr Clearwater** considered the proposed 300m mixing zone was appropriate and noted that the current diffuser specification was likely to result in exceedances of pH beyond the mixing zone.

[238] **Ms Inwood** and **Mr Easter** addressed water quality effects at the outfall in the applicant's 'right of reply' confirming acceptance of a 300m mixing zone, suggested monitoring conditions and compliance with ANZECC (2000) water quality guidelines. Mr Easther reiterated that a secondary diffuser could easily be implemented if the primary diffuser fails to perform and that this should give confidence standards can be met after reasonable mixing.

Evaluation

[239] The proposed discharge represents a shift from the existing discharge of AMD water to the freshwater receiving environment (and ultimately to the marine environment) to a direct discharge to the marine environment. We are conscious the proposal does not increase existing contaminant levels or release any additional contaminants to the environment, and acknowledge it is effectively achieving discharge to the sea by bypassing the freshwater environment. We agree this can only be beneficial for the freshwater environment and accept that any adverse effects on the marine environment can be avoided, remedied and mitigated by ensuring the discharge meets appropriate water quality standards after reasonable mixing.

[240] We consider any adverse effects on the freshwater environment from overflows from the reservoirs or emergency discharge are likely to be minor given they will occur during times of high flow and any contaminants diluted.

HYDROLOGY

[241] **Mr Easther**, in his evidence on behalf of the applicant, told us that the scheme has been designed to create a hydrological barrier between the upper catchments of the Stockton Plateau that are affected by mining, and the lower catchments that have not been affected by development. Furthermore, the objective of the scheme is to capture the surface runoff from the upper catchments. This would prevent ongoing contamination of the Ngakawau River and would maximise water available for power production. Although hydrology is also relevant to water quality, among

other things, it is a fundamental aspect of the proposal and we refer here to the evidence presented to us, as a separate matter.

[242] While the hydrology of the area is a critical aspect of the scheme's operation and its ability to generate electricity, we are more concerned with the effect the proposal may have on the hydrology of the lower catchment (below each of the two reservoirs), and particularly on flows in the Ngakawau River.

[243] Mr Easther referred to the main catchments that would provide water to the proposal: Mine Creek, Mangatini Stream, Fly Creek, T31 Stream, Darcy Stream, St Patrick Stream and Plover Stream, AJ Stream and the Weka Creek tributary of Mangatini Stream. A series of flow recording stations established for recording and managing the effects of mining has assisted in understanding the hydrology of these catchments.

[244] While the hydrological record was based on a relatively short period of measurement (approx. 5 years), Mr Easther considered it provided sufficient information on which to base the design of the proposal. He went on to say that, during the final design phase, a hydrological recording network would be established for the purposes of hydro scheme operation. This, he said, would improve the hydrological data available for the final design and operation of the scheme.

[245] Since the tunnels, according to Mr Easther, would effectively have unlimited hydraulic capacity, the only hydro components that can be affected by uncertainty in the hydrological analyses are the spillway design and the selection of turbine sizes. The dams, he said, have been specified with the maximum storage volume that current investigations show can be reasonably constructed on the sites. Spillways are physically unconstrained and would be specified at upper levels of prediction.

[246] HDL commissioned URS New Zealand Ltd. to undertake an assessment of the existing hydrology and water quality data for the Ngakawau River and tributaries affected by the proposal. Two reports were prepared. The first of these, entitled *Hydrology and Water Quality Review (March 2008)*, was concerned with flow volumes. The second report, *Stockton Plateau Hydro Project Water Quality and Hydrological Modelling (September 2008)*, considered water quality in more detail. We have discussed the effects of the proposal on water quality above. Both reports were appended to the AEE.

[247] The authors of these reports did not appear before us and we were, thus, not able to ask questions. The findings, however, are relevant and we shall refer to the main conclusions below.

[248] During normal flow conditions all of the flows within the affected watercourses will be collected and diverted into the proposed storage reservoirs. This will result in no flow immediately downstream of the

diversions, other than in times of flood. Flow downstream of the diversions will arise from the catchments and tributaries entering at varying points downstream.

[249] The proposal will result in reduced mean flows entering the Ngakawau River from all three of the affected sub-catchments – Mine Creek, Mangatini Stream and St Patrick Stream. The total area removed from the Ngakawau sub-catchments will be 31.7km^2, leaving around 154km^2 of the original catchment undisturbed, equating to removal of 17% of the existing mean flow within the Ngakawau River.

[250] Under normal conditions the flows downstream of the abstraction points and reservoirs will be substantially reduced. The daily flow records from the period 2002 – 2006 have been modelled to assess the effects of the proposal on stream flows downstream of the diversions. The models predict that for very low flows (flows exceeded 95% of the time) flows will be reduced by 50% in the St Patrick Stream, by 75% in the Mangatini Stream, by 40% in Mine Creek and by 30% in the Ngakawau River. Reductions of 50% would be considered significant in a healthy ecosystem. Given the existing poor water quality within these affected waterways and the associated marginal habitat for aquatic life, this removal of flow over short distances is expected to have no more than minor effects on instream values.

[251] We were also interested in the potential effects on flood events. The AEE tells us there will be a detaining effect on flood flows as water levels rise in the reservoirs or behind the diversions prior to discharge over the spillways. The small diversions have relatively small capacity and will have only a modest effect in reducing flood peaks.

[252] The Mt William and Weka reservoirs will have more significant effects on reducing flood peaks at the Ngakawau estuary and hence on reducing flood risk to the Ngakawau and Hector townships. The diversions and storage volumes created by the proposal will increase the "time of concentration" of each sub-catchment, extending the time when the flood peak from the sub-catchment will enter the Ngakawau River. The catchments without diversions will drain more quickly and hence the coincidence of flood peaks that cause problem flooding at the Ngakawau estuary will be less likely. In certain circumstances, this may lead to a very significant reduction in flood risk, to the extent that the flood that occurs on average every 50 years may only occur on average every 100 years.

[253] We note there is an element of speculation in these flood predictions. The AEE said the degree of flood relief that will be provided by the proposal can only be assessed through comprehensive hydrological modelling of the Ngakawau catchment, which has not been undertaken at this stage. The first order analysis that has been undertaken indicated that the proposal would reduce flood risk from a modest to significant extent.

[254] The modelling also predicts that high flushing flows, considered necessary to maintain a balance of sediment within channels, would still occur 10-20 times a year for the large reservoirs and much more frequently for the small diversions.

[255] The s.42A Planning Report discussed the effects of the proposal on hydrology. The report referred to a review of the hydrological aspects undertaken by Dr John McConchie, who is a Principal Water Resources Scientist with Opus International Consultants Ltd. His background, we note, prior to 2008 was largely academic and included some 20 years of research on various aspects of hydrology and geomorphology.

[256] Dr McConchie agreed that the hydrological data used in the modelling is of high quality but he had some concerns over the relatively short duration of the record. He accepted that most of hydrological effects upstream would be contained within the reservoirs but felt that the effects downstream were more difficult to quantify. He said in his report that the main effects of the proposal would be a significant increase in the frequency, magnitude, duration and severity of periods of low flow.

[257] Dr McConchie considered there is likely to be little change in fluvial dynamics although sediment yields are likely to be reduced. Despite his reservations he did not believe the proposal would have significant adverse effects with regard to hydrology and hydraulic processes. He did recommend, however, designing for 5 and 10-year ARI (Annual series recurrence interval) rather than 2-year events.

[258] The s.42A report concluded by noting that HDL need to undertake additional work into determining the modification of the flow regimes, particularly the frequency, duration and severity of periods of low flow, and the frequency and magnitude of flood events.

Evaluation

[259] Despite the reservations expressed by Dr McConchie in his review for the s.42A Planning Report, we are generally satisfied that any adverse effects of the proposal on hydrology will not be significant. In coming to this view, we note that the present hydrological data has shortcomings but that the applicant intends to establish a hydrological recording network that will improve the quality of the data available for the final design. Furthermore, conditions can be imposed to ensure that any adverse effects are no more than minor.

HERITAGE VALUES

[260] The need to recognise and provide for the *protection of historic heritage from inappropriate subdivision, use, and development* is a matter of national importance (s.6(f)).

Issues

[261] The proposal has the potential to adversely effect heritage values on the Stockton Plateau and at Granity. The proposed reservoirs (particularly Weka) will inundate parts of the historic electric loco line and Tintown, and there is concern regarding the protection of a number of registered historic sites located in the vicinity of the portal and construction site at Granity.

[262] Registered historic sites at Granity include the coke ovens/kilns, the Granity Museum (formerly the Granity Railway Station and the State Mine Store), the Granity Public Library, and the war memorial. Old survey plans also show other historic features around the base of the Millerton Incline that may be uncovered during construction of the access ramp and the emergency overflow.

[263] There has been no assessment or specific investigation of potential effects on the built heritage at Granity. The applicant has proposed pre and post construction surveys to ensure any damage to surrounding buildings is identified and remedied. To mitigate effects on heritage values the applicant proposes to follow a documented 'Accidental Discovery Protocol'.

[264] The applicant commissioned an assessment of the effects of the proposal on archaeological heritage by **Ms Watson.** The archaeological survey focused on the electric loco line, Tintown (also referred to as Darlington), the Fly Creek workings, and the Granity bins. The report noted the only site that pre-dates 1900 (and therefore covered by the Historic Places Act 1993) is the Granity Bins, and that these were destroyed by earthworks in 2008. Ms Watson noted that while much of the electric loco line remains intact, it has suffered damage from recent widening of the haul road and other mining activities, but is considered to be in "reasonable condition". Ms Watson considered the "internal contextual values must be seen as good" and in terms of "rarity" considers it *"is a rare site, as it is the only known example of an electric railway used in an industrial setting in New Zealand, …one of only three railways in New Zealand built with a 3 foot gauge".* She noted "good information potential" and "good to excellent interpretation potential". Ms Watson considered the 460m of the line to be inundated by the Weka reservoir to be *"significant because it contains a number of features not seen elsewhere on the line, including a siding and points mechanism"* and noted *"this important section of the line should not be disturbed in anyway, including by flooding".*

[265] In relation to Tintown, Ms Watson noted it has been significantly damaged by the haul road and is now only of low archaeological value. She recommends loose artefacts from this should be collected, analysed, reported on and deposited in a suitable repository. She made the same

recommendation for the Fly Creek workings and noted the need to undertake a more detailed archaeological survey prior to inundation.

[266] The submissions by **NZHPT** stated that protection of the historic electric loco line and the collection of historic buildings at Granity must be considered as matters of national importance under s.6(f) of the RMA, the West Coast Regional Policy Statement, the BDP, and s.104 of the Historic Places Act. In particular, the Weka dam would have a negative impact on cultural well-being by destroying a significant and intact section of the electric loco line and that the effect could be avoided by redesign and construction of a 'saddle dam' for an estimated cost of $1.7 million. NZHPT highlighted continuous incremental loss of historic heritage, and the need for 'Archaeological Management Plans' in sites of known historic heritage. In response to our questions, Mr Duff, Ms Mosley, and Mr McLean were of the opinion that upgrading and protecting the section of line up to A Portal would not mitigate the loss of the inundated section of line.

[267] **Ms Inta** was of the opinion the electric loco line is hard to find and overgrown but that efforts should be made to preserve the bridge near Tintown corner.

[268] **Ms Field** and **Ms Ford** were of the view the section of line to be lost to be easily identifiable, significant and worthy of protection, but considered reconstruction of the line further up and a track to this would be a possible trade off.

[269] The **Tai Poutini Conservation Board** noted the loss would be significant and permanent, and that while meaningful mitigation is difficult, more could be done with the unaffected part of the line.

[270] In the s.42A report Council officers stated: *"For the most part, the proposed conditions will be able to mitigate the effects on the heritage values. Conditions are required to ensure the structural integrity of the heritage buildings at Granity. The exception is in relation to the electric loco line, which is nationally significant and which requires further consideration".*

[271] Council officers recommend development and implementation of a Heritage Management Plan as a mechanism to outline methodology for identifying, recording, recovering, restoring and relocating artefacts. They also recommend further surveying and recording at the confluence of Fly Creek, as the area will be inundated.

[272] In the applicant's right of reply, **Ms Inwood** emphasised that only a small section (460m and 3 way points) of the entire 4000m long electric loco line (excluding the extensive underground sections) will be inundated and that the haul road realignment had been selected to avoid destruction of way points. She outlined URS consultants had

investigated options to avoid inundation of the section of line, but that this limited storage to 1.5 million cubic metres of water, increased spill to the Ngakawau River, reduced base power generation to by around 40%, and reduced annual power generation by around 30%.

[273] **Mr Easther** explained in his right of reply evidence that the construction of a 'saddle/shoulder dam' to protect the electric loco line is estimated to add $33 million to the $17.5 million estimated construction cost of the Weka reservoir, and would require a 20m high shoulder dam. He added the shoulder dam would create flooding problems (from Sandy Creek) and drainage issues without construction of an additional dam. Seepage from the shoulder would have the potential to adversely affect the haul road and could lead to its breakdown. Mr Easter emphasised HDL had looked at all reasonable alternatives to avoid the inundation, but that it is not feasible. He reiterated the value of the remaining sections of the electric loco line and HDL's commitment to upgrading the section up to A Portal, providing interpretation information and enhancing public access and interest in the historic feature.

[274] In relation to HDL's proposed mitigation of the loss of a section of the electric loco line, **Ms Inwood** stated**,** *"HDL will commit to protecting a portion of remnant formation that runs adjacent to Mine Creek terminating in the vicinity of A Tunnel portal, viewed on your site visit. Development of a walking track along this portion of the loco formation will be undertaken in conjunction with the on-site interpretive display planned at Weka power station to create a broad heritage experience. Access is already provided up to the area of A Tunnel via the Pack Track walkway (which commences at Millerton) and HDL will undertake to maintain this existing walkway and link the new loco walkway to the Weka interpretive display area".*

[275] In considering mitigation of adverse effects of the proposal on the electric loco line, Council officers stated – *"My understanding from the hearing is that this portion of the loco line from the haul road to A Portal is within the DoC estate and could be included in the land swap application with the Department, therefore putting the area within the Applicant's control. Adding the portion of the loco line to A Portal will result in a heritage aspect being added to the land swap, and will place responsibility for the effects of the damage to the loco line to be mitigated to a point whereby the Council expert could accept the effects on the loco line. If this portion of the loco line is not included in the mitigation package as being upgraded, then the expert still considers the effects on the loco line to be more than minor.*

Evaluation

[276] In having regard to the evidence presented, we are of the view that any actual or potential adverse effects on the built heritage values at Granity

are likely to be minor, and can be adequately avoided, remedied and mitigated.

[277] On the basis of the evidence presented, we accept that protection of the historic electric loco line from inappropriate use and development is a matter of national significance that we must have regard to under Part 2 of the RMA. It is apparent to us that protection of the entire electric loco line is not feasible, given the damage (cut offs) that has already occurred as a result of upgrades of the haul road and mining activity, and the fact it is situated in an active mining area. We consider it is currently in a poor condition, is largely inaccessible, and that it is likely to continue to deteriorate and become even less accessible over time.

[278] We have weighed up the alternative of leaving the electric loco line as is (i.e. refusing consent) with the applicant's proposed mitigation to upgrade a section of the line, and have formed the unanimous view that protection and enhancement of some is better than leaving the entire line as is, in the hope it might be protected and enhanced in the future.

[279] While we acknowledge the loss of the section of line at the Weka reservoir would have a more than minor adverse effect on its heritage value, we accept that there is a strong commitment by HDL to provide access to and interpretation of the feature, which goes some way towards representing appropriate mitigation. Our only concern is to ensure that this general commitment is followed through especially as it is on land owned by another party. The difficulty here is that this commitment relies on the approval/agreement of another party and therefore binding HDL to a condition of consent would be *ultra vires.* To this end, we considered a number of possible solutions and we are now satisfied this can be achieved by requiring HDL to consult with DoC for the purpose of identifying the most pragmatic solution and imposing a financial contribution to ensure the applicant undertakes the proffered mitigation work on the remaining sections of the electric loco line. However in the event that HDL cannot fulfill its stated commitments, a condition has been imposed [on consent RC08131G] that requires HDL to make a financial contribution to undertake other beneficial heritage protection options. We also note the suggestion by Council officers, that HDL could seek to have the area included in the 'land swap'.

[280] We note the recommendation to require a Heritage Management Plan, and the need to undertake a survey of the Fly Creek workings prior to construction, and agree these are appropriate mitigation measures.

[281] Overall, in consideration of the mitigation proffered by the applicant and imposition of the mitigation we consider appropriate (outlined above), we are satisfied that any adverse effects on the heritage value of the electric loco line will be no more than minor.

TRAFFIC

[282] It is generally acknowledged that traffic generated during the construction phase of developments of this nature has the potential to create adverse environmental effects. Although traffic is one of a number of matters that can impact on amenity values, there can be other effects such as wear and tear on roads, for example, and it is often considered separately.

[283] The two issues that arise out of this proposal are the ability of the roading network to cope with the volume and types of vehicles likely to be used in bringing staff, plant and materials to the site, and the impact this traffic can have on the safety and convenience of other road users, and on the quality of life for nearby residents of Granity.

[284] Mr Easther referred only briefly to the effects of traffic in his evidence on behalf of HDL. He considered that, since the State Highway already carries traffic loads of 200-600 vehicle movements a day to the Stockton mine, as well as other traffic passing through to the Ngakawau coal-handling station and Karamea, the addition of around 10 heavy vehicles a day plus the work force and delivery vehicles would have an insignificant effect on traffic.

[285] Ms Inwood, in her planning evidence on behalf of HDL, provided us with a little more detail. She told us that, on the Stockton Plateau, it is expected that most of the rock and aggregate required for construction of the dams/embankments would be sourced from excavations within the Weka and Mt William reservoirs, and excavation material from tunnel construction. Some additional building materials and plant would need to be transported to the sites on the Stockton Plateau from elsewhere, including construction equipment, cement and fuel. This, she said, would cause a minor increase in existing traffic volumes.

[286] Ms Inwood said that HDL proposed to provide vans to transport the workforce to the site.

[287] At the Granity (tunnel portal) construction site, Ms Inwood said access would be via an existing route off the State Highway, immediately north of the war memorial. This, she said, would minimise traffic effects on Granity residents by avoiding some 20 residents to the south of the site. This access would be upgraded and sealed to minimise noise and dust emissions. During construction there would be regular vehicle movements of up to 10 truck movements per day removing excavated material from the Granity tunnel and transporting it to the Weka reservoir area, as well as light vehicles carrying the work force to the site. Heavy truck movements would be restricted to between the hours of 7.30 AM – 6.00 PM, with one truck designated to cart material from Granity up to the Stockton Plateau. Ms Inwood also said neither Ontrack nor the NZ Transport Agency (NZTA) had raised any concerns about the effects of project-related traffic.

[288] Several residents of Granity expressed concern about the effects of construction traffic.

[289] The s.42A report outlined the traffic-related effects of the proposal, generally as described in the AEE and by the applicant at the hearing. Ms Bayley, who prepared this part of the s.42A Report on behalf of BDC, pointed out that access to the Stockton Plateau is through land under the control of SENZ and, as such, HDL would need to comply with the provisions of SENZ's traffic management plan. The report also expressed concern that HDL had not considered the cumulative effects of the proposal in relation to existing traffic going to the Stockton Mine and Millerton.

Evaluation

[290] Generally, we accept the applicant's view that traffic associated with the proposal will not significantly increase existing traffic on the State Highway and that traffic management plan provisions can be provided to mitigate effects elsewhere. At the Granity tunnel portal site, we expect that the applicant's proposals to limit heavy traffic movements and provide improved access to the site will mitigate residents' concerns. Any residual issues can be resolved through the proposed Community Liaison Group in Granity.

NATURAL HAZARDS and ENGINEERING RISK

[291] The proposal is sited in an area with known natural hazards associated with earthquake activity and flooding. This section examines the extent to which these risks may or may not be exacerbated by the proposal. Seismic activity, in particular, has the potential to impact on the safety of a dam structure and the consequences of dam failure can be catastrophic.

[292] Mr Easther in his evidence on behalf of the applicant told us that HDL, having sought the best locations for the reservoirs at the Weka and Mt William sites, determined the type of construction that was best suited to these locations, and the potential risk that these reservoirs could impose on both the physical receiving environment and the Hector and Ngakawau communities.

[293] Mr Easther said HDL undertook dam break modelling[1] to show the effect of a breach at either of the two reservoir sites. The modelling covered a range of likely reservoir sizes in order to understand the effects of a breach originating from a reservoir as the flows passed down the stream channels, through the Ngakawau River gorge, and then out to sea at Ngakawau. HDL, he said, had specified generic dam-break mechanisms that were considered to be catastrophic so as to establish the outer

[1] URS NZ Ltd., (2008): *Ngakawau Restoration Project: Preliminary Assessment of Dam Breach*, Report prepared for Hydro Developments Ltd., Feb 2008

envelope of risk that the proposal could impose on the community. The modelling assumed that the reservoirs would be formed by earth dams whereas HDL is now proposing to construct the dams using Roller Compacted Concrete (RCC), which considerably reduces the risk of catastrophic failure.

[294] The reason the method of dam construction was changed to the more erosion-resistant RCC, according to Mr Easther, was that a sudden failure in the Mt William dam could, potentially, put people on the Charming Creek Walkway at risk of drowning at, at least, three locations. In addition to this, spillways and inlet towers have been located over the higher sections of the dam foundations where failure could not lead to emptying of the reservoirs.

[295] HDL has concluded from the modelling that potential flooding at Hector and Ngakawau from a dam breach is unlikely to lead to fatalities or to serious losses within these communities. Mr Easther said that both dams would be built according to the New Zealand Society on Large Dams (NZSOLD) guidelines, which are accepted practice in New Zealand. Because there remains the possibility that a breach could endanger people on the Charming Creek walkway, HDL would use the NZSOLD high potential impact category guidelines, which means that all aspects of the dam design, supervision, construction and subsequent monitoring would be at the highest level possible for structures of these types.

[296] Mr Easther said further dam break analyses would be carried out during the final design process, which would be subject to an independent review consistent with the quality assurance requirements of the Dam Safety Guidelines.

[297] A technical assessment of the proposal was undertaken for the s.42A Planning Report by Mr Lambert Anderson, who is a principal consultant employed by Opus International Consultants Ltd. We note that Mr Anderson has considerable experience in matters relating to dam construction. As part of his review, Mr Anderson considered the risks associated with a dam breach.

[298] Mr Anderson noted that the dam breach assessments included in the AEE had been based on dam crest levels that are lower than was now proposed, and using earth structures rather than RCC. With help from a colleague with expertise in dam break studies, Mr Anderson concluded that, since the volume of water in each reservoir would be considerably greater than had been assumed in the modelling, and the fact that RCC dams were now proposed, the dam modelling results were no longer valid and revised inundation maps should be prepared.

[299] Mr Anderson also reviewed the proposed dam diversion sluices. He considered that the applicant's proposal to size the diversion culverts to cater for a 10-year flood event is appropriate. However, he expressed concern about the applicant's proposal to seal the diversion culverts

following successful filling of the reservoirs. Mr Anderson said the ability to dewater the reservoirs for safety reasons should be retained by keeping the dewatering systems operational for a minimum period of 5-6 years after commissioning. He recommended that approval to seal the diversion culverts be reviewed and approved by a panel of experts carrying out the first comprehensive dam safety review.

[300] The s.42A report outlined the applicant's proposals for hazard management and noted the proposed increases in dam heights and the change to RCC dams. The report also referred to the review of the hazards associated with dam failure carried out by Mr Anderson and noted his recommendation that the dam operating levels be clearly defined and the flood inundation plans revised to take account of the proposed changes. Mr Anderson generally agreed with the methods proposed for the temporary diversions, construction works, the emergency outfall at Granity, and the design of culverts and sediment traps.

[301] The s.42A report also supported Mr Anderson's view that the sluice gates remain operational for a period of 5-6 years.

[302] HDL's view in response, was that no further purpose would be served by undertaking additional dam break analyses at this stage. HDL does not consider that the effects of a breach of the proposed RCC dams for the proposed larger reservoir sizes would be any more extreme than the modelling undertaken for rapid collapse of earth dams. In HDL's opinion the appropriate time to consider further dam break analyses is during the final design and building consent process.

Evaluation

[303] We are generally satisfied with the applicant's evidence concerning natural hazards and engineering risk. We accept that, insofar as the final design of the dam structure would be in accordance with NZSOLD Dam Safety Guidelines, would be subjected to peer review, would require consent under the Building Act 2004, and would be subject to regular monitoring, the potential risk of failure is very small. Nevertheless, we are of the view that the dam failure risks should be reassessed and the inundation maps reviewed once the final design has been completed.

[304] While we can see some merit in keeping the diversion culverts operational for a period following commissioning we were not presented with sufficient evidence to convince us that we should include such a requirement as a condition of consent. To do so would, in our view, be overly prescriptive and we consider that this is a matter to be more properly resolved at the design stage in light of accepted practice and final design parameters.

CLIMATE CHANGE

[305] The need to have particular regard to the effects of climate change was introduced (s.7(i)) in the March 2004 energy and climate change amendments. We note that the courts[2] have since established that s.7(i) is principally aimed at considering the effects of climate change on the proposal itself. While it is not necessary for an applicant to establish that there are beneficial effects of an application on climate change, an applicant may elect to do so in order to promote positive effects.

[306] The issue before us is to consider whether or not any potential changes in weather patterns or other possible effects of climate change, such as sea level rise, would affect the proposal, either in a positive or negative sense. We refer to the prospect of the proposal having a beneficial effect on climate change later.

[307] The AEE that accompanied the application noted (in 4.4) that the mean annual rainfall on the Stockton Plateau was up to 8 m, ensuring that it is one of the wettest places in New Zealand. While there may be longer dry spells in future as a result of climate change, most predictions indicate that rainfall on the West Coast will increase. This should benefit the proposed scheme as it would potentially enable increased generation. More extreme patterns of rainfall would need to be managed. Periods of intense rainfall would be covered by storage and increasing power production and any periods of drought would need to be managed by storage and reduced output.

[308] Mr Easther, in his evidence on behalf of the applicant, said that a number of climate change scenarios had been considered. These, he said, had influenced the decisions to opt for tunnels with surplus hydraulic capacity and maximise storage at each reservoir site. The operating regime for the outfall has been designed to cope with extended periods of drought.

[309] The s.42A report noted that any future increase in rainfall is likely to be beneficial in terms of increased electricity production from hydro schemes on the West Coast.

Evaluation

[310] We were not presented with evidence to suggest that there would be any adverse effects as a result of climate change. However, we note that there will be matters such as increased rainfall and the effects this may have on sluice gate design, future flood patterns, etc., that will need to be taken into account during the design phase prior to an application for building consent. Similarly, the design of the proposed outfall will need to consider the prospect of higher sea levels.

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[2] *Upland Landscape Protection Soc Inc v Clutha DC* EnvC C085/08.

POSITIVE EFFECTS

[311] Under s.5(2) of the RMA, sustainable management includes managing the use, development and protection of natural and physical resources in such a way that enables communities to provide for their social, economic and cultural well being and for their health and safety. In addition, s.7(b), (ba), (i) and (j) require particular regard must be had to *the efficient use and development of natural and physical resources, the efficiency and end use of energy, the effects of climate change, and the benefits to be derived from the use and development of renewable energy.*

[312] The applicant considers the proposal will have a number of benefits at a national, regional and local level. At a national level the applicant contends the proposal will assist the government in achieving its climate change objectives (Kyoto Protocol), and is consistent with the energy strategy by utilising renewable energy sources.

[313] On a regional basis, the applicant concludes the proposal will increase the West Coast region's electricity generation capacity by up to 240GWh per annum, and will support the continued growth of industries and businesses by increasing the security of supply and reducing reliance on the national grid.

[314] At a local level, the applicant considers that by embedding the electricity in the local network, the proposal will minimise transmission losses, thereby reducing costs to consumers. The applicant contends that further economic benefits to the local community will be derived from the creation of approximately 50 jobs associated with the construction, and the estimated $200 million dollars to be spent in the Buller District over the 4-5 year construction period.

[315] The evidence of **Ms Tania Hood**, a renewable energy advisor with EECA, supports the applicant's contention that the proposal will result in significant positive environmental effects and economic benefits by reducing greenhouse gas emissions, improving the security of electricity supply, and reducing transmission losses. EECA's submission highlights that the proposal is of national significance and value by complementing other renewable energy generation (such as wind), and will contributing to the geographic diversity of the electricity system as a whole and adding to its resilience. Overall, ECCA considers the proposal is consistent with the Proposed National Policy Statement on Renewable Electricity (September 2008), the Government Policy Statement on Electricity Governance (May 2009) and s.7 of the RMA.

[316] We have viewed a copy of the financial report on the proposal by financial consultants from Deloittes. The report indicated the economic viability of the proposal albeit subject to the future wholesale price of electricity.

[317] **Mr McLaughlin** and **Ms McCann** question whether there will be any benefit to local people, as workers with specialist skills will be brought in, and that there is no guarantee local power prices will reduce, especially if power is fed into the national grid.

[318] **Forest and Bird** noted, "*An indirect benefit of the scheme will be to reduce pressure to generate electricity from other rivers which have high biodiversity, recreation, landscape and other values".*

[319] The applicant states that the main positive environmental effect of the proposal will be the capture of up to 95% of the AMD contaminated water from coal mining activities on Stockton Plateau that currently discharges into the Ngakawau River. The s.42A report notes that degree of environmental benefit may be overstated by the applicant as AMD waters from the Stockton Mine are being progressively cleaned up as required by SENZ's CML and resource consent conditions.

[320] Another benefit will be of reduced flood risk to the Hector and Ngakawau communities.

[321] There will be some positive benefit from the upgrade of a section of the electric loco and the provision of interpretive information at the Weka reservoirs. The s.42A report notes this will improve the knowledge and understanding of the historic landscape and interpretation of the history of the Stockton Plateau, we agree.

