MĀORI STANDING COMMITTEE

1 JULY 2020

AGENDA ITEM 6.1

RESOURCE CONSENT APPLICATION FOR A TRIAL OF ECOREEF COASTAL PROTECTION SYSTEM AT PALLISER BAY

Purpose of Report

To consult with the Committee on the proposed Resource Consent application for a trial of the Ecoreef coastal protection system at Palliser Bay.

Recommendations

Officers recommend that the Committee:

1. *Receives the Resource Consent application for a trial of the Ecoreef coastal protection system at Palliser Bay Report.*
2. *Notes the proposed trial is being undertaken in areas already designated as "Existing Boulder Beach" under the existing consent and that all other protections of the consent would remain in effect.*
3. *Provides any input to the Consent application process.*

1. Executive Summary

South Wairarapa District Council has been managing the effects of coastal erosion along stretches of the Cape Palliser road for many years, which has traditionally involved the use of boulders to reduce the impact of tidal and weather events.

Although this approach has been partly successful, it is becoming increasingly expensive and Council is keen to find alternative methods of mitigation. To this end, it is proposed that a trial is conducted using the Ecoreef system and a variation to the existing consent is being sought to do this.

The report to the Hearing Committee for the original coastal protection application is attached in Appendix 2. There is also an existing resource consent to extract gravel for coastal erosion protection purposes (WAR130295). This is attached in Appendix 3 and explores the environmental impacts of the gravel extraction.

2. Discussion

2.1 Consultation

This paper seeks Maori Standing Committee input to the proposed consent variation, outlined in Appendix 1.The original application works through the process including consultation and provides a summary of the submissions received to that application. Ten submissions were received to the original application. Seven were in support (or conditional support), one in opposition and two were neutral. The original coastal protection application was opposed, in part, by Department of Conservation (DOC). As a result of DOCs concerns, “no-go” areas were introduced as part of the current consent. These areas do not have the coastal protection used and allowed Greater Wellington to issue its consent. There will be no change to these “no go” areas with the proposed variation.

2.2 Financial Considerations

There are no financial considerations for this report.

3. Supporting Information

This proposal supports the Community Goal of making the South Wairarapa ‘A place that’s accessible and easy to get around’.

4. Appendices

Appendix 1 – Proposal to Trial “Eco Reef” Blocks for Coastal Protection along the Palliser Bay Coastline

Appendix 2 - Report to the Hearing Committee on a notified resource consent application

Appendix 3 – Resource Consent for Gravel Extraction (WAR130295)

Contact Officer: Tim Langley – Roading Manager

Reviewed By: Euan Stitt, Group Manager – Partnerships and Operations

Appendix 1 – Proposal to Trial “Eco Reef” Blocks for Coastal Protection along the Palliser Bay Coastline

Proposal to Trial "Eco Reef" Blocks for Coastal Protection along the Palliser Bay Coastline

Resource Consent Application to Vary WAR090322

Russell Hooper Consulting

Application prepared by Russell Hooper on behalf of the South Wairarapa District Council.

Russell Hooper (Planning Consultant)
Dated 23rd April 2020

1. Background / Context / Selected Sites

The South Wairarapa District Council (and predecessors) have been dealing with the effects of coastal erosion in the Cape Palliser area for a number of decades.

The erosion occurs in cycles and the impacts of climate change are likely to increase the effects of coastal erosion in the area in the future.

Cape Palliser Road is an important piece of infrastructure and is the only formed access to Ngawi and surrounding settlements for residents and the many tourists that visit the attractions of Palliser Bay. Coastal erosion is having a significant impact on the road in a number of locations.

Figure 1 - Section of Coastline near Whatarangi

SWDC was granted a resource consent in 2010 (WAR090322) for coastal protection works in the area stretching from the Hurupi Stream to the Cape Palliser lighthouse. This single consent replaced a multitude of previous consents for various protection works within this area.

WAR090322 is a Coastal Permit allowing the following;

- occupy the coastal marine area with structures,
- reclaim land within the coastal marine area,
- disturb the coastal marine area,
- install structures in the coastal marine area, and
- deposit materials in the coastal marine area.

The existing resource consent provides for the use of boulder beaches to be used as hard protection along sections of the Palliser Bay coastline.

WAR090322 set out four zones of coastal protection along the coast;

- Existing Boulder Beach
- No Go Zone
- Immediate Work Areas
- Active Management Zones

Each zone has a different level of priority of work and preconstruction approval. No structures are permitted in the No Go Zone. The preconstruction approval within the Active Management Areas includes a requirement for justification of boulder beaches (as opposed to softer natural processes) prior to construction.

The boulder beaches need regular replacing and repair following damage from larger storms and coastal swells. Boulders are becoming more scarce and currently the closest source of suitable boulders is from Ohakune. In an effort to improve on the existing situation, SWDC is seeking approval from GWRC to have the ability for sections of the consented coastal protection works to also use a product called Eco Reef. This requires a variation to WAR090322 under s127 of the RMA.

The Eco Reef system is so-far untrialled in this situation, so initially, a trial is proposed to ensure that the product is suitable.

The trial is to take place in three locations. For the purpose of this application these are named Hurupi, Buckley, and Turners Bay. The locations of these sites are shown below and all are within the locations approved for coastal protection by WAR090322.

Figure 2 - Three proposed trial sites

1.1 Site 1 - Hurupi

This site is located immediately south of the Hurupi Stream. Co-ordinates for the photograph in figure 4 below are; -41.442808,175.217204 (GPS WGS84).

There is an existing boulder beach structure in this location. It is proposed to trial a section of Eco Reef of approximately 40m long extension to the current boulder beach.

The management zone defined in the existing consent is "Existing Boulder Beach".

Figure 3 - Site 1

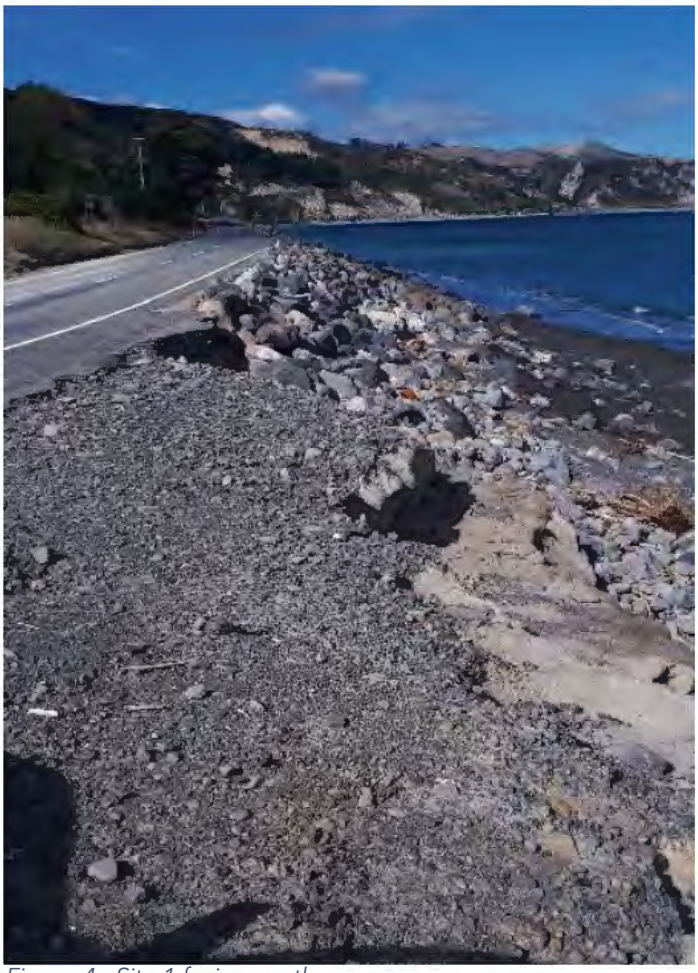


Figure 4 - Site 1 facing south

Figure 5 - WAR090322 management zones in proximity to Site 1

1.2 Site 2 - Buckley

This site is south of the Whatarangi settlement. Co-ordinates for the photograph in figure 6 below are; -41.477470,175.208410 (GPS WGS84). The coastal protection works authorised by WAR090322 have not yet been constructed in this location.

It is proposed to trial a section of Eco Reef of approximately 80m in place of the consented boulder beaches.

The management zone defined in the existing consent is "Active Management Zone".

Figure 6 - Site 2

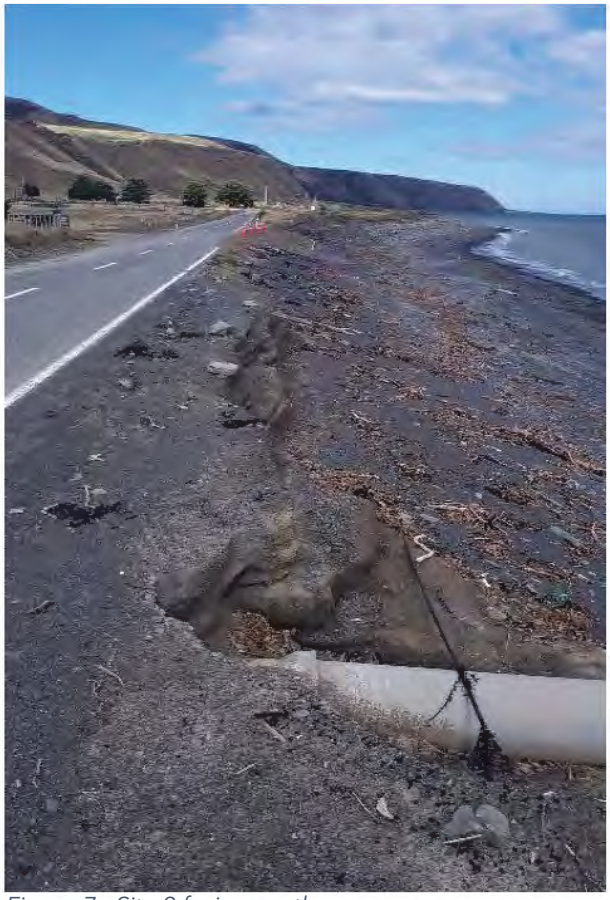


Figure 7 - Site 2 facing south

Figure 8 - WAR090322 management zones in proximity to Site 2

1.3 Site 3 - Turners Bay

This site is in between Pararaki Stream and the Otakaha Stream approximately 5.5km north of the Ngawi settlement. Co-ordinates for the photograph in figure 8 below are; -41.538079,175.216447 (GPS WGS84).

As for Site 1 (Hurupi), there is an existing boulder beach structure in this location. This structure has been substantially damaged during recent storm events. It is proposed to trial a section of Eco Reef of approximately 40m within the existing boulder beach.

The management zone defined in the existing consent is "Existing Boulder Beach".