OTHER MATTERS

Solid Energy NZ Ltd

[322] As noted above, Mr Mark Christensen, Mr Horn and Mr Pizey made submissions on behalf of SENZ and outlined the SENZ mining operation on the Stockton Plateau, together with current mining licences held. Their submission included an overview of the scope of existing water rights held by SENZ, together with the dependence of the company on those water rights, to enable SENZ to undertake their mining operations without constraint. Their submissions included the uncertainty of forward planning to quantify exactly what water volumes (from their existing water rights) would be required to undertake those mining activities.

Issues

[323] Their submissions included that the Hearings Committee must take into account the SENZ existing water rights and also consider the implications of future mining operations as a whole, over the entire CML and Mining Permit areas.

[324] **Mr Christensen** submitted that the conventional yard stick of "first come, first served" for determining the relative priority of competing applications could not be routinely applied in these circumstances to give HDL applications priority over any later SENZ applications. He referred to case law[3] examples to support his submission and considered that the "first come, first served" principle was too simplistic and that particular factual situations may require a more nuanced approach.

[325] Mr Christensen emphasised the Court of Appeal's decision[3] when they said there was an obvious public interest that the law should not frustrate a major and complex development that is in the process of obtaining the necessary approvals by allowing it to be trumped or significantly interfered with by later, smaller, simpler and inconsistent proposals that are able to be made comprehensively without need to proceed in stages.

[326] He further said the Court of Appeal [3] said it *"should prefer a policy that a complex scheme, which is reasonably presented in successive stages, should not be overridden by a simpler inconsistent scheme which, although presented as a comprehensive whole, is later in time. Any other decision would infringe fundamental policies of the RMA".*

[327] Mr Christensen submitted that *"unless a condition can be imposed to protect Solid Energy's mining operations over the life of the CML and MP (2028 and 2038 respectively), sustainable management of the natural and physical resources of the Stockton Plateau and Upper Waimangaroa areas cannot be achieved. Solid Energy is in the middle of major projects involving extracting coal within the areas of its CML and MP. Sustainable management requires that it is able to continue these projects in the most efficient and environmentally responsible manner, and not be at risk of them being interfered with by the HDL scheme. Moreover, Solid Energy's existing mining permits and water rights form a grant that should not be deliberately eroded by this Hearing Panel during its term by granting a permit to another person. This would be contrary to the principle of non-derogation. This principle supports Solid Energy's expectation that it will be able to fully utilise the coal resource over the life of the CML and MP in a manner that is consistent with the sustainable management requirements of the RMA."*

[328] Mr Christensen sought relief when he said "*Consents should only be granted to HDL if appropriate conditions can be imposed to ensure that its mining operations for the life of its CML and MP are not jeopardised. Such conditions would need to ensure that HDL's consents:*

[3] As encapsulated in the Court of Appeal decision of *Fleetwing Farms Ltd v Marlborough District Council* [1997] 3NZR257.

- *Are contingent on it securing any necessary permissions from Solid Energy in respect of access to its land and infrastructure;*

- *Will not derogate in any way from Solid Energy's existing mining and water related rights;*

- *Will not be inconsistent with or operate to constrain or affect Solid Energy's Millerton resource consent application; and*

- *Will not interfere in any way with Solid Energy's future mining operations during the life of the CML and MP, including the grant of resource consents that are determined to meet the requirements of the Act.*

[329] He provided a proposed condition to which he said would be acceptable to Solid Energy but emphasized that HDL would need to agree to such a condition being imposed, otherwise such a condition may be deemed to be invalid and *ultra vires*.

[330] **Mr Horn** reiterated much of Mr Christensen's evidence and refuted the statement made in the applicants AEE (page 19) that said "*Discussions with SENZ have confirmed that the construction and operation of the Project will not adversely affect the operation of the Stockton Mine*". Mr Horn said that unfortunately, he did not know the basis for this statement. There remain considerable unresolved issues about the impact of the HDL scheme on Solid Energy's existing operations he said.

[331] Mr Horn said that HDL will require SENZ access agreement to enter Solid Energy land in order to undertake many of the activities outlined in the proposal, including agreement for the realignment of the haul road around the Weka reservoir. He said that during initial discussions with HDL, SENZ had not categorically refused to provide access, but there had been no detailed discussions or assurances that access would be granted. Since lodging the SENZ submission, it had become apparent that the grant of consents was very likely to adversely affect SENZ's mining operation over the next 20 years.

[332] Mr Horn restated much of what Mr Christensen had said in regard to the effect of the HDL proposal on existing water consents, and noted that if SENZ exercised all of the current permits held, it would have implications for the HDL proposal, particularly in regard to water volume and location available to HDL. He explained the difficulties of detailed planning certainty, required for coal mining operations due to the many different factors encountered during mining operations, including those of coal blending and market volatility.

[333] The matters put to us, including the legal submissions, by the SENZ representatives, required us to seek legal advice, to enable us to come to a conclusion as to the degree of weighting which we should apply to those matters.

[334] The advice we received concurs with SENZ submissions that Solid Energy's existing water permits must be taken into account in assessing the HDL applications, whether or not SENZ is currently exercising them. The advice received however, disagrees with the submission that we must also consider the implications of the HDL application for consents which may be required by SENZ in the future, including the Millerton consents in respect of which applications were lodged by SENZ after the HDL application. This latter advice is based on there being no legal precedent upon which such a submission could be based and appears to be contrary to the line of authorities commencing with *Fleetwing Farms Ltd v Marlborough District Council [1997] 3 NZLR 257*.

[335] In the absence of such declarations, the advice we received clearly indicated that we would be acting contrary to existing law to have regard to SENZ's potential future activities that could only be enabled by consent, which have not yet been applied for and/or may never be granted.

[336] Turning to the matter of non-derogation from grant, we are advised that the principle of non-derogation from grant applies to prevent the grantor (i.e. the consent authority) from taking back with one hand (by way of a future grant to another party) what it has given to the grantee with the other hand. Where a grant has been made by way of a resource consent, the consent authority is left with no power to make a future grant to another party which would derogate from the original grant.

[337] If the consents, which HDL is seeking, derogated from existing consents which SENZ currently holds, we would not have the power to grant the HDL application. We understand however that the HDL consents would not, in fact, derogate from SENZ's current consents. **Mr Dall** of the WCRC provided us with an analysis of SENZ's current water rights in that respect, during the hearing. We note that neither Mr Christensen nor Mr Horn explained how HDL's proposal could realistically or otherwise adversely affect or substantially frustrate SENZ's ability to exercise its existing consents. We are at a loss to see how this can be the case given that HDL's proposed consents are effectively 'downstream' of SENZ Stockton coal mining licence/operation.

Evaluation

[338] We accept that SENZ's existing resource consents must be taken into account when assessing the HDL application, whether or not it is currently exercising them. We are further satisfied that we have received no specific evidence that HDL are proposing to constrain any legitimate mining activity, currently being undertaken or proposed to be undertaken by SENZ.

[339] Based on the independent legal advice sought, we do not accept the submission that we need to consider the implications of any future consents which may be required by SENZ including the Millerton consents, which we understand have been granted anyway.

[340] Based on the analysis of the SENZ's water rights provided to us by WCRC, during the hearing, we are satisfied that we have received no evidence that would indicate to us that HDL's proposed consents could (realistically or otherwise) adversely affect SENZ's ability to exercise its existing consents. On this basis the issue of derogation of SENZ's current water rights cannot apply.

[341] As an observation, we consider that if water volumes received by HDL are less than the volumes predicted, through taking, diverting or damming, (as opposed to consumption) by SENZ under their current legitimate water rights, then that is an operational risk which HDL need to weigh up.

Chapter 6 : MAIN FINDINGS OF FACT

[342] HDL has made application for 49 resource consents to WCRC and BDC to construct, operate and maintain a hydroelectric power scheme on the Stockton Plateau and at Granity.

[343] The Scheme will consist of diverting and capturing a number of watercourses, channeling the water via underground tunnels into two reservoirs contained behind roller compacted concrete dams, and discharging the water through two underground power stations, to an offshore diffuser approximately 600 m offshore into the CMA.

[344] The proposal generally (with the exception of access roading deviations and the Granity tunnel) will be outside the existing coal mining licence, and avoid any known coal deposits.

[345] It is intended that the bulk of the electricity generated (up to 240 GWh) is likely to be embedded into the local distribution system.

[346] By embedding the electricity into the local distribution network, the proposal will minimise transmission costs to local consumers and will add security and resilience to the local electricity supply.

[347] Much of the water on the Stockton Plateau is highly contaminated with AMD, which produces very low pH levels and low water quality in the receiving waters of the Ngakawau River and this ultimately reduces water quality in the CMA in the vicinity of the Ngakawau River or in the Ngakawau River estuary.

[348] It is accepted, that the scheme will be able to, by capturing up to 95% of the AMD contaminated water and diverting it directly to the sea offshore, improve significantly the freshwater quality of the Ngakawau River and estuary, but that the resulting water quality, is yet to be determined.

[349] The proposal will reduce flows in the Ngakawau River by up to 17%.

[350] While the exact configuration of the diffuser is unknown, it is accepted that the diffuser can be configured and modified to ensure that the discharge, after reasonable mixing, will meet ANZECC water quality guidelines and the requirements of s.107.

[351] Some parts of historical mining heritage features will be inundated, however the proposal to collect and display archaeological artefacts and information, will result in improvements to understanding and knowledge of the mining history of the area. Based on the mitigation proffered and conditions imposed, we consider that overall the adverse effects on heritage values will be minor.

[352] Removal of up to 80 ha of indigenous vegetation to create the proposed reservoirs, will result in a similar inundation and loss of fernbird habitat. Based however on the mitigation proffered and additional requirements, the proposal is likely to have a minor effect on the local population.

[353] In general terms we consider the proposal is unlikely to have more than a minor effect on the existing ecology.

[354] The proposal will not adversely affect public access to and along the coastal marine area (CMA) or existing public access to the Stockton Plateau and surrounding conservation land.

[355] The Ngakawau Ecological Area will not be adversely by the proposal.

[356] The proposal is consistent with the Government's Proposed National Policy Statement on Renewable Electricity (September 2008), the Government Policy Statement on Electricity Governance (May 2009) and s.7 of the RMA.

[357] We have also examined the effects of the proposal on the hydrology of the surrounding catchment – principally the Ngakawau River and its various tributaries. While we have some residual concern about potential adverse effects from prolonged dry spells, we believe conditions can be imposed to ensure that any such effects can be appropriately mitigated.

[358] Part of the proposal includes a 'land swap' with the Department of Conservation as compensation for the land area affected by the proposal, for an area of coastal lowland forest with high conservation value.

[359] Amenity values of Granity residents will be affected, during the construction period.

[360] Construction costs are estimated to be $200 million and will result in the creation of 50 jobs over a 4-5 year period.

[361] An independent financial review identified that the proposal appears viable as a standalone electricity generation project, but the review also noted that the economics would be significantly enhanced if

contributions for avoided water treatment costs, can be secured and/or output can be sold on contract, to large local consumers. The future wholesale price of electricity was also noted as an economic determinant.

[362] In our examination of the effects of the proposal on traffic we concluded that any adverse effects on the roading network would be less than minor and that any traffic matters that concern the residents of Granity can be dealt with through a Community Liaison Group.

[363] While we were generally satisfied with the applicant's evidence concerning natural hazards and engineering risk, we considered that the dam failure risks should be reassessed and the inundation maps reviewed once the final design has been completed.

[364] As required by s.7(i) we have considered the effects of climate change on the proposal. We were not presented with evidence to suggest that there would be any adverse effects as a result of climate change. Such matters as the potential effects of increased rainfall and accelerating sea level rise can be considered during the final design phase.

[365] There is no evidence to suggest the proposal will have any adverse effects on Tangata Whenua values.

Chapter 7 : STATUTORY PROVISIONS

OVERVIEW

[366] Amongst the various documents supplied to us, helpful guidance as to the statutory criteria that we are required to apply, and the parts of particular plans and policy statements that are relevant to the application, was provided by HDL and in the s.42A report prepared for WCRC and BDC.

[367] In providing planning assistance for the Applicant, **Ms Inwood** addressed the relevant sections of the RMA including Part 2 matters and s.104 considerations. She also assessed the relevant parts of the New Zealand Coastal Policy Statement 1994, together with the West Coast Regional Policy Statement (RPS). She assessed the policy framework and the consents status of the proposal under the Regional Coastal Plan, the Proposed Water Management Plan, the Proposed Regional Land and Riverbed Management Plan, the Regional Plan for Discharges to Land, the Regional Air Quality Plan and BDC's District Plan. Under 'Other Relevant Matters' she reviewed the New Zealand Energy Efficiency and Conservation Strategy 2007, the Proposed National Policy Statement on Electricity Generation, and the Proposed National Policy Statement for Freshwater Management.

[368] As a general overview, we consider that Ms Inwood agreed with the findings in the s.42A report with only a small number of differences, which we will discuss further below.

[369] The officers' s.42A report also examined the relevant objectives and policies and separate plans outlined above, and included a review of the proposal against the National Policy Statement on Electricity Transmission, the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007, the Resource Management (National Environmental Standards Relating to Certain Air pollutants, Dioxins, and other Toxics) Regulations 2004, the National Biodiversity Strategy, the Te Runanga o Ngai Tahu Freshwater Policy, the Ngai Tahu (Pounamu Vesting) Act 1997, the Conservation Management Strategy and the National Energy Strategy.

[370] In our own determination of this application we have, in Chapter 5 of this decision, considered the effects of the proposal in some detail. We do not propose to repeat that here and nor do we intend to provide a detailed analysis of the evidence with respect to statutory provisions and planning documents. Instead, the following presents a summary of our analysis of the ways in which statutory provisions have been applied in reaching our decision.

SECTION 104D

[371] HDL has lodged a combined total of 49 resource consent applications to WCRC and BDC.

[372] Included within these applications are 42 to the WCRC and 7 to BDC. All the WCRC resource consent applications are discretionary, restricted discretionary, controlled, or restricted coastal activities, while applications to BDC consist of controlled, restricted discretionary, discretionary, and several non-complying activities.

[373] Non-complying activities, include the height of dams (buildings), noise levels, hours of operation, and disturbing by inundation a section of historic electric loco line. On the basis that it has been accepted by all parties that this is an appropriate case where all the consents are 'bundled' together and the overall proposal assessed as a non-complying activity, we have considered the entire suite of consents , pursuant to s.104D of the Act, in this way.

[374] Section 104D (which is set out below) outlines the process that consent authorities are required to follow when considering an application for a non-complying activity, prior to undertaking an assessment under s.104. It sets out two threshold test as an 'either or' gateway test, meaning that if an application passes either threshold, it may proceed to an assessment under s.104. An application is not required to meet both threshold tests.

[375] ***Section 104D***

(1) Despite any decision made for the purpose of section 93 in relation to minor effects, a consent authority may grant a resource consent for a non-complying activity only if it is satisfied that either—

(a) the adverse effects of the activity on the environment (other than any effect to which section 104(3)(b) applies) will be minor; or

(b) the application is for an activity that will not be contrary to the objectives and policies of—

(i) the relevant plan, if there is a plan but no proposed plan in respect of the activity; or

(ii) the relevant proposed plan, if there is a proposed plan but no relevant plan in respect of the activity; or

(iii) both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity.

(2) To avoid doubt, section 104(2) applies to the determination of an application for a non-complying activity.

[376] The first threshold test is to consider whether or not the applications meet the requirement of s.104D(1)(a) in that the adverse effects on the environment will be minor. Ms Inwood considered that after evaluating part 5 of her evidence, and assessing the various mitigation measures proposed, her view is that the adverse effects of the proposal as a whole were less than minor, and on this basis the applications passed the first threshold test in s.104D(1)(a).

[377] The initial conclusions of the s.42A report stated that the Council officers had difficulty in reaching an overall judgement as to whether the adverse effects on the environment will be more than minor, and listed 14 matters which they and the technical reviewers, concluded that further information was required, to enable a full assessment of the effects to be undertaken. The two Council officers each provided a further addendum to their report immediately prior to the Applicant's 'right of reply'. **Ms Bayley** said that in terms of s.104D(1)(a), the technical reviewers were still of the opinion that the adverse effects of the proposal will be more than minor, in terms of the effects of the inundation of a section of the historical electric loco line, and in terms of the loss of habitat for fernbirds.

[378] The BDP contains a number of registered historic sites in the vicinity of the proposal. One of the sites investigated by **Ms Watson** (HDL's archaeologist), and included in the BDP as a historic site, was identified as being the first electric locomotive line in New Zealand, making the line nationally significant. This view was shared by both the New Zealand Historic Places Trust and by **Ms Barr**. As noted in the Heritage Values section above, the proposal intends to inundate part of that line.

In the absence of appropriate mitigation, we consider that the partial inundation of such a significant site, would be more than minor.

[379] **Mr Turner** in his Terrestrial Ecology report, considered that based on the Waybacks and Wildlife Surveys report commissioned by HDL, that up to 96 pairs of fernbirds, will be impacted by the flooding of the two reservoirs. This may result in a reduction of available habitat and a likely reduction in breeding population of the species. In his opinion, Mr Turner considered that such an effect, to be more than minor.

[380] In making an overall assessment of the adverse effects on the environment of the proposal, in the absence of appropriate mitigation measures, we concur with the above views and consider that the proposal will have a more than minor effect on both the electric loco line and the loss of fernbird habitat. However, in consideration of the mitigation proffered by the applicant and the imposition of appropriate consent conditions, we are satisfied that overall the adverse effects of the proposal are likely to be minor and the application would pass the first threshold test of s. 104D(1)(a).

[381] We now turn to the second threshold test in s.104D(1)(b).

[382] Ms Bayley in her addenda, concluded that both the inundation of part of the electric loco line, together with loss of fernbird habitat were contrary to two of the 81 policies and objectives of the BDP. However she considered that the proposed mitigation to investigate, record and publicly display facts on the mining heritage will improve the knowledge of the importance of the Stockton Plateau to the District. She said however, that the loss of fernbird habitat would not be provided for with adequate mitigation according to Mr Turner. She also said that the balance of effects on terrestrial ecology and landscape issues are considered to be consistent with the plan. When viewed as a whole, she considered that the proposal does not contravene the policies and objectives of the BDP, and would therefore pass the second threshold test of s.104D(1)(b).

[383] Ms Inwood, in her closing submission noted and agreed with the officer's view, that the proposal passed the second threshold test of s.104D(1)(b).

[384] We note that the policies and objectives of the BDP are listed under 10 separate group headings which we have used to summarise our findings below:

Infrastructure

[385] The proposal will utilise the existing roading infrastructure for access to and from the site proposal and will also require access to private road on the Stockton Plateau, with the landowners consent. Access to cross the railway line appears to have been provided from NZ Railways Corporation and the NZ Transport Agency have indicated that there do not appear to be any major issues with the micro-tunnel under the State

Highway. The internal road on the Stockton Plateau will be required to be extended and redirected with the consent of SENZ. The proposal will require additional electricity and telephone lines to the existing services. We consider the proposal is not contrary to this group of policies or objectives.

The Built Environment

[386] The proposal could have adverse effects on buildings in the Granity area particularly where the micro-tunnel passes under and close to, historic buildings through settlement. Care during tunneling, together with a pre and post construction assessment survey is proposed, with an undertaking to rectify any adverse effects. Noise, vibration, glare, traffic movements and emissions are potentially likely to impact on the Granity community. Conditions and specific design are intended to minimise any such adverse effects. We consider that providing consent conditions are met, there does not appear to be any reason to believe that the proposal will be contrary to this group of policies or objectives.

Rural Land and Water Resource

[387] Water quality in most of the watercourses on the Stockton Plateau is significantly contaminated by AMD. The proposal will intercept up to 95% of this AMD water and redirect it through two lake reservoirs and power stations, before discharging the contaminated water offshore. This should result in significantly improved water quality in the Ngakawau River and estuary, and should improve the health of aquatic ecosystems by improving the life-supporting capacity of the water. Although the application does not quantify the degree of water quality improvement anticipated, it is accepted that any removal of AMD water from the Ngakawau River will be an improvement. While it is acknowledged that the interception of water will result in a reduction of flow volumes into the Ngakawau River, we consider the proposal does not appear to compromise the potential mining productivity of the Plateau or the recreational values of the River. We accept that it is possible that the offshore discharge may result in a visible plume at the point of discharge, but consider it is unlikely this will occur outside the proposed mixing zone (i.e after reasonable mixing). On the basis of the evidence before us, we are satisfied that there is no reason to believe that the proposal will be contrary to this group of policies and objectives.

Mineral Resources

[388] Rock from the footprints of the proposed reservoirs will provide sufficient quality and quantity of aggregate to create the proposed RCC dams. Sediment transfer towards these reservoirs will be intercepted through silt traps, and extracted for remediation work following mining cessation. Rehabilitation plantings will be sourced from local supplies and is likely to be 'directly transferred'. Evidence provided, indicates that the activity will be located outside known coal resources. We

consider there does not appear to be any evidence that would indicate that the proposal is contrary to this group of policies or objectives.

Cultural/Historic Resources

[389] The aim of Objective 4.6.7.1 of this group, is - "*To protect places and sites of historic and cultural value from the adverse effects of land use activities and to ensure where appropriate, access to historic and cultural sites is maintained and enhanced",* and the related policies contain similar protection and evaluation requirements. While we consider inundation of part of the electric loco line is contrary to the protection intent of this objective, we are mindful that existing access to this section is difficult. If the applicant had not cleared this section of the line and guide us to it, we doubt it could be accessed or appreciated by anyone. We acknowledge that an 'accidental discovery protocol' is proposed, but are of the view that such a protocol does not go sufficiently far enough, to provide the level of protection required of this objective, of known historic sites.

[390] Ms Bayley in her addendum, concluded that the proposed mitigation to investigate record and publicly display facts on the mining heritage will improve knowledge of the importance of the historical mining activity on the Stockton Plateau to the District. On this basis she said, the proposal would not be contrary to this group of policies and objectives. While we generally agree with this conclusion, we note that partial inundation of the electric loco line is not consistent with the aim of protecting a historical site. However, given that access to the site will be provided for and enhanced, the proposal cannot be considered as contrary to the objective 4.6.7.1.

The Coastal Environment

[391] While the proposal will result in some changes to the coastal environment, principally from the ocean offshore diffuser, we consider the proposal will have little visible surface effects other than a possible plume around the diffuser when viewed from an elevated position. We note however the views of **Dr Conwell** and **Mr Barter** in their Cawthron report summary, when they said that "*It is likely that fish species and other highly mobile biota will largely avoid any significant plume in the immediate vicinity of the discharge".* This view does not however appear to be supported by **Dr Webster–Brown** of Opus in her technical review when she said that there was insufficient water quality monitoring data for the streams and river systems to provide other than an indicative opinion.

[392] Dr Webster–Brown said that it was not known if the discharge of the reservoir water would produce an extensive visible plume or provide improvements in water quality which would improve an environment capable of sustaining fish and better water quality. We however, accept that this AMD contaminated water is currently being discharged via the Ngakawau River to the CMA, where it is mixed and diluted further by the

sea. The proposal does not increase the level or type of contaminants discharged into the sea, but rather relocates the point of discharge to offshore, bypassing the Ngakawau River and the inshore coastal environment. The applicant accepts the requirement to meet ANZECC (1992) water quality guidelines after reasonable mixing, and has demonstrated design solutions which can be implemented to enhance dispersion, if compliance proves difficult. We note that Dr Webster - Brown recommended a number of additional consent conditions intended to address her concerns, and are satisfied that appropriate limits and standards can be imposed to ensure any adverse effect on the CMA will be minor. We are therefore of the view that the proposal will not be contrary to this group of policies and objectives.

Ecosystems and Natural Habitats

[393] It is accepted that the proposal will result in the loss of approximately 80 ha of coal measure indigenous vegetation in the footprints of the two reservoirs. The AEE asserts that the indigenous vegetation to be lost is not 'significant' when assessed against the BDP criteria for assessing significant vegetation. This finding is based on the **Norton** and **Roper–Lindsay** (1997) report, which on the basis of that report excluded a large part of vegetation from the Ngakawau Ecological Area. **Mr Nichol** and **Mr Turner** share similar views that the effects on fauna are likely to be no more than minor. To mitigate the vegetation losses, HDL has proposed a land swap with DoC, for a parcel of land which is lowland coastal forest and is considered to be of greater value than the land to be inundated. The Council officers' s.42A report accepts that even though the values are not 'like for like' habitat, the land swap will be an acceptable offset due to the relative scarcity of good quality lowland forests. It is accepted that habitat of fernbirds, kiwi, lizards and possibly *powelliphanta* snail will be lost.

[394] Mr Turner considers that the loss of fernbird habitat is most significant and difficult to mitigate. We do note however that **Mr Buckingham** and **Mr Charteris** in their Wildlfe Survey and Waybacks Terrestrial Fauna report, do not appear to have the same level of concern for the fernbird as those of Mr Turner when they said "*That the potential impact on fernbirds - the most abundant species of conservation significance within the footprint area - are small and unlikely to have any measureable effect on the local population of fernbirds on the Stockton Plateau*".

[395] The Department of Conservation in its letter dated 6 July 2009, when they withdrew its wish to be heard, noted that 100 pairs of fernbirds would be disturbed, but said in its conclusions that there needed to be comprehensive conditions to avoid, remedy or mitigate the adverse effects of the proposal. At this point we pause to note the Department's reference to fernbirds being 'disturbed' rather than 'lost' or 'reduced' as otherwise implied. They later said that through their assessment, the Department has established that these values will not be adversely affected if managed appropriately. While we accept that these are

general comments, DoC do not appear to have the same level of concern about fernbirds, that Mr Turner has.

[396] We accept that while the loss of 80 ha of indigenous vegetation is a relatively large area, we also accept that this vegetation is not 'significant' in terms of the provisions of s.6(c) or when assessed against the criteria set out for this purpose, within policy 4.8.7 of the BDP, and that it was specifically excluded from the Ngakawau Ecological Area. We also consider that the proposed 'land swap' is appropriate compensation for the habitat to be inundated. We have not applied the same degree of emphasis to the 'disturbance of fernbirds' as that of Mr Turner, and consider that the fernbirds (and other fauna) although disturbed, will relocate to adjoining areas and that any disturbance is unlikely to have long lasting effects. Overall we are of the view that this proposal is not contrary to this group of policies and objectives.

Landscapes and Natural Features

[397] Stockton Plateau is a highly modified environment from past and current mining activity. While the creation of two reservoirs on the Plateau will be different to the existing landscape, we are of the view that the reservoirs and dams will not be inconsistent with current landscapes, especially in light of current mining activity. Additional transmission lines will be visible, but again we do not consider that these will be an intrusion into the landscapes given the existing environment. We accept that after completion of the construction proposal, the only visible effects at Granity, will be the portal and access ramp and we do not consider in a built environment, that these will result in a significant alteration to landscape character. We note that there are no specific Outstanding Landscapes or Features included in the BDP, and are mindful of the Environment Court's decision in *Solid Energy NZ Ltd et al v WCRC and BDC C074/05 (2005)*, which determined that the Stockton Plateau was not an outstanding landscape. Having considered the evidence present, we are of the view the proposal is not contrary to this group of policies and objectives.

Natural Hazards

[398] The townships of Ngakawau and Hector are subjected to regular low level flooding from the waters of the Ngakawau River. In the event of a dam failure, there could be an increase in the risk of flooding and property damage to those towns. A modelled dam break risk assessment, has been carried out, however this was based on an earth dam and since that time the dam has been changed to a concrete dam with a higher level, for which no specific modeling has been carried out. The applicant has advised that as RCC dams have a much higher stability factor and greater strength, they are less likely to fail than the modelled earth dam. HDL advised that they did not believe that any further purpose will be served by undertaking further dam break analysis on theoretical RCC structures. **Mr Connell** of Damwatch has questioned the extent of the geological investigations undertaken to ensure that the

proposed RCC dams are constructed on competent hard rock foundations. **Mr McMorran** and **Ms Coulter** of URS said in their Dam Concept Design report that "*It is likely that the two dam sites have rock of a reasonably high quality close to the surface, in which case they will both be suitable for the construction of RCC dams.*"

[399] **Mr Minson** in his Potential Effects of Dam Breach report, concluded that the effects of a dam breach are in the same order of magnitude, as a Probable Maximum Flood for the Ngakawau River and would be unlikely to occur with an appropriately engineered structure. From these comments we have concluded that a dam breach would result in no greater effect, than a naturally occurring maximum flood in the Ngakawau River. We subsequently consider that the proposal is not contrary to this group of policies and objectives.

Hazardous Substances

[400] HDL will store, transport and use hazardous substances on the project, and will comply with the provisions of the Hazardous Substances and New Organisms Act. There will be a requirement for the provided storage facilities to be certified by a Hazardous Site Certifier and on this basis the proposal is considered to be not contrary to this group of policies and objectives.

[401] As an overall assessment we are satisfied that the proposal is not contrary to the policies and objectives of the Buller District Plan as a whole, and therefore the application also passes the second threshold test of s. 104D(1)(b)(i) and may be further assessed under s.104 and part 2 of the Act.

SECTION 104

[402] S.104, which provides a suite of matters that are to be considered before a decision is made on a resource consent application, and places Part 2 of the RMA as the primary matter for consideration. All considerations in s.104 are subject to Part 2.

[403] Section 5 (Part 2) of the RMA states:

> *(1) The purpose of the Act is to promote the sustainable management of natural and physical resources.*
>
> *(2) In this Act "sustainable management" means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while –*
>
> *(a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*

(b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

[404] These clauses (s.5(1) and s.5(2)) are the very essence of the RMA. In arriving at a decision we are bound to determine whether or not the proposal, overall, is consistent with the single purpose of the Act in terms of these two clauses.

[405] The applicant has stated that the proposal will enable a freely available, non-depleting, natural resource of previously contaminated AMD water to be collected, channelled and stored into two reservoirs, directed through underground tunnels and associated underground power stations to eventually be discharged through an offshore diffuser to the sea. This proposal will help meet the nation's need for sustainable electricity generation and, in doing so, it will also help to reduce greenhouse gas emissions by offsetting the need to burn fossil fuels to generate electricity. The proposal will divert AMD contaminated water away from the Ngakawau River resulting in an improvement of the water quality.

[406] As such, it can be said that the proposal, insofar as it promotes the sustainable management of natural and physical resources, is consistent with the purpose of the RMA. However, the sustainable management aspects of the proposal must be considered in light of s.5(2) in conjunction with the range of other matters in Part 2.

[407] S.6*(a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development.* We accept that the natural character of the coastal environment will be preserved by ensuring the discharge meets appropriate consent limits and standards, and s.107 requirements. Although there appears to be a slight risk that a visible plume may be created at the point of discharge, we consider the applicant has sufficient design options to remedy the situation and enhance dispersion. We are satisfied that reduced flow in the Ngakawau River will not adversely impact on its natural character, and consider any improvement in water quality will greatly enhance its natural character.

[408] S.6(b) *The protection of outstanding natural features and landscapes from inappropriate subdivision, use and development.* The BDC's district wide assessment of outstanding natural features and landscapes has not been completed and therefore each application must be considered on its merits. The Environment Court's decision in *Solid Energy New Zealand Limited et al v West Coast RC and Buller DC* C074/05 (2005) concluded that while some sub-units of the landscape have very high values, overall the Stockton mine site was not part of an outstanding natural landscape

due to the amount of human interaction from past and present mining activities. The Scheme is located within this landscape, and the proposed reservoirs are located on areas impacted by previous mining activities, rather than on unmodified land, and as such, the naturalness of the site is considered to be reduced. The proposal to include tunnels and locate the power stations underground mitigates and avoids adverse effects on the existing natural features and landscape. We consider that the proposal will not compromise landscape values and is not inappropriate use and development of the area.

[409] *S.6(c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna.* Although the area of indigenous vegetation being affected by the proposal is relatively large, 80ha, the cumulative effect of the loss of vegetation and habitat needs to be considered. The proposal will affect a cedar association, of which little is known about its distribution within the Ngakawau Ecological District, so the effects of its loss are unable to be robustly assessed. The proposal will also result in the reduction of red tussock communities associated with wetlands. However HDL have proposed a 'land swap' with the DoC of a similar area of high quality lowland forest which is considered to have higher conservation values than the area proposed to be inundated. There are a number of different species of indigenous fauna, which habitat will be disturbed. Most of these species can either be expected to relocate, or can be assisted in relocation which in our opinion will result in few adverse effects.

[410] *S.6(d) The maintenance and enhancement of public access to and along the coastal marine area."* The proposal will not impede any public access to or along the coastline or within the coastal marine area.

[411] *S.6(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.* A CIA that was to be presented as part of the application, detailing the relationship of Ngati Waewae with the Ngakawau River and their concerns in regard to the impact of the Scheme on their cultural values and traditions has not been forthcoming, and we note HDL's attempts to obtain one have been unsuccessful. However, consideration has been given to the SENZ Cypress Mine CIA, for the area that adjoins the site and we note the policies and outcomes identified in the CIA are not able to be easily extrapolated for this proposal. In recognition of the relationship of Maori with the area, the application was served on five iwi affiliated with the Buller District. No submissions were received. Nothing within the s.42A report alerted us to any other cultural matters about which we should be concerned and, in light of the lack of evidence presented to us, we have concluded that the relationship of Maori and their culture and traditions will not be adversely affected by the proposal, to any significant extent.

[412] *S.6(f) The protection of historic heritage from inappropriate subdivision, use and development."* The application area contains historic heritage,

from mining activities and associated access routes and settlements. HDL proposes to investigate the application area prior to inundation and to record information gathered. The applicant also proposes to erect interpretative panels explaining the historic heritage of the area, and to display any artefacts found during construction.

[413] There is no information on the potential effects of the construction, in particular the tunneling and micro-tunnelling on the built heritage at Granity. Concerns have been expressed that tunneling and vibrations from tunneling may cause historic buildings to subside. To avoid any adverse effects the applicant has proposed to undertake pre and post construction surveys of the buildings in the immediate area, and has undertaken to remedy any damage created as a result of tunneling activity.

[414] There is agreement between the applicant's archaeologist and Councils' technical expert that the electric loco line is nationally significant and they agree that the proposed Weka dam, reservoir and relocated haul road will have significant adverse effects on a section of the electric loco line. These views are contrary to those of the applicant, who consider this section of line to be of little value given its poor condition and inaccessibility.

[415] Further similar evidence was received from the Historic Places Trust (NZHPT) who also considers the electric loco line to be of national significance and should be protected. The NZHPT (at para 26 of Mr McClean's evidence) obtained an estimate of costs from Tonkin & Taylor Ltd to have this section of the electric loco line, excluded from inundation. However the applicant strongly refutes both the costs of excluding the electric loco line and the feasibility of doing so. In our view the applicant has presented a rational detailed analysis of expected costs, together with an engineered explanation as to why excluding the portion of electric loco line from inundation was not a feasible variation to the financial success of the scheme.

[416] We do however note that within the second addenda report to the s.42A report, that the Council officers recommend a further condition amendment which could include in the proposed 'land swap', a section of electric loco line from the haul road to 'A' portal which could enable the electric loco line to be reinstated, and therefore mitigating the inundation effects of the proposal. The subsequent recommendation is such that if this portion of electric loco line is not included in the mitigation package, then the effects without this mitigation measure, are still considered by the expert to be more than minor, and this specific consent should be declined. However the applicant is opposed to this condition variation in recognition that such a condition cannot be placed on a third party owner, being DoC. We have discussed this matter in Paragraph 279 above and incorporated a condition [to RC08/131G]to the effect that we are satisfied that the condition outlined will provide an appropriate level of mitigation to this adverse effect.

[417] We agree that this section of electric loco line is overgrown and inaccessible, but note the outline of the entire line remains visible and that the tunnels appear to be in a good state of repair. Without the applicant having cut a track through the overgrowth, the electric loco line would simply not be navigable. We are acutely aware that the current historical remnants left 'on the ground' are difficult to locate, and are in a very poor state of repair, with many timber structures almost completely decayed, or previously destroyed. We are of the opinion that if the proposal does not proceed, and no one party takes ownership of them, the remaining remnants will eventually simply deteriorate to such a degree, that in time, there will be no visible remains left. We consider that simply registering such historical remnants into a district plan, or under the Historic Places Trust, does absolutely nothing towards providing an adequate level of protection required, to enable these remnants to be protected, and made accessible for future generations to understand the historical significance of them.

[418] While we have not received any evidence as to possible adverse effects or 'incompatibility' of tunneling close to historic buildings in the Granity area, as implied by NZHPT, we are of the view that with the 'jacking of pipes' into the tunnel excavation there is unlikely to be any significant degree of differential settlement, and that if any damage that does occur, it will be remedied by the applicant.

Summary

[419] Overall, in consideration of the mitigation proffered by the applicant and imposition of the mitigation we consider appropriate, we are satisfied that the proposal is not inappropriate recognizing the extensive mining modification on the Plateau, and any adverse effects on the heritage value of the electric loco line will be no more than minor.

s.6(g)The protection of recognised customary activities.

[420] We have concluded in s.6(e) that there was nothing within the s.42A report that alerted us to any cultural matters. We are of a similar view with regard to customary activities and note that iwi groups have not raised any such matters with us, despite being directly notified of the applications.

[421] Other matters we are required to have particular regard to are provided in Section 7 of the RMA as follows:

[422] *S.7(a) "Kaitiakitanga"* - Issues relating to *tangata whenua* were canvassed in paragraphs 136 -142. There were no particular matters of concern raised relating to kaitiakitanga in the evidence we heard.

[423] *S.7(aa) The ethic of stewardship: W*e are satisfied that much of the land on which historical remnants remain, will continue to remain in DoC ownership. However some of the proposed areas to be included into a 'land swap,' do contain historical remnants and we are satisfied that

appropriate conditions imposed on new owners of the land, will preserve stewardship values.

[424] *S.7(b) The efficient use and development of natural and physical resources:* From the evidence presented to us we are left in little doubt that the proposal meets the requirements of s.7(b).

[425] *S.7(ba) The efficiency of the end use of energy:* Although this application is concerned with the generation of electricity, rather than its utilization, we understand and accept that the proposal to supply electricity directly into the local or national network, will lead to substantial reductions in transmission losses with possibly reduced costs, particularly to West Coast communities.

[426] *S.7(c) The maintenance and enhancement of amenity values:* This matter has been canvassed in our deliberation of Principal Issues in Chapter 5 under Amenity Values, Traffic, Heritage Values Public Access and Recreation Activities where we considered the individual effects of amenity.

[427] *S.7(d) Intrinsic value of ecosystems:* We have had regard to ecosystems under Ecology and Water Quality above.

[428] *S.7(e)* Repealed.

[429] *S.7(f) Maintenance and enhancement of the quality of the environment:* The effects of the proposal on the environment have been examined throughout Chapter 5 of this decision.

[430] *S.7(g) Any finite characteristics of natural and physical resources:* We were not made aware of any finite natural or physical resource that would be directly affected by this proposal although Ms Inwood, in her submission on behalf of the applicant, did point out to us that the proposed hydro scheme was consistent with Government objectives and policies of ensuring the utilization of renewable resources for energy generation as opposed to the use of fossil fuels. The AEE also addressed the benefits of the scheme towards meeting the Governments action plan laid out within the New Zealand Energy Efficiency and Conservation Strategy towards meeting renewable energy targets by 2025.

[431] *S.7(h) The protection of the habitat of trout and salmon:* We have received no specific evidence that the waters of the Stockton plateau or the Ngakawau River, contained or supported abundant aquatic ecological values or fish species. This is largely due to the contamination effects of AMD on water quality. Recognising that one of the key objectives of the proposal is to restore water quality in the Ngakawau River and estuary, we are of the opinion that the proposal, by improving

water quality, is likely to enhance the river habitat which could possibly over time, result in an increase in fish life to the river.

[432] *S.7(i) The effects of climate change:* We have had regard to the effects of climate change in Chapter 5 where we concluded that appropriate allowances for effects such as increased rainfall and sea level rise can be made during the final design stage.

[433] *S.7(j) The benefits to be derived from the use and development of renewable energy:* We have canvassed the positive benefits of the proposal in Chapter 5 under Positive Effects and we are satisfied that the proposal will result in significant positive environmental effects and economic benefits by reducing greenhouse gas emissions, improving the security of electricity supply, and reducing transmission losses.

[434] *S.8 Principles of the Treaty of Waitangi (Te Tiriti o Waitangi):* The effect of the proposal on *tangata whenua* was discussed in paragraphs 136-142 above. We have concluded that Treaty of Waitangi principles will not be compromised by this proposal.

[435] *s.104 Matters to be considered —*

S.104(1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to —
(a) Any actual and potential effects on the environment of allowing the activity: The application and the submissions in response, covered a range of issues that were generally summarised in the s.42A report. The key issues concerning the actual and potential effects of the proposal have been identified during this process and examined throughout this decision.

(b) Any relevant provisions of a national policy statement; New Zealand coastal policy statement; a regional policy statement or a proposed regional policy statement; a plan or proposed plan:

(i) **New Zealand Coastal Policy Statement 1994 (NZCPS)**

[436] The relevant NZCPS is that approved by the Minister in 1994. While a proposed NZCPS (2008) has been notified, we consider that this, as yet, has no status.

[437] The NZCPS sets out provisions for management of the coastal environment, which includes not only the CMA but also land that is affected by coastal processes. Whilst the coastal environment is not defined by a line on a map, the discharge from the ocean outfall and the micro-tunnel itself are clearly located within the coastal environment. The construction site and Granity portal are also within the coastal environment, in so far as they are affected by coastal processes such as

salt spray. We note there will be no construction activities along the foreshore at Granity.

[438] The area of the application which triggers an assessment under the NZCPS is the Granity site and the proposed discharge of AMD water into the CMA. The Granity site is already a modified environment, located in the township of Granity with no outstanding areas of landscape or habitat. The main works are located above the township, in front of and within the Granity Tunnel. No above ground works are proposed along the foreshore. The proposed works will however be directly linked to the coastal environment by the micro-tunnel and ocean outfall diffuser. Neither of which will be visible at ground level or above the water line. It is therefore considered that in the long term there will be little visual change to the coastal environment.

[439] All the proposed activities are classified as discretionary under the Regional Coastal Plan (RCP), and the Consent Authority can impose consent conditions that set limits and standards and require ongoing monitoring of any actual environmental effects. Construction of the micro-tunnel is classified as a RCA under the provisions of both the Regional Coastal Plan and the NZCPS because of the length of the structure. This allows the Minister of Conservation, as the Delegated Authority, to grant and impose consent conditions on this consent to ensure any adverse effects are adequately avoided, remedied and mitigated.

[440] We have considered the conclusion of the Council officers contained within the s.42A report that the effects on the coastal environment are likely to be minor. The Council officers have recommended to us that we recommend the granting of coastal permit RC08149/2 to the Minister. We agree with this recommendation and consider that the proposal is consistent with the provisions of the NZCPS.

(ii) **West Coast Regional Policy Statement 2000 (RPS)**

[441] The RPS became operative on 10 March 2000. The RPS provides an overview of the resource management issues for the West Coast Region and sets out ways of achieving integrated management of its natural and physical resources. The s.42A report provided a list of the objectives and policies relevant to the proposal and assessed the proposal against each of those objectives and policies.

[442] Of the 10 applicable sections of the RPS, there appears to be only one policy that the proposal is partly inconsistent with, and this relates to the partial inundation of the historic electric loco line. We have had regard to the various policies and objectives bought to our attention with regard to the principal issues discussed and accept the analysis of the s.42A report and the applicant, that the proposal is consistent with these other RPS provisions.

(iii) **Proposed Water Management Plan**

[443] The Proposed Water Management Plan (PWMP) was notified in March 2004 and decisions on the Plan were released in March 2006. The purpose of the PWMP is to provide a framework for the integrated and sustainable management of the region's lakes, rivers, groundwater, wetlands and geothermal water.

[444] The s.42A report provided a list of the relevant objectives and policies applicable to the proposal applied and assessed the proposal against each of those objectives and policies.

[445] The s.42A report identified that the effects on groundwater from the proposed scheme were not completely known, including any specific impacts on hydraulic pressure within groundwater immediately downstream of the dam sites. The site dewatering required to construct the dams will impact on groundwater levels, due to hydraulic connection to the creeks and streams in the area. The surface waters have high acidity and subsurface rock in the area is of a highly fractured nature, however there are no known abstractions of groundwater in the area.

[446] Many people in the Granity community rely on groundwater seeps from the escarpment behind the settlement, for their drinking water supply. It is not thought that the tunneling activities will adversely impact on these sources, but HDL has indicated that it will supply an alternate source of drinking water should it be found that adverse effects are occurring.

[447] We therefore accept the s.42A report and the applicant's conclusions that there are no conflicts with the objectives and policies of this section of the PWMP.

(iv) **Proposed Regional Land and Riverbed Management Plan**

[448] The Proposed Regional Land and Riverbed Management Plan (PLRMP) was notified in March 2004. There are still outstanding appeals relating to the PLRMP and since notification, a variation to the PLRMP concerning wetlands has been notified. However there are no outstanding appeals which affect consideration of this proposal.

[449] The s.42A report provided a list of the relevant objectives and policies applicable to the proposal and assessed the proposal against each of those objectives and policies.

[450] The applicant's AEE considered land stability matters, particularly in regard to the tunneling, potential effects on infrastructure, bed and bank stability and water quality. The WCRC review highlighted several outstanding matters and recommended that a number of management

plans be prepared to ensure any potential effects are appropriately managed.

[451] We accept the assessment of effects on natural character and concur with the conclusions that any adverse effects will be minor, as much of the area is already highly impacted by mining activities and AMD.

(v) **Regional Plan for Discharges to Land**

[452] The Regional Plan for Discharges to Land (RPDL) was made operative in April 2002. It manages the adverse environmental effects of discharges to land including, for example, stormwater discharges (liquid contaminants) and discharges from stockpiles and spoil areas (solid contaminants).

[453] The s.42A report provided a list of the relevant objectives and policies applicable to the proposal and assessed the proposal against each of those objectives and policies.

[454] We accept the s.42A report and the applicant's findings that discharges of stormwater (during and post construction) will be treated on land prior to discharge. We agree it is unlikely that the proposed stormwater discharges will have any adverse effects greater than a discharge to another receiving environment. Any necessary treatment or rehabilitation will form part of the proposed management plans to be developed by HDL, with the expectation that any discharge will meet the relevant provisions of the RPDL.

[455] We note the applicant intends to comply with the Plan's permitted activity criteria for the discharge of sewage.

(vi) **Regional Air Quality Plan**

[456] The Regional Air Quality Plan (RAQP) which was made operative in July 2002, provides a management framework for addressing adverse effects from discharges of contaminants to air. This applies to fugitive discharges such as odour, dust, smoke and other particulate matter.

[457] The s.42A report assessment concluded that potential dust emissions can be adequately avoided or mitigated by imposition of appropriate consent conditions and implementation of proposed management plans to ensure the effects are not offensive or objectionable and consistent with the objectives and policies in the RAQP. We agree with this assessment.

(vii) **Regional Coastal Plan for the West Coast**

[458] The Regional Coastal Plan for the West Coast (RCP) was made operative in June 2000. The purpose of the RCP is to provide a framework to promote the integrated and sustainable management of the CMA. Within the CMA, most activities require resource consent, unless expressly allowed by a rule in the RCP. The tunneling works, occupation and discharge to the CMA are not permitted by the provisions of the RCP and therefore require resource consent.

[459] The s.42A report provided a list of the relevant objectives and policies applicable to the proposal and assessed the proposal against each of those objectives and policies.

[460] The relevant objectives and policies for **coastal management** relate to reducing the effects on public access and from occupation of space, erecting structures, altering the foreshore/seabed, discharges and noise emissions.

[461] Due to potential flooding issues if the discharge water was released back into the Granity Stream it is considered that creating the micro-tunnel and diffuser so that the water is discharged to the ocean is the preferable option, albeit that this requires exclusive occupation of the CMA and Crown land.

[462] Although the exact design of the diffuser has not yet been developed, HDL is confident discharge trials can be undertaken that will allow development of a rate of discharge and a diffuser design that, after reasonable mixing, will not result in significant adverse effects and meet the objectives and policies of the RCP and s.107 of the RMA.

[463] We accept that the majority of works will be underground and it will be unlikely that this work will produce any audible noise issues, except at Granity. It is therefore likely that the objectives and policies in regard to noise in the CMA can be met provided appropriate design is undertaken by an acoustic engineer.

[464] We concur with the findings of the s.42A report and the applicant that the proposal will not be contrary to the relevant policies and objectives of the RCP.

[465] In considering the consents sought from the WCRC, we note the recommendations and conclusions of the second addendum to the s.42A report that overall the adverse effects on the environment of the Scheme, will be no more than minor, and we agree.

(viii) **Buller District Plan**

[466] The Buller District Plan (BDP) became operative in January 2000. In 2004, 113 minor plan changes were notified and 53 minor amendments became operative on 8 October 2004. The balance of the changes have been determined, and those plan changes adopted, becoming operative on 25 May 2009. The proposal is therefore being considered under the BDP as amended at 25 May 2009. It is noted that, as the application was received prior to the recent amendments, the proposal is therefore not subject to these amendments.

[467] The analysis provided for us in the s.42A report identified the relevant policies and objectives to which we must to have regard. The report noted, that the site of the proposal is located within the Rural Zone of the BDP.

[468] The s.42A report discussed the proposal in light of more specific objectives and policies contained in the Plan and we have canvassed the matters raised in our analysis of the principal issues and effects in Section 5 of this decision, and in the s.104D analysis.

[469] We note the Council officers assessment included within the second addendum to the s.42A report that in regard to the proposal in general, that the BDC is satisfied that mitigation can occur which would address its concerns. However it also notes that there were two matters which remained significantly divergent in terms of what the applicant proposes and what the Council requires in terms of mitigation, and these relate to the survey of snails through the MAPPS area and mitigating the effects on the electric loco line. In considering the evidence presented, we see no justification for a snail survey in the MAPPS area, and are satisfied the adverse effects on the electric loco line can be adequately mitigated.

[470] For reference we have included under the Applications and Consents Sought in Chapter 2, Tables 1 and 2 which list the consents sought, description/location, activity status, applicable plan and relevant rules.

[471] *(c) Any other matters the consent authority considers relevant and reasonably necessary to determine the application:* The s.42A report identified and assessed a number of other government policies, statements and proposed statements, acts, regulations and strategies which were considered to be of relevance to the proposal. These included:

- National Policy Statement on Electricity Transmission (NPS ET)
- National Policy Statement for Renewable Electricity Generation (NPS REG)
- Proposed National Policy Statement for Freshwater Management (NPS FM)
- Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007

- Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004
- National Biodiversity Strategy
- Te Runanga o Ngāi Tahu Freshwater Policy
- Ngāi Tahu (Pounamu Vesting) Act 1997
- Draft Conservation Management Strategy
- National Energy Policy

[472] Having reviewed these assessments we are left in no doubt that the scheme is consistent with government policies concerning energy and electricity transmission. In regard to freshwater management, we accept that the proposal meets a number of the proposed NPS objectives, but that it is uncertain to what degree the improved water quality will have on enhancing the life supporting capacity and ecological values of the Ngakawau River. We note that the proposed diversion of waters may be contrary to s.8 of the RMA in regard to the provisions relating to natural resources (ie the mauri of the awa), but also note the comments of Mr Barber of Ngati Waewae in this regard.

[473] In regard to the National Biodiversity Strategy, we accept that there will be some loss of indigenous vegetation and fernbird habitat, but that the 'land swap' with the DoC represents compensation to offset the loss of vegetation, and we have noted above, the potential concerns relating to protecting the 'mauri of the awa'. We share the concerns raised with the diversion, into the scheme, of some higher water quality streams which are unaffected by AMD, resulting in little to no flow continuing within some natural water courses, on an ongoing basis.

[474] In reviewing the Draft Conservation Management Strategy, we accept that DoC are better placed to review such proposals against the strategy and we have no doubt that they have done so. We note DoC continues to hold concerns relating to adverse effects on flora, fauna, freshwater marine values and historical effects, and the need to avoid and mitigate these with appropriate consent conditions. We also note that DoC considers these matters can be appropriately addressed through its own statutory processes, access agreements and land swap proposals.

[475] In summary we consider that we have had regard to all relevant matters put before us and we are not aware of any other issues of sufficient importance to prevent us reaching a decision.

[476] Section 104(2) of the RMA allows us, when forming an opinion for the purposes of s.104(1)(a), to "*disregard an adverse effect of the activity on the environment if the plan permits an activity with that effect.*" This refers to what is commonly known as the 'permitted baseline'. The s.42A report provided us with some guidance with respect to the activities that the relevant plans, permit. The Council officers said, in

their view, the following aspects of the proposal have some similar effects to other permitted activities , but that in many cases the proposal exceeds:

[477] West Coast Regional Council Plan:

- The effects of mixing zones.
- Levels of discharge.
- Catchment sizes.
- Water depths behind dams.
- Time limits on water diversion.
- Water take volumes for alternate supplies.
- Water take volumes for concrete mixing.
- Erection of bridges, fords and culverts.
- Earthworks and vegetation clearance areas.
- Occupation of space in the CMA.
- Erection of structures in coastal areas.
- Removal and disturbance of foreshore and seabed.
- Discharge of water to the CMA.
- Stockpiling of material and discharge of contaminated stormwater.
- Discharge limits to air.

[478] In the opinion of the Council officers, that apart from the permitted activities for water takes, the proposal was so different to the expectations of the plans, that no regional permitted baseline considerations were relevant, and we agree.

[479] Buller District Plan:

- Duration of temporary building construction projects.
- Development of open drains for water.
- Installation of pipes and culverts.
- Maintenance and replacement of roads.
- Installation of log booms.
- Parking provisions.

[480] In the opinion of the Council officers, only some parts of the proposal are permitted, while other parts are quite different to what the plan permits. On this basis they consider the permitted baseline is not particularly relevant, and we agree.

[481] *S.104(2A):* This is not applicable.

[482] *S.104(3):* This clause requires that "*a consent authority must not-*

(a) "*have regard to trade competition when considering an application:".* In making our determination we have not taken account of trade competition."

(b) "when considering an application, have regard to any effect on a person who has given written approval to the application:". We were provided with one 'Affected Persons Consent Form' from

Ontrack (New Zealand Railways Corporation) in regard to the proposal crossing, using, and passing under Railway land. We have not had regard to any effects on this landowner.

[483] We also have received copies of correspondence from Northern Buller Community Society Inc (Lyric Theatre) and NZ Transport Agency (State Highways) both of which indicate an acceptance of the proposal, subject to further agreements being put in place. While we note the general acceptance of the proposal, we are unable to accept that this correspondence as being sufficiently specific enough, to accept that those parties have given their written approval, as set out in s.104(3).

(c) grant a resource consent contrary to:
- *(i) section 107 or section 107A or section 217;*
- *(ii) an Order in Council in force under section 152;*
- *(iii) any regulations;*
- *(iv) a Gazette notice referred to in section 26(1), (2) and (5) of the Foreshore and Seabed Act 2004:"*

[484] We shall consider s.107 and s.107A later in this decision. The other parts of s.104(3)(c) are not relevant.

(d) grant a resource consent if the application should have been publicly notified and was not .As the applications were publicly notified, this provision is not relevant.

[485] *S.104(4):* This is not applicable.

[486] *S.104(5):* This allows us to grant consent on the basis that the activity is a controlled activity, a restricted discretionary activity, a discretionary activity, or a non-complying activity, regardless of what type of activity the application was expressed for. We are satisfied that the applications sought, were appropriate.

SECTION 105

[487] In terms of s.105, when considering a s.15 (Discharge Permit) matter, we are required to have regard to:
- *(a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and*
- *(b) the applicant's reason for the proposed choice; and*
- *(c) any possible alternative methods of discharge, including discharge to any receiving environment.*

[488] The applicant has described the nature of the discharge and there is general agreement regarding the type of contaminants, concentrations, toxicity and potential adverse effects.

[489] There was agreement between the applicant and Council officers that the sensitivity of the receiving environment should be considered to be low to moderate given the distance offshore, water depth and the dynamic high energy environment. Forest and Bird considered it to be *"a sensitive environment which is home to the Hectors Dolphin and other valued species"*

[490] We consider the applicant has outlined the reasons for choosing the marine receiving environment, and concur with Dr Clearwater that the marine environment is less sensitive to adverse effects than the current freshwater receiving environment.

SECTION 107

[491] In terms of our consideration of s.107, we are prevented from granting a discharge permit that would allow any discharge into a receiving environment which would, after reasonable mixing, give rise to any of the following effects -

(a) The production of any conspicuous oil or grease films, scums or foams or floatable or suspended materials;
(b) Any conspicuous change in the colour or visual clarity;
(c) Any emission of objectionable odour;
(d) The rendering of fresh water unsuitable for consumption by farm animals;
(e) Any significant adverse effects on aquatic life.

[492] There is agreement between the experts that there will be potential for the discharge to cause a visual plume at the outfall, however we are mindful that any adverse effect must be considered after reasonable mixing. The applicant is confident that there will be no conspicuous plume beyond the mixing zone and all parties agree that a 300m mixing zone is both appropriate and reasonable. We agree.

[493] We consider the evidence before us indicates there will be no significant adverse effects on aquatic life if appropriate water quality standards are met outside the mixing zone. We are satisfied the applicant can design and implement an outfall that will achieve adequate dispersal and dilution.

SECTION 108A

[494] The provisions of s.108A relate to Bonds. We are satisfied that these consents, granted under delegated authority, are appropriate to attract performance bonds. We acknowledge that the proposal consists of a series of phased developments and we agree with the s.42A report that this type of phased project and risk profile during development, changes considerably.

[495] We agree that the recommendation to impose what is currently defined as a three year 'rolling bond', with an annual review in line with the works proposed in the annual construction programme, is appropriate. A condition to this effect has been put in place.

SECTIONS 117 and 118

[496] The construction of an ocean outfall pipeline (micro-tunnel) approximately 600m long and an outfall diffuser structure in the CMA is deemed to be a *restricted coastal activity* (RCA) under Rule 8.5.1.7c of the Regional Coastal Plan for the West Coast. An application to carry out any RCA is subject to the provisions of s.117 and s.118 of the RMA.

[497] In accordance with these provisions, we are required to consider the RCA in conjunction with the other associated activities and make a recommendation to the Minister of Conservation. We note from the s.42A report that the Minister of Conservation has been forwarded a copy of the application (in accordance with s.117(3) of the Act) and that the joint Hearing Committee includes an appointee of the Minister of Conservation (in accordance with s.117(6) of the Act).

[498] Having considered all the evidence before us, we agree with the Council officers conclusion that the environmental effects of the construction of the micro-tunnel and outfall diffuser are likely to be minor. We therefore recommend that the Minister of Conservation grant Coastal Permit RC08149/2 to erect and place an ocean outfall pipeline, approximately 600m long, and an outfall diffuser, under the foreshore and seabed, subject to the appended consent conditions.

Part 2

[499] As an overall assessment and based on our findings above, we are satisfied that the proposal as presented to us, meets the purpose and principles of the RMA and consents requested can be granted.

Chapter 8 : DETERMINATION

RECOMMENDATIONS

[500] We recommend that the Minister of Conservation grant Resource Consent RC08149/2 to erect and place an ocean outfall pipeline approximately 600m long and outfall diffuser within the foreshore and seabed. The location is approx: N5952750 E2414175 and is described as Section 23 on the Survey sheets C-008a and C-008b appended to Volume 2 of the applicants supporting Plans. The area of foreshore can be described as being adjoining legal road adjacent to Section 25 Block VI Ngakawau Survey District .