Figure 9 - Site 3

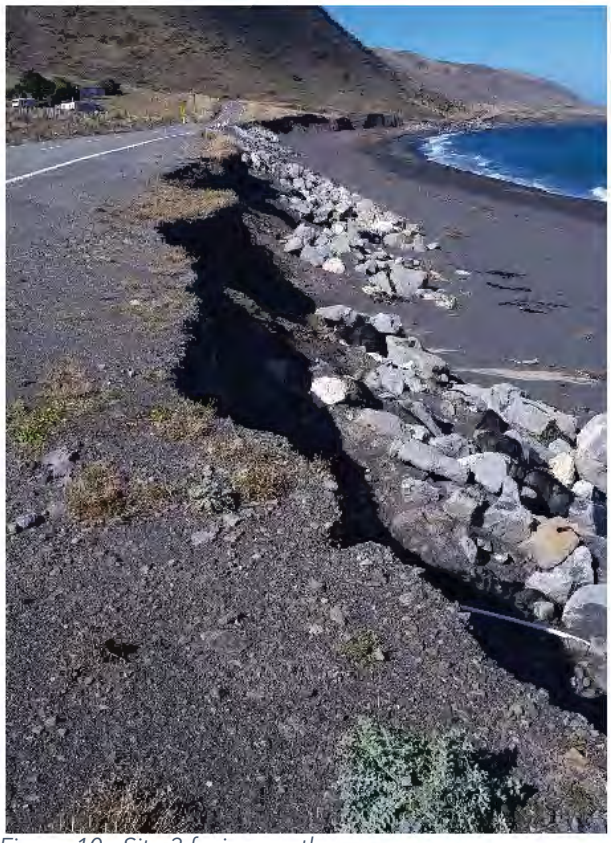


Figure 10 - Site 3 facing south

Figure 11 - WAR090322 management zones in proximity to Site 2

2. Variation sought

The approval process of the existing resource consent (WAR0900322) specifically assessed boulders. A variation of consent is required for alternative forms of hard protection to be used.

This application seeks approval to allow Eco Reef to be constructed in place of boulder beaches where these were approved for use by WAR090322.

An initial trial period of up to 24 months at up to three locations is proposed to confirm the suitability and performance of the Eco Reef product. 24 months will ensure that the Eco Reef is subject to the full variation of weather and tidal events that the coast experiences.

Following a successful trial, with the agreement of Greater Wellington, Eco Reef could begin being constructed instead of the boulder beaches.

The only change to the consent would be the ability to replace the boulders with Eco Reef. All other aspects of the existing consent will remain as existing, including;

- the four defined zones ("Existing Boulder Beach", "Immediate works zones", "Active Management zones", and "No Go zones"),
- pre-construction management plans and design in conditions 7, 8, and 9,
- cultural and archaeological site protection in conditions 10, 11, 12, 13, 14 and 15, and
- public safety and access in conditions 16, 17, and 18.

To enable any future innovations of revetment material to be trialled with the approval of GW and without the need for a variation of the consent, this application requests a proposed to clause to cover this off.

A suggested condition of consent is as follows;

The consent holder may trial "Eco Reef" blocks as a means of coastal protection for a period of up to 24 months in accordance with application WAR[…].

After the trial period the consent holder shall report the findings of the trial to Greater Wellington Regional Council. This report shall cover at a minimum;

- *the stability of the Eco Reef system,*
- *any coastal erosion impacts on nearby areas,*
- *any improvements in design considered necessary.*

Based on the outcome of the trial, Greater Wellington Regional Council will advise the consent holder whether the Eco Reef system can permanently replace the consented boulder beaches or not.

In order to provide future flexibility, other similar materials may be trialled, subject to approval from the Greater Wellington Regional Council. This may occur without the need for a formal variation of resource consent pursuant to s127 of the Resource Management Act 1991.

3. Activity Status

Sections 88 to 121 apply to an application under RMA s127 for a change in consent conditions. The application must be assessed as a **Discretionary Activity** (s127(3)(a)) and reference to the activity and effects is of the proposed change only.

Therefore, this application and approval process only needs to deal with the difference between the consented boulder beaches and the Eco Reef.

4. What is the Eco Reef system?

The Eco Reef product are hexagonal (six sided) shaped concrete cells/modules.

The strength of the Eco Reef product is its modular block design. The blocks can be bolted together and lock into each other when stacked. This provides both structural strength and flexibility of layout.

Each block is 0.55m high and 1.4m wide. The block wall is 100mm thick. The volume of each block is $0.54m^3$.

The blocks are currently manufactured in Masterton. The concrete is manufactured to 40mpa strength. The cells can be held together with RB32 galvanised steel bolts.

Refer to Appendices 1 and 2 of this document for more information on the specifications of the Eco Reef blocks.

Figure 12 - Eco Reef block

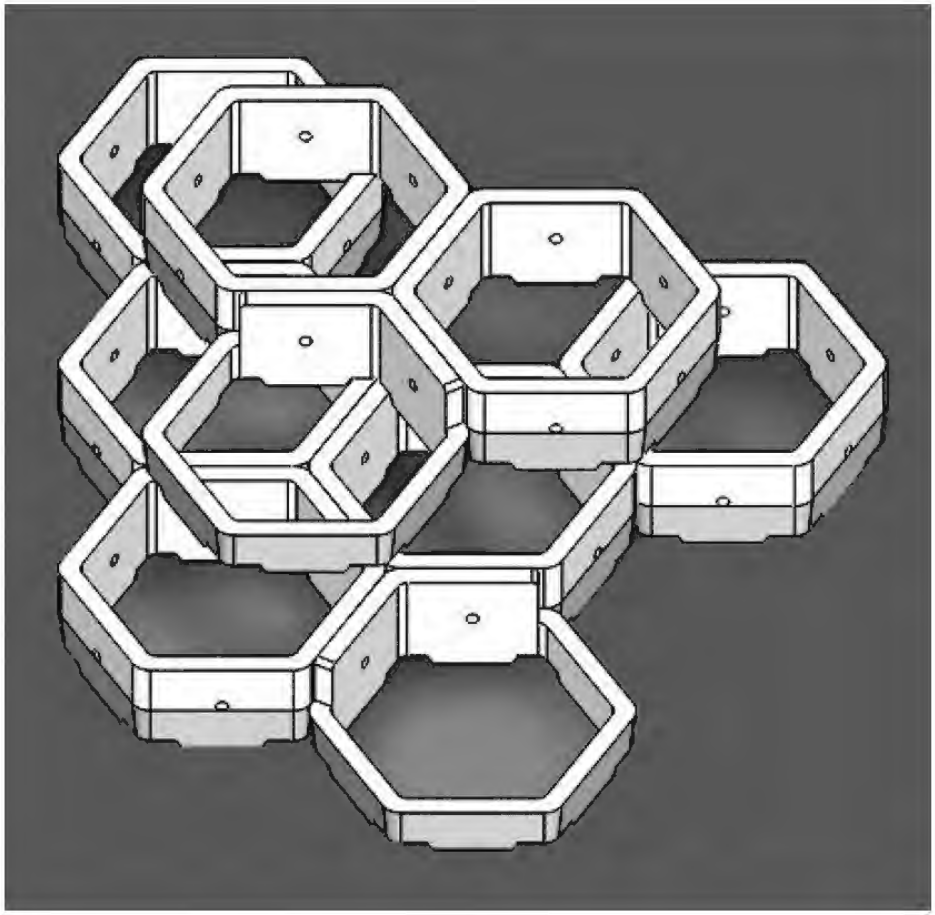


Figure 13 - Eco Reef showing modular structure

The hexagonal shape and modular nature of the Eco Reef enables it to be configured with a proportionally high surface area, ie, with the points of the hexagons facing the waves. This assists in absorbing and diffusing wave energy to reduce wave reflection. The effects of wave reflection can be an issue with traditional hard engineering designs.

The Eco Reef blocks can be filled and it is proposed to trial the Eco Reef filled with and without being filled with aggregate from local sources. SWDC has resource consent to extract aggregate from the Hurupi and Otakaha for coastal protection works (WAR 130295).

The geotextile cloth used in constructing the existing boulder beaches is not required in constructing the Eco Reef.

5. Method of Eco Reef Construction

The Eco Reef allows multiple designs and each set up will be different depending on the situation and circumstances. Prior to construction, the existing pre-works process will continue (conditions 8 and 9 of the resource consent). At this stage the Eco Reef design will be submitted to GW.

The following sets out how the Eco Reef blocks would typically be established on site following design approval;

1. Site access work (if required)
2. Removal of existing boulder beach (if required)
3. Excavation for toe embedment level

4. Levelling of beach for footing level
5. Formation works for surrounding area (to the rear and flanking the Eco Reef structure)
6. Eco Reef modules trucked to site (40 blocks per truck)
7. First layer of blocks placed in position (according to design)
8. Blocks bolted together (where required)
9. Blocks are filled and levelled off (where required)
10. Fill applied to back and sides of structure (where required) to be compacted

    The process continues with further blocks.

11. Any feature blocks (eg, road curbing, pedestrian access steps) required can be fitted.
12. Site tidy up.

The post work and monitoring requirements of the consent will all continue after construction of the Eco Reef.

Should the specific installation design require complete or partial filling, the volume of material required to fill the internal cavity of an individual Eco Reef module is 0.54m^3.

Fill material used within block levels up to 1m from the high tide line is to be unscreened 150mm or larger hard fill. Fill material placed into internal cavities of Eco Reef modules will be free of fine textured material such as silt and clay in accordance with the conditions of the current Resource Consent WAR090322, section 31.

The Eco Reef will be constructed with the same footprint consented within WAR090322. The original application for the existing consent showed a typical Boulder Beach section spanning approximately 9.0m width and 3.0m height (excluding toe trench).

Figure 10 shows an example of an Eco Reef installation covering a reduced footprint of 8.5m wide x 3.0m high.

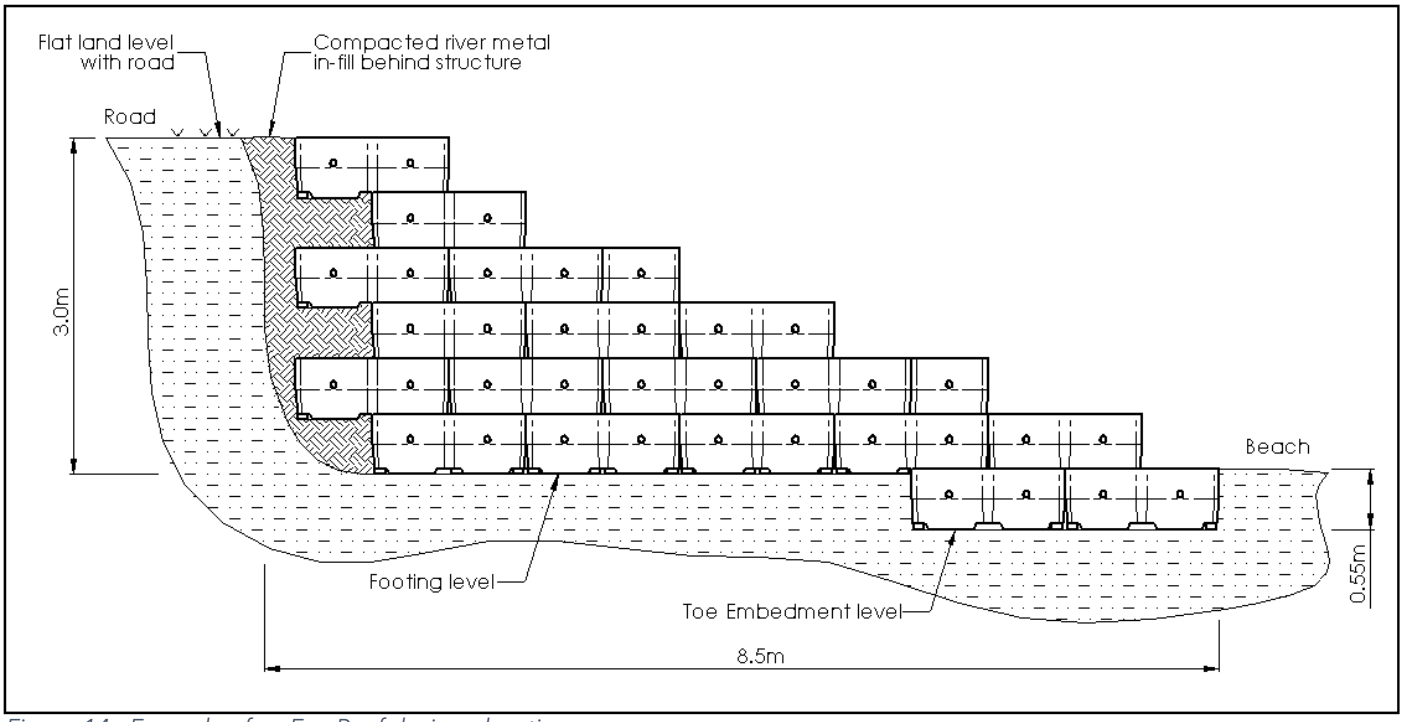


Figure 14 - Example of an Eco Reef design elevation

6. Community Engagement

South Wairarapa District Council is engaging on the use of the Eco Reef product with the local community through engagement with the South Wairarapa Maori Standing Committee and the Ngawi Residents and Ratepayers Association.