[501] The recommended term of consent is for a 35 year period with a lapsing period of 10 years. The recommended conditions for this consent are contained within the Conditions section below under Chapter 9 under

headings of General Conditions for WCRC and BDC, General Conditions for WCRC and Specific Conditions for Coastal Permit RC08149/2.

DECISION and CONSENTS

[502] Having carefully considered all the relevant reports and documentation supplied with the application, submissions, and the evidence presented to us during the course of the hearing, we consider that Hydro Developments Limited has made its case for constructing, operating and maintaining a hydro electric scheme on the Stockton Plateau and at Granity, and the development should be allowed to proceed as proposed, subject to the imposition of conditions.

[503] We subsequently grant the following consents under delegated authority from the WCRC and BDC subject to the conditions contained below within Chapter 9 Conditions.

[504] The term of the consents granted is for a 35 year period with a lapsing period of 10 years.

Buller District Council

Land Use Consent (Stockton Plateau - Project infrastructure) **RC08/131A**	Earthworks and vegetation clearance to construct, operate and maintain the Project including RCC dams, inundation areas, embankments, saddle dams, spillways, diversion weirs, diversion intake sumps, tunnels, canals, inlet towers, drop shafts, portals, intake excavations, intake channels, penstocks, power stations, tracks, roads, silt traps, silt storage areas, stockpiling/fill areas, temporary buildings, construction plant and settling ponds. Located approx: N5948300 E2417600
Land Use Consent (Granity Construction site) RC08/131B	Earthworks and vegetation clearance to construct, operate and maintain the Granity power station including construction of the portal outlet, access ramp, portal apron, surge chamber, ocean outfall pipeline, emergency outflow structures, settling pond, site access, the Granity construction yard and the Jacking Station. Located approx: N5952390 E2414660
Land Use Consent (Tunneling) RC08/131C	Earthworks to construct, operate and maintain an ocean outfall pipeline beneath residential Granity. Located approx: N5952485 E2414524
Land Use Consent (Hazardous substance storage) RC08/131D	The use and storage of hazardous substances during construction and operation of the Project. Located approx: N5948300 E2417600 & N5952390 E2414660

Land Use Consent (Realignment of Stockton haul road) RC08/131E	Earthworks and vegetation clearance to realign the Stockton Mine haul road over approximately 1200m and undertake on-going maintenance. Located approx: N5948300 E2417600
Land Use Consent (Transmission spur lines, telecommunic-ation cables and switch yards) **RC08/131F**	To construct, operate and maintain a temporary overhead power line from the existing coastal BEL network to the Granity portal outlet, a new overhead electricity line from the Granity power station to the existing BEL distribution network at Granity and a new overhead electricity line from the Weka power station to SENZ's 33kV line on the Stockton Plateau. To erect and maintain tele-communication cables along the above described overhead electricity poles. To construct, operate and maintain a temporary transformer at Granity and switch yards within Granity and Weka power stations. Located approx: N5952390 E2414660 and N5951760 E2418490
Land Use Consent (Disturb a historic coal tramway) **RC08/131G**	To disturb a 460m section of the historic coal tramway during realignment of the Stockton Haul Road and inundation of Weka Reservoir. Located approx: N5952250 E2418500

West Coast Regional Council

Coastal Permit (Occupation of CMA) **RC08149/01**	To occupy land within the coastal marine area with an ocean outfall pipeline and diffuser, the occupation will extend approximately 600m offshore. Located approx: N5952750 E2414175
Coastal Permit (Ocean outfall structure CMA disturbance) **RC08149/03**	The disturbance of the foreshore and seabed to facilitate burial of an ocean outfall pipeline approximately 600m long and outfall diffuser. Located approx: N5952750 E2414175
Coastal Permit (Maintenance of ocean outfall structure**)RC 08149/04**	To maintain an ocean outfall pipeline approximately 600m long and an outfall diffuser within the foreshore and seabed. Located approx: N5952750 E2414175
Coastal Permit (Discharge into the CMA	To discharge tailwater into the coastal marine area from the Granity power station, discharge to be via an ocean outfall pipeline and diffuser and to not exceed 9 cubic metres per second.

following hydro generation) **RC08149/05**	Located approx: N5952920 E2413930
Coastal Permit (Temporary structures) **RC08149/06**	To erect and place temporary structures on the foreshore and seabed including sheet piling, rock breast work, sea anchors and other navigational and securing structures for the purpose of constructing and maintaining an ocean outfall pipeline and diffuser. Located approx: N5952750 E2414175
Coastal Permit (Temporary structures - occupation of CMA) **RC08149/07**	To occupy land within the coastal marine area with temporary structures on the foreshore and seabed including sheet piling, rock breast work, sea anchors and other navigational and securing structures for the purpose of constructing and maintaining an ocean outfall pipeline and diffuser. Located approx: N5952750 E2414175
Coastal Permit (Temporary structures - CMA disturbance) **RC08149/08**	The disturbance of the foreshore and seabed with temporary structures including sheet piling, rock breast work, sea anchors and other navigational and securing structures for the purpose of constructing and maintaining an ocean outfall pipeline and diffuser. Located approx: N5952750 E2414175
Land Use Consent (Vegetation disturbance/ earthworks – drilling programme) **RC08149/09**	Vegetation disturbance and earthworks associated with exploration drilling within the Project footprint. The activity will occur within the full extent of the scheme. Located approx: N5948300 E2417600 and N5952390 E2414660
Land Use Consent (Earthworks/ vegetation removal for Project infrastructure) **RC08149/10**	Earthworks and vegetation clearance to construct, operate and maintain the Project including RCC dams, embankments, saddle dams, spillways, diversion weirs, diversion intake sumps, tunnels, canals, inlet towers, drop shafts, portals, intake excavations, intake channels, penstocks, power stations, tracks, roads, silt traps, silt storage areas, stockpiling/fill areas, temporary buildings, construction plant, settling ponds, transmission spur lines and ocean outfall pipeline. The activity will occur within the full extent of the scheme. Located approx: N5948300 E2417600 and N5952390 E2414660
Land Use Consent (Earthworks/ vegetation removal - Weka storage reservoir) **RC08149/11**	Earthworks and vegetation clearance, including excavations for intakes and placement of fill to establish, repair and maintain a storage reservoir of approximately 28 hectares, upstream of Weka Creek gorge. Located approx: N5952245 E2418885
Land Use Consent	Earthworks and vegetation clearance, including excavations for intakes and placement of fill to establish, repair and maintain a storage reservoir

(Earthworks/ vegetation removal - Mt William storage reservoir) **RC08149/12**	of approximately 50 hectares on St Patrick Stream at Mt William. Located approx: N5947510 E2419410
Land Use Consent (Earthworks/ vegetation removal – roading) **RC08149/13**	Earthworks and vegetation clearance to construct, operate and maintain temporary and permanent access roads and tracks within the Project footprint, including realignment of the Stockton Mine haul road over approximately 1200m. Located approx: N5948300 E2417600
Land Use Consent (Disturb bed of Weka Creek – Weka dam) **RC08149/14**	To disturb the bed of Weka Creek to erect, place, repair and maintain a RCC dam, spillway and associated structures, including temporary diversion works in the creek channel for construction purposes and deepening of the creek channel in the vicinity of the proposed Weka power station. Located approx: N5952640 E2418910
Land Use Consent (Disturb beds of Upper Mine and Mangatini Streams – weirs/intakes) **RC08149/15**	To disturb the beds of Upper Mine Creek and Mangatini Stream to erect, place, repair and maintain weir/intake structures to divert flows into the Weka reservoir, including temporary diversion of the stream channel for construction purposes. Located approx: N5951520 E2417850 and N5951520 E2419600
Land Use Consent (Disturb bed of Sandy Creek). **RC08149/16**	To disturb the bed of Sandy Creek to create the Weka reservoir and erect, place, repair and maintain the Upper Mine Creek diversion tunnel outlet, a silt trap and placement of a culvert during realignment of the Stockton haul road and temporary diversion of the stream channel for construction purposes. Located approx: N5951765 E2418250
Land Use Consent (Disturb bed of St Patrick Stream – Mt William dam) **RC08149/17**	To disturb the bed of St Patrick Stream to erect, place, repair and maintain a RCC dam and associated structures, including construction of a silt trap and temporary diversion works in the stream channel for construction purposes. Located approx: N5947615 E2419580
Land Use Consent (Disturb bed of Darcy Stream – sump intakes) **RC08149/18**	To disturb the bed of Darcy Stream to erect, place, repair and maintain intake sumps to divert flows into Mt William storage reservoir, including temporary diversion of the stream channel for construction purposes. Located approx: N5946490 E2420460

Land Use Consent (Disturb beds of Fly, Plover and T31 Streams) **RC08149/19**	To disturb the beds of Fly, Plover and T31 Streams to create the Mt William storage reservoir, including construction of silt traps and temporary diversion of stream channels for construction purposes. Located approx: N5947430 E2419120
Land Use Consent (Disturb bed of Granity Stream – emergency overflow structure) **RC08149/20**	To disturb the bed of Granity Stream in constructing and maintaining an overflow diffuser for discharge of Granity power station tailwater in emergency situations and to disturb the bed in placing and maintaining rock work around the diffuser structure. Located approx: N5952545 E2414673
Water Permit (Take and use – drilling rig) **RC08149/21**	To take and use water from St Patrick, Darcy, Mangatini, Mine, and Granity Streams and Weka and Sandy Creeks and their tributaries to supply water for operation of a drilling rig. Located approx: N5952640 E2418910 and N5947615 E2419580 and N5952545 E2414673
Water Permit (Take, use, dam and divert – St Patrick Stream) **RC08149/22**	To take, use, dam and divert St Patrick Stream by means of a RCC dam to create the Mt William storage reservoir, including temporary diversion for construction purposes Located approx: N5947600 E2419575
Water Permit (Take, use and divert Darcy Stream) **RC08149/23**	To take, use and divert Darcy Stream by means of intake sumps to create the Mt William storage reservoir, including temporary diversions for construction purposes. Located approx: N5946490 E2420460
Water Permit (Take, use and divert Plover, Fly and T31 Streams) **RC08149/24**	To take, use and divert water from Plover, Fly and T31 Streams to create the Mt William storage reservoir, including temporary diversions for construction purposes. Located approx: N5947430 E2419120
Water Permit (Take and use for hydro generation – PS2) **RC08149/25**	To take and use water collected in the Mt William reservoir via the Stockton tunnel and penstock to supply the Weka power station. Located approx: N5949380 E2418090
Water Permit (Take, use, dam and divert - Weka Creek) **RC08149/26**	To take, use, dam and divert Weka Creek by means of a RCC dam to create the Weka storage reservoir, including temporary diversion for construction purposes. Located approx: N5952640 E2418910

Water Permit (Take, use, dam and divert Upper Mine and Mangatini Streams) **RC08149/27**	To take, use, dam and divert Upper Mine Creek, Mangatini and A.J. Streams by means of weirs and diversion tunnels to create the Weka storage reservoir, including temporary diversions for construction purposes. Located approx: N5951520 E2417850 and N5951520 E2419600
Water Permit (Take, use and divert Sandy Creek) **RC08149/28**	To take, use and divert Sandy Creek to create the Weka storage reservoir, including temporary diversions for construction purposes. Located approx: N5951765 E2418250
Water Permit (Take and use for hydro generation – PS1) **RC08149/29**	To take and use water collected in the Weka reservoir via the Granity tunnel and penstock to supply the Granity power station. Located approx: N5951070 E2416830
Water Permit (Take for construction de-watering) **RC08149/30**	To take groundwater seepage as a result of de-watering during tunnel construction. Located approx: N5948300 E2417600 and N5952390 E2414660
Water Permit (Take and use groundwater seepage) **RC08149/31**	To take groundwater seepage from the Project's tunnels and reservoirs for use in the Weka and Mt William storage reservoirs. Located approx: N5951790 E2418590 and N5946890 E2419620
Water Permit (Construction water supply) **RC08149/32**	To take and use water from St Patrick, Weka, Mangatini, Mine, Sandy and Granity Streams and tributaries to supply water for construction activities, including operation of the concrete and dam fill batching plants. The maximum rate of take to be 5 litres per second. Located approx: N5952640 E2418910 and N5947615 E2419580 and NN5952545 E2414673
Discharge Permit - Water (Discharge from PS2 into Weka reservoir) **RC08149/33**	To discharge tailwater from the Weka power station into Weka reservoir. Located approx: N5952060 E2418900

Discharge Permit – Water (Discharge of spill from Mt William dam) **RC08149/34**	To discharge spill from Mt William reservoir into T35 Stream. The maximum rate of discharge to be 300 cubic metres per second. Located approx: N5947830 E2419375
Discharge Permit – Water (Discharge of spill from Weka dam) **RC08149/35**	To discharge spill from Weka reservoir into Weka Creek. The maximum rate of discharge to be 65 cubic metres per second. Located approx: N5952640 E2418910
Discharge Permit – Water (Emergency outfall into Granity Stream) **RC08149/36**	To discharge tailwater from the Granity power station into Granity Stream during emergency overflow situations. The maximum rate of discharge to be 9 cubic metres per second. Located approx: N5952545 E2414673
Discharge Permit - Water (Tunneling seepage into Granity Stream) **RC08149/37**	To discharge groundwater seepage during tunneling activities into Granity Stream, via the emergency outflow diffuser. Located approx: N5952545 E2414673
Discharge Permit – Water (Discharge of water during construction activities) **RC08149/38**	To discharge stormwater from construction activities, plant process water and groundwater seepage from tunneling construction into St Patrick, Mangatini, Upper Mine and Weka, Sandy Streams or tributaries. Located approx: N5946820 E2419530 and N 5951560 E2419585 and N 5951535 E2417850 and N5951640 E2418145
Discharge Permit – Land (Silt storage areas) **RC08149/39**	To discharge solid contaminants, being sediment to land at fill locations adjacent to the Mt William and Weka reservoirs. Located approx: N5946655 E2418540 and N 5952055 E2418740
Discharge Permit – Land (Construction stormwater)	To discharge stormwater and sediment associated with construction activities to land (in circumstances which may result in the stormwater entering water)

RC08149/40	
Discharge Permit – Land (Discharge from drill rig). **RC08149/41**	To discharge water containing sediment to land from operation of a drill rig. The activity will occur within the full extent of the scheme. Located approx: N5948300 E2417600 and N5952390 E2414660
Discharge Permit – Air (Dust and ventilation emissions). **RC08149/42**	To discharge contaminants to air associated with the construction, operation and maintenance of the Stockton Plateau Hydro Scheme including but not limited to dust associated with the excavation, handling, conveying and processing of gravel, sand, soil, rock, and other natural materials; the operation of aggregate crushing and screening, and concrete batching plants and stockpiling activities; and dust /fumes emitted via tunnel ventilation systems. The activity will occur within the full extent of the scheme.

REASONS

[505] In terms of s.113(1)(a) of the RMA we are required to give reasons for our decision.

[506] Throughout Section 5 of this decision we have gone to some trouble to thoroughly canvass all the environmental effects that were brought to our attention, and we have drawn our own conclusions as to how each of these issues impacts on our decision. In each case, we found that none of the effects of the hydro scheme proposal were sufficiently adverse, on their own, or collectively, to prevent us granting consent.

[507] In exercising our discretion, we are bound to bear in mind the single broad purpose of the RMA as set out in s.5. We acknowledge that the Environment Court has noted in a number of decisions that the proper application of s.5 involves an overall broad judgement of whether or not a proposal promotes the sustainable management of natural and physical resources. We agree that such a judgement allows us to compare conflicting considerations and the scale or degree of them, and their relative significance in the final outcome.

[508] In deciding whether or not to grant consent, we believe we have been properly guided by the requirements of Part 2 of the RMA and s.5 in particular. In Section 6 of this decision we have presented our analysis of the ways in which the statutory provisions have been applied. In our deliberations, we have given detailed consideration to those effects that are difficult to avoid , mitigate or remedy. In Section 5, we found that the majority of environmental effects resulting from the proposal were either less than minor or that conditions could be attached to our decision to ensure that this would be the case.

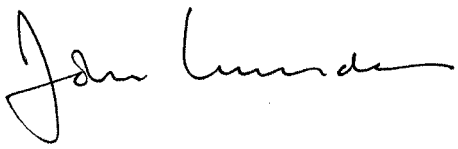
[509] In attaching conditions to our decision, we have largely accepted the proposed conditions that have evolved as a result of the consent process and those which were further discussed after the hearing between council officers and the applicant, with relatively minor differences of opinion. These conditions appear for the most part, to have been accepted by the applicant.

……..

Terry Archer (Chair)

……..

Sharon McGarry



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John Lumsden

Dated this 18th day of January 2010

Chapter 9 : CONDITIONS

General Conditions for WCRC & BDC

1. Exercise of Consent

1.1 All activities authorised by these consents shall be undertaken in accordance with the information contained in the Application, Assessment of Environmental Effects ("Stockton Plateau Hydro Scheme") and all supporting documents and plans as provided to the Consent Authorities, except where inconsistent with these conditions.

1.2 The Consent Holder shall ensure all key staff and contractors are made aware of the conditions of these resource consents to ensure compliance with the conditions.

2. Fees

2.1 The Consent Holder shall pay the Consent Authorities such monitoring, supervision and administration fees, as are fixed from time to time by the Consent Authorities in accordance with Section 36 of the Resource Management Act 1991. The Consent Holder shall meet the reasonable costs of compliance of all requirements and conditions of these consents.

3. **Lapsing of Consents**

3.1 All resource consents shall lapse on the expiry of ten years after the date of issue of the consents unless the consents are given effect to before the end of that period.

4. Review of Conditions

4.1 Pursuant to Section 128(1) of the Act, the Consent Authority may review any of the conditions of these consents by serving notice within a period of three months commencing on the first, third and sixth anniversary of the date that these consents are first relied upon and five yearly thereafter for any of the following purposes :

i. To deal with any adverse effects on the environment which may arise from the exercise of the consents and which it is appropriate to deal with at a later stage; or

ii. To deal with any other adverse effect on the environment on which the exercise of the consents may have any influence.

iii. To deal with inaccuracies contained in the consent application that materially influenced the decision made on the application and is such that it is necessary to apply more appropriate conditions.

iv. To assess the appropriateness of imposed compliance standards, monitoring parameters, monitoring regimes and monitoring frequencies and to alter these accordingly.

v. To ensure the adequacy of the operation of the Traffic Management Plan, Landscape Management Plan, Scheme Rehabilitation and Weed Management Plan and Construction Noise and Vibration Management Plan required under the conditions of these consents.

5. Bond

5.1 The Consent Holder shall provide and maintain a performance bond in favour of the Consent Authorities (jointly for their respective interests) with a financial institution of good repute. The purpose of the bond is to secure compliance with conditions of consent including completion of rehabilitation in accordance with the Landscape and Rehabilitation Management Plan.

5.2 The bond shall be in a form acceptable to both Consent Authorities (regional and territorial)

5.3 Unless the bond is a cash bond, the performance of the conditions of the bond shall be guaranteed by a guarantor acceptable to the Consent Authorities. The guarantor shall bind itself to pay for the carrying out and completion of any condition in the event of any default of the Consent Holder. If the Consent Holder is unable at any time to arrange a guarantor for the quantum as set out in Condition 5.6, the Consent Holder shall provide a cash bond or bonds for the quantum within 60 days of the date of the renewal.

5.4 The bond shall provide that the Consent Holder remains liable under the Resource Management Act 1991 for any breach of these consents which occurs before expiry of these consents and which become apparent during or after the expiry of the relevant consent.

5.5 The Consent Holder shall not exercise these consents until the bond has been executed by the Consent Holder and deposited with the Consent Authorities.

5.6 The amount (quantum) of the bond may be varied from time to time but at any given time shall be sufficient to cover the estimated costs at that time (including any contingency) of compliance with all conditions, including but not limited to:

a) Demolition and/or removal of temporary buildings and structures erected during the course of construction activities.

b) Rehabilitation by re-contouring, spreading sub-soils and topsoil, re-vegetation and weed control until disturbed areas have been re-established with suitable vegetation.

c) Stabilisation of earthworks and landforms.

d) Rehabilitation of watercourses disturbed by construction activities, including the installation of erosion protections works where necessary

e) Establishment of an on-site visitors interpretative display in the vicinity of Weka powerstation.

5.7 The initial amount of the bond shall be the quantum assessed under General Condition 5.5 for the activities covered by the first Annual Work Plan or fifty thousand New Zealand Dollars (NZ $50,000), whichever is the greater.

5.8 Prior to commencing earthworks for the construction of either dam and/or undertaking works in streams, the Consent Holder shall review the initial bond quantum required under General Condition 5.7. The new bond quantum shall be set at the 80% level of confidence for the estimated costs determined by a suitably qualified specialist acceptable to the Consent Authorities in accordance with (Bond) General Condition 5.5, based on the first Annual Work Plan and probabilistic calculations using the Monte Carlo simulation technique. Thereafter, the same specialist, or an alternate specialist acceptable to the Consent Authorities, shall review and prepare a report for the parties on the bond quantum at yearly intervals or such other intervals as agreed in accordance with General Condition 5.5 based on the same methodology, but using the Annual Work Plan for the coming twelve months. If the reviewed bond quantum is higher than the current bond quantum, then the bond quantum shall be adjusted accordingly within 30 days of the parties receiving the report, unless the Consent Holder invokes (Bond) General Condition 5.8.

5.9 The term of the bond shall continue until:

a) Rehabilitated sites have a 90% established planting cover in accordance with Condition 23 of Land Use Consents RC08149/10 -12 and RC08/131 A and B Condition 17; and

b) The Consent Holder has complied with all the terms and conditions of the resource consents; or

c) In the reasonable opinion of the Consent Authorities, the likelihood of an adverse effect on the environment arising from the land in respect of which the resource consents have been exercised, is not greater than that from adjacent undisturbed land.

5.10 If the consents are transferred in part or whole to another party or person, the bond shall continue until any outstanding work at the date of transfer is completed to ensure compliance with the conditions of these consents, unless the Consent Authorities are satisfied adequate provisions have been made to transfer the liability to the new Consent Holder.

5.11 In the event of any such transfer of the consents, the Consent Holder shall ensure that the transfer forthwith provides a replacement bond to the Consent Authorities on the terms required by the Bond Conditions.

5.12 The provisions of Section 109 shall apply to any bond, or bonds, required pursuant to the above.

5.13 The Consent Holder shall meet the costs of providing any bond, or bonds, including the costs of the bond and any substitute bond.

6. Notification

6.1 The Consent Holder shall notify the Consent Authorities in writing:

a) Of the intention to commence geotechnical investigations a minimum of 10 working days prior to the commencement of the works.

b) Of the intention to commence construction of scheme works, specifying a specific date, as soon as practicable of the date that activities first commence under these consents.

c) As soon as practicable, the date that construction activities cease.

d) Of the intention to commence power generation and the discharge to the ocean at least 1 month prior to these events.

e) The time when 90% established planting cover in accordance with Condition 23 of Land Use Consents 149/10 -12 and RM08/131 A and B Condition 17 has been established.

7. Complaints and Non-compliance

7.1 The Consent Holder shall maintain and keep a complaints register for any complaints received in relation to construction activities and operation of the scheme. The register shall be maintained and publicly accessible on the web site www.hydrodevelopments.co.nz and shall record:

i) The date, time and duration of the incident that has resulted in a complaint.

ii) The possible cause of the incident.

iii) Any corrective measures taken by the Consent Holder in response to the complaint, including the timing of that corrective action.

The complainant's name and details shall not appear on the web site.

7.2 The Consent Holder upon receipt of any complaint reported to it by either Consent Authority, shall promptly investigate the complaint, take action to remedy or mitigate the complaint, and inform the reporting Consent Authority of the details of the cause of the complaint and the action taken within 48 hours of receiving the complaint.

7.3 The Consent Holder shall inform the Consent Authority as soon as practicable, but no later than 48 hours of receiving a complaint, of the details of the complaint and the action taken.

7.4 The complaints register shall be made available to either Consent Authority within 48 hours of any formal request from that Consent Authority.

7.5 In the event of any breach of the conditions of these consents the Consent Holder shall notify the appropriate Consent Authority within 48 hours of the breach being detected. Within 5 days of any breach the Consent Holder shall provide written notification to the appropriate Consent Authority which explains the cause of the breach and if the cause was within the control of the Consent Holder, steps which were taken to remedy the breach and steps which will be taken to prevent any further occurrence of the breach.

***Advice Note**: For breaches of conditions of Resource Consents RC08149/1 to RC08149/42, the appropriate Consent Authority is the West Coast Regional Council. For breaches of conditions of Resource Consents RC08/131(A) to RC08/131(G), the appropriate Consent Authority is the Buller District Council. For breaches of the General Conditions of Resource Consents RC08149/1 to RC08149/42 and RC08/131(A) to RC08/131(G), the appropriate Consent Authority is both the West Coast Regional Council and Buller District Council.*

General Conditions for the WCRC

1. **Scheme Design**

1.1 The Consent Holder shall undertake geotechnical site investigations as appropriate to complete final design in accordance with the Building Act 2004 and Building (Dam Safety) Regulations 2008.

1.2 Prior to the commencement of construction of any structures required to exercise these consents, the Consent Holder shall forward to the Consents and Compliance Manager of the Consent Authority final design reports for certification after they have been peer reviewed and certified by an appropriately qualified and experienced engineer acceptable to the Consent Authorities". The design reports shall include detailed plans of the following:

a) Weka and Mt William dams, storage reservoirs and associated structures.

b) The spillway for Weka Dam shall have a maximum crest level of RL390 metres (reduced level above sea level) and the spillway for Mt William Dam which shall have a maximum crest level of RL 575 metres.

c) Stockton and Granity Tunnels and outlet portals (refer to General Condition 1.3 for specific details for the Granity outlet portal).

d) Weka and Granity power stations

e) Mine Creek, Mangatini Stream and Darcy Stream diversion tunnels.

f) Instream structures both temporary and permanent including all culverts, weirs and intake structures

g) Temporary and permanent transmission lines.

h) Granity access ramp, surge chamber and emergency outfall into Granity Stream.

i) Ocean outfall pipeline and diffuser and the emergency outfall into Granity Stream (refer to General Condition 1.4 for specific details for the ocean outfall).

1.3 The design report for the construction of the Granity outlet portal required in General Condition 1.2i) above, shall include the following details:

i) Potential risk of instability at the tunnel portal.

ii) Proposed stabilisation and contingency measures.

iii) Proposed monitoring measures during construction to ensure satisfactory performance of the portal stablisation works and contingency actions.

1.4 The design report for construction of the ocean outfall pipeline required in Condition 1.2i) above, shall include the following details:

i) Interpretation of ground and groundwater conditions based on site investigations.

ii) Assessment of expected deformation and trigger levels for contingency actions.

iii) The proposed monitoring locations and procedures during construction.

iv) The process and expected outcomes for development of action and contingency plans should expected levels of deformation be exceeded.

v) A list of the buildings and structures that may be affected by groundwater and ground settlement changes and proposed methodology to reduce potential impacts.

1.5 The Consent Holder shall ensure that any variations to any building consent are approved by the issuing authority and copied to the Consent Authority.

1.6 The Consent Holder shall prepare and retain final "As Built" plans of all buildings and structures, copies of which shall also be forwarded to the Consent Authority.

1.7 As part of the scheme design the dam failure risks shall be re-assessed and the inundation maps reviewed once the final dam design has been completed. Copies of these re-assessments and maps shall be provided to the Consent Authorities before any physical work on dam construction commences.

1.8 The dam structures shall as a minimum be:

(i) Designed and constructed in accordance with the New Zealand Society on Large Dam's (NZSOLD) Dam Safety Guidelines that are current at the time the dam structures are constructed,

(ii) Maintained in accordance with the NZSOLD's Dam Safety Guidelines, November 2000 and any subsequent amendments for high potential impact dams.

Advice Note: *The NZSOLD Dam Safety Guidelines, November 2000, were the current guidelines at the time that these consents were approved*.

2. Management Plans

2.1 At least three months prior to commencement of construction of the scheme works authorised by these consents, the Consent Holder shall provide to the Consent Authority the following plans, as prepared by suitably qualified persons in accordance with General Conditions 3 to 5:

a) Construction Management Plan.

b) Erosion and Sediment Control Plan

c) Landscaping and Rehabilitation Management Plan.

2.2 At least three months prior to commencing construction of the outfall pipeline (pursuant to Coastal Permit RC08149/2), an Ocean Outfall Management Plan shall be provided to the Consent Authority, as prepared by a suitably qualified person in accordance with General Condition 6.

2.3 Construction of the scheme works shall not commence until the certified management plans specified in General Conditions 3-5 below have been provided by the Consent Holder to the Consent Authority. Certification is defined as ensuring that the management plans contain the necessary information specified in General Conditions 3-5 and meet the requirements set out in more specific conditions of consent.

2.4 The Consent Holder may commence construction of scheme works once the management plans specified in General Conditions 3-5 below have been provided to the regional Consent Authority or after two months from the date that the relevant management plan required by these consents is submitted to the Consent Authority, whichever is the sooner, provided the required building consents are obtained.

2.5 The Consent Holder shall not commence discharge via the ocean outfall (Coastal Permit RC08149/5) until the Ocean Outfall Management Plan specified in General Condition 6 has been certified by the regional Consent Authority. Certification is defined as ensuring that the Management Plan contains the necessary information specified in General Condition 6 and meets the requirements set out in more specific conditions of consent. The Ocean Outfall Management Plan will be deemed to have the certification of the regional Consent Authority unless the Consent Holder is otherwise advised in writing within two months of submission of the Management Plan.

2.6 Subject to any other conditions of these consents, all activities shall be undertaken in accordance with the latest certified versions of the management plans.

2.7 The Consent Holder may review and revise any management plan at any time after they have been submitted to the Consent Authority on the following terms:

a) The review shall be undertaken in consultation with and certified by the appropriate Consent Authority as still meeting the relevant consent conditions.

b) Such review is necessary to give effect to the purpose of the management plan.

c) The Consent Holder shall pay all actual and reasonable costs of the Consent Authority in connection to its certification of revised management plans.

2.8 If the Consent Authority has not advised the Consent Holder in writing whether or not it has certified the revisions within two months of receipt of those revisions, then the Consent Holder may operate under those revisions and the revised management plan shall be deemed to be the latest version of the management plan, unless the Consent Authority advises the Consent Holder after two months, but under no circumstances more than six months, after receipt of those revisions that it refuses to certify the revisions on the ground that they fail to meet one or more of the relevant consent conditions.

2.9 Management plans may be submitted in sections which cover discrete components of the scheme to allow for the staged development of the hydro scheme. When viewed as a whole the respective sections must be consistent with the requirements of General Conditions 3 to 7 and must achieve comprehensive management plans for the entire scheme.

3. **Construction Management Plan**

3.1 Prior to the commencement of construction of the scheme works, a Construction Management Plan shall be submitted to the Consent Authority. The purpose of the Construction Management Plan shall be to:

a) To describe the methods proposed for the construction of the scheme and the programme for construction of each element.

b) Describe what actions will be taken to manage the actual or potential effects of construction activities associated with the scheme.

c) To describe the methodology and certification procedures for making changes to the Construction Management Plan.

d) To ensure that the practices and procedures for construction achieve compliance with the conditions of consent as they relate to construction work.

e) That the Consent Holder undertakes its best endeavors to ensure that the environmental nuisance effects of construction activities are minimised to the greatest extent possible.

f) To minimise the overall area of disturbance, so as to reduce the potential impact on vegetation, native fauna, and waterways.

g) To ensure the conservation of overburden, soil and vegetation for subsequent use in the rehabilitation.

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

i) To control and minimise sediment generation and sediment laden runoff.

3.2 The Construction Management Plan shall as a minimum address the following matters:

a) Construction programme and timetable detailing the works and proposed duration of each stage and the sequence of events.

b) Description of all construction works including the dams, storage reservoirs, diversion/intake structures, tunnels, roads, power stations, substations and transmission lines.

c) A site map which shows the buffer zones, sound bunds and fencing at the Granity construction area.

d) Detailed plans and methods of construction of the ocean outfall pipeline and diffuser and the emergency outfall into Granity Stream. e) Details and site plan of all construction plant and buildings and storage areas to be used on-site.

f) Detailed plans for both the temporary and permanent realignment of Repo Basin and Millerton walking tracks.

g) Details of method of vegetation clearance and earthworks including disposal of stripped material, stockpiling activities and road construction and its use in rehabilitation.

h) Details of the geotechnical investigations required for final design and construction.

I) Detailed plans, methods and timing of instream works including the temporary dam sluices and temporary stream diversions and the permanent structures including the weirs, intakes and spillways.

j) Measures for cleaning machinery and equipment prior to transport to the construction work areas on Stockton Plateau.

k) Methods for management of solid waste generated during scheme construction including identification of solid waste, methods for minimising solid waste generation and description of disposal methods.

l) Health and Safety measures to ensure public safety including hazard identification and management including erection of signs at appropriate locations warning public of dangers in construction areas.

m) Methods for the management of nuisance dust generated as a consequence of construction activities.

n) Details and locations of settling ponds, sediment traps or other treatment systems to be used for contaminated water retention and treatment prior to discharge.

o) Traffic Management Plan which ensures a safe and efficient transport system including the improvements required for existing accesses, details of design of new accesses and roads, details of rehabilitation of temporary roads/accesses and details of traffic movements.

p) The name and contact details of key positions and points of contact, including an appropriately qualified employee of the Consent Holder to manage environmental issues and any community complaints on site, that have responsibility for managing and responding to environmental issues, any community complaints and ensure management plans and consent conditions are adhered to throughout construction.

q) Contractor training.

r) Security and lighting management during construction.

s) Hours of operation.

t) To describe the methodology and certification procedures for making changes to the management plan.

3.3 The Construction Management Plan shall include a sub-section entitled: 'Hazardous Substances Management Plan' which shall detail the practices and procedures that will be used to ensure that hazardous substances are managed so that storage and use is carried out safely and will not adversely affect the environment. The Hazardous Substances Management Plan shall as a minimum address the following matters:

a) Identify hazardous substances, including explosives, oils and fuels which are used in the construction phase and also the operation phase of the scheme.

b) Describe the storage and handling procedures for hazardous substances.

c) Provide details of the regular inspections and maintenance of the construction

site, vehicles and equipment.

d) Practices and procedures for dealing with accidental spills of hazardous substances during construction, transportation or commissioning of the scheme to ensure spill response contingency plans will be met.

e) An emergency discharge response contingency plan.

4. **Erosion and Sediment Control Plan**

4.1 Prior to the commencement of construction of the scheme works, an Erosion and Sediment Control Plan shall be submitted to the Consent Authority. The purpose of the Erosion and Sediment Control Plan shall be to:

- To ensure construction activities achieve compliance with the conditions of consent for these activities.
- To ensure that the effects of erosion on water quality are minimised.
- To ensure consistency with Auckland Regional Council Technical Publications TP10 and TP90.
- To undertake assessment of sediment movement within all the impacted watercourses and address ongoing procedures for sediment control once the scheme is commissioned.

4.2 The Erosion and Sediment Control Management Plan shall as a minimum address the following matters:

a) Detailed design, location, operation and maintenance of stormwater runoff controls and sediment control facilities during construction activities at the site, including detailed engineering plans and design specifications.

b) Methods to minimise sediment generation and sediment laden run-off from the construction works.

c) Training and supervision of operators and contractors associated with sediment control activities.

d) Describe the existing (pre-construction) sediment movements for all the watercourses to be impacted by the scheme.

e) Describe the measures to be implemented to control sediment within the reservoirs in order to minimise sediment discharges at the ocean outfall.

f) Operational measures to control sediment entering the scheme, particularly while active mining is occurring in the catchment.

5. **Landscape and Rehabilitation Management Plan**

5.1 Prior to the commencement of the geotechnical investigations and construction scheme works, a Landscape and Rehabilitation Management Plan shall be submitted to the Consent Authority. The purpose of the Landscape and Rehabilitation Management Plan shall be to:

- Establish an indigenous vegetation cover on all disturbed areas appropriate to the respective construction site locations.
- To ensure short and long term stability of disturbed land and its surrounds.
- Visually integrate finished structures, landforms and vegetation into the surrounding landscape.
- To prevent weeds and pests invading the site so far as is reasonably possible, and otherwise to eradicate or control weeds and pests on the site.

5.2 The Landscape and Rehabilitation Management Plan shall as a minimum address the following matters:

a) Construction sequence and timetable of rehabilitation activities.

b) On completion of work at any location, all plant, equipment, fuels, hazardous substances, buildings, fencing, signage, debris, rubbish and any other materials brought onto site shall be removed, and the site left clean.

c) Rehabilitation plans and specifications for all disturbed land resulting from exploration drilling operations and areas outside of permanent occupation.

d) Rehabilitation plans and specifications for all disturbed land on the Stockton Plateau including roads, transmission lines, reservoir margins, dams/embankments, stream intake/weir structures, Weka power house area and Granity construction site so that finished landforms and vegetation cover are consistent with the surrounding natural landscape.

e) Landscaping strategies for the Granity construction area as determined in consultation with the respective landowners and the Granity Community Liaison Group.

f) Rehabilitation plans and strategies for the progressive rehabilitation of the two sediment fill sites, once used as permanent fill sites.

g) Rehabilitation plans and strategies for the realigned portions of the Repo Basin and Millerton incline walking tracks to achieve consistence with the surrounding natural landscape.

h) The design and appearance of visitor interpretation displays and access tracks to connect the display area to the Repo Basin walking track.

i) Measures to be implemented where direct vegetative transfer fails to successfully establish.

j) Methods for monitoring the success of revegetation planting to ensure a 90% established coverage of rehabilitated areas is achieved, as taken from initial coverage that existed pre-disturbance.

5.3 The Landscape and Rehabilitation Management Plan shall include a sub-section entitled "Weed and Pest Management" which shall provide details of weed and predator control measures and shall as a minimum address the following matters:

a) Plan of the rehabilitation areas within which control will be undertaken.

b) To define the specific exotic plant (including *Juncus squarrosus*) and/or animal predator species that will be targeted for control or eradication.

c) A description of the control techniques that will be used, including cleaning of machinery prior to entering sites on the Stockton Plateau.

d) The timeframe for and frequency of control operations, with control measures to be undertaken until such time as 90% established planting coverage on rehabilitated areas has been achieved.

e) A description of the monitoring that will be undertaken to assess the effectiveness of control operations.

f) Control of predators, particularly stoats and possums in the disturbed areas during construction and during the rehabilitation phase.

6. **Ocean Outfall Management Plan**

6.1 At least six months prior to commencing construction of the outfall pipeline (Coastal Permit RC08149/2), the Consent Holder shall submit an Ocean Outfall Management Plan shall be submitted to the Consent Authority. The purpose of the Ocean Outfall Management Plan shall be to:

- Describe additional water quality field trials, modelling and laboratory studies to be undertaken to verify predictions of the actual water quality to be discharged from the ocean outfall into the coastal marine environment.
- Describe the monitoring regime that will be implemented for the Weka Reservoir outfall to ensure the discharge meets ANZECC water quality guidelines at the edge of the mixing zone, as per conditions of consent.
- Describe the monitoring programme that will be undertaken to manage the actual or potential effects of the discharge on the coastal environment.
- Describe the mitigation measures that will be undertaken in the event that the discharge does not comply with conditions of consent.

6.2 The Ocean Outfall Management Plan shall as a minimum address the following matters:

a) An analysis of the range of acidity, pH levels, constituent metal concentrations and required dilutions for the discharge to meet ANZECC (2000) 95% trigger values for those determinands 300 metres from the discharge point.

b) An analysis of dilution at expected low, medium and high flows from the ocean outfall to be used to assess whether the effluent will meet water quality guidelines, particularly pH at the edge of the mixing zone under all flow conditions.

c) An analysis of the range of acidity and pH levels for the Weka Reservoir outfall discharge in order to assess the likely pH changes at the edge of the mixing zone

and operational constraints.

d) On determination of the range of operational discharges for the ocean outfall as per Conditions 6.2a) to c) above and f) below, the development of 30-day rolling median and 90 percentile discharge limits, and a monitoring programme, for the Granity powerstation tailrace discharge to check compliance with conditions of consent.

e) Operational protocols for the ocean outfall to ensure compliance with conditions of consent.

f) A one-off dispersion and dilution study to validate the predicted initial dilution results of the constituents of the ocean outfall [discharge] under reasonable worst-case conditions.

g) Establishment of a marine baseline survey in the vicinity of the final diffuser location, with focus on benthic infauna, sediment chemistry and local physical oceanography characteristics.

h) Monitoring programme of benthic infauna, sediment chemistry and discharge and receiving water quality including the timing, location and frequency of the sampling programme.

i) Management measures to be implemented when extreme climatic conditions adversely affect water quality conditions within Weka Reservoir and create a potential for non-compliance with conditions of consent.

j) To describe the methodology and certification procedures for making changes to the Ocean Outfall Management Plan.

7. **Annual Monitoring Report and Work Plan Report**

7.1 The Consent Holder shall prepare and submit an Annual Monitoring and Work Plan to the Consent Authority within 30 days of the anniversary of the commencement of exploration drilling (as authorised pursuant to Buller District Council's Land Use Consents RC08/131A and West Coast Regional Council's RC080149/9) and thereafter at yearly intervals until all rehabilitation requirements have been meet. The purpose of the plan shall be to:

- Describe the operations and rehabilitation measures undertaken in the previous 12 months.
- Provide an overview of the monitoring and reporting work undertaken and any issues that have arisen during construction of the scheme.
- Describe the operations and rehabilitation measures to be undertaken in the forthcoming 12 months.
- Calculate the extent of rehabilitation remaining to be completed and the costs associated with such rehabilitation.

7.2 The monitoring period in each report shall be for the preceding 12 month period and shall, as a minimum, include the following matters:

a) Detail all environmental monitoring undertaken.

b) Summarise all the data collected as required under the conditions of these

consents and management plans.

c) Highlight and discuss any important environmental effects.

d) Summarise any construction difficulties, changes or improvements undertaken.

e) Summarise any difficulties in compliance with, and breaches of, the conditions of the consents and the measures adopted to remedy or mitigate adverse effects and avoid reoccurrence.

f) Summarise any complaints received and any action taken by the Consent Holder to address each complaint.

g) Summarise any actions or initiatives proposed by the Granity Community Liaison Group in response to complaints received or issues which have arisen.

7.3 The work plan shall include the following matters:

a) A schedule of the operations, mitigation measures and rehabilitation carried out over the previous 12 months term.

b) Any explanation of any departure in the last 12 months from the previous Annual Work Plan.

c) A schedule of the operations, mitigation measures and rehabilitation intended to be undertaken within the next 12 months, including a general timetable of key construction and rehabilitation times.

d) An evaluation of the extent of rehabilitation remaining to be completed and the cost associated with such rehabilitation in terms of the items listed in General(Bond) Condition 5.6.

8. **Scheme Operation**

8.1 The Consent Holder shall produce an Operation, Maintenance and Surveillance Manual specifying those procedures to be adopted by the Consent Holder, or parties under its control with respect to the operation of the Stockton Plateau Hydro Scheme. This Manual shall be consistent with the recommendations of the NZSOLD Dam Safety Guidelines November 2000 (and any subsequent amendments) and shall detail how the safety of the scheme will be operated and maintained at all times. As a minimum the manual shall address the following matters:

a) Operational procedures for the Weka and Mt William spillways and the Granity Stream emergency spillway.

b) Procedures for operation of the weir gates on Mine and Mangatini Streams.

c) Procedures for controlling sediment build-up in the reservoir silt traps.

d) Operational procedures for the ocean outfall.

e) Comprehensive safety procedures and inspections.

f) Comprehensive safety review procedures.

8.2 This Manual shall be prepared by a suitably qualified person and provided to the Consents and Compliance Manager of the WCRC at least one month prior to the commissioning of the scheme. The scheme will be deemed to be commissioned on exercise of Coastal Permit RC08149/5 for the discharge into the marine environment.

8.3 Any emergency discharge into Granity Creek shall be reported in writing to the Consents and Compliance Manager of the West Coast Regional Council within five working days of the discharge occurring. Notification shall include an assessment of any impacts on the environment and any remedial measures required to be undertaken as a consequence of the exercise of these consents.

8.4 Where practicable, the Consent Holder shall notify downstream property owners, NZTA, Kiwi Rail and the Consent Authorities not less than 24 hours prior to using the emergency spillway into Granity Creek. Where it is not practicable to do so the Consent Holder shall notify the aforementioned parties immediately upon the use of such emergency discharge.

8.5 The Consent Holder shall be responsible for the structural integrity and maintenance of all works associated with the exercise of the consents and for any erosion control and energy dissipation works which become necessary as a consequence of these consents. Those works shall be maintained in proper working condition at all times.

9. **Hazardous Substances**

9.1 Hazardous substances and dangerous goods shall be stored and handled in accordance with the methods set out in the Hazardous Substances Management Plan, required by General (Construction Management Plan) Condition 3.3.

9.2 Refuelling, lubrication and mechanical repairs of equipment, and storage of hazardous substances or dangerous goods shall be undertaken in such a manner so as to ensure that spillages of hazardous substances or dangerous goods on to the land surface or into a waterbody do not occur. Any accidental discharge of greater than 20 litres shall be reported immediately to the regional Consent Authority along with details of the steps taken to remedy and/or mitigate the adverse effects of the discharge.

9.3 Bunds shall be positioned around the perimeter of mobile fuel tankers to capture any potential spills. The bunding shall be designed to capture at least 110% of the stored volume. Tankers shall be located in areas with an impervious surface and clean-up equipment shall be maintained so that it is in proper working condition at each fuel store throughout the duration of the scheme.

9.4 The power station switch yards shall be designed to ensure that transformers are located in sealed and bunded areas to contain any potential leakage of hazardous substances. The bunding shall be designed to capture at least 110% of the stored volume. Clean-up equipment shall be maintained so that it is in proper working condition at each powerstation.

9.5 The Consent Holder and all contractors and/or operators shall adhere to the spill response contingency strategies outlined in the Hazardous Substances Management Plan.

9.6 All contractors and/or operators transporting or storing more than 20 litres of fuel shall carry spill kits to enable immediate action to remedy and/or mitigate the effects of hazardous substances discharges on-site.

9.7 A list of all hazardous substances and dangerous goods shall be maintained at all times, showing location of storage and use, in case of emergencies.

10. **Aquatic Monitoring**

10.1 Within one year of commissioning of the scheme, the Consent Holder shall engage a recognised aquatic ecology expert to undertake surveys of aquatic bryophytes at the following locations:

a) Darcy Stream tributary downstream of the intake structure,

b) Weka Stream downstream of the Weka dam. Percentage of bryophyte cover shall be estimated at a minimum of 3 transects placed across sections of each stream. Each stream transect shall include stream bank habitat.

10.2 The aquatic ecology expert shall prepare a report detailing the findings of the surveys undertaken in General Condition 10.1 above, with this report to include an assessment of the general health of bryophytes surveyed comparative to other survey work that has been undertaken in Stockton Plateau streams.

10.3 The Consent Holder shall gather hydrological data, commencing from the issue of these consents, to establish a hydrological recording network to enable this data to be utilized for the final design of the scheme.

10.4 Water flow data from all streams and creeks within the scheme footprint area shall be collected and collated during periods of prolonged dry periods to enable mitigation measures to be implemented should adverse effects develop within the waterways. This data shall be available on request from the Consent Authority.

11. **Pests and Weeds**

11.1 Prior to machinery being transported to the Stockton Plateau construction sites, the Consent Holder shall ensure all soil and vegetative material adhering to the machinery is removed by water blasting to minimise the likelihood of carrying weeds up to the Consent Holder's construction sites.

11.2 The Consent Holder shall undertake weed and predator control (in particular stoats and possums) around the reservoir areas until all rehabilitation requirements have been met. Weed and predator control shall be carried out in accordance with the Weed and Pest Management strategies outlined in the latest certified version of the Landscape and Rehabilitation Plan.

11.3 As part of the weed control programme required under General Condition 5.3 above, the Consent Holder shall undertake a programme of *Juncus squarrosus* control on all disturbed areas within the scheme footprint, to prevent establishment of this invasive weed, until such time as all rehabilitation is complete.

11.4 The Consent Holder shall monitor on an annual basis predator numbers to assess the effectiveness of the predator control programme. The Consent Holder shall report its findings to the Consent Authority on an annual basis until such time as rehabilitation is complete.

12. **Granity Community Liaison Group**

12.1 Prior to commencement of construction of scheme works at Granity, the Consent Holder shall consult with the Granity Museum curator, Northern Buller Community Society, Solid Energy New Zealand, the Department of Conservation, local residents

and representatives from the Consent Authorities, and shall provide them with the opportunity to be involved in a Community Liaison Group. In the event that it is possible to establish such a group it shall be chaired by a person as agreed between the Consent Holder and the Consent Authorities.

12.2 In the event that it is not possible to establish such a group through no fault of the Consent Holder, then such failure to do so shall not be deemed a breach of these conditions.

12.3 The objectives of the Granity Community Liaison Group shall be to:

a) Maintain an effective working relationship between the local community, the Consent Authorities and the Consent Holder (including its contractors) during construction.

b) Promote the free flow of information between the local community, the Consent Holder and the Consent Authorities in order to anticipate and resolve any potential issues before they arise.

c) Evaluate the results of monitoring activities on a periodic basis.

d) Recommend any changes to proposed mitigation measures that might be appropriate in light of the monitoring.

e) Evaluate the benefits of continuing liaison once the scheme is operational and if deemed necessary, establishing an on-going working relationship.

12.4 The Granity Community Liaison Group shall be consulted in regard to the following:

a) Surface blasting procedures.

b) Evaluation of noise and vibration monitoring results and any potential issues in relation to noise and vibration.

c) Landscape and Rehabilitation measures for disturbed areas at Granity.

d) Construction traffic related matters including measures for ensuring public safety and management of construction traffic.

e) Potential improvements to the Charming Creek walkway, in the vicinity of the Mangatini Falls to enhance visitor experience.

f) Maintenance of potable water supplies within or immediately adjoining the scheme footprint at Granity.

g) Effects on Millerton walking track both during construction and following commissioning of the scheme.

Specific Conditions for Coastal Permits RC08149/1 – RC08149/8

COASTAL PERMIT RC08149/1:

To occupy land within the coastal marine area with an ocean outfall pipeline and diffuser, the occupation will extend approximately 600 metres offshore.

Located approx: N5952750 E2414175

1. Occupation of the coastal marine area shall be limited the area required for a sub surface pipeline and diffuser for the conveyance and discharge of tailwater from the

Granity power station, as generally shown Plan C-006.

2. In the event of the break up of the pipeline or diffuser structure, all the debris shall be removed from the coastal marine area.

3. The ocean outfall pipeline and diffuser shall be maintained in good structural and operating condition.

COASTAL PERMIT RC08149/2:

To erect and place an ocean outfall pipeline approximately 600 metres long and outfall diffuser within the foreshore and seabed.

Located approx: N5952750 E2414175

COASTAL PERMIT RC08149/3:

The disturbance of the foreshore and seabed to facilitate burial of an ocean outfall pipeline approximately 600 metres long and outfall diffuser.

Located approx: N5952750 E2414175

COASTAL PERMIT RC08149/4:

To maintain an ocean outfall pipeline approximately 600 metres long and an outfall diffuser within the coastal marine area.

Located approx: N5952750 E2414175

1. The Consent Holder shall undertake the activities authorised by these consents in accordance with the latest certified version of the Construction Management Plan and Ocean Outfall Management Plan.

2. The disturbance shall be limited to that reasonably necessary to facilitate the installation of the sub surface pipeline to convey tailwater using micro-tunnelling method.

3. The pipeline shall be placed at a surveyed bed level of sufficient depth to ensure that the pipeline remains below the active sea bed level and is adequately protected throughout its operational life. Survey plans shall be provided to the Consents and Compliance Manager of the Consent Authority to confirm compliance with this condition within two months of the completion of ocean outfall pipeline and diffuser works.

4. No drilling fluid shall be released into the coastal marine area.

5. There shall be no storage of fuel or refuelling of vehicles and machinery within the foreshore of the coastal marine area.

6. In the event of the detection of any system failure in the ocean outfall pipeline and/or the diffuser, the Consent Holder shall notify the Consents and Compliance Manager of the Consent Authority within 24 hours of becoming aware of it, and provide details of:

   (a) The nature of any failure; and

   (b) Any remedial works to be carried out.

7. In exercising these consents the Consent Holder shall adopt the best practicable option to ensure that emission of noise from within the coastal marine area does not exceed the noise level standards laid down within the West Coast Regional Coastal

Plan.

COASTAL PERMIT RC08149/5:

To discharge tailrace water into the coastal marine area from the Granity power station, via an ocean outfall pipeline and diffuser.

Located approx: N5952920 E2413930

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Ocean Outfall Management Plan.
2. The Consent Holder shall provide an easily accessible sampling point within the Granity power station to enable representative sampling of tailrace water to be taken.
3. The Consent Holder shall maintain a continuous record (of not less than 15 minute intervals) of the flow and pH level of the tailrace water discharged from Granity power station into the coastal marine area. These records shall be retained by the Consent Holder and made available to the Consent Authority upon request.
4. For the purpose of monitoring compliance with receiving water quality standards the discharge shall be sampled outside of the zone of reasonable mixing which extends to a maximum distance of 300 metres from every point of the outfall diffuser (discharge point). The Consent Holder shall accurately mark the location of the outfall diffuser and the 300 metre mixing zone on a recent aerial photograph and provide it to the Consent Authority prior to exercising this consent. At the edge of the zone of reasonable mixing ("mixing zone"), the discharge shall not cause the receiving water quality to exceed the following limits:

Parameter	Receiving Water Quality Limits for Discharge
Clarity	No reduction by more than 50% in the clarity of the receiving water beyond the mixing zone, measured by a Secchi disk or transmissometer, when compared against a control sample located 1000 metres perpendicular to the outfall diffuser midpoint in the direction of the movement of the plume.
pH	No greater than a 0.5 unit pH change in the receiving water at the edge of the mixing zone in comparison with a seawater sample collected 1000 metres perpendicular to the outfall diffuser midpoint in the direction of the movement of the plume.
Toxicants	ANZECC (2000) 95% Trigger Values for those toxicants identified in the studies undertaken during the development of the Ocean Outfall Management Plan as having potential to cause adverse ecological effects in the receiving environment.
Metals ANZECC (2000)	Ni – 0.07 mg/L Zn - 0.015 mg/L Pb – 0.0044 mg/L Cu – 0.0013 mg/L Cd – 0.0055 mg/L

5. In accordance with the Ocean Outfall Management Plan, the Consent Holder shall monitor pH and clarity daily at the Granity power station tailrace as indicator parameters that the water quality limits for discharge defined in Condition 4 above and Weka Reservoir discharge, as specified in Ocean Outfall Management Plan, are being met.

6. In addition to Condition 5 above, for the first two years of operation of the scheme, the Consent Holder shall undertake monitoring of the receiving water at the edge of the mixing zone, at a frequency not less than every three months, to confirm that the required water quality parameter limits for the ocean outfall, as identified in the Ocean Outfall Management Plan, comply with Condition 4 above. The Consent Holder shall ensure that no less than 8 separate sampling events of the receiving water are undertaken. This monitoring shall include an analysis of:

    i) Water clarity

    ii) pH

    iii) Ni, Zn, Pb, Cu, Cd, As, Fe, Al plus those parameters (toxicants) identified in the studies undertaken as part of the Ocean Outfall management Plan as having potential to cause adverse ecological effects in the receiving environment.

    iv) Dissolved oxygen

    v) Temperature

    vi) Salinity

    vii) Visual observation of scums, foams and other floatable material

    Thereafter monitoring of the receiving water at the edge of the mixing zone shall be undertaken at least once annually.

    The Consent Holder shall provide the West Coast Regional Council with a copy of all receiving water monitoring analyses within ten working days of receiving them.

7. In the event that monitoring undertaken in Condition 6 above shows that the discharge causes the receiving water to exceed the required water quality limits as listed in Condition 4 above, the Consent Holder shall undertake monthly monitoring, and modify (possibly by extending) the diffuser, until such time that the water quality limits have been met for a continuous 6 month period. Thereafter, monitoring shall be undertaken at the Granity power station tailrace to achieve the stated flow and modelled dilution factors as stipulated in the Ocean Outfall Management Plan and Condition 5 above.

8. The water quality parameters set out in Condition 4 above may be reviewed after the first year of monitoring and individual parameters removed from the monitoring list, provided there has been no exceedence of the stipulated limit for those parameters as specified in Condition 4.

9. In the event that Conditions 4 to 6 above are not complied with, the Consent Holder shall implement mitigation measures as outlined in the Ocean Outfall Management Plan in order to address the any potential adverse effects of the non-compliance.

10. Prior to exercising this consent, when mussels are present in sufficient numbers and under such conditions that allows them to be collected for eating purposes, the Consent Holder shall sample representative shellfish taken at a location/s stipulated

in the Ocean Outfall Management Plan and provide analyses of metal and metalloid concentrations to establish baseline levels. Within six months of first exercising this consent and therafter annually, the Consent Holder shall sample representative shellfish taken at a location/s stipulated in the Ocean Outfall Management Plan and provide analyses of metal and metalloid concentrations. After sampling and analysing five representative annual samples, the Consent Holder shall provide the the Consent Authority with a summary of the monitoring results and a report from a suitably qualified person assessing potential bioaccumulation in relation to baseline metal and metalloid concentration levels.

11. Notwithstanding any other conditions, the discharge authorised by this consent shall not give rise to any of the following effects beyond the 300 metre mixing zone:

    a) The production of conspicuous oil or grease films, scums or foams or floatable suspended materials.

    b) Any conspicuous change in the colour or visual clarity.

    c) Any emission of objectionable odour.

    d) Any significant adverse effects on aquatic life.

12. The Consent Holder shall undertake the following monitoring in the receiving waters:

    a) <u>Benthic monitoring</u>

        i. A baseline benthic survey prior to outfall construction based on at least three composited sediment samples (taken a minimum of 10 metres apart for each transect sampling point) for examination of benthic fauna at sites adjacent to the discharge point. Samples shall be collected from sites (transects) at 25, 100, 300, 500 and 1000 metres on each side of the centre point of the outfall diffuser in a alongshore direction (a minimum of 10 sample points and 30 samples) and be processed using a 0.5 millimetre sieve, and the invertebrates collected, counted and identified to the lowest practical taxonomic level.

        ii. A post commissioning benthic survey of the same sites within two years of commissioning the outfall, but not less than 12 months from commissioning.

        iii. Surveillance monitoring benthic survey of the same sites at five yearly intervals, or as otherwise approved by the Consent Authority.

    b) <u>Sediment Quality</u>

        i A baseline sediment quality survey prior to outfall construction from the locations referred to above, (a minimum of 30 samples). At each of the sites a series of 3 surficial sediment samples (100 millimetres depth all size fractions combined) are to be taken.

        ii. A sediment quality survey at the above sites at five yearly intervals after outfall commission, unless otherwise approved by the Consent Authority.

        iii. The following analysis to be undertaken on all samples collected:

- Physical characteristics – grain size (gravel, sand, mud) as % dry weight.
- Organic status – total organic carbon or Ash free dry weight.
- Metals and metalloids – Al, Cu, Fe, Pb, Ni, Zn.

COASTAL PERMIT RC08149/6:

To erect and place temporary structures on the foreshore and seabed including sheet piling, rock breast work, sea anchors and other navigational and securing structures for the purpose of constructing and maintaining an ocean outfall pipeline and diffuser.

Located approx: N5952750 E2414175

COASTAL PERMIT RC08149/7:

To occupy land within the coastal marine area with temporary structures on the foreshore and seabed including sheet piling, rock breast work, sea anchors and other navigational and securing structures for the purpose of constructing and maintaining an ocean outfall pipeline and diffuser.