This engagement process has been hindered by the Covid-19 virus lockdown but is continuing with outcomes to be reported.

7. Assessment of Environmental Effects

The proposal is for the Eco Reef to be located in the same place that the boulder beaches have been approved.

The consenting process for WAR090322 considered a wide range of potential adverse effects generated from construction of the boulder revetments to prevent coastal erosion. There was also considerable assessment of alternatives.

All existing conditions including pre-construction design and approvals will remain.

In line with s127 of the RMA, this application to vary the existing resource consent will assess the differences between the boulders and the Eco Reef product. This AEE will not assess the effects of the actual revetment structures as these have already been considered and approved.

The following potential effects resulting from substituting the boulder beaches with Eco Reef have been identified as follows;

- Positive Effects
- Construction Effects
- Effects of Wave Reflection
- Effects on Ecology
- Effects on Maori Culture
- Effects on Coastal Amenity
- Effects on Access to the Coast

7.1 Positive Effects (Reduced Carbon Footprint and Cost Effectiveness / Efficiency Gains)

Boulders from the Tiapo quarry in Tinui (northeast of Masterton) have been used in the coastal protection works.

However, these are now no longer available. Currently the closest source of suitable boulders is in Ohakune. The scarcity of boulders has seen a significant increase in the costs of boulders.

The significant distance (320km) between Ohakune and Palliser Bay not only adds to the costs of using boulders in the coastal protection works but also results in a very large carbon footprint. In comparison, use of the Eco Reef blocks which are made in Masterton with local aggregate, has a much smaller carbon footprint.

The South Wairarapa District Council is committed to doing its part in addressing climate change and is currently finalising a joint Climate Change Strategy with the Carterton District Council. This strategy directs the District Council's to lead their communities in raising awareness and reducing their carbon footprint throughout their day to day business.

This proposal is a good example of an initiative in the roading infrastructure department to implement change to reduce its carbon footprint.

In addition, subject to a favourable trial period, the Eco Reef with its interlocking design is expected to be more robust in the rugged ocean environment. This will allow more extensive colonisation by coastal life. It will also result in less repair, maintenance and replacement disturbance to the coastal environment.

7.2 Effects of Wave Reflection

The original application process (application and officers report including reference to scientific studies), considered the effects of wave reflection in design of coastal protection works. It found that traditional hard engineering sea wall type structures can have adverse effects caused by wave energy being reflected back in consistent directions. This can focus wave energy at adjoining areas causing erosion and also contribute to the structure being undermined.

During consideration of the application, the boulder beaches were deemed less likely to cause adverse effects from wave reflection than a sea wall type structure because the face of the revetment was irregular and wave reflection was random rather than focussed in one particular direction. The consistency of the boulder structures were also considered to absorb some of the wave energy.

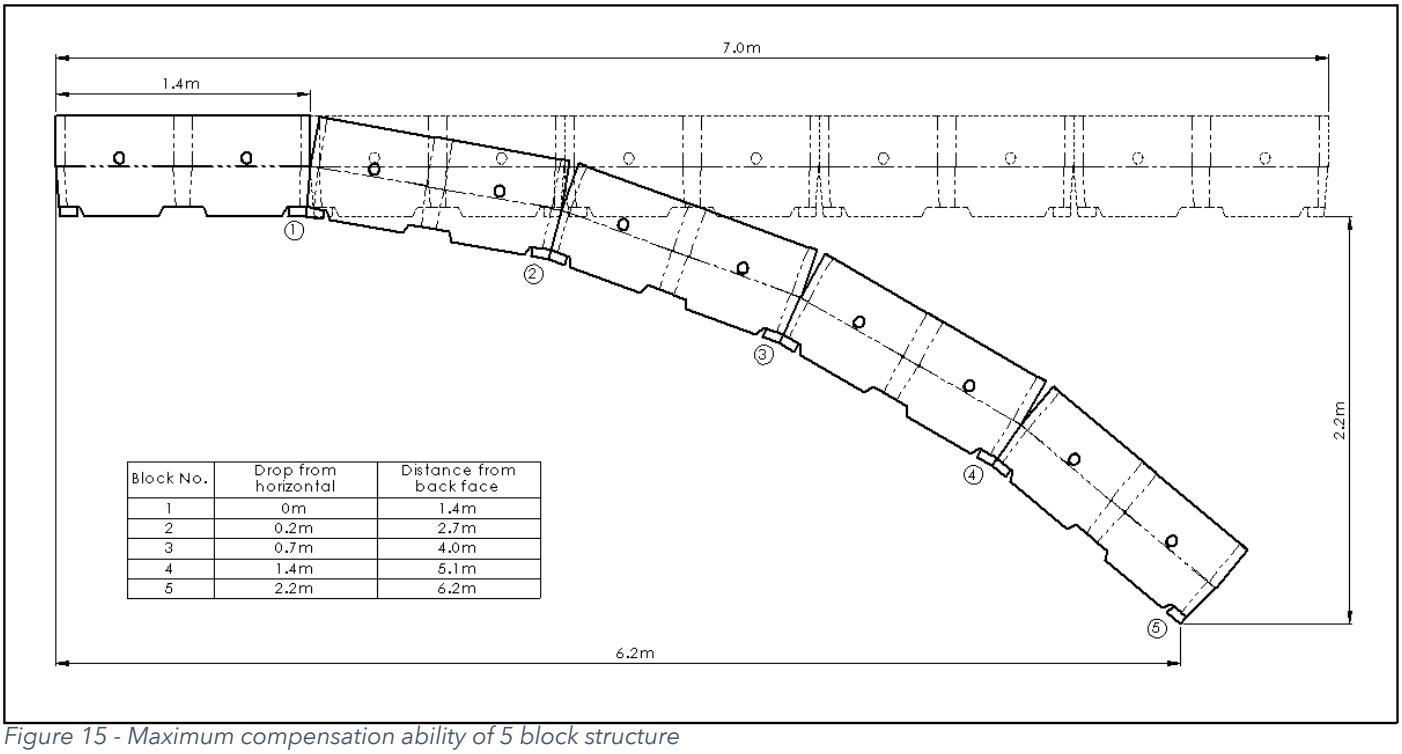
The shape and modular nature of the Eco Reef enables it to be configured with a proportionally high surface area, ie, with the points of the hexagons facing the waves. Therefore, the Eco Reef has the same advantages in terms of the diffusion of wave reflection and absorbing some of their impact as the consented boulders.

The ability to absorb wave energy is anticipated to be a strength of the Eco Reef design. However, as this will be the first trial in an ocean environment this is as yet unproven. Given that the introduction of the Eco Reef is taking place as an observed trial, if there was an identified erosion issue the Eco Reef could simply be altered in design or even be removed entirely.

In addition to surface area and angle, the Eco Reef module system provides a relatively high degree of flexibility. Each module features a 5 degree draft angle below the block centreline. This allows the structure to be placed on, or follow, an uneven footing surface, with up to 10 degrees negative angle permissible between each block.

Fastening occurs through the block centre creating a hinge point. This allows the entire structure to follow its footing surface should it change over time, with the structure's integrity remaining intact. This allows the system to function on flat through to convex shaped footing surfaces.

Figure 15 shows a scenario with 5 blocks extending to a total length of 7m when horizontal. Dynamic flexibility allows the front edge of the of the leading block to follow the contour should any undermining occur by up to 2.2m from horizontal.



Block No.	Drop from horizontal	Distance from back face
1	0m	1.4m
2	0.2m	2.7m
3	0.7m	4.0m
4	1.4m	5.1m
5	2.2m	6.2m

Figure 15 - Maximum compensation ability of 5 block structure

In addition to dynamic flexibility, the first level (0.55m) will be fully embedded below the current sand/beach level to initially protect the front edge of the leading blocks. See figure 16 below.

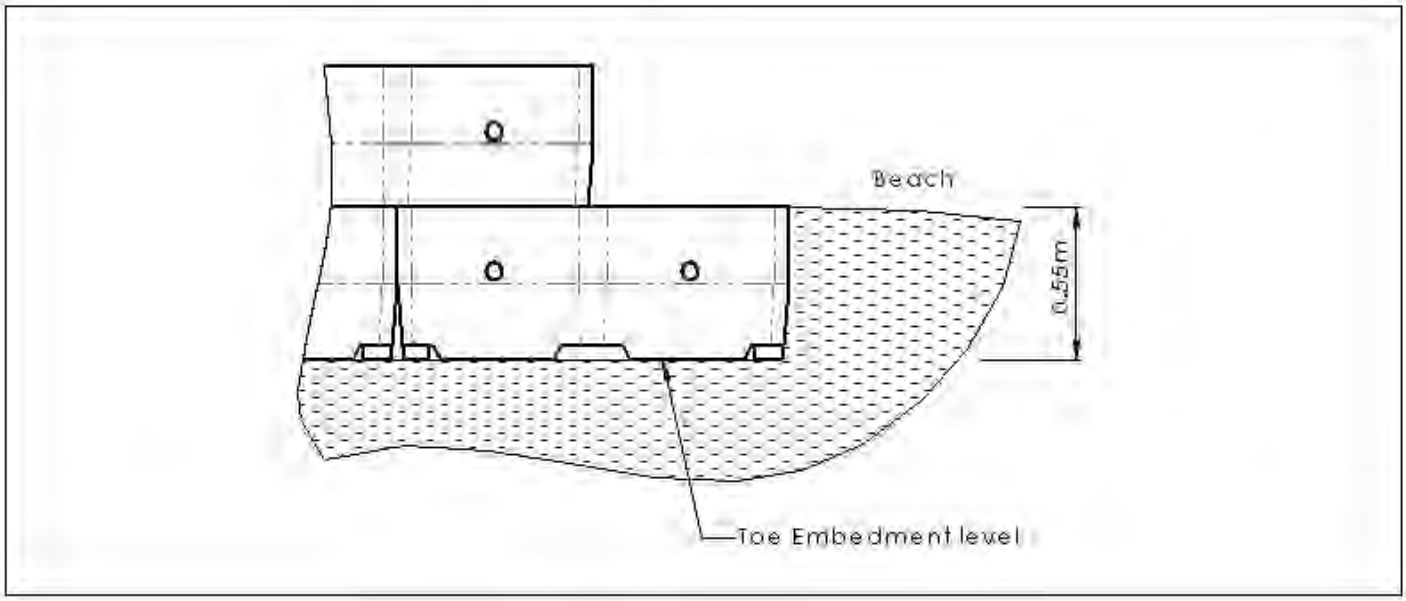


Figure 16 - Bed-in block placement showing existing beach material vs footing level

This larger structure with flexible interconnectedness provides some perceived advantages over the boulder beaches.