Located approx: N5952750 E2414175

COASTAL PERMIT RC08149/8:

The disturbance of the foreshore and seabed with temporary structures including sheet piling, rock breast work, sea anchors and other navigational and securing structures for the purpose of constructing and maintaining an ocean outfall pipeline and diffuser.

Located approx: N5952750 E2414175

1. The Consent Holder shall undertake the activities authorised by these consents in accordance with the latest certified version of the Construction Management Plan.
2. The occupation and disturbance shall be limited to temporary structures required to facilitate the installation of the ocean outfall pipeline and diffuser.
3. On completion of works, all disturbed areas shall be returned to a state generally consistent with the surrounding coastal marine area.
4. In exercising these consents the Consent Holder shall adopt the best practicable option to ensure that emission of noise from within the coastal marine area does not exceed the noise level standards laid down within the West Coast Regional Coastal Plan.

Specific Conditions for Land Use Consents RC08149/9 – RC08149/20

LAND USE CONSENT RC08149/9:

Vegetation disturbance and earthworks associated with exploration drilling within the Scheme footprint. The activity will occur within the full extent of the Scheme.

Located approx: N5948300 E2417600 and N5952390 E2414660

1. A least one month prior to commencing any drilling activity the Consent Holder shall prepare and submit a work plan detailing the following:
   a) Approximate site of all drill holes;
   b) Access to be used; and
   c) Anticipated time frames to complete the drilling programme.
2. All drill holes shall be located within the footprint of the scheme dams, tunnels and reservoirs, with access to be gained via existing tracks where practicable or along the alignment of proposed new access roads.
3. The Consent Holder shall ensure that the maximum area of disturbance resulting from operation of the drill rig is limited to 75 square metres per drilling site.
4. The Consent Holder shall ensure that all vegetation disturbed by the drill rig operation is rehabilitated immediately following the removal of the drill rig to achieve a 90 percent established vegetative cover. Rehabilitation shall be undertaken accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.

LAND USE CONSENT RC08149/10:

Earthworks and vegetation clearance to construct, operate and maintain the Scheme including Roller Compacted Concrete dams, embankments, saddle dams, spillways, diversion weirs, diversion intake sumps, tunnels, canals, inlet towers, drop shafts, portals, intake excavations, intake channels, penstocks, power stations, tracks, roads, silt traps, silt storage areas, stockpiling/fill areas, temporary buildings, construction plant, settling ponds, transmission spur lines and ocean outfall pipeline.

The activity will occur within the full extent of the Scheme. Located approx: N5948300 E2417600 and N5952390 E2414660

LAND USE CONSENT RC08149/11:

Earthworks and vegetation clearance, including excavations for intakes and placement of fill to establish, repair and maintain a storage reservoir of approximately 28 hectares, upstream of Weka Creek gorge.

Located approx: N5952245 E2418885

LAND USE CONSENT RC08149/12:

Earthworks and vegetation clearance, including excavations for intakes and placement of fill to establish, repair and maintain a storage reservoir of approximately 50 hectares on St Patrick Stream at Mt William.

Located approx: N5947510 E2419410

1. The Consent Holder shall undertake the activities authorised by these consents in accordance with the latest certified version of the Construction Management Plan and Erosion and Sediment Control Plan.

2. All activities authorised by these consents shall be implemented under the supervision of persons with appropriate experience in the supervision of civil engineering construction works.

3. The Consent Holder shall ensure that all disturbed vegetation, soil or other material is deposited, stockpiled or contained to prevent the movement of such material into any watercourse.

4. Vegetation, litter and topsoil shall be retained and kept separate for use in adjoining rehabilitation areas.

5. The Consent Holder shall ensure that unnecessary riparian vegetation clearance does not occur.

6. The Consent Holder shall ensure that silt control measures, as outlined in the latest certified versions of the Erosion and Sediment Control Plan, are in place prior to the exercise of these consents, including diversion channels for watercourses and clean stormwater runoff, with the exception of the long term dam silt traps.

7. In carrying out all earthworks the recommendations of Auckland Regional Council's TP90 "Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region" shall be adopted including the following measures:

   a) Divert clean runoff around the construction area.

   b) Direct runoff from disturbed sites into silt traps prior to discharge to receiving streams or clean water drainage channels.

   c) Temporary silt or settling ponds constructed shall be designed to withstand a two year return period storm event.

   d) Provide protection against erosion and entrainment of further sediment at the discharge point.

   e) Keep disturbed areas to a practicable minimum and reinstate as soon as practical following completion of earthworks.

8. The Consent Holder shall ensure that all operational spillways are designed to have a stabilised path to a receiving watercourse and that no erosion results from the operation of such spillways.

9. The long term silt traps to be constructed at the head of each of the streams feeding into the reservoirs are to be built immediately after the dams have been constructed.

Rehabilitation Requirements

10. The vegetation rehabilitation of all areas affected by construction shall include appropriate indigenous planting using locally sourced seeds and plants genetically similar to those within the Stockton/Denniston Plateau area. Seed and plant resources shall be genetically sourced from the locality or Ngakawau Ecological District from at least 500 metres above sea level.

11. The Consent Holder shall, as far as practicable salvage topsoil and forest duff from areas to be disturbed.

12. Salvaged material shall be used for rehabilitation purposes in accordance with the principle of achieving a minimum of 100 millimetres of topsoil on forest and shrubland rehabilitation and 300 millimetres of topsoil on tussock rehabilitation over subsoils and/or 1.5-3 metres of non-acid generating overburden.

13. The Consent Holder shall utilise, wherever practical given the characteristics of the land, direct vegetative transfer methods of rehabilitation.

14. On completion of work at any location, all plant, equipment, fuels, hazardous substances, buildings, fencing, signage, debris, rubbish and any other materials brought onto site shall be removed, and the site left clean.

15. Within one year of commissioning of the scheme, the Consent Holder shall ensure any residue of sediment and scale resulting from construction of the scheme shall be removed from the rock surfaces at the Mangatini Falls.

16. Within one year of commissioning of the scheme the Consent Holder shall ensure appropriate indigenous species shall be sourced and planted around the margins of the Mangatini Falls to revegetate the areas that have been affected by historic Acid Mine Drainage contamination.

17. Immediately following the commencement of activities under these consents, the Consent Holder shall initiate and maintain a programme of progressive rehabilitation and revegetation of the land in accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.

    Advice Note: *Rehabilitation obligations will be deemed to have been met on achieving a 90 percent established planting cover, as taken from initial coverage pre-disturbance.*

LAND USE CONSENT RC08149/13:

Earthworks and vegetation clearance to construct, operate and maintain temporary and permanent access roads and tracks within the Scheme footprint, including realignment of the Stockton Mine haul road over approximately 800 metres.

Located approx: N5948300 E2417600

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified versions of the Construction Management Plan, Terrestrial Ecology Management Plan and Erosion and Sediment Control Plan.

2. All access roads and the realigned mine haul road shall be adequately serviced with watertables, cut-offs and culverts to control surface water runoff and minimise the scouring of road surfaces, water tables, cut-offs and culvert outfalls.

3. In carrying out all earthworks the recommendations of Auckland Regional Council's TP90 "Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region" shall be adopted including the following measures:

   a) Divert clean runoff around the construction area.

   b) Direct runoff from disturbed sites into silt traps prior to discharge to receiving streams or clean water drainage channels.

   c) Temporary silt or settling ponds constructed shall be designed to withstand a two year return period storm event.

   d) Provide protection against erosion and entrainment of further sediment at the discharge point.

   e) Keep disturbed areas to a practicable minimum and reinstate as soon as practical following completion of earthworks.

4. The Consent Holder shall be responsible for the structural integrity and maintenance of all works associated with the exercise of this consent and for any erosion control works which become necessary as a consequence of the exercise of this consent.

5. Immediately following the commencement of activities under this consent, the Consent Holder shall initiate and maintain a programme of progressive rehabilitation and revegetation of the land in accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.

6. Vegetation, litter and topsoil shall be retained and kept separate for use in adjoining rehabilitation areas.

7. The Consent Holder shall ensure that unnecessary riparian vegetation clearance does not occur.

LAND USE CONSENT RC08149/14:

To disturb the bed of Weka Creek to erect, place, repair and maintain a Roller Compacted Concrete dam, spillway and associated structures, including temporary diversion works in the creek channel for construction purposes and deepening of the creek channel in the vicinity of the proposed Weka power station.

Located approx: N5952640 E2418910

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.

2. Bed disturbance shall be limited to the extent necessary to undertake the works and shall not unnecessarily damage the watercourse banks or cause any flooding or erosion.

3. The Consent Holder shall ensure that all reasonable steps are taken to minimise the release of sediment during the exercise of this consent.

4. The temporary sluice culvert in Weka Creek to enable dam construction shall be designed to cater for a 10 year flood event.

5. The temporary diversion associated with the installation of the sluice culvert shall be undertaken during dry conditions when water flows are low and there is a clear weather window. Installation of the culvert shall be undertaken in the dry bed, prior

to water flows being returned to the original creek channel.

6. The Consent Holder shall be responsible for the structural integrity and maintenance of all works associated with the exercise of this consent and for any erosion control works which become necessary as a consequence of the exercise of this consent.
7. The Consent Holders shall ensure that disturbed areas along the margins of Weka Creek are rehabilitated and revegetated in accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.
8. No construction activities shall occur within the Ngakawau Ecological Area.

LAND USE CONSENT RC08149/15:

To disturb the beds of Upper Mine Creek and Mangatini Stream to erect, place, repair and maintain weir/intake structures to divert flows into the Weka reservoir, including temporary diversion of the stream channel for construction purposes.

Located approx: N5951520 E2417850 and N5951520 E2419600

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.
2. Bed disturbance shall be limited to the extent necessary to undertake the works and shall not unnecessarily damage any watercourses banks or cause any flooding or erosion.
3. The temporary diversions associated with the installation of the weirs shall be undertaken during dry conditions when water flows are low and there is a clear weather window. Installation of the weir structures shall be undertaken in the dry bed, prior to water flows being returned to the original channel.
4. The Consent Holders shall ensure that disturbed areas along the margins of Mine Creek and Mangatini Stream are rehabilitated and re vegetated in accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.

LAND USE CONSENT RC08149/16:

To disturb the bed of Sandy Creek to create the Weka reservoir and erect, place, repair and maintain the Upper Mine Creek diversion tunnel outlet, a silt trap and placement of a culvert during realignment of the Stockton haul road and temporary diversion of the stream channel for construction purposes.

Located approx: N5951765 E2418250

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.
2. Bed disturbance shall be limited to the extent necessary to undertake the works and shall not unnecessarily damage the watercourses banks or cause any flooding or erosion.
3. The Consent Holder shall ensure that all reasonable steps are taken to minimise the release of sediment during the exercise of this consent.
4. The culvert within Sandy Creek to enable realignment of the mine haul road shall be designed to cater for a 100 year flood event.

5. The Consent Holder shall be responsible for the structural integrity and maintenance of all works associated with the exercise of this consent and for any erosion control works which become necessary as a consequence of the exercise of this consent.
6. The Consent Holders shall ensure that disturbed areas along the margins of Sandy Creek are rehabilitated and revegetated in accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.

LAND USE CONSENT RC08149/17:

To disturb the bed of St Patrick Stream to erect, place, repair and maintain a Roller Compacted Concrete dam and associated structures, including construction of a silt trap and temporary diversion works in the stream channel for construction purposes.

Located approx: N5947615 E2419580

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.
2. Bed disturbance shall be limited to the extent necessary to undertake the works and shall not unnecessarily damage the watercourses banks or cause any flooding or erosion.
3. The Consent Holder shall ensure that all reasonable steps are taken to minimise the release of sediment during the exercise of this consent.
4. The temporary sluice culvert in St Patrick Stream to enable dam construction, shall be designed to cater for a 10 year flood event.
5. The temporary diversion associated with the installation of the sluice culvert shall be undertaken during dry conditions when water flows are low and there is a clear weather window. Installation of the culvert shall be undertaken in the dry bed, prior to water flows being returned to the original channel.
6. The Consent Holder shall be responsible for the structural integrity and maintenance of all works associated with the exercise of this consent and for any erosion control works which become necessary as a consequence of the exercise of this consent.
7. The Consent Holder shall ensure that disturbed areas along the margins of St Patrick Stream are rehabilitated and revegetated in accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.

LAND USE CONSENT RC08149/18:

To disturb the bed of tributaries of Darcy Stream and a tributary of St Patrick Stream to erect, place, repair and maintain intake sumps to divert flows into Mt William storage reservoir, including temporary diversion of the stream channel for construction purposes.

Located approx: N5946490 E2420460

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.
2. Bed disturbance shall be limited to the extent necessary to undertake the works and shall not unnecessarily damage any watercourse banks or cause any flooding or erosion.

3 The temporary diversions associated with the installation of the intake sumps shall be undertaken during dry conditions when water flows are low and there is a clear weather window. Installation of the intake sumps shall be undertaken in the dry bed, prior to water flows being returned to the original channels.

4. The Consent Holders shall ensure that disturbed areas along the margins of Darcy Stream are rehabilitated and revegetated in accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.

LAND USE CONSENT RC08149/19:

To disturb the beds of Fly, Plover and T31 Streams to create the Mt William storage reservoir, including construction of silt traps and temporary diversion of stream channels for construction purposes.

Located approx: N5947430 E2419120

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.
2. Bed disturbance shall be limited to the extent necessary to undertake the works and shall not unnecessarily damage the watercourses banks or cause any flooding or erosion.
3. The Consent Holder shall ensure that all reasonable steps are taken to minimise the release of sediment during the exercise of this consent.
4. The Consent Holder shall be responsible for the structural integrity and maintenance of all works associated with the exercise of this consent and for any erosion control works which become necessary as a consequence of the exercise of this consent.
5. The Consent Holders shall ensure that disturbed areas along the margins of all watercourses are rehabilitated and revegetated in accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.

LAND USE CONSENT RC08149/20:

To disturb the bed of Granity Stream in constructing and maintaining an overflow diffuser for discharge of Granity power station tailwater in emergency situations and to disturb the bed in placing and maintaining rock work around the diffuser structure.

Located approx: N5952545 E2414673

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.
2. Bed disturbance shall be limited to the extent necessary to undertake the works and shall not unnecessarily damage the watercourse banks or cause any flooding or erosion.
3. The Consent Holder shall ensure that all reasonable steps are taken to minimise the release of sediment during the exercise of this consent.
4. The Consent Holder shall ensure that peak flow from an emergency discharge will not disturb the natural armouring of Granity Stream channel and will be contained within the watercourse's banks.

5. The Consent Holder shall ensure that any reinstatement works required after flood damage are, as far as practicable, undertaken on the recession of the flood while water flows are naturally turbid.

6. The Consent Holders shall ensure that disturbed areas along the margins of Granity Stream are rehabilitated and revegetated in accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.

Specific Conditions for Water Permits RC08149/21 – RC08149/32

WATER PERMIT RC08149/21:

To take and use water from St Patrick, Darcy, Mangatini, Mine, and Granity Streams and Weka and Sandy Creeks and their tributaries to supply water for operation of a drilling rig. Located approx: N5952640 E2418910 and N5947615 E2419580 and N5952545 E2414673

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.

2. The maximum rate of take from any watercourse shall not exceed 1 litre per second.

3. The Consent Holder shall monitor and record the volume of water abstracted under this consent based on the volume pumped per day (m^3day^{-1}) if requested by the Consents and Compliance Manager of the Consent Authority.

WATER PERMIT RC08149/22:

To take, use, dam and divert St Patrick Stream by means of a Roller Compacted Concrete dam to create the Mt William storage reservoir, including temporary diversion for construction purposes.

Located approx: N5947600 E2419575

1 The Consent Holder shall ensure the dam spillway does not exceed a maximum of 575 metres RL (reduced level above sea level).

WATER PERMIT RC08149/23:

To take, use and divert tributaries of Darcy Stream and a tributary of St Patrick Stream by means of intake sumps to create the Mt William storage reservoir, including temporary diversions for construction purposes.

Located approx: N5946490 E2420460

WATER PERMIT RC08149/24:

To take, use and divert water from Plover, Fly and T31 Streams to create the Mt William storage reservoir, including temporary diversions for construction purposes.

Located approx: N5947430 E2419120

1. The Consent Holder shall undertake the activities authorised by these consents in accordance with the latest certified version of the Construction Management Plan.

2. The Consent Holder shall ensure that machinery activity in the bed of any watercourse is kept to a minimum and that bed disturbance is limited to the extent necessary to undertake the works.

3. The Consent Holder shall ensure that all reasonable steps are taken to minimise the release of sediment during the exercise of these consents.

WATER PERMIT RC08149/25:

To take and use water collected in the Mt William reservoir via the Stockton tunnel and penstock to supply the Weka power station.

Located approx: N5949380 E2418090

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.

WATER PERMIT RC08149/26:

To take, use, dam and divert Weka Creek by means of a RCC dam to create the Weka storage reservoir, including temporary diversion for construction purposes.

Located approx: N5952640 E2418910

1. The Consent Holder shall ensure the dam spillway does not exceed a maximum of 390 metres reduced level above sea level.

WATER PERMIT RC08149/27:

To take, use, dam and divert Upper Mine Creek, Mangatini and A.J. Streams by means of weirs and diversion tunnels to create the Weka storage reservoir, including temporary diversions for construction purposes.

Located approx: N5951520 E2417850 and N5951520 E2419600

WATER PERMIT RC08149/28:

To take, use and divert Sandy Creek to create the Weka storage reservoir, including temporary diversions for construction purposes.

Located approx: N5951765 E2418250

1. The Consent Holder shall undertake the activities authorised by these consents in accordance with the latest certified version of the Construction Management Plan.

2. The Consent Holder shall ensure that machinery activity in the bed of any watercourse is kept to a minimum and that bed disturbance is limited to the extent necessary to undertake the works.

3. The Consent Holder shall ensure that all reasonable steps are taken to minimise the release of sediment during the exercise of these consents.

WATER PERMIT RC08149/29:

To take and use water collected in the Weka reservoir via the Granity tunnel and penstock to supply the Granity power station.

Located approx: N5951070 E2416830

WATER PERMIT RC08149/30:

To take groundwater seepage as a result of de-watering during tunnel construction.

Located approx: N5948300 E2417600 and N5952390 E2414660

WATER PERMIT RC08149/31:

To take groundwater seepage from the Scheme tunnels and reservoirs for use in the Weka and Mt William storage reservoirs.

Located approx: N5951790 E2418590 and N5946890 E2419620

1. The Consent Holder shall undertake the activities authorised by these consents in accordance with the latest certified version of the Construction Management Plan.

WATER PERMIT RC08149/32:

To take and use water from St Patrick, Weka, Mangatini, Mine, Sandy and Granity Streams and tributaries to supply water for construction activities, including operation of the concrete and dam fill batching plants.

Located approx: N5952640 E2418910 and N5947615 E2419580 and N5952545 E2414673

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.
2. The maximum rate of take from any watercourse shall not exceed 5 litres per second.
3. The Consent Holder shall monitor and record the volume of water abstracted under this consent based on the volume pumped per day (m^3d^{-1}) if requested by the Consents and Compliance Manager of the Consent Authority.

Specific Conditions for Discharge Permits RC08149/33 – RC08149/42

DISCHARGE PERMIT RC08149/33:

To discharge tailwater from the Weka power station into Weka reservoir.

Located approx: N5952060 E2418900

DISHCARGE PERMIT RC08149/34:

To discharge spill from Mt William reservoir into T35 Stream.

Located approx: N5947830 E2419375

1. The Consent Holder shall undertake the activities authorised by these consents in accordance with the latest certified version of the Operation, Maintenance and Surveillance Manual.
2. The maximum rate of discharge into T35 Stream shall not exceed 300 cubic metres per second.

DISCHARGE PERMIT RC08149/35:

To discharge spill from Weka reservoir into Weka Creek.

Located approx: N5952640 E2418910

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the provisions of the Operation, Maintenance and Surveillance Manual.
2. The maximum rate of discharge into Weka Creek shall not exceed 65 cubic metres per second.
3. The Consent Holder shall be responsible for the structural integrity and maintenance of all works associated with the exercise of this consent and for any erosion control works which become necessary as a consequence of the exercise of this consent.

DISCHARGE PERMIT RC08149/36:

To discharge tailwater from the Granity power station into Granity Stream during emergency overflow situations.

Located approx: N5952545 E2414673

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the provisions of the Operation, Maintenance and Surveillance Manual.
2. The maximum rate of discharge into Granity Stream shall not exceed nine cubic metres per second.
3. Any emergency discharge shall be reported in writing to the Consents and Compliance Manager of the Consent Authority within five working days of such a spill occurring. Notification shall include an assessment of any impacts on the environment and any remedial measures required to be undertaken as a consequence of the exercise of this consent.
4. Where practicable, the Consent Holder shall notify downstream property owners, NZTA and Kiwi Rail not less than 24 hours prior to using the emergency spillway into Granity Creek. Where it is not practicable to do so the Consent Holder shall notify the aforementioned parties immediately upon the use of such emergency spillway.
5. The Consent Holder shall be responsible for the structural integrity and maintenance of all works associated with the exercise of this consent and for any erosion control works which become necessary as a consequence of the exercise of this consent.

DISCHARGE PERMIT RC08149/37:

To discharge groundwater seepage during tunnelling activities and plant process water into Granity Stream, via the emergency outflow diffuser.

Located approx: N5952545 E2414673

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.
2. The discharge of groundwater seepage shall be directed through sediment control measures prior to discharge into Granity Stream. The sediment control measures shall be of sufficient capacity to ensure compliance with Condition 3 of this consent.
3. Beyond a mixing zone of 12 times the width of Granity Stream measured at the point of discharge, or 200 metres downstream, whichever is the lesser, the discharge shall not give rise to any of the following effects in the receiving water:
    i) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material.
    ii) Any conspicuous change in colour or visual clarity.
    iii) Any emission of objectionable odour.
    iv) The rendering of fresh water unsuitable for consumption by farm animals.
    v) Any significant adverse effects on aquatic life.

DISCHARGE PERMIT RC08149/38:

To discharge stormwater from construction activities, plant process water and groundwater seepage from tunnelling construction into St Patrick, Mangatini, Upper Mine and Weka, Sandy Streams or tributaries.

Located approx: N5946820 E2419530 and N5951560 E2419585 and N5951535 E2417850 and N5951640 E2418145

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.
2. All discharge of stormwater, plant process water and groundwater seepage shall be directed through sediment control measures prior to discharge to watercourses. The sediment control measures shall be of sufficient capacity to ensure compliance with Condition 3 of this consent.
3. Beyond a mixing zone of 12 times the width of the receiving water body measured at the point of discharge, or 200 metres downstream, whichever is the lesser, the discharge shall not give rise to any of the following effects in the receiving waters:
    i) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material.
    ii) Any conspicuous change in colour or visual clarity.
    iii) Any emission of objectionable odour.

iv) The rendering of fresh water unsuitable for consumption by farm animals.

v) Any significant adverse effects on aquatic life.

4. The discharge/use of flocculating agents is not permitted under this consent.

DISCHARGE PERMIT RC08149/39:

To discharge solid contaminants, being sediment onto land at fill locations adjacent to the Mt William and Weka reservoirs.

Located approx: N5946655 E2418540 and N5952055 E2418740

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.
2. The Consent Holder shall ensure that all runoff from the silt storage areas is directed into the reservoirs.
3. The Consent Holder shall maintain a programme of progressive rehabilitation and revegetation of fill locations in accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.

DISCHARGE PERMIT RC08149/40:

To discharge stormwater and sediment associated with construction activities onto land (in circumstances which may result in the stormwater entering water).

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.
2. All discharge of stormwater to land shall be directed through sediment control measures prior to discharge to watercourses. The sediment control measures shall be of sufficient capacity to ensure compliance with Condition 3 of this consent.
3. Beyond a mixing zone of 12 times the width of the receiving water body measured at the point of discharge, or 200 metres downstream, whichever is the lesser, the discharge shall not give rise to any of the following effects in the receiving water:

   i) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material.

   ii) Any conspicuous change in colour or visual clarity.

   iii) Any emission of objectionable odour.

   iv) The rendering of fresh water unsuitable for consumption by farm animals.

   v) Any significant adverse effects on aquatic life.

4. The discharge/use of flocculating agents is not permitted under this consent.

DISCHARGE PERMIT RC08149/41:

To discharge water containing sediment to land from operation of a drill rig. The activity will occur within the full extent of the scheme.

Located approx: N5948300 E2417600 and N5952390 E2414660

1. All discharges from operation of the drill rig to land shall be directed through sediment control measures prior to discharge to watercourses. The sediment control measures shall be of sufficient capacity to ensure compliance with Condition 2 of this consent.
2. Beyond a mixing zone of 12 times the width of the receiving water body measured at the point of discharge, or 200 metres downstream, whichever is the lesser, the discharge shall not give rise to any of the following effects in the receiving water:
    i) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material.
    ii) Any conspicuous change in colour or visual clarity.
    iii) Any emission of objectionable odour.
    iv) The rendering of fresh water unsuitable for consumption by farm animals.
    v) Any significant adverse effects on aquatic life.

DISCHARGE PERMIT RC08149/42:

To discharge contaminants to air associated with the construction, operation and maintenance of the Stockton Plateau Hydro Scheme including but not limited to dust associated with the excavation, handling, conveying and processing of gravel, sand, soil, rock, and other natural materials; the operation of aggregate crushing and screening, and concrete batching plants and stockpiling activities; and dust /fumes emitted via tunnel ventilation systems.

The discharge will occur within the full extent of the scheme.

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan.
2. The Consent holder shall undertake appropriate dust mitigation measures for worked areas to ensure that dust nuisance is minimised including but not limited to the use of water sprinklers and water carts.
3. The Consent Holder shall use all practicable means to ensure that the concentrations of nuisance dust attributable to construction activities do not exceed the Ministry for the Environments dust nuisance criteria of 120 micrograms per cubic metre as a 24-hour average for total suspended particulate, and 4 grams per square metre per 30 days above ambient for deposited particulate, at the notional boundary of any residential dwelling occupied by non scheme personnel on another site.
4. The Granity site entrance off State Highway 67 (adjacent to the band rotunda) shall be constructed to an industrial, reinforced, standard and shall be sealed for a minimum distance of 20 metres beyond the State Highway to ensure dust generated by vehicle

movements is minimised.

Advice Notes:

1. *The Consent Holder is advised that building consents are required under the Building Act 2004 and Building (Dam Safety) Regulations 2008. Copies of all approved building consents should be submitted to the Consent Authority.*
2. *For the purposes of Scheme Operation Condition 8.4, the term "where practicable" shall encompass the following scenarios:*
    a) *Where the Consent Holder is made aware of an issue with the performance of the ocean outfall either by way of a third party or through its own investigations and intends to operate the emergency spillway; or*
    b) *Where the Consent Holder intends to shut down the ocean outfall for maintenance purposes and operate the emergency spillway.*
    c) *Where the Consent Holder has no prior knowledge of any issue with operation of the marine outfall, this is deemed to fall outside the definition of "where practicable."*
3. *For the purposes of these resource consents "commencement of construction of the scheme works" shall be deemed to have occurred on the exercise of any land use consent, with the exception of exploration activities authorised by Land Use Consent RC08149/9.*
4. *The scheme will be deemed to be commissioned on exercise of Coastal Permit RC08149/5 to discharge into the coastal marine area.*

General Conditions for BDC

1. **Scheme Design**

1.1 The Consent Holder shall undertake geotechnical site investigations as appropriate to complete final design in accordance with the Building Act 2004 and Building (Dam Safety) Regulations 2008.

1.2 Prior to the commencement of construction of any structures required to exercise these consent, the Consent Holder shall forward to the Consent Authority final design reports for certification after they have been peer reviewed and certified by an appropriately qualified and experienced engineer acceptable to the Consent Authorities". The design reports shall include detailed plans of the following:

a) Weka and Mt William dams, storage reservoirs and associated structures.

b) The Weka dam shall have a maximum height of 390 metres reduced level above sea level. The Mt William dam shall have a maximum height of 575 metres RL.

c) Stockton and Granity outlet portals.

d) Weka and Granity power stations

e) Temporary and permanent transmission lines.

f) Granity access ramp and surge chamber and emergency outfall into Granity Stream.

1.3 Prior to the commencement of construction of the ocean outfall pipeline and diffuser, the Consent Holder shall forward to the Consent Authority final design reports. The design reports shall include detailed plans for the construction of the ocean outfall pipeline and shall include the following details:

i) Interpretation of ground and groundwater conditions based on site investigations.

ii) Assessment of expected deformation and trigger levels for contingency actions.

iii) The proposed monitoring locations and procedures during construction.

iv) The development of actions and contingency plans should expected levels of deformation be exceeded.

v) A list of the buildings and structures that may be affected by groundwater and ground settlement changes and proposed methodology to reduce potential impacts.

1.4 The Consent Holder shall ensure that any variations to any building consent are approved by the issuing authority and copied to the Consent Authority.

1.5 The Consent Holder shall prepare and retain final "As Built" plans of all buildings and structures, copies of which shall also be forwarded to the Consent Authority.

1.6 Notwithstanding Condition 1.2d above, in the event that the Weka power station/office building is an external structure, the building's form and finish shall be approved by the Consent Authority.

2. Management Plans

2.1 At least three months prior to commencement of geotechnical investigations and construction activities of the scheme works authorised by these consents, the Consent Holder shall provide to the Consent Authority the following plans, as prepared by suitably qualified persons in accordance with Conditions 3 to 6:

a) Construction Management Plan.

b) Landscaping and Rehabilitation Management Plan

c) Noise and Vibration Management Plan.

d) Terrestrial Ecology Management Plan.

2.2 Construction of the scheme works shall not commence until the certified management plans specified in General Conditions 3-6 below have been provided by the Consent Holder to the Consent Authority. Certification is defined as ensuring that the management plans contain the necessary information specified in General Conditions 3-6 and meet the requirements set out in more specific conditions of consent.

2.3 The Consent Holder may commence construction of scheme works once all the management plans have been certified/approved by the Consent Authority or after two months from the date that the relevant management plan required by these consents is submitted to the Consent Authority, whichever is the sooner, provided the required building consents are obtained.

2.4 Subject to any other conditions of these consents, all activities shall be undertaken in accordance with the latest certified version of the management plans.

2.5 The Consent Holder may review and revise any management plan at any time after they have been submitted to the Consent Authority on the following terms:

(a) The review shall be undertaken in consultation with and certified by the Consent Authority as still meeting the relevant consent conditions.

(b) Such review is necessary to give effect to the purpose of the management plan.

(c) The Consent Holder shall pay all actual and reasonable costs of the Consent Authority in connection with the review of all management plans prior to their certification.

2.6 If the Consent Authority has not advised the Consent Holder in writing whether or not it has certified the revisions within two months of receipt of those revisions, then the Consent Holder may operate under those revisions and the revised management plan shall be deemed to be the latest version of the management plan, unless the Consent Authority advises the Consent Holder after two months, but under no circumstances more than six months, after receipt of those revisions that it refuses to certify the revisions on the ground that they fail to meet one or more of the relevant consent conditions.

2.7 The management plans may be submitted in sections which cover discrete components of the scheme to allow for the staged development of the hydro scheme.

When viewed as a whole the respective sections must be consistent with the requirements of Conditions 3 to 6 and must achieve comprehensive management plans for the entire scheme.

3. Construction Management Plan

3.1 Prior to the commencement of construction of the scheme works, a Construction Management Plan shall be submitted to the Consent Authority. The purpose of the management plan shall be to:

- To describe the methods proposed for the construction of the scheme and the programme for construction of each element.
- Describe what actions will be taken to manage the actual or potential effects of construction activities associated with the scheme.
- To describe the methodology and certification procedures for making changes to the Construction Management Plan.
- To ensure that the practices and procedures for construction achieve compliance with the conditions of consent as they relate to construction work.
- That the Consent Holder undertakes its best endeavors to ensure that the environmental nuisance effects of construction activities are minimised to the greatest extent possible.
- To minimise the overall area of disturbance, so as to reduce the potential impact on vegetation, native fauna, and waterways.
- To ensure the conservation of overburden, soil and vegetation for subsequent use in the rehabilitation.
- To ensure that appropriate monitoring and reporting of all activities is undertaken in accordance with the resource consent conditions.
- To control and minimise sediment generation and sediment laden runoff.

3.2 The Construction Management Plan shall as a minimum address the following matters:

a) Construction programme and timetable detailing the works and proposed duration of each stage and the sequence of events.

b) Description of all construction works including the dams, storage reservoirs, diversion/intake structures, tunnels, roads, power stations, substations and transmission lines.

c) A site map which shows the buffer zones, sound bounds and fencing at the Granity construction area.

d) Detailed plans and methods of construction of the ocean outfall pipeline and diffuser and the emergency outfall into Granity Stream.

e) Details and site plan of all construction plant and buildings and storage areas to be used on-site.

f) Detailed plans for both the temporary and permanent realignment of Repo Basin and Millerton walking tracks.

g) Details of method of vegetation clearance and earthworks including disposal of stripped material, stockpiling activities and road construction and its use in rehabilitation.

h) Details of the geotechnical investigations required for final design and construction.

i) Detailed plans, methods and timing of in-stream works including the temporary dam sluices and temporary stream diversions and the permanent structures including the weirs, intakes and spillways.

j) Measures for cleaning machinery and equipment prior to transport to the construction work areas on Stockton Plateau.

k) Methods for management of solid waste generated during scheme construction including identification of solid waste, methods for minimising solid waste generation and description of disposal methods.

l) Health and Safety measures to ensure public safety including hazard identification and management including erection of signs at appropriate locations warning public of dangers in construction areas.

m) Methods for the management of nuisance dust generated as a consequence of construction activities.

n) Details and locations of settling ponds, sediment traps or other treatment systems to be used for contaminated water retention and treatment prior to discharge.

o) Traffic Management Plan which ensures a safe and efficient transport system including the improvements required for existing accesses, details of design of new accesses and roads, details of rehabilitation of temporary roads/accesses and details of traffic movements.

p) The name and contact details of key positions and points of contact, including an appropriately qualified employee of the Consent Holder to manage environmental issues and any community complaints on site, have responsibility for managing and responding to environmental issues, any community complaints and ensure management plans and consent conditions are adhered to throughout construction.

q) Contractor training.

r) Security and lighting management during construction.

s) Hours of operation.

t) To describe the methodology and certification procedures for making changes to this management plan.

3.3 The Construction Management Plan shall include a sub-section entitled: "Hazardous Substances Management Plan' which shall detail the practices and procedures that will be used to ensure that hazardous substances are managed so that storage and use is carried out safely and will not adversely affect the environment. The Hazardous Substances Management Plan shall as a minimum address the following matters:

a) Identify hazardous substances, including explosives, oils and fuels which are

used in the construction phase and also the operation phase of the scheme.

b) Describe the storage and handling procedures for hazardous substances.

c) Provide details of the regular inspections and maintenance of the construction site, vehicles and equipment.

d) Practices and procedures for dealing with accidental spills of hazardous substances during construction, transportation or commissioning of the scheme to ensure spill response contingency plans will be met.

e) An emergency discharge response contingency plan.

4. Landscape and Rehabilitation Management Plan

4.1 Prior to the commencement of construction of the geotechnical investigations and construction scheme works, a Landscape and Rehabilitation Management Plan shall be submitted to the Consent Authority. The purpose of the Landscape and Rehabilitation Management Plan shall be to:

- Establish an indigenous vegetation cover on all disturbed areas appropriate to the respective construction site locations.
- To ensure short and long term stability of disturbed land and their surrounds.
- Visually integrate finished structures, landforms and vegetation into the surrounding landscape.
- To prevent weeds and pests invading the site so far as is reasonably possible, and otherwise to eradicate or control weeds and pests on the site.

4.2 The Landscape and Rehabilitation Plan shall as a minimum address the following matters:

a) Construction sequence and timetable of rehabilitation activities.

b) On completion of work at any location, all plant, equipment, fuels, hazardous substances, buildings, fencing, signage, debris, rubbish and any other materials brought onto site shall be removed, and the site left clean.

c) Rehabilitation plans and specifications for all disturbed areas resulting from exploration drilling operations and areas outside of permanent occupation.

d) Rehabilitation plans and specifications for all disturbed areas on the Stockton Plateau including temporary roads and along the edges of permanent roads, transmission lines, reservoir margins, dams/embankments, stream intake/weir structures, Weka power house area and Granity construction site so that finished landforms and vegetation cover are integrated into the natural landscape.

e) Landscaping strategies for the Granity construction area as determined in consultation with the respective landowners and the Granity Community Liaison Group.

f) Rehabilitation plans and strategies for the progressive rehabilitation of the two sediment fill sites, once used as permanent fill sites.

g) Rehabilitation plans and strategies for the realigned portions of the Repo Basin and Millerton incline walking tracks to achieve integration with the surrounding natural landscape.

h) The design and appearance of visitor interpretation displays and access tracks to connect the display area to the Repo Basin walking track.

i) Measures to be implemented where direct vegetative transfer fails to successfully establish.

j) Methods for monitoring the success of revegetation planting to ensure a 90% established coverage of rehabilitated areas is achieved, as taken from initial coverage pre-disturbance.

4.3 The Landscape and Rehabilitation Management Plan shall include a sub-sections entitled "Weed and Pest Management" which shall provide details of weed and predator control measures and shall as a minimum address the following matters:

a) Plan of the disturbed areas within which weed and pest control will be undertaken.

b) To define what specific exotic plant (including *Juncus squarrosus)* and/or animal predator species that will be targeted for control or eradication.

c) A description of the control techniques that will be used, including cleaning of machinery prior to entering sites on the Stockton Plateau.

d) The timeframe for and frequency of control operations, with control measures to be undertaken until such time as 90% planting coverage on rehabilitated areas has been achieved.

e) A description of the monitoring that will be undertaken to assess the effectiveness of control operations.

f) Control of predators, particularly stoats and possums in the disturbed areas during construction and during the rehabilitation phase.

g) Within one year of commissioning of the scheme the Consent Holder shall ensure appropriate native species shall be sourced and planted around the margins of the Mangatini Falls to revegetate the areas that have been affected by historic AMD contamination.

5. Terrestrial Ecology Management Plan

5.1 Prior to the commencement of geotechnical investigation and construction of the scheme works, a Terrestrial Ecology Management Plan shall be submitted to the Consent Authority. The purpose of the management plan shall be to:

- To describe the methods proposed for managing construction effects on terrestrial ecology; and
- Describe what actions will be taken to mitigate the actual or potential effects of construction activities on terrestrial ecology.

5.2 The Terrestrial Ecology Management Plan shall as a minimum address the following matters:

a) A description of the terrestrial ecological values requiring management.

b) Timing and management of vegetation clearance and construction activities.

c) Survey methods for the recovery of lizards and kiwi prior to the storage reservoir areas being inundated and identification of suitable areas for relocation and relocation procedures.

d) Identification of the areas which are to be used for direct vegetative transfer to rehabilitate areas disturbed by the scheme.

e) Revegetation of all disturbed areas including timescale of rehabilitation activities.

f) Control of predators in the disturbed areas during construction and during the rehabilitation phase.

5.3 The Consent Holder shall ensure that as part of the Terrestrial Ecology Management Plan required by Condition 5.1 above, the following is achieved:

a) To include measures to be implemented where direct vegetative transfer fails to successfully establish.

b) Sequence the works to allow for direct transfer of vegetation from disturbed/inundated areas including cedar saplings, red tussocks and *Exocarpus bidwillii.*

c) Sequence the works to allow for cuttings to be taken of *Metrosideros parkinsonii* for off-site propagation for rehabilitation on suitable sites.

d) Trial propogation must be undertaken to ensure that plants will survive relocation to this altitude.

f) To utilise the timber resource affected by inundation, for instance offering Ngai Tahu salvageable logs of Hall's Totara for cultural purposes.

g) Locate as much of the Scheme as possible on land that is to be inundated

h) All surfaces disturbed by construction activities will be rehabilitated to establish native vegetation, appropriate to the locality with 90 percent coverage of vegetation being established on rehabilitated areas.

6. Noise and Vibration Management Plan

6.1 Prior to the commencement of geotechnical investigations and construction of the scheme works, a Noise and Vibration Management Plan shall be submitted to the Consent Authority. The purpose of the management plan shall be to:

- Ensure that the practices and procedures for the management of construction activities achieve compliance with the conditions of consent seeking to mitigate the adverse noise effects of construction activities, with particular emphasis on construction noise at Granity and Millerton.

- Ensure that the Consent Holder adopts the Best Practicable Option in accordance with Section 16 of the RMA 1991 to avoid excessive noise from construction activities.
- Comply with the standards set out for noise and vibration recommended in AS 2187-2 (2006), DIN 4150-3 (1999), NZS 6803 (1999) and AS 2670.2 (1990) or any superseding standards.
- Ensure that the practices and procedures for the management of operating activities achieve compliance with the District Plan provisions, while adopting Best Practicable Options in accordance with Section 16 of the RMA 1991 to avoid excessive noise from operational activities. Construction noise shall comply with NZS 6803P:1984 The Measurement and Assessment of Noise from Construction, Maintenance and Demolition Work or any superseding document.

6.2 The Noise and Vibration Management Plan shall include specific details relating to the management of all construction works associated with the Scheme and shall as a minimum address the following matters:

a) Construction sequence.

b) Machinery and equipment to be used.

c) Hours of operation, including times and days when construction work would occur.

d) The design of noise mitigation measures such as temporary bunds or fences.

e) Detailed measures to ensure compliance with the vibration standards set out in AS 2187-2 (2006) DIN 4150-3 (1999) and AS 2670.2 (1990), or any superseding standards.

f) Detailed measures to ensure compliance with the construction noise levels set out in NZS 6803:1999 and or any superseding standards.

g) Detailed methods for monitoring and reporting on construction noise and vibration during construction, including the location of vibration and noise monitoring for construction activities that are adjacent to historic buildings or occupied dwellings.

h) Noise and vibration complaint procedures and response procedures.

i) Management methods for minimising noise generated by vehicle movements entering/exiting the Granity construction site and operating within the construction yard.

j) Measures for notifying Granity residents of intended blasting and micro-tunnelling activities.

k) Establishment of a programme of blasting, as discussed with the Granity museum curator.

l) Record keeping measures including time and location of blast, weather conditions, total charge weight, volume of rock blasted and distance to nearest buildings.

m) Pre-condition surveys of buildings and monuments prior to commencing micro tunnelling.

n) Ground settlement surveys prior to commencing micro tunnelling and monitoring during tunnelling operations of ground levels around rail and road infrastructure.

o) Identification of additional mitigation measures that may be utilised in the event that noise or vibration monitoring establishes non-compliance.

p) Details of noise management once scheme is operational.

7. Annual Monitoring Report and Work Plan Report

7.1 The Consent Holder shall prepare and submit an Annual Monitoring and Work Plan to the Consent Authorities within 30 days of the anniversary of the commencement of exploration drilling (as authorized pursuant to Buller District Council's Land Use Consent RC08/131A and West Coast Regional Council's RC080149/9) and thereafter at yearly intervals until all rehabilitation requirements have been meet. The purpose of the plan shall be to:

- Describe the operations and rehabilitation measures undertaken in the previous 12 months.
- Provide an overview of the monitoring and reporting work undertaken and any issues that have arisen during construction of the scheme.
- Describe the operations and rehabilitation measures to be undertaken in the forthcoming 12 months.
- Calculate the extent of rehabilitation remaining to be completed and the costs associated with such rehabilitation.

7.2 The monitoring period in each report shall be for the preceding 12 month period and shall as a minimum include the following matters:

a) Detail all environmental monitoring undertaken.

b) Summarise all the data collected as required under the conditions of these consents and management plans.

c) Highlight and discuss any important environmental effects.

d) Summarise any construction difficulties, changes or improvements undertaken.

e) Summarise any difficulties in compliance with and breaches of, the conditions of the consent and the measures adopted to remedy or mitigate adverse effects and avoid reoccurrence.

f) Summarise any complaints received and any action taken by the Consent Holder to address each complaint.

g) Summarise any actions or initiatives proposed by the Granity Community Liaison Group in response to complaints received or issues which have arisen.

7.3 The Work Plan shall include the following matters:

a) A schedule of the operations, mitigation measures and rehabilitation carried out over the previous 12 months term.

b) Any explanation of any departure in the last 12 months from the previous

annual work plan.

c) A schedule of the operations, mitigation measures and rehabilitation intended to be undertaken within the next 12 months, including a general timetable of key construction and rehabilitation times.

d) An evaluation of the extent of rehabilitation remaining to be completed and the cost associated with such rehabilitation in terms of the items listed in Bond Condition 5.6.

8. Granity Community Liaison Group

8.1 Prior to commencement of construction of scheme works at Granity, the Consent Holder shall consult with the Granity Museum curator, Northern Buller Community Society, Solid Energy New Zealand, the Department of Conservation, and local residents and representatives from the Consent Authorities and shall provide them with the opportunity to be involved in a Community Liaison Group. In the event that it is possible to establish such a group it shall be chaired by a person as agreed between the Consent Holder and the Consent Authorities.

8.2 In the event that it is not possible to establish such a group through no fault of the Consent Holder, then such failure to do so shall not be deemed a breach of these conditions.

8.3 The objectives of the Granity Community Liaison Group shall be to:

a) Maintain an effective working relationship between the local community, the Consent Authorities and the Consent Holder (including its contractors) during construction.

b) Promote the free flow of information between the local community, the Consent Holder and the Consent Authority in order to anticipate and resolve any potential issues before they arise.

c) Evaluate the results of monitoring activities on a periodic basis.

d) Recommend any changes to proposed mitigation measures that might be appropriate in light of the monitoring.

e) Evaluate the benefits of continuing liaison once the scheme is operational and if deemed necessary, establishing an on-going working relationship.

8.4 The Granity Community Liaison Group shall be consulted in regard to the following:

a) Surface blasting procedures.

b) Evaluation of noise and vibration monitoring results and any potential issues in relation to noise and vibration.

c) Landscape and Rehabilitation measures for disturbed areas at Granity.

d) Construction traffic related matters including measures for ensuring public safety and management of construction traffic.

e) Potential improvements to the Charming Creek walkway and in the vicinity of the Mangatini Falls to enhance visitor experience.

f) Maintenance of potable water supplies within or immediately adjoining the

scheme footprint at Granity.

g) Effects on Millerton walking track both during construction and following commissioning of the scheme.

9. Archaeological Protocols

9.1 Prior to the commencement of construction of the scheme works, the Consent Holder shall prepare an Archaeological/Heritage Management Plan (the plan) in consultation with the New Zealand Historic Places Trust. The plan shall include an Accidental Discovery Protocol to establish procedures for identifying, reporting and managing features of archaeological significance that may be uncovered in the course of construction activity.

9.2 The Accidental Discovery Protocol shall be referred to and complied with during all construction activity at Granity and on the Stockton Plateau.

9.3 The plan shall address how archaeological and heritage activities are to be managed while the scheme works are undertaken including on-going heritage requirements once the scheme is operational.

9.4 Details within the plan should include procedures for the moving and restoring of items prior to display, together with a mechanism for considering the appropriateness of the storage/display area and should also consider the safety of relocated items (to avoid the display items being vandalized or removed). A copy of the plan and Accidental Discovery Protocol shall be forwarded to the Consent Authorities.

9.5 Prior to the commencement of any vegetation clearance, the Consent Holder shall implement a training programme for construction staff by a recognised archaeological expert on the recognition of archaeological material and the procedures for dealing with archaeological material, as established in the Accidental Discovery Protocol.

9.6 The Consent Holder shall ensure that any loose artefacts and excavated material of historic significance uncovered in the course of construction activity are identified, reported and managed in accordance with the Accidental Discovery Protocol.

9.7 A suitably qualified archaeologist shall be employed by the Consent Holder to undertake documentation of recovered artefacts in accordance with accepted museum categorising practices. The Consent Holder shall provide records of the recovery, identification and distribution of these objects to the West Coast Filekeeper of the New Zealand Archaeological Association and any party to whom the recovered artefacts are distributed to.

9.8 The Consent Holder is to provide the Consent Authority with a copy of any necessary archaeological authorities obtained prior to starting construction.

9.10 The Consent Holder shall ensure that any pounamu accidentally discovered shall be:

a) Reported to Ngati Waewae's Land and Environmental Portfolio Team Leader as soon as is practicable.

b) Any artifact made of pounamu discovered or found within the scheme area on land administered by the Department of Conservation should be left untouched and notified immediately to both the local Department of Conservation Officer

and Ngati Waewae's Land and Environmental Portfolio Team Leader. If the artifact happens to be collected it should be handed directly to the local Department of Conservation Officer along with all information about the find and Ngati Waewae's Land and Environmental Portfolio Team Leader is to be notified.

c) Any artifact made of pounamu discovered or found on all other land within the scheme area should be left untouched and notified immediately to the local regional museum, the New Zealand Historic Places Trust regional archaeologist and Ngati Waewae's Land and Environmental Portfolio Leader. If the artifact happened to be collected it should be handed directly to the local regional museum along with all information about the find and the New Zealand Historic Places Trust's regional archaeologist and Ngati Waewae's Land and Environmental Portfolio Team Leader are to be notified.

d) All pounamu discovered, other than through authorised collection, cannot be removed without consultation with Te Runanga o Ngai Tahu and authorisation from Ngati Waewae.

9.11 Prior to construction commencing and as part of the Heritage Management Plan, an archaeological survey of the Fly Creek workings is to be undertaken with the view of including any significant matters within the archaeological display and interpretation area.

10. Recreation

10.1 Prior to the commencement of construction of scheme works the Consent Holder shall, in order to minimise the risk to persons undertaking recreational activities in the vicinity of the scheme erect signs to warn users of dangers in the area during construction, in accordance with the details contained in the latest certified version of the Construction Management Plan.

10.2 The Consent Holder shall ensure that if construction activity is likely to interfere with in any way the Millerton walking track, that safe public walking access is maintained at all times along the Millerton Incline track. On completion of construction activity a permanent walking track shall be provided along the same general alignment as the existing track. Temporary and permanent track alignment to be in accordance with the plans supplied in the latest certified version of the Construction Management Plan.

10.3 The Consent Holder shall ensure that while construction activity is occurring at Weka reservoir, safe public walking access is maintained and appropriately marked around the construction site into Repo Basin. On completion of construction activity a permanent walking track and signage shall be provided around the Weka Reservoir perimeter linking into the existing Repo Basin walking track. Temporary and permanent track alignment shall be in accordance with the plans supplied in the latest certified version of the Construction Management Plan.

11. Construction Noise

11.1 The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Noise and Vibration Management Plan.

11.2 All above ground construction activities including establishment of the jacking station, initial micro-tunnelling, outlet portal, portal apron, access ramp, construction yard and heavy commercial vehicle movements are restricted to the hours of 7.30am to 6pm Monday to Sunday.

11.3 A temporary earth barrier, of a size to be determined by an appropriately qualified acoustic engineer, as detailed in the latest certified version of the Noise and Vibration Management Plan, shall be constructed around the work to the south, west and north of the jacking station to minimise noise effects for nearby residents.

11.4 A minimum of a 2 metre high acoustic solid fence shall be specifically designed and erected around the perimeter of the Granity construction site.

11.5 All equipment and machinery shall be regularly maintained to ensure noise levels are as low as reasonably attainable but at no time shall they exceed the levels permitted by the consent.

11.6 The noise from construction works shall be measured and assessed in accordance with the requirements of NZS 6803:1999 "Acoustics – Construction Noise". The Consent Holder shall ensure that construction noise from the scheme shall comply at all times with the requirements of NZS 6803:1999 "Acoustics – Construction Noise", outlined in the table below:

Table 2 – Recommended upper limits for construction noise received in residential zones and dwellings in rural areas

Time of week	Time period	Duration of work					
		Typical duration (dBA)		Short-term duration (dBA)		Long-term duration (dBA)	
		L_{eq}	L_{max}	L_{eq}	L_{max}	L_{eq}	L_{max}
Weekdays	0630-0730	60	75	65	75	55	75
	0730-1800	75	90	80	95	70	85
	1800-2000	70	85	75	90	65	80
	2000-0630	45	75	45	75	45	75
Saturdays	0630-0730	45	75	45	75	45	75
	0730-1800	75	90	80	95	70	85
	1800-2000	45	75	45	75	45	75
	2000-0630	45	75	45	75	45	75
Sundays and public holidays	0630-0730	45	75	45	75	45	75
	0730-1800	55	85	55	85	55	85
	1800-2000	45	75	45	75	45	75
	2000-0630	45	75	45	75	45	75

Advice Note: *Short term duration means construction work at any location for up to 14 calendar days*

Typical duration means construction at any one location for more than 14 days but less

than 20 weeks

Long term duration means construction at any one location with a duration exceeding 20 weeks.

11.7 The Consent Holder shall undertake noise monitoring (by a suitably qualified and experienced acoustic engineer) of the noise emanating from construction activities carried out at both day and night time periods. Adequate monitoring shall be carried out to be representative of the varying noise levels emanating from the different construction activities to demonstrate that the activity complies with the relevant limits as set out in NZS 6803:1999. As a minimum, monitoring at the notional boundary of two adjacent representative residential properties shall be carried out on at least two separate occasions annually.

11.8 The Consent Holder shall ensure that construction of the jacking pit required for micro tunnelling purposes complies with the short-term duration noise requirements of NZS 6803:1999 "Acoustics – Construction Noise", outlined in the above table.

12. Blasting/Construction Activity

12.1 During blasting the Consent Holder shall ensure that airblast overpressure conforms with the recommendations outlined in the Australian Standard AS2187.2-2006 "Explosives – Storage and Use"; whereby all noise created by the use of explosives measured at a notional boundary from any residence shall not exceed a peak overall sound pressure of 120dB L Linear Peak for 95 percent of the time with a maximum peak of 125 decibels. For the purpose of this condition the notional boundary shall be a point 20 metres from the most exposed facade of the dwelling not connected with the Scheme.

12.2 During blasting the Consent Holder shall ensure that ground vibration limits conforms with the recommendations outlined in the Australian Standard AS2187.2-2006 "Explosives – Storage and Use", whereby peak particle velocity does not exceed 10 millimetres per second, unless agreement is reached with the occupier that a higher limit may apply. when measured on any foundation of a building not connected with the Scheme.

12.3 At the commencement of blasting activity, monitoring of representative blasting activity by reliable and appropriate methods shall be undertaken to ensure that the typical levels of vibration are known. This monitoring shall identify the distance at which the requirements of AS2187.2-2006 are complied with. In the event that any results are within 20 percent of the specified vibration limits, measurements will continue to be undertaken until such time as the levels are reduced.

12.4 For all other construction activity the Consent Holder shall ensure that ground vibration limits conform with the recommendations outlined in Australian Standard AS 2670.2-1990 "*Evaluation of Human Exposure to Whole Body Vibration"*

12.5 Blasting at the Granity construction site shall be limited to the hours of 7.30am to 6pm until excavation of the tunnel extends a minimum of 25 metres from the portal entrance.

12.6 Blasting required for rock-splitting and establishment of the Granity tunnel portal shall be undertaken so as to avoid adverse effects on the Granity Museum and the historic coke oven.

12.7 A programme of blasting times shall be notified publicly by way of notice erected at the road entrances to the Granity construction area and by circular or public advertisement to local residents, Solid Energy New Zealand, West Coast Regional Council and the Buller District Council prior to any such blasting taking place and at regular intervals not exceeding twelve months thereafter. Changes to the blasting programme shall be notified at least three days prior to implementation.

12.8 A blast curtain shall be hang across the Granity portal entrance until excavation of the Granity tunnel extends a minimum of 100 metres from the portal entrance or until such distance as the noise from blasting meets with the permitted rule standard in the Buller District Plan, whichever is the lesser.

12.9 Details of all blasts shall be entered into a record book kept for that purpose and shall be available to the Consent Authority on request.

13. Light Spill

13.1 The Consent Holder shall undertake appropriate mitigation measures including but not limited to, utilisation of screens, shields, hoods and fences to ensure light spill is minimised so as not to create a nuisance to residents, traffic, or to act as a distraction to wildlife.

13.2 The Consent Holder shall ensure that any light spill during construction does not exceed 10 lux (horizontal or vertical) of light at any adjoining property, measured inside the boundary of the adjoining site.

14. Traffic Management

14.1 The Consent Holder shall ensure all traffic management measures associated with scheme construction shall be implemented in accordance with the Traffic Management Plan (required under Condition 3.2(o)contained within the Construction Management Plan) and with the New Zealand Transport Agency Code of Practice for Temporary Traffic Management.

14.2 The Granity site entrance off State Highway 67 (adjacent to the band rotunda) shall be constructed to an industrial, reinforced, standard and shall be sealed for a minimum distance of 20 metres beyond the State Highway to ensure dust generated by vehicle movements is minimised.

14.3 The Consent Holder shall ensure the Granity site entrance off Back Road (museum entrance) shall be resurfaced and maintained to ensure a smooth finish.

14.4 The Consent Holder shall ensure the unsealed access and haul roads shall be maintained to avoid nuisance dust emissions.

14.5 The Consent Holder shall ensure overweight heavy commercial vehicles into and out of the Granity site shall be restricted to 7.30am till 6pm Monday-Sunday and shall only utilise the Granity site entrance off State Highway 67 (adjacent to the band rotunda).

14.6 The removal of Granity tunnel excavations shall be undertaken in accordance with the restrictions specified in Condition 14.5 above and shall not exceed 10 trucks (not truck and trailer units) per day.

14.7 The Consent Holder shall erect a stop sign at the Granity site entrance off State Highway 67 (adjacent to the band rotunda) before the footpath, to ensure no conflict of use with the footpath.

14.8 Trucks entering/exiting the Granity construction site from Torea St, will be required to not exceed a speed limit of 20 kilometres per hour.

15. Waste Management Plan

15.1 During the construction phase the Consent Holder shall minimise the waste and litter generated from the scheme and dispose of all waste at suitable off-site facilities. Waste management practices are to be in accordance with the details outlined in the Construction Management Plan.

15.2 The Consent Holder shall provide toilet facilities at each operational area during scheme construction and as required by the Building Code at the power stations.

16. Ngakawau Ecological Area

16.1 The Consent Holder shall carry out construction activities in a manner which ensures that the Ngakawau Ecological Area is not adversely affected.

16.2 No construction activities are to occur within the Ngakawau Ecological Area

17. Water Supply

17.1 In the event that construction activity at Granity impacts on any of the private water supplies informally established on Conservation estate, the Consent Holder shall arrange at their cost, a similar alternative water supply from the same catchment. The Consent Holder shall ensure that an alternative potable supply by means of water tanker delivery is provided until connection to the alternative water intake is established.

17.2 The alternative water supply shall be at least of equivalent quality, security and flow to the existing water supplies. Given the uncontrolled nature of the water supply catchments, failure to meet New Zealand drinking water standards will not be deemed non compliance with this condition of consent.

17.3 The Consent Holder shall ensure a potable water supply is provided at each of the construction areas.

18. General Landscape Requirements

18.1. The Consent Holder shall ensure that any above ground structures blend into the surrounding environment and are designed and finished in colours that are visually muted and generally consistent with the dominant colours of the surrounding landscape and have a reflectivity of less than 30 percent.

18.2. In the event that the Weka power station/office building is located externally, the design and appearance shall be undertaken to blend in with the surrounding

environment and shall be subject to review by a landscape architect, with results and design provided to the Consent Authority for approval, prior to lodgment of the relevant building consents.

18.3 All cuts, fills and embankments shall be graded and formed to the extent reasonably practicable so that they appear as natural extensions of the adjacent landforms and landscape patterns.