The same end design considerations will apply to the Eco Reef as the consented boulder revetments. This is important to avoid erosion and will depend on a number of factors -primarily the landscape features adjacent to the Eco Reef. This detail will be addressed at time of comprehensive design.

The performance of the Eco Reef will be confirmed during the proposed trial. Ultimately, any instability during the trial has the ability to be addressed through alteration of design or removal.

Accordingly, any adverse effects resulting from the impact of wave reflection is considered to be no more than the consented boulders and less than minor.

7.3 Effects on Coastal Ecology

The original consent process assessed adverse effects on flora and fauna. This resulted in "no-go" zones being set aside where boulder beaches would not be established. In the areas outside of the no go zones the boulder beaches were not considered to have an adverse effect on flora and fauna.

With this as a starting point, the Eco Reef has a high surface area like the boulders and will provide the opportunity for habitat colonisation by marine life.

There are a number of ecological benefits in using Eco Reef over boulder beaches;

- The longer lasting structure will result in less need for repair/replacement and associated disturbance of the beach environment.
- Cavities in the blocks provide the potential for habitat for fauna such as penguins.
- The Eco Reef provides a medium for coastal plants to establish.

- The boulders currently used for coastal protection have the ability to remain in their existing eco-systems.

Overall, adverse effects from the proposed Eco Reef on coastal ecology is considered to be less than minor.

7.4 Construction Effects

The method of constructing the Eco Reef is set out above. This construction can occur relatively quickly to take advantage of opportunities to work between tides. While there will be temporary delays for users of the road during construction, these are considered to be the same as occurs during standard road work repairs. The need for traffic control and other safety measures falls under the consent holders Health and Safety responsibilities.

WAR090322 deals with the general construction effects of public safety (conditions 16 and 17), hours of operation (condition 21), noise (condition 26), and environmental disturbance (conditions 27 – 31). These conditions are also appropriate for the Eco Reef construction and no changes or alterations are considered necessary.

Provided that the Eco Reef functions to a high level, in the long run there will be less maintenance required than with the existing boulder beaches and periods of construction for repairs will be significantly less.

Overall any adverse effects from construction will be less than minor.

7.5 Effects on Maori Culture

The entire Palliser Bay coastline is well known as an area rich in Maori history after long periods of intensive pre-European occupation. This coastline is therefore a place of very high cultural value to Maori.

Proposed site 2 is just outside of the Whatarangi coast reefs which is identified in the Proposed Natural Resources Plan as a site of significance to Rangitaane o Wairarapa and Ngati Kahungunu in the proposed Natural Resource Plan's Schedule C5.

Cultural effects were considered during the processing of the existing consent and are addressed by consent conditions 10, 11, 12, 13, 14, and 15 – which will remain.

The proposed Eco Reef will allow access to the coast and will provide benefits to coastal ecology.

Therefore mahinga kai and tikanga Maori can continue.

As noted, in community engagement above, the SWDC is engaging with Maori through its South Wairarapa Maori Standing Committee.

Adverse effects on Maori cultural values from using the Eco Reef product are considered to be less than minor.

7.6 Effects on Access to the Coast

The existing resource consent allows for public access points to the coast (condition 18), and this will continue.

The step like construction of the Eco Reef protection will allow people to access the beach from the road. The boulder beaches are much more irregular and difficult to climb. In addition, at time of final design, the Eco Reef can be constructed to provide built in access points if necessary.

On this basis, effects on the environment will be less than minor with the Eco Reef improving the public's safe access to the coast.

7.7 Effects on Coastal Amenity

Palliser Bay is a wild and rugged section of the Wairarapa coastline. It is important that this coastal amenity is considered during assessment of any coastal protection works.

The Eco Reef is an artificial product and will be visible to residents and visitors to the coastline as such.

In contrast, the existing boulder beaches are made with a natural product. However, in the context of the Palliser Bay coastline they have an artificial element in that they are obviously put in place by people to mitigate the effects of coastal erosion. The geotextile material used in the boulder beach construction can become exposed presenting an artificial aesthetic – see figure 17 below. The Eco Reef does not require the use of geotextile material.

The concrete Eco Reef modules are a similar colour to coastal rocks and can be constructed in ways that brings variation to the eye and can mirroring the contour of the coastline.

The Eco Reef's modular and textured appearance, ability to be filled with natural aggregate, and ability to be colonised by coastal flora and fauna will help the structures blend into the environment over time and eventually become part of the landform.

In terms of amenity, the Eco Reef (once established) will be similar, or an improvement, to the consented boulder beaches (see figures 17 and 18 below). Accordingly, any potential adverse effects on coastal amenity are considered to be less than minor.

Figure 17 - Existing boulder beach structures

Figure 18 - Visual of the proposed Eco Reef (prior to being colonised by coastal vegetation)

7.8 Assessment of Environmental Effects Conclusion

As shown above, any adverse effects from using Eco Reef instead of boulder beaches are considered to be less than minor. The SWDC is seeking consent to use the Eco Reef for the significant benefits it has the potential to provide. These will be confirmed during the trial of the product.

8. Policy Assessment

The policy documents considered relevant to this proposal are as follows;

- Resource Management Act
- New Zealand Coastal Policy Statement
- Regional Policy Statement
- Regional Coastal Plan
- Proposed Natural Resources Plan
- Wairarapa Coastal Strategy

With regard to policy assessment it is important to reiterate that the coastal protection works have already been consented and this proposal is to alter the material of the revetment structures. Therefore, this policy assessment focuses on the differences between the boulder beaches and the Eco Reef.

8.1 Resource Management Act

Part 2 of the Resource Management Act sets out the purpose and principles.

Section 5 outlines the RMA's purpose being "to promote sustainable management of natural and physical resources".

Section 6 outlines matters of national importance that must be recognised and provided for when exercising functions and powers under the RMA.

Of direct relevance to this application are;

> *s6(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:*
>
> *s6(d)*
> *the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:*
>
> *s6(e)*
> *the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:*
>
> *s6(h)*
> *the management of significant risks from natural hazards.*

Section 7 sets out other matters to have particular regard to when exercises functions and powers under the RMA.

Of relevance to this application are;

S7(a) – kaitiakitanga:

S7(aa) – the ethic of stewardship:

S7(b) – the efficient use and development of natural and physical resources:

S7(ba) – the efficiency of the end use of energy:

S7(c) – the maintenance and enhancement of amenity values:

S7(d) – intrinsic values of ecosystems:

S7(f) - maintenance and enhancement of the quality of the environment:

S7(g) – any finite characteristics of natural and physical resources:

S7(i) – the effects of climate change:

Section 8 directs all persons exercising functions and powers under the RMA to manage the use, development, and protection of natural and physical resources to take into account the principles of the Treaty of Waitangi.

8.2 NZ Coastal Policy Statement (2010)

The NZCPS is national policy document which provides policies to achieve the purpose of the RMA in the coastal environment.

The following Objectives and Policies are considered relevant to this application.

Objective 2
To preserve the natural character of the coastal environment and protect natural features and landscape values through:

- *recognising the characteristics and qualities that contribute to natural character, natural features and landscape values and their location and distribution;*
- *identifying those areas where various forms of subdivision, use, and development would be inappropriate and protecting them from such activities; and*
- *encouraging restoration of the coastal environment.*

Objective 3
To take account of the principles of the Treaty of Waitangi, recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in management of the coastal environment by:

- *recognising the ongoing and enduring relationship of tangata whenua over their lands, rohe and resources;*
- *promoting meaningful relationships and interactions between tangata whenua and persons exercising functions and powers under the Act;*
- *incorporating mātauranga Māori into sustainable management practices; and*

- *recognising and protecting characteristics of the coastal environment that are of special value to tangata whenua.*

Objective 4

To maintain and enhance the public open space qualities and recreation opportunities of the coastal environment by:

- *recognising that the coastal marine area is an extensive area of public space for the public to use and enjoy;*
- *maintaining and enhancing public walking access to and along the coastal marine area without charge, and where there are exceptional reasons that mean this is not practicable providing alternative linking access close to the coastal marine area; and*
- *recognising the potential for coastal processes, including those likely to be affected by climate change, to restrict access to the coastal environment and the need to ensure that public access is maintained even when the coastal marine area advances inland.*

Objective 5

To ensure that coastal hazard risks taking account of climate change, are managed by: • locating new development away from areas prone to such risks;

- *considering responses, including managed retreat, for existing development in this situation; and*
- *protecting or restoring natural defences to coastal hazards.*

Objective 6

To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use, and development, recognising that:

- *the protection of the values of the coastal environment does not preclude use and development in appropriate places and forms, and within appropriate limits;*
- *some uses and developments which depend upon the use of natural and physical resources in the coastal environment are important to the social, economic and cultural wellbeing of people and communities;*
- *functionally some uses and developments can only be located on the coast or in the coastal marine area;*
- *the coastal environment contains renewable energy resources of significant value;*
- *the protection of habitats of living marine resources contributes to the social, economic and cultural wellbeing of people and communities;*
- *the potential to protect, use, and develop natural and physical resources in the coastal marine area should not be compromised by activities on land;*
- *the proportion of the coastal marine area under any formal protection is small and therefore management under the Act is an important means by which the natural resources of the coastal marine area can be protected; and*
- *historic heritage in the coastal environment is extensive but not fully known, and vulnerable to loss or damage from inappropriate subdivision, use, and development.*

Policy 3 – Precautionary approach

(1) Adopt a precautionary approach towards proposed activities whose effects on the coastal environment are uncertain, unknown, or little understood, but potentially significantly adverse.

Policy 13 - Preservation of natural character

(1) To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development:

(a) avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and

(b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment;

including by:

(c) assessing the natural character of the coastal environment of the region or district, by mapping or otherwise identifying at least areas of high natural character; and

(d) ensuring that regional policy statements, and plans, identify areas where preserving natural character requires objectives, policies and rules, and include those provisions.

(2) Recognise that natural character is not the same as natural features and landscapes or amenity values and may include matters such as:

(a) natural elements, processes and patterns;

(b) biophysical, ecological, geological and geomorphological aspects;

(c) natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks;

(d) the natural movement of water and sediment;

(e) the natural darkness of the night sky;

(f) places or areas that are wild or scenic;

(g) a range of natural character from pristine to modified; and

(h) experiential attributes, including the sounds and smell of the sea; and their context or setting.

Policy 18 Public open space

Recognise the need for public open space within and adjacent to the coastal marine area, for public use and appreciation including active and passive recreation, and provide for such public open space, including by:

(a) ensuring that the location and treatment of public open space is compatible with the natural character, natural features and landscapes, and amenity values of the coastal environment;

(b) taking account of future need for public open space within and adjacent to the coastal marine area, including in and close to cities, towns and other settlements;

(c) maintaining and enhancing walking access linkages between public open space areas in the coastal environment;

(d) considering the likely impact of coastal processes and climate change so as not to compromise the ability of future generations to have access to public open space; and

(e) recognising the important role that esplanade reserves and strips can have in contributing to meeting public open space needs.

Policy 19 Walking access

(1) Recognise the public expectation of and need for walking access to and along the coast that is practical, free of charge and safe for pedestrian use.

(2) *Maintain and enhance public walking access to, along and adjacent to the coastal marine area, including by:*
   (a) *identifying how information on where the public have walking access will be made publicly available;*
   (b) *avoiding, remedying or mitigating any loss of public walking access resulting from subdivision, use, or development; and*
   (c) *identifying opportunities to enhance or restore public walking access, for example where:*
      (i) *connections between existing public areas can be provided; or*
      (ii) *improving access would promote outdoor recreation; or*
      (iii) *physical access for people with disabilities is desirable; or*
      (iv) *the long-term availability of public access is threatened by erosion or sea level rise; or*
      (v) *access to areas or sites of historic or cultural significance is important; or*
      (vi) *subdivision, use, or development of land adjacent to the coastal marine area has reduced public access, or has the potential to do so.*

(3) *Only impose a restriction on public walking access to, along or adjacent to the coastal marine area where such a restriction is necessary:*
   (a) *to protect threatened indigenous species; or*
   (b) *to protect dunes, estuaries and other sensitive natural areas or habitats; or*
   (c) *to protect sites and activities of cultural value to Māori; or*
   (d) *to protect historic heritage; or*
   (e) *to protect public health or safety; or*
   (f) *to avoid or reduce conflict between public uses of the coastal marine area and its margins; or*
   (g) *for temporary activities or special events; or*
   (h) *for defence purposes in accordance with the Defence Act 1990; or New Zealand Coastal Policy Statement 2010 21*
   (i) *to ensure a level of security consistent with the purpose of a resource consent; or*
   (j) *in other exceptional circumstances sufficient to justify the restriction.*

(4) *Before imposing any restriction under (3), consider and where practicable provide for alternative routes that are available to the public free of charge at all times.*

Policy 27 - Strategies for protecting significant existing development from coastal hazard risk

(1) *In areas of significant existing development likely to be affected by coastal hazards, the range of options for reducing coastal hazard risk that should be assessed includes:*
   (a) *promoting and identifying long-term sustainable risk reduction approaches including the relocation or removal of existing development or structures at risk;*
   (b) *identifying the consequences of potential strategic options relative to the option of 'do-nothing';*
   (c) *recognising that hard protection structures may be the only practical means to protect existing infrastructure of national or regional importance, to sustain the potential of built physical resources to meet the reasonably foreseeable needs of future generations;*
   (d) *recognising and considering the environmental and social costs of permitting hard protection structures to protect private property; and*
   (e) *identifying and planning for transition mechanisms and timeframes for moving to more sustainable approaches.*

(2) In evaluating options under (1):
(a) focus on approaches to risk management that reduce the need for hard protection structures and similar engineering interventions;
(b) take into account the nature of the coastal hazard risk and how it might change over at least a 100-year timeframe, including the expected effects of climate change; and
(c) evaluate the likely costs and benefits of any proposed coastal hazard risk reduction options.
(3) Where hard protection structures are considered to be necessary, ensure that the form and location of any structures are designed to minimise adverse effects on the coastal environment.
(4) Hard protection structures, where considered necessary to protect private assets, should not be located on public land if there is no significant public or environmental benefit in doing so.

8.3 Regional Policy Statement for the Wellington Region (2013)

The Regional Policy Statement (RPS) sets out how the Regional's resources are to be managed and must be given effect to by Regional and District Plans.

The following objectives and policies are considered relevant to this proposal;

Objective 3
Habitats and features in the coastal environment that have significant indigenous biodiversity values are protected; and

Habitats and features in the coastal environment that have recreational, cultural, historical or landscape values that are significant are protected from inappropriate subdivision, use and development.

Objective 4
The natural character of the coastal environment is protected from the adverse effects of inappropriate subdivision, use and development.

Policy 35
Preserving the natural character of the coastal environment.

Policy 36
Managing effects on natural character in the coastal environment – consideration

Objective 8
Public access to and along the coastal marine area, lakes and rivers is enhanced (objective 8 is shared for the coastal environment and fresh water).

Policy 53
Public access to and along the coastal marine area, lakes and rivers

8.4 Regional Plans - Natural Resources Plan and Regional Coastal Plan

The proposed Natural Resources Plan (NRP) was publicly notified in July 2015 and decisions notified in July 2019. Parts of the NRP is currently subject to Environment Court appeal. Being a significant way through the plan development process, the NRP has more weight than the Regional Coastal Plan.

The objectives and policies of the NRP considered relevant to this proposal are the following;

Objective O53
Use and development shall not be located in the coastal marine area has except where it has a functional need or operational requirement to be located there., unless the use and development is in the Lambton Harbour Area.

Objective O54
Use and development makes efficient use of any occupied space in the coastal marine area.

Objective O55
The need for public open space in the coastal marine area is recognised.

Policy P132: Functional need and efficient use
Use and development in the coastal marine area shall:
(a) have a functional need, or
(b) have an operational requirement to locate within the coastal marine area, and no reasonable or practicable alternative to locating in the coastal marine area, or
(c) be in the Lambton Harbour Area; or
(d) for any other activity, it shall have no reasonable or practicable alternative to locating in the coastal marine area,

and in respect of (a), (b) and (d):

(e) only use the minimum area necessary, and
(f) be made available for public or multiple use where appropriate, and
(g) result in the removal of structures once redundant, and
(h) concentrate in locations where similar use and development already exists where practicable.

Policy P134: Public open space values and visual amenity
The adverse effects of new use and development on public open space and visual amenity viewed within, to and from the coastal marine area shall be minimised by:
(a) having particular regard to any relevant provisions contained in any bordering territorial authorities' proposed and/or operative district plan,; and
(b) managing use and development to be of a scale, location, density and design which is compatible with the natural character, natural features and landscapes and amenity values of the coastal environment and the functional needs, operational requirements and locational constraints, of the Commercial Port Area and the Wellington International Airport, and
(c) taking account of the future need for public open space in the coastal marine area.

Policy P138: Structures in sites with significant values

New structures, replacement of a structure or any addition or alteration to a structure in the coastal marine area in a site identified in Schedule C (mana whenua), Schedule F4 (coastal sites), Schedule F5 (coastal habitats) and Schedule J (geological features) shall be avoided, except where:

(a) the new structure, replacement of the structure or any addition or alteration to the structure is for the specific purpose of providing protection for the values identified in Schedule C (mana whenua), Schedule F4 (coastal sites), Schedule F5 (coastal habitats) or Schedule J (geological features), or
(b) the structure is for educational, scientific or research purposes that will enhance the understanding and long-term protection of the coastal marine area, or
(c) the structure will provide for navigational safety, or
(d) it is necessary to enable the development, operation, maintenance and upgrade of regionally significant infrastructure,

and in respect of (a) to (d):

(e) there are no practicable alternative locations or methods of providing for the activity.

Policy P139: Seawalls

The construction of a new seawall or the addition to or alteration or replacement of an existing seawall is inappropriate except where the seawall is required to protect:
(a) existing, or upgrades to, infrastructure, or
(b) new regionally significant infrastructure, or
(c) significant existing development,

and in respect of (a), (b) and (c):

(d) there is no reasonable or practicable alternative means, and (e) suitably located, designed and certified by a qualified, professional engineer, and (f) designed to incorporate the use of soft engineering options where appropriate.

8.5 Wairarapa Coastal Strategy (WCS) 2004

The WCS is a non-statutory document prepared by the Wairarapa Coastal Strategy Group made up of members from the three Wairarapa District Councils, Greater Wellington Regional Council, Rangitaane o Wairarapa and Ngati Kahungunu ki Wairarapa.

The WCS reiterates the key direction of other policy documents being a preference for natural coastal processes and for hard protection of the coast line only as a last resort (*Hazards – Policy 2*).

8.6 Overall Assessment of Relevant Policy

The NRP gives effect to Part Two of the RMA, the NZCPS, and the RPS. WAR090322 was processed under the Regional Coastal Plan prior to notification of the NRP.

The NRP introduces a number of values through schedules which are relevant to this proposal.

Schedule B – "Nga Taonga Nui a Kiwa" lists Raukawa Moana (Cook Straight).

Schedule C5 – "Sites with significance to Ngati Kahungunu ki Wairarapa and Rangitaane o Wairarapa" lists the Whatarangi coast reefs.

Schedule F1 – "Rivers and lakes with significant indigenous ecosystems" lists the following water courses in close proximity to the three sites;

- Hurupi Stream – High macroinvertebrate community health
- Unnamed river draining at easting 1785400, northing 5409230 – High macroinvertebrate community health
- Wakapirihaka Stream – High macroinvertebrate community health