19. Granity Landscape Requirements

19.1 Disturbance to surrounding vegetation during construction activities shall be minimised, in particular, formation of the access ramp shall be undertaken to ensure vegetation between the access ramp formation and the township remains undisturbed and disturbance to vegetation surrounding the portal and portal apron is kept to the immediate construction footprint.

19.2 The Consent Holder shall ensure a mature vegetative screen shall be retained, or planted, around the exterior of the construction site fence, immediately following erection of the fence.

19.3 The Consent Holder shall ensure suitable mature plants recovered from the access ramp and portal construction area shall be replanted along the entrance of the construction yard using direct vegetative transfer techniques to minimise the visual effects.

19.4 The Consent Holder shall ensure on completion of construction activities that all plant and equipment is removed from the site, and the area landscaped with plantings appropriate to the locality.

20. Financial Contribution

20.1 A financial contribution of cash for the maximum sum of One Hundred Thousand New Zealand dollars (NZ $100,000) shall be paid to Buller District Council, before any physical construction activity(including excavation) commences, for the provision of reserves and facilities within the Granity community.

21. Scheme Operation

21.1 Post commissioning of the scheme, all on-going operations and maintenance activities associated with the Stockton Plateau Hydro Scheme shall comply at all times with the following noise criteria, measured at the stated times at the boundary of any land used for a residential activity:

Monday to Friday – 8.00am to 11.00pm 55dBA L10

Saturday – 8.00am to 6.00pm 55dBA L10

At all other times including any public holiday 45dBA L10 Lmax 75dBA

Specific Conditions for Land Use Consents RC08/131A – RC08/131G

LAND USE CONSENT RC08/131A:

Earthworks and vegetation clearance to construct, operate and maintain the Scheme including Roller Compacted Concrete dams, inundation areas, embankments, saddle dams, spillways, diversion weirs, diversion intake sumps, tunnels, canals, inlet towers, drop shafts, portals, intake excavations, intake channels, penstocks, power stations, tracks, roads, silt traps, silt storage areas, stockpiling/fill areas, temporary buildings, construction plant and settling ponds and undertake exploration drilling.

Located approx: N5948300 E2417600

LAND USE CONENT RC08/131B:

Earthworks and vegetation clearance to and undertake exploration drilling and to construct, operate and maintain the Granity power station including construction of the portal outlet, access ramp, portal apron, surge chamber, ocean outfall pipeline, emergency outflow structures, settling pond, site access, the Granity construction yard and the Jacking Station.

Located approx: N5952390 E2414660

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the management plans
2. The Consent Holder shall ensure that all disturbed vegetation, soil or other material is deposited, stockpiled or contained to prevent the movement of such material into any watercourse.
3. The area of disturbance shall be kept to a minimum for all stages of the proposal.

Geotechnical investigations / Drilling

4. A least one month prior to commencing any drilling activity the Consent Holder shall prepare and submit a work plan detailing the following:
    a) Approximate site of all drill holes;
    b) Access to be used; and
    c) Anticipated time frames to complete the drilling programme.
5. All drill holes shall be located within the footprint of the scheme dams, tunnels and reservoirs, with access to be gained via existing tracks where practicable or along the alignment of proposed new access roads.
6. The Consent Holder shall ensure that the maximum area of disturbance resulting from operation of the drill rig is limited to 75 square metres per drilling site.
7. The Consent Holder shall ensure that all vegetation disturbed by the drill rig operation is rehabilitated immediately following the removal of the drill rig. Rehabilitation shall be undertaken in accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.

Fauna

8. Construction works on the Stockton Plateau and inundation of the reservoirs is to be undertaken outside of the great spotted kiwi breeding season (July to January). Alternatively, the construction/inundation footprint shall be searched with a certified and approved dog and handler to ensure no nesting great spotted kiwi are present, in accordance with practices set out in the latest certified version of the Terrestrial Ecology Management Plan.

9. In the event that nesting great spotted kiwi are found within the construction/inundation footprint, all construction activity within a 200 metre radius of the nest shall cease. Works shall not re-commence until such time that the great spotted kiwi are relocated in accordance with procedures outlined in the latest certified version of the Terrestrial Ecology Management Plan or the fledging reaches an age which it can naturally relocate.

10. The translocation of lizards shall be undertaken from the reservoir footprints prior to inundation, as set out in the latest certified version Terrestrial Ecology Management Plan.

Rehabilitation

11. The vegetation rehabilitation of all areas affected by construction shall include appropriate native planting using locally sourced seeds and plants genetically similar to those within the Stockton/Denniston Plateau area. Seed and plant resources shall be genetically sourced from the locality or Ngakawau Ecological District from at least 500 metres above sea level.

12. The Consent Holder shall, as far as practicable salvage topsoil and forest duff from areas to be disturbed.

13. Salvaged material shall be used for rehabilitation purposes in accordance with the principle of achieving a minimum of 100 millimetres of topsoil on forest and shrubland rehabilitation and 300 millimetres of topsoil on tussock rehabilitation over subsoils and/or 1.5-3 metres of non-acid generating overburden.

14. The Consent Holder shall utilise, wherever practical given the characteristics of the land, direct vegetative transfer methods of rehabilitation.

15. On completion of work at any location, all plant, equipment, fuels, hazardous substances, buildings, fencing, signage, debris, rubbish and any other materials brought onto site shall be removed, and the site left clean.

16. Immediately following the commencement of activities under these consents, the Consent Holder shall initiate and maintain a programme of progressive rehabilitation and revegetation of the land in accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.

17. Rehabilitation obligations will be deemed to have been met on achieving a 90 percent established planting cover, as taken from initial coverage pre-disturbance.

18. Within one year of commissioning of the scheme the Consent Holder shall ensure appropriate native species shall be sourced and planted around the margins of the

Mangatini Falls to revegetate the areas that have been affected by historic AMD contamination.

Pests and Weeds

19. Prior to machinery being transported to the Stockton Plateau construction sites, the Consent Holder shall ensure all soil and vegetative material adhering to the machinery is removed by water blasting to minimise the likelihood of carrying weeds up to the Consent Holder's construction sites.
20. The Consent Holder shall undertake weed and predator control (in particular stoats and possums) around the reservoir areas during construction until rehabilitation requirements, as stipulated in Condition 17 above have been met. Weed and predator control shall be carried out in accordance with the Weed and Pest Management strategies outlined in the latest certified version of the Landscape and Rehabilitation Plan.
21. As part of the weed control programme required under Condition 19 above, the Consent Holder shall undertake a programme of *Juncus squarrosus* control on all disturbed areas within the Scheme footprint, to prevent establishment of this invasive weed, until such time as rehabilitation is complete.
22. The Consent Holder shall monitor on an annual basis predator numbers to assess the effectiveness of the predator control programme. The consent holder shall report its findings in the Annual Monitoring and Work Plan Report until such time as rehabilitation is complete.

LAND USE CONSENT RC08/131C:

Earthworks to construct, operate and maintain an ocean outfall pipeline beneath residential Granity.

Located approx: N5952485 E2414524

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the management plans
2. During micro tunnelling the Consent Holder shall ensure that ground vibration limits conforms with the recommendations outlined in the German Standard DIN 4150-3 (1999), whereby the peak particle velocity does not exceed the following limits when measured on any foundation of a building not connected with the Scheme:
    - 3 millimetres per second for any historic building; and
    - 5millimetres per second for any residential building unless agreement is reached with the occupier that a higher limit may apply.
3. At the commencement of micro tunnelling activity at Granity, the Consent Holder shall undertake monitoring during operation of the micro tunnelling machine by reliable and appropriate methods to ensure the set limits for vibration are not exceeded. In the event that any results are within 20 percent of the specified vibration limits, measurements will continue to be undertaken until such time as the levels are reduced. In the event that monitoring establishes that vibration standards are being exceeded the Consent Holder shall cease tunnelling activities immediately until appropriate mitigation measures have been implemented.

Building Surveys

4. The Consent Holder shall, at least one month prior to the commencement of micro tunnelling activities at Granity, undertake pre-condition surveys by an appropriately qualified person (being a heritage building specialist for registered sites and buildings constructed pre 1900) on the following buildings:

   - Lyric Theatre located on Pt Section 2 Blk VI Ngakawau SD
   - Dwelling located on Lot 2, DP 15519
   - Drifters Cafe located on Lot 14 DP 14622
   - Torea Gallery located on Lot 2 DP 18093
   - Telecom NZ Ltd located on Lot 1 DP 18093
   - Granity Band Rotunda located on Lot 1 DP 15319
   - Granity Library and War Memorial located on Ngakawau Branch Railway Gazette 1881
   - Granity Museum and coke ovens, located on Lot 3 DP 301962.

5. The Consent Holder shall consult with owners of the buildings referred to in Condition 4 above and subject to the owners approval, undertake a detailed condition survey of these structures to confirm their existing condition and enable the sensitivity of the buildings to damage caused by vibration, groundwater, ground settlement changes to be accurately determined. Major features of the buildings shall be recorded including location, type, construction, age and present condition, including defects. The survey shall be undertaken by an appropriately qualified person and shall include:

   - Type of foundations.
   - Existing levels of aesthetic damage.
   - Existing level of structural damage.
   - Assessment of structural ductility.
   - Condition of garden paths, retaining walls and driveways.
   - Susceptibility of structure to further movement.

6. Within two months of completion of construction of the ocean outfall pipeline, a post-construction survey of the buildings listed in Condition 4 shall be undertaken by an appropriately qualified person. The post-construction survey shall cover the matters identified in Condition 5 above and shall include a damage assessment (if any) and determination of the cause of damage (if any) since the pre-construction survey.

7. The Consent Holder shall ensure that a copy of the pre and post-construction building survey reports for each building listed in Condition 4 above, is forwarded to the respective property owners and the Consent Authority within 15 working days of receipt of the reports

8. The condition surveys undertaken in Conditions 4 and 5 shall be used to determine damage to properties due to the exercise of these consents. Any damage that can be attributed to the Consent Holders activities (as distinct from other sources of land

disturbance) shall be repaired at the Consent Holder's cost.

Settlement Monitoring

9. The Consent Holder shall establish and maintain a network of ground settlement monitoring marks to detect vertical movements for the period of monitoring specified in Condition 11 following. The monitoring marks shall be located generally as follows:
    - At 250m centres along the tunnel centreline for the landward portion of the tunnel.
    - At typically 50m centres along the State Highway and Railway line at right angles to the tunnel within 250m from the centreline.
    - On building extreme corners for all buildings within 50m of the tunnel alignment between the jacking pit and the landward portion of the tunnel.
10. The monitoring marks shall be surveyed at the following frequencies:
    - All marks at least every 4 months for 12 month interval prior to commencement of micro-tunnelling, (a minimum of 3 surveys).
    - Marks within 100m of the tunnel excavation weekly during tunnelling operations.
    - Marks within 200m of the tunnel excavation fortnightly during tunnelling operations.
    - All marks 3 monthly for a 12 month period following completion of tunnelling operations.
11. The Consent Holder shall survey and record the elevation of each ground settlement monitoring mark for the period outlined in condition 7 above and keep records of the elevation/differential settlement and the corresponding date. All settlement monitoring data shall be recorded to an accuracy of at least -/+2mm, or as otherwise achieved by best practice levelling. These records shall be compiled and submitted to the Consent Authority no later than 15 working days of completion of the final monitoring mark survey as required under Condition 9 above.
12. Where ground settlement is recorded the Consent Holder shall undertake appropriate actions as set out in the Scheme Design report. The Consent Authority shall be notified forthwith of the risk of settlement causing damage to buildings or road/rail infrastructure and details of the actions to be taken to prevent further settlement. Any settlement damage attributed to the Consent Holders activities shall be repaired at the Consent Holders cost.

LAND USE CONSENT RC08/131D:

The use and storage of hazardous substances during construction and operation of the Scheme.

Located approx: N5948300 E2417600 & N5952390 E2414660

1. Hazardous substances and dangerous goods shall be stored and handled in accordance with the methods set out in the latest certified version of the Hazardous Substances Management Plan, required by Construction Management Plan Condition 3.3.
2. Refueling, lubrication, mechanical repairs and storage of hazardous substances or dangerous goods shall be undertaken in such a manner so as to ensure that spillages of hazardous substances or dangerous goods on to the land surface or into a waterbody do not occur. Any accidental discharge of greater than 20 litres shall be reported immediately to the Consent Authority along with details of the steps taken to remedy and/or mitigate the adverse effects of the discharge.
3. Bunds shall be positioned around the perimeter of mobile fuel tankers to capture any potential spills. Bunding to be designed to capture at least 110 percent of the stored volume. Tankers shall be located in areas with an impervious surface and clean-up equipment shall be maintained so that it is in proper working condition at each fuel store throughout the duration of the scheme.
4. The power station switch yards shall be designed to ensure that transformers are located in sealed and bunded areas to contain any potential leakage of hazardous substances. Bunding to be designed to capture at least 110 percent of the stored volume. Clean-up equipment shall be maintained so that it is in proper working condition at each power station.
5. The Consent Holder and all contractors and/or operators shall adhere to the spill response contingency strategies outlined in the Hazardous Substances Management Plan.
6. All contractors and/or operators transporting or storing more than 20 litres of fuel shall carry spill kits to enable immediate action to remedy and/or mitigate the effects of hazardous substances discharges on-site.
7. A list of all hazardous substances and dangerous goods shall be maintained at all times, identifying the location of storage and use of those substances, in case of emergencies.

LAND USE CONSENT RC08/131E:

Earthworks and vegetation clearance to realign the Stockton Mine haul road over approximately 800 metres and undertake on-going maintenance.

Located approx: N5948300 E2417600

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan, the Terrestrial Ecology Management Plan and the Landscape and Rehabilitation Management Plan.
2. The realigned mine haul road shall be adequately serviced with water tables, cut-offs and culverts to control surface water runoff and minimise the scouring of road surfaces, watertables, cut-offs and culvert outfalls.
3. The Consent Holder shall ensure that all disturbed vegetation, soil or other material is deposited, stockpiled or contained to prevent the movement of such material into any watercourse.
4. Immediately following the commencement of activities under this consent, the Consent Holder shall initiate and maintain a programme of progressive rehabilitation and revegetation of the land in accordance with the latest certified version of the Landscape and Rehabilitation Management Plan.
5. Rehabilitation obligations will be deemed to have been meet on achieving a 90 percent established planting cover, as taken from initial coverage pre-disturbance.
6. Vegetation, litter and topsoil shall be retained and kept separate for use in adjoining rehabilitation areas.
7. The Consent Holder shall ensure that unnecessary riparian vegetation clearance does not occur.

LAND USE CONSENT RC08/131F:

To construct, operate and maintain a temporary overhead power line from the existing coastal Buller Electricity Limited network to the Granity portal outlet, temporary spur line connections at Weka and Mt William reservoirs, a new overhead electricity line from the Granity power station to the existing BEL distribution network at Granity and a new overhead electricity line from the Weka power station to Solid Energy New Zealand's 33kV line on the Stockton Plateau.

To erect and maintain telecommunication cables along the above described overhead electricity poles.

To construct, operate and maintain a temporary transformer at Granity and permanent switch yards within Granity and Weka power stations.

Located approx: N5952390 E2414660 and N5951760 E2418490

1. The Consent Holder shall ensure the Mt William and Weka temporary spur line connections are built within the reservoir footprints. All temporary spur lines shall be

removed prior to inundation of the reservoirs.

2. The Consent Holder shall ensure re-instatement of the existing Mt William line is by means of similar poles and structures and is in the same location.

LAND USE CONSENT RC08/131G:

To disturb a 460 metre section of the historic electric loco tramway line during realignment of the Stockton Haul Road and inundation of Weka Reservoir.

Located approx: N5952250 E2418500

1. The Consent Holder shall undertake the activities authorised by this consent in accordance with the latest certified version of the Construction Management Plan and the Archeological Protocols in Condition 9.
2. The Weka Reservoir and mine haul road realignment shall be laid out to minimise any further damage to the historic loco line formation.
3. The Consent Holder shall commission a recognised archaeologist expert to assist with the survey, documentation, recovery, and interpretation of historic artefacts.
4. Prior to the commencement of any vegetation clearance, the Consent Holder shall ensure the archaeologist commissioned in Condition 3 above, undertakes a detailed survey of the historic settlement of Tin Town and the initial section of the historic loco line, from its beginning to A Portal. All historic artefacts shall be appropriately documented in accordance with Historic Places Trust procedures.
5. The Consent Holders shall build an on-site interpretative visitor display in the vicinity of electric loco line, which shall be connected to walking tracks around the Weka reservoir and Repo basin. The visitors display shall include information on the historic loco line operation, the historic settlement of Tin Town and any other material deemed suitable for incorporation by the Consent Holder's archaeological expert. The interpretative display shall be established under the guidance of an archaeological expert and be completed and accessible to visitors on commissioning of the scheme.
6. Following completion of the survey undertaken in Condition 4 above, all historic artefacts deemed to be of heritage value by the archaeologist and of salvageable condition shall be recovered, restored and securely relocated to the Consent Holder's on-site interpretative visitor display. All historic artefacts held at the Consent Holder's on-site interpretative display shall be maintained to ensure no further degradation of historic items occurs.
7. One year prior to the commissioning of the scheme, the Consent Holder shall consult with the Department of Conservation to discuss installing a walking track along the section of the historic loco formation that extends approximately 700 metres from waypoint 805 terminating at waypoint 761 (A Portal), as depicted on Scheme Plan C-007. The intention of the consultation, is that a walking track shall be designed and installed in accordance with best practice guidelines and shall include interpretative displays along its route to provide visitors with information of early mining and transportation system of the electric loco line. Heritage features along this section of the loco line are to remain in situ if practicable. The result of that consultation is required to be summarised in a report, which is to be provided to the Consent Authority, together with a cost estimate for establishment of the walking track. The

cost estimate shall be prepared by a person with expertise in the development of public walking tracks.

8. In the event that the consent holder does not reach agreement with the Department of Conservation over the extent, or design and construction of the walking track, prior to the commencement of dam construction works, then the consent holder shall pay to the Buller District Council an amount equivalent to the cost estimate of construction of the walking track in accordance with this condition, to be used for the provision and development of other beneficial heritage protection options within the larger mining area of the Stockton Plateau.

9. The walking track proposal, if developed, shall be linked to and compliment, the Consent Holder's on-site visitor display required in Condition 5 above and shall be developed under the guidance of the archaeologist commissioned in Condition 3 above.

Advice Notes:

1. *For the purposes of these resource consents "commencement of construction of the scheme works" shall be deemed to have occurred on the exercise of any land use consent, with the exception of exploration activities authorised by Land Use Consent RC08/131A*

2. *The scheme will be deemed to be commissioned on the exercise of coastal permit RC08149/5 to discharge into the coastal marine area.*

3. *The Consent Holder is advised that building consents are required under the Building Act 2004 and Building (Dam Safety) Regulations 2008. Copies of all approved building consents should be submitted to the Consent Authority.*

4. *The Consent Holder is advised that historic sites are subject to management under the Historic Places Trust 1993 and further authorisation may be required under this legislation for disturbance, collection and removal of artefacts of historic significance.*

5. *The Consent Holder is advised that the requirements of NZTA and Ontrack will need to be meet in relation to construction of the ocean outfall pipeline beneath infrastructural assets and construction works affecting legal road or railway land.*

Chapter 10 : APPENDICES

List of Submitters

Name	Support or Oppose	Submitted to	Town	Main points raised in submission
C Backes	Support	Both	Hokitika	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses
JL Black	Support	WCRC	Wellington	Environmental, economic and social sustainability.
BE Brown	Support	WCRC	Greymouth	Economics, reduction of transmission costs
Buller Conservation Group	Neutral	Both	Westport	Ecosystems destroyed, sea pollution, cleaner streams, public access.
Buller Tramping Club	Not Stated	WCRC	Westport	Public access, flooding of Tintown
Community & Public Health	Neutral	Both	Greymouth	No objection
GP Currie	Support	Both	Westport	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses
J Currie	Support	Both	Westport	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses
JM Currie	Support	Both	Westport	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses

Department of Conservation	Oppose	Both	Hokitika	Fails sustainable management, improves water quality, impacts on historic sites, coastal impacts.
Energy Efficiency & Conservation Authority	Support	Both	Auckland	Economic growth, sustainable energy, compliance with Govt energy policies, positive effects on climate change, reduced transmission losses increasing energy demands.
Federated Mountain Clubs of NZ Inc	Support	Both	Wellington	Public access, reduced flows, appropriate mitigation, improved water quality.
D Field & V Ford	Oppose	Both	Rakaia	Effects on flora and fauna, destruction of historic sites, support mitigation measures, stream flows, recreation and public access.
West Coast Branch, Green Party of Aotearoa New Zealand	Support	Both	Wellington	Renewable energy, ecosystem impacts, marine discharges, pollution, water quality improvement, public access.
A Hodgson	Support	WCRC	Westport	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses
S Hodgson	Support	WCRC	Westport	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses
M Hopkinson	Support	Both	Murchison	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses
F Inta	Neutral	Both	Westport	Water quality, forests, fauna, outfall, flows, access, Granity power station, lighting, landswap.

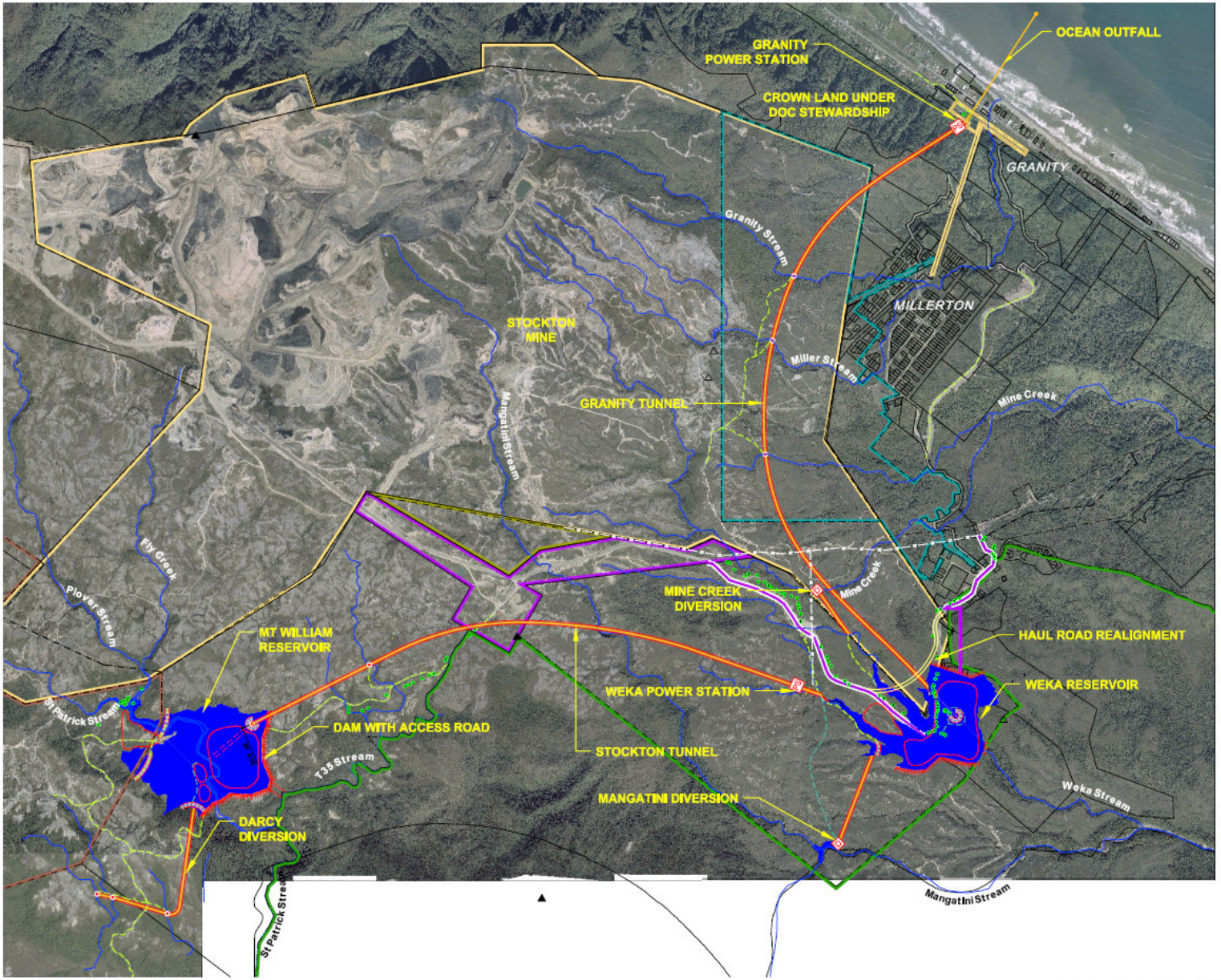
ML Jones	Oppose	Both	Ngakawau	Impact on amenity values, marine pollution, alternative sites, water flows and quality, public access.
Land Information New Zealand	Neutral	Both	Queenstown	LINZ authority reqd.
A Laycock	Oppose	Both	Granity	Disturbing lifestyle, impact on historic sites and ecology.
B Laycock	Oppose	Both	Granity	Disturbing lifestyle, impact on historic sites and ecology.
P Lusk	Neutral	BDC	Westport	Public access
HL Macbeth	Support	WCRC	Karamea	Utilisation of contaminated water, small scheme, mitigation measures.
JW MacTaggart	Support	BDC	Ngakawau	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses
R Mariane	Support	Both	Seddonville	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses
E McCann	Oppose	BDC	Christchurch	Impact and disruption on amenity values, impact on historic sites, no community benefits.
R McCann	Oppose	Both	Christchurch	Money making exercise, pollution of amenity values, vehicle movements, damage to historical buildings and sites, marine discharge.
S McCann	Oppose	BDC	Christchurch	Amenity value pollution, money making venture, no community benfits.

TR McLaughlin	Oppose	Both	Christchurch	Visual pollution, disruption on amenity values, vehicle movements, damage to historic buildings and sites, marine outflow, no community benefits.
Meridian Energy Ltd	Support	Both	Christchurch	Secure, renewable and reliable energy, environmental effects, generation claims, cumulative effects.
K Morfett	Support	Both	Hokitika	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses
N Mouat	Support	WCRC	Punakaiki	Renewable energy, security of supply, transmission losses, prices, support of climate change initiatives.
Network Tasman Ltd	Support	Both	Richmond	Renewable energy, security of supply, transmission losses, prices, support of climate change initiatives.
NZ Historic Places Trust	Oppose	Both	Christchurch	Impacts on historic heritage
NZ Recreational Canoeing Assoc	Support	WCRC	Christchurch	Water quality improvement, accept reduced opportunities
NZ Transport Agency	Oppose	WCRC	Christchurch	Effects of dam failure, mitigation measures.
J Parsons	Support	Both	Hokitika	Improved water quality, accept reduced opportunities.
DS Powell	Support	BDC	Greymouth	Economic benefits, utilization of high rainfall
D Ritchie	Support	Both	Hokitika	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses

J Robertson	Support	BDC	Granity	Dust, vibration, water supply
Royal Forest & Bird Protection Society of New Zealand	Support	Both	Christchurch	Removal of AMD, coastal discharges, flow reduction, impact on historic sites, flora and fauna effects, risks.
PA Sampson	Support	Both	Karamea	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses
R Sampson	Support	Both	Karamea	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses
Solid Energy New Zealand Ltd	Neutral	WCRC	Christchurch	Requires consent from SENZ, impacts on mining operations.
AC Tucker	Support	WCRC	Waimangaroa	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses
CR & EE Watson	Support	Both	Ngakawau	General support
PA Watson	Support	Both	Westport	Employment opportunities, commercial growth, generation capacity, water quality improvement, reduce transmission losses
West Coast Tai Poutini Conservation Board	Support	Both	Hokitika	Generation from renewable resources, reduced visual impacts and transmission losses, utilization of AMD, modified land, heritage impacts, loss of conservation land, marine discharge.
R Williams Inwood	Support	WCRC	Westport	Local generation, employment opportunities

NOTES:

THE LOCATIONS OF THE BOUNDARIES OF PROPERTIES, MINING PERMITS AND MINING LICENCES ARE INDICATIVE AND THE LOCATION OF PROJECT WORKS WITH RESPECT TO THE BOUNDARIES WILL BE FINALISED FOLLOWING DETAILED SURVEY.



LEGEND:

- NGAKAWAU ECOLOGICAL RESERVE BOUNDARY
- CML BOUNDARY
- ACML BOUNDARY
- WAIMANGAROA MINING PERMIT 41515 BOUNDARY
- MILLERTON RESERVE BOUNDARY
- DOC TRIANGLE BOUNDARY
- FAULTS
- TUNNELS
- SEDIMENT TRAPS
- CULVERT
- CREEK SUMPS
- CREEK DIVERSIONS
- POWER STATIONS
- PERMANENT ACCESS ROAD
- TEMPORARY CONSTRUCTION ACCESS
- DAM WITH ACCESS ROAD
- POWER LINE
- TRIANGULATION POINTS
- HISTORICAL POINTS

Rev	Designed	Drawn	Checked	Approved	Date
C					
	MW	GK			22.09.08
	FINAL CONCEPT. NGAKAWAU BOUNDARY CONFIRMED				
B					
	MW	GK			01.09.08
	FOR FINAL CONCEPT				
A					
	MW	GK			29.07.08
	DRAFT				

Scales: 1:10,000 (A0)
Original Size: A0
Tab: C-000 (A0)
Status: FINAL CONCEPT

URS
URS New Zealand Limited
Level 5 Landsborough House, 287 Durham Street
Christchurch, New Zealand
Phone: 3-374 8500 Fax: 3-377 0655

Project: hydro DEVELOPMENTS LIMITED

STOCKTON PLATEAU HYDRO PROJECT

Title

OVERALL SCHEME PLAN

Drawing Number: C-000
Revision: C

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