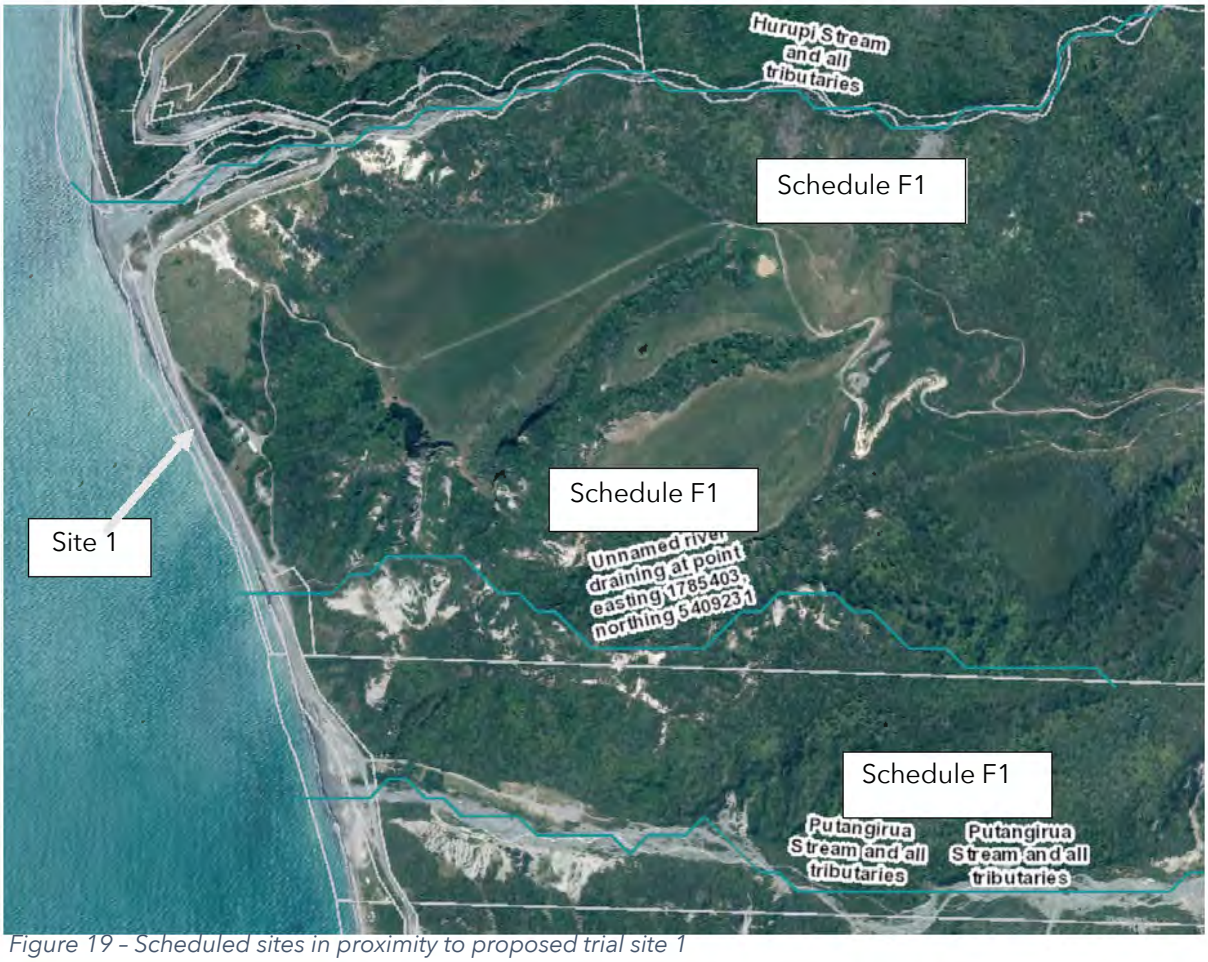


Figure 19 – Scheduled sites in proximity to proposed trial site 1

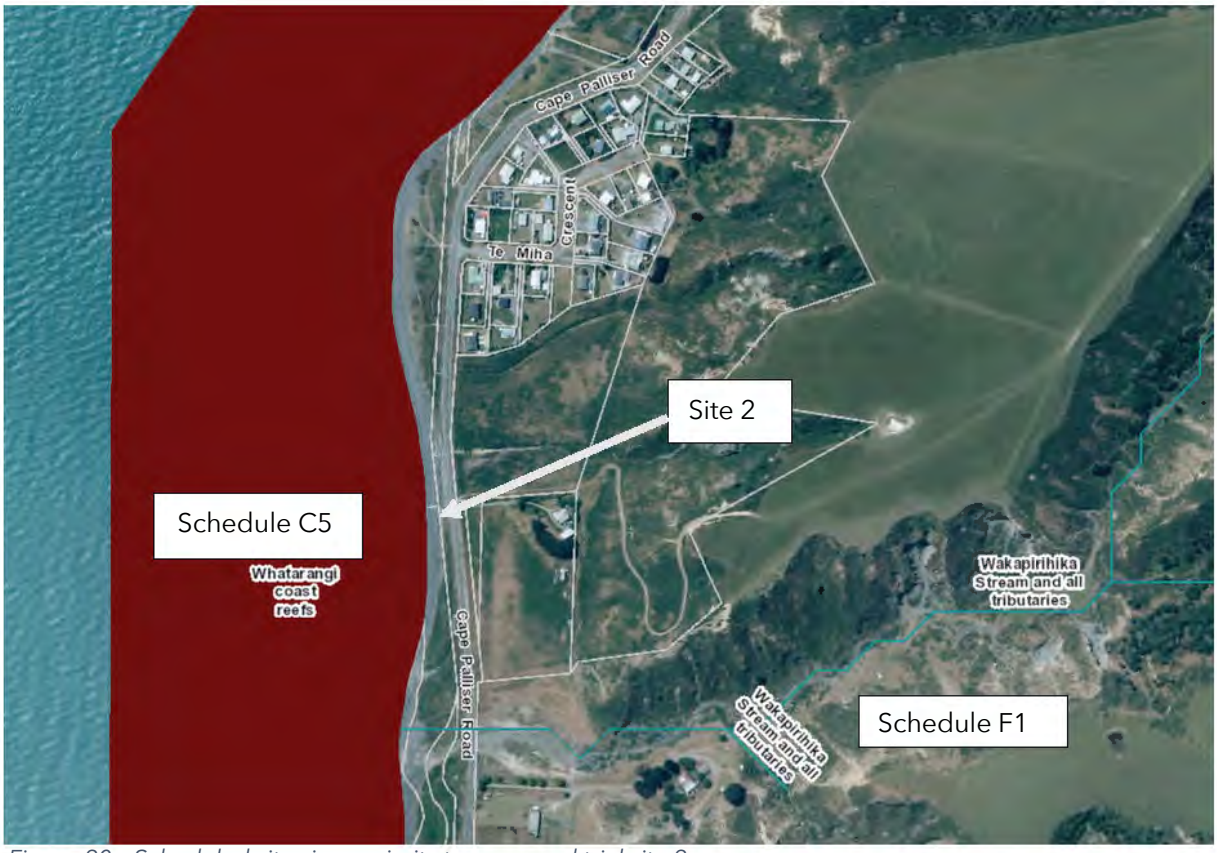


Figure 20 – Scheduled sites in proximity to proposed trial site 2

In line with the higher level policy documents, the thrust of the Regional Plans' policy guidance is that activities and structures in the coastal marine area must have a need to be located there. Where this is the case, effects on the space used must be efficient, the need for public open space recognised, and adverse environmental effects considered.

With regard to coastal protection works, NRP Policy 139 - "P139: Seawalls" directs hard engineering solutions to be an option used as a last resort, with alternatives and soft engineering preferred. A change in material of the consented revetment structures is not considered to be contrary to the need to first consider protection through natural processes – as this was done at the time of the original consent. The conditions of consent require justification for hard protection in the Active Management Zones (in line with policies 138 and 139) and this application does not change this.

The Eco Reef is not considered to have adverse effects on the coasts natural character. Once established and colonised by coastal plants the structures will appear part of the land form.

Access to the coast (in a general and for Maori cultural purposes) is maintained through retention of access points and the ability for the Eco Reef to be more easily climbed than the boulder beaches. At a higher level a better protection of the roading infrastructure also provides for access to the coastline.

Overall, with the coastal protection works having already been consented, the change in material from boulders to Eco Reef is not considered to be contrary to the relevant objectives and policies of the NRP, RPS, NZCPS, RMA, or WCS.

In fact, as outlined in the AEE the Eco Reef is considered to have the potential to be a better outcome in terms of coastal values than the existing boulders. The trial allows a precautionary approach where the merits of the Eco Reef can be confirmed prior to further use.

On this basis, the proposal is considered to be more in line with the relevant policy than the consented boulder beaches.

9. Notification

WAR090322 was publicly notified in May 2009. Ten submissions were received. Seven of these were in support (or conditional support) of the proposal, one in opposition, and two were neutral.

Through the consent hearing process several matters were worked through. The application was approved with a number of conditions of consent in place to address matters raised by submitters and to ensure that the proposed work proceeded in a way which minimised adverse effects on the environment.

This proposal is to trial a different material for constructing the approved revetment structures. This application seeks to improve on the existing protection by utilising a more local product that should and will have a number of damage to the roading infrastructure. The assessment of environmental effects above found the adverse effects of replacing the boulder beaches with Eco Reef to be less than minor.

Given the positive effects of the Eco Reef, the proposal will create a better outcome than the existing coastal protection for the applicant, environment, and users of the Palliser Bay coastal area.

All other aspects of the resource consent remain as existing, including the design and pre-construction approval requirements in conditions 7, 8 and 9 which includes working with and notifying stakeholders.

No reasons for this proposed variation to be publicly or limited notified (under s95A or s95B respectively) have been identified. Accordingly, the application can be processed on a non-notified basis.

10. Conclusion

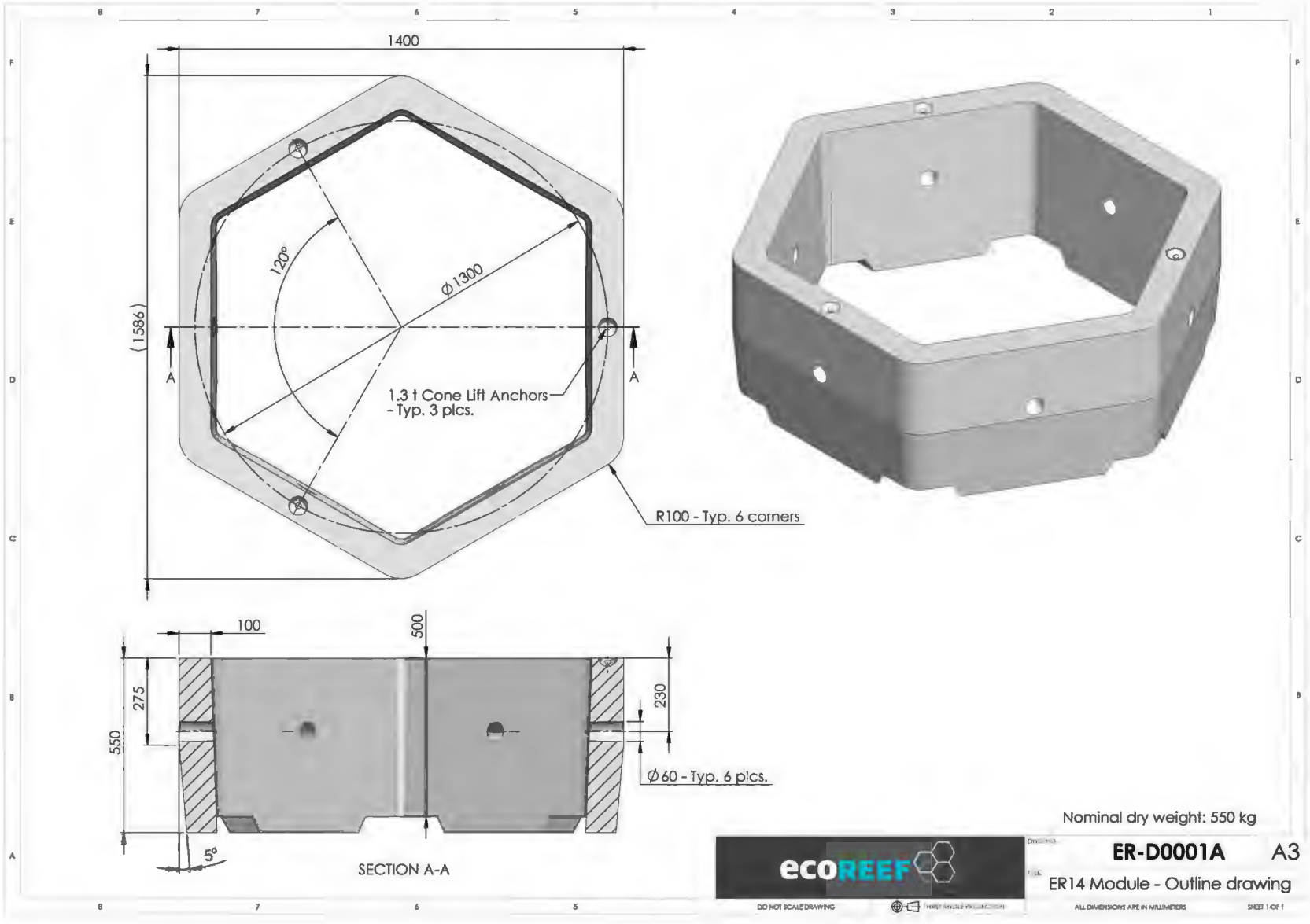
The Eco Reef product is a local innovation with potential for use in other parts of the country and also for use beyond coastal protection such as river and flood protection works. This product could be particularly useful in armouring key riverbanks and bridge structures.

On paper, the Eco Reef compares favourably to the existing boulder beach structures. The Eco Reef meets the applicable objectives and policies of the relevant policy documents and has adverse effects that are less than minor. Resource consent for the proposal can therefore be approved by Council.

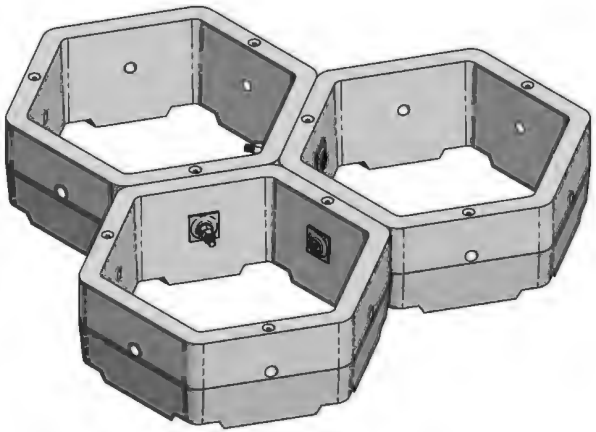
The proposed trial provides an opportunity to performance test the Eco Reef in a real life situation. With a positive trial, the Eco Reef could transform coastal erosion works and prove to be a valuable tool in protecting the South Wairarapa District Council's roading infrastructure along the Palliser Bay coastline.

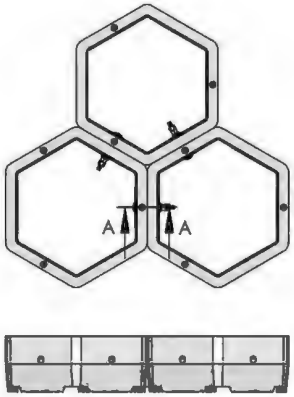
With a positive trial, the SWDC could establish Eco Reef in previously unprotected areas consented by WAR090322 and replace the existing boulder beaches as they deteriorate.

Appendix 1 – Eco Reef block Specification


1400
(1586)
120°
Ø1300
A
A
1.3 t Cone Lift Anchors
- Typ. 3 plcs.
R100 - Typ. 6 corners
100
500
275
550
230
Ø60 - Typ. 6 plcs.
5°
SECTION A-A
Nominal dry weight: 550 kg
ecoREEF
ER-D0001A
A3
ER14 Module - Outline drawing
DO NOT SCALE DRAWING
ALL DIMENSIONS ARE IN MILLIMETERS
SHEET 1 OF 1

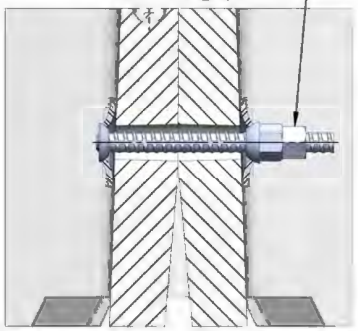
Appendix 2 – Eco Reef Fastening System



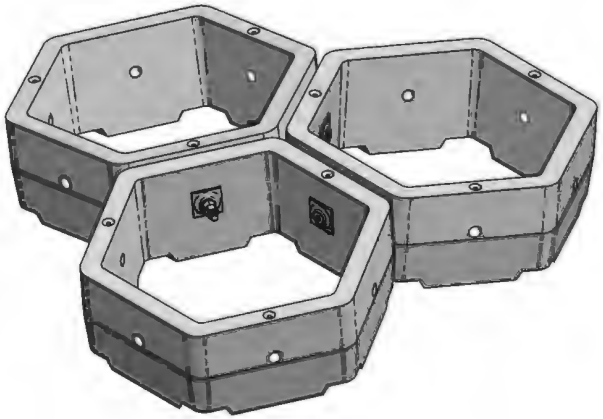


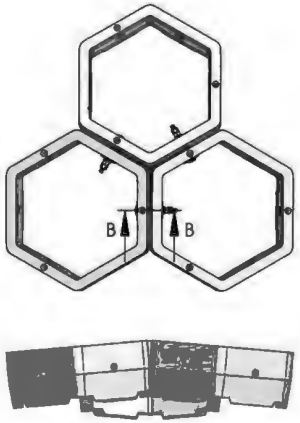
SECTION A-A

RB32 fastening system

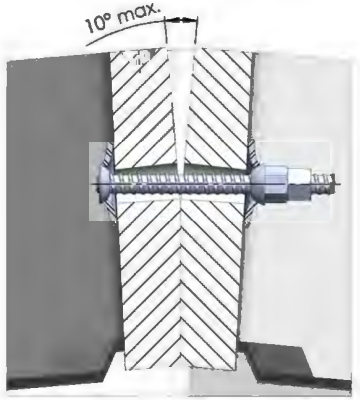


Position of fastener when modules are placed on a level surface





SECTION B-B



Position of fastener when modules are placed on an uneven surface

ecoREEF

ER-D0002A A3

ER14 Module fastening diagram

DO NOT SCALE DRAWING | ALL DIMENSIONS ARE IN MILLIMETERS | SHEET 1 OF 1

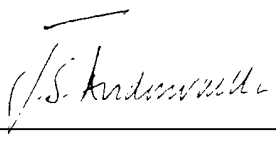
Appendix 2 – Report to the Hearing Committee on a notified resource consent application

Report to the Hearing Committee on a notified resource consent application

Overview of application

Application:	To Wellington Regional Council, pursuant to section 117 of the Resource Management Act (RMA), for a coastal permit for a restricted coastal activity.
Decision:	Decision and recommendation to the Minister of Conservation in respect of a restricted coastal activity.
Activity:	To construct, as necessary, a number of boulder beaches along an approximately 25km stretch of coastline for coastal erosion protection purposes.
File Reference:	**WAR090322**
Applicant:	South Wairarapa District Council
Consent(s) Sought:	**[27566]: Coastal permit** to occupy Crown Land within the coastal marine area for coastal protection purposes. **[27569]: Coastal permit** to install structures within the coastal marine area. **[27568]: Coastal permit** to disturb the coastal marine area associated with the physical works. **[27570]: Coastal permit** to deposit materials within the coastal marine area. **[27567]: Coastal permit** to reclaim land within the coastal marine area to reinstate land that has been eroded by storm events. Note: The applicant has submitted a detailed 'Assessment of Environmental Effects' (AEE) report to support the applications.
Location:	The coastal marine area adjacent to Cape Palliser Road, from Hurupi Stream to the Cape Palliser Lighthouse.

Map Reference:	At or about map reference from NZTM 1785111 - 5409875 (Hurupi Stream end); to point at or about NZTM 1791753 – 5390861 (lighthouse end)
Legal Description:	N/A – Palliser Bay coastline
Recommendation:	I recommend that the above consents be granted, subject to conditions, for the reasons outlined in this report.

Report prepared by:	G Kneebone	Resource Advisor, Environmental Regulation		14/10/2011
Report peer reviewed by:	Shaun Andrewartha	Team Leader, Environmental Regulation		20/10/2011
Report approved by:	Alistair Cross	Manager, Environmental Regulation		20/10/2011

Executive Summary

South Wairarapa District Council proposes to undertake coastal protection work (as necessary) along an approximately 25km section of beach frontage extending from Hurupi Stream to Cape Palliser lighthouse. The intended works comprise:

- Construction of boulder beaches as required on a prioritised basis;
- Construction of associated low level rock training walls and other miscellaneous works within the coastal marine areas adjacent to stream mouths.

Resource consent to install and maintain the majority of the coastal protection work outlined above, is recommended to be granted for a 35 year term until 30 September 2046 subject to a number of conditions.

The application was publicly notified under Section 93 of the Resource Management Act 1991 (RMA). Ten submissions were received in total, of which seven were in support or conditional support, two were neutral and one opposing the consents required by Greater Wellington (trading name for the Wellington Regional Council).

The Council has assessed the application and believes that the recommendation and proposed consent conditions are consistent with policies in the New Zealand Coastal Policy Statement, the Proposed New Zealand Coastal Policy Statement, the Wellington Regional Policy Statement, the Proposed Wellington Regional Policy Statement, the Regional Coastal Plan, and the Wairarapa Coastal Strategy. The proposed consent conditions have addressed a number of issues raised in submissions, to ensure that any adverse environmental effects are avoided, remedied, or mitigated.

The application involves some reclamation of foreshore that has been subject to recurring incidence of accelerated coastal erosion. This is a restricted coastal activity. The application has been referred to the Minister of Conservation, and is being processed in accordance with the procedures outlined in Part VI of the RMA (pre 2010 Amendments).

Qualifications of reporting officer

1. I hold the qualifications of Bachelor of Science (Waikato) and Bachelor of Planning (Graduate School, Auckland). I am a Registered Engineering Associate (Competency Assessed Practitioner) and a full member of the New Zealand Planning Institute. I have more than 25 years experience in engineering geology and 21 years experience in local government planning.

2. My own involvement with the Council is within the Environmental Regulation department, and more specifically with the Consents and Compliance Section, based in Masterton. I work principally in the Wairarapa.

3. My work principally comprises of two inter-related components:

   3.1 Evaluation of a wide variety of applications for resource consent, many of which are technically assessed based on my qualifications listed above; and

   3.2 Undertaking compliance inspections and responding to incidents relating to the Resource Management Act 1991 (RMA).

Contents

Palliser Bay Coastal Protection Works

1. Purpose

This report provides an analysis of the resource management issues in respect of an application by South Wairarapa District Council (WAR090322) to construct, as necessary, boulder beaches[1] over an approximately 25km coastal margin, from Hurupi Stream to the Cape Palliser lighthouse. The assessment and recommendations contained in this report are not binding on the Hearing Committee. This report has been prepared without knowledge of the content of any evidence or submissions that will be made at the hearing; consequently, it cannot be assumed that the Hearing Committee hearing the application will reach the same conclusions as those provided in this report.

2. Application and site inspection

An application for resource consent was lodged by South Wairarapa District Council (SWDC) on 22 April 2009. The application was publicly notified, and at the close of submissions, a total of ten submissions were received.

The Hearings Committee have been asked to jointly consider and make a recommendation to the Minister of Conservation in relation to the reclamation (being a restricted coastal activity), and to decide the balance of the notified application.

A site inspection was undertaken on 2 June 2009, with Tim Park (GW environmental scientist) and Ian Dawe (GW coastal scientist).

The application involves a restricted coastal activity and was lodged before 1 October 2009 when the Resource Management Act (Sinplifying and Streamlining) Amendment Act 2009 came into effect. The application therefore has to be considered in terms of s.117 RMA as it was at that time. Section 117 (f), then required that an application for a restricted coastal activity must be considered by a committee of the regional council set up under the Local Government Act 2002 which must include an appointee of the Minister of Conservation.

In this case, (following public notification and receiving submissions), the applicant consulted with the Department of Conservation (and all other parties), and obtained written approval re a waiver of the right to be heard from all parties. As a consequence, no formal hearing was required, and the Manager, Environmental Regulation under delegated authority will determine the application on behalf of the Wellington Regional Council, and make a recommendation to the Minister of Conservation as to whether the application should be granted or refused.

[1] The term 'boulder beach' used in this report refers to an engineered revetment

3. Background, Location, Site Characteristics, Options, Further Information, Amended Application and Department of Conservation Status

3.1 Background

The coastal margin outlined in Figure 1 has been subject to repeated cycles of accelerated coastal erosion. Successive erosion events have resulted in ad hoc repairs along the beach frontage dating from the late 1950's. This previous repair work involved a wide range of interventions ranging from groyne structures comprising various methods including tyres placed over driven piles to timber lathes attached to railway irons driven into the sea-bed. None of these structures were successful in preventing continued accelerated erosion and were aesthetically very unattractive in this coastal environment.

Various sections of Cape Palliser Road between Hurupi Stream and the light-house are at risk of damage as a consequence of accelerated coastal erosion. Other network utility services are also at risk. South Wairarapa District Council proposes to construct (as necessary), and maintain boulder beaches to protect up to 25km of the road and adjacent infrastructure from further coastal erosion.

Not all of the 25km stretch of coastline is planned or intended to be modified through construction of boulder beaches. Coastal protection works will be staged over a number of years, with priority works being undertaken in sections where the road is at greatest threat from accelerated erosion.

To assist in assessing the need and urgency for coastal protection works in any particular location, the application has proposed a series of 'trigger points'. These are reproduced in the table below:

Priority 1	Areas where erosion is immediately undermining infrastructure.
Priority 2	Areas where there is potential for erosion to undermine infrastructure in the future.
Priority 0	Areas where no works are to occur due to ecological significance of the site and / or lack of coastal hazard risk.

The application states that works would be staged according to the criteria outlined above. Priority 1 areas would be addressed immediately following approval of consent. Priority 2 areas are anticipated to be protected within approximately the next 10 to 35 years, depending on the necessity of remedial works. Other areas of the coast would be addressed as required throughout the term of the consent. On-going monitoring of the coastline by SWDC will provide information on the urgency for coastal protection works and will allow an update of the assessed priorities. Priority 0 areas are those where no works will occur as they are not under threat from erosion, or contain areas of ecological or other significance.

Based on the application as originally submitted, the respective distances of each of the priority zones are tabulated as follows:

Zone	Distance (km)
Priority 1	0.8
Priority 2	20
Priority 0	4

This application follows a series of previous consents issued to South Wairarapa at various times over the past nine years, and is intended to integrate all previous consents issued, together with the new application into a single project with multiple consents. If this application is approved, then the following resource consents will be surrendered:

Consent	Location
WAR000272	Cape Palliser Road – 130m gabion basket wall
WAR010024	Whatarangi Road
WAR010336	Whatarangi Road
WAR020055	1.4km north of Otakaha Stream
WAR020113	North of Putangirua Stream
WAR020141	South of Putangirua Stream
WAR060041	South of Woolshed Creek

Monitoring of the coastal erosion has been carried out by the applicant since 1944, and is presented graphically in Appendix F, and is mapped (showing 1996 and 2002 contours) in Appendix A of the AEE report. This information indicates that the coastal erosion is cyclic or episodic rather than occurring on a continuous basis. It is very difficult to predict with any certainty the intensity, scale and location of future coastal erosion events along this very exposed coastline.

The beach has been lowered by littoral drift of the beach material to the north, combined with a lack of sufficient sediment supplied to the coastal zone to allow replenishment of the beach. Also, wave run-up during large tides, and storm events have eroded the beach, which commonly rises from the foreshore to the road level. Recent slumping below the road has previously prompted the applicant to proceed with stabilisation works following successive erosion events. The lithology along this portion of coastline comprises principally soft and very weak mudstone, which is easily eroded by wave action. Failure occurs as waves undercut sections of the cliffs. Eventually these sections will fail by slumping, extending the area affected by erosion. Localised erosion

measurements can be affected by scalloping, so that individual areas can suffer significantly worse than average erosion over any particular period, but then experience reduced erosion while the neighbouring areas are attacked. This means that a reasonable (or protected) margin must be provided to structures or facilities such as the road to allow for this effect.

The location and rate of shoreline erosion depends on the alignment of the shore relative to the wave action, together with the geotechnical properties of the coastal margin lithologies (predominantly mudstone).

The coastal hazard arises in this case because existing roading infrastructure is at risk of failure due to continued erosion of the shoreline. Cape Palliser Road provides the only vehicular access to many properties and visitors to the south-eastern margin of the North Island. The properties range from isolated rural farms and holiday batches to the settlements of Te Kopi, Whatarangi, Mangatoetoe and Ngawi which supports a significant fishing industry. These settlements are occupied by both permanent and seasonal residents.

3.2 Location and Site Characteristics

The location of the proposed site and coastal protection works is set out in Figure 1 (site location map) as follows:

Figure 1 Site Location Map

The approximately 25km of coastline comprises a very exposed coastal margin with many different landforms, beach types, and diverse forms of human settlement between Hurupi Stream and the Cape Palliser lighthouse. The locality has been variously described in landscape reports as being rugged, wild and remote.

The Wairarapa coastline generally is one of rapid emergence, shown by the extent and height of successive wave-cut terraces. This broad setting is superimposed on the eroding outcrops of tertiary mudstone that extends out to the coast at this location. Erosion is a significant problem in the vicinity of Whatarangi where coastal cliffs of Hurupi Formation sandy siltstone are being undermined by wave action.

Coastal changes are variable and very difficult to predict – accelerated erosion along one part of the coast can increase sediment supply, leading to a prograding shoreline elsewhere. This may be evident where coastline fronted by soft unconsolidated sediments have formed dunes, at various locations including just south of the Te Miha Crescent subdivision, near Te Humenga Point, an area south of Otakaha Stream, and an isolated point to the south of Ngawi.

The Cape Palliser lighthouse end of the coastal site is largely formed of hard basement rocks, so erosion in this locality is relatively restricted. It also has significant ecological values and provides habitat for an active seal colony.

The area has been considerably modified over the years, by existing coastal protection structures, housing, and roading infrastructure. The road in particular has been realigned and reconstructed in numerous places as a consequence of both previous coastal erosion and slope instability in areas such as Johnson's hill.

The affected coastline therefore exhibits a diverse character ranging from natural rocky headlands and shore platforms to wave-dominated barrier beaches, some well defined stream mouths, and areas with well-formed dunes.

3.3 Options

Given the situation outlined above, there are generally four options available in reacting to receding shorelines:

1. no action;

2. retreat and relocation;

3. beach nourishment (the "soft" solution); and

4. stabilisation structures (the "hard" solution).

These responses are ordered from the most passive to the most active in terms of hardening the coast with structures.

Taking no action basically involves letting nature take its course, allowing erosion to continue unabated. The options involving non-intervention are not considered realistic in this case, as Cape Palliser Road is an existing formed road serving a long-established community. Indeed, it is the only road link extending around to the Cape Palliser lighthouse. Furthermore, the road formation is frequently confined to a narrow strip of land bounded by the sea on one side and unstable, highly eroded, over-steepened terrain on the other side.

In reality there are no economically viable practical alternatives that could be adopted if the coastal protection works did not proceed. These are discussed subsequently in more detail in section 10 of this report and in Appendix F of the AEE Report (Palliser Bay Road – Options for Continued Access).

There is some scope for undertaking some beach renourishment to improve the viability of the existing dune system, and this was recognised in the revised application. Areas adjacent to existing dunes were reassigned to priority 0.

The objective of the proposal is to counter the effects of erosion, which is threatening road along Cape Palliser Road.

The applicant considers constructing boulder beaches as being most appropriate for this section of the coastline based on the predicted degree of reliability, its similarity in appearance to the existing foreshore, which is highly modified by previous attempts at providing protection, its long life, and low maintenance requirements. Construction of the rock revetment structures and infilling behind them to bring the berm area up to grade is planned.

The proposed boulder beach construction is intended to prevent this accelerated erosion from causing damage to the road, thereby preventing ore substantial and costly remedial works.

3.4 Further Information and Amendments to Application

The site inspection with Tim Park and Ian Dawe on 2 June 2009 identified some areas that we considered should be revised in terms of priority status. This was also recommended in several of the submissions received, and on 25 June 2009, a further information request under s.92 of the RMA was issued.

For the areas indicated on the sketch maps compiled on the site inspection, the further information request sought that the application be revised and amended in part. In most cases this involved altering the status to a lower priority for the following reasons (some in combination):

- Ecological significance of the particular location. For example, some of the revised areas contain pingao and spinifex flora established on dunes and have specific ecological value. In other locations there are diverse native species of flora that should be protected wherever practicable to do so.

- In some locations there are reasonably extensive dune deposits, and in these areas the dunes could be stabilised though planting programmes using spinifex, pingao and other appropriate species of coastal vegetation. These sites should be assigned as Priority 0.

- The coastline around Te Humenga Point is the habitat for the native katipo spider and it is recommended that the Priority 0 area be extended as set out in the appended field maps 4 and 5.

- Near the lighthouse end of the proposed works (and also an area on Map 9) there is a small area of importance to the resident seal population. This area is recommended to become Priority 0.

- Along some reaches, Cape Palliser road diverges away from the exposed coast, and there is a significant separation between the road and the coastline. In these circumstances, we consider that there is no immediate threat of accelerated coastal erosion that may threaten the road and accordingly these areas could be reassigned as Priority 0.

- There are some isolated locations with special landscape character, such as the geological formation extending seawards from Kupe's sail. Any work in these areas would require specific design to address the environmental issues, and in my view should be classified as Priority 0 in relation to this application. If in future any protection work is required in this locality a separate application should be submitted.

- There are areas of exposed rocky foreshore and rock outcrops that do not require protection, and these should be reassigned as Priority 0.

River and stream mouths

Further information was requested (including design criteria) regarding boulder protection works at stream and river mouths to ensure that the natural dynamics and processes at these locations are not adversely affected by the protection works.

Managing archaeological sites of cultural significance

Further information was requested on establishing a process for appropriately managing archaeological sites of cultural significance as part of the works programme. The process should include (but not be limited to) the parties to be present during excavation works, archaeological assessment to be carried out, and procedures to be implemented in the event that archaeological artefacts are discovered whilst undertaking the work. The process to be followed needs to address the issues outlined in submissions by Kahungunu ki Wairarapa, the Department of Conservation and New Zealand Historic Places Trust.

Managing ecological values at site specific locations

Further information was requested on establishing a process for determining the necessity of works, and supervising and actively managing any proposed work to ensure the inherent ecological values are not unnecessarily compromised or destroyed by installing the boulder beaches. Again, the process should include (but not be limited to) an assessment showing clearly the necessity of the works, any consultation proposed as part of the assessment, the parties to be present during excavation works, and set out the methods to be engaged to prevent damage or destruction to the ecologically sensitive sites along the 25km coastline. The process should additionally address the specific issues outlined in submissions by the Department of Conservation, Royal Forest and Bird Protection Society of New Zealand, and MW and PA Bruce.

Effects of climate change

Further information should be provided on the projected effects of climate change on the adequacy of the proposed works. This also needs to be addressed in terms of design considerations.

Access to the foreshore

The provision of appropriate access to the foreshore at specific locations should also be addressed as outlined in the Department of Conservation submission.

3.5 Amended Application

Amendments to the application were submitted on 16 September 2010, and included the following:

- A revised set of maps altering some of the areas for which the applicant seeks consent to construct boulder beaches based on the further information request of 25 June 2009. The zones were renamed to those set out in the table below.

The respective distances of each of the priority zones were revised and are tabulated as follows:

Zone	Distance (km)
Immediate work areas	1.2
Active management zones	9.8
No go zone	12
Existing protected areas	2

3.6 Department of Conservation Status

The Department of Conservation is a party to these proceedings in five key respects being:

5. Administrators of the nationally significant Castlepoint Scenic Reserve that is adjacent to the proposed seawall;

6. Administrators of the foreshore and seabed on behalf of the Crown, along part of the eroded section of road reserve along Stage 2 of the proposed works;

7. Administrators of the recreational reserve land immediately north of the Castlepoint Scenic Reserve on behalf of the Crown;

8. The Minister of Conservation, as the application relates to an activity in a coastal marine area (and) on land that adjoins a coastal marine area [Reg. 10(2)(e) RMA];

9. The Minister of Conservation, given that the reclamation aspect of the proposal is identified in the Regional Coastal Plan as being a restricted coastal activity [Section 117(1) RMA].

3.7 Amended application - response to submitters

The applicant consulted with the submitters to respond to the issues raised in the submissions, and to ascertain whether their concerns could be properly addressed through conditions of consent. These suggested conditions have been included within the recommended conditions of consent below, but reformatted/reworded as required to be consistent with coastal protection works of this type.

4. Proposal/description of activities

The proposed boulder beaches to be constructed are typically based on three different designs, depending on the site specific circumstances as follows:

- boulder beach to protect cliff areas;
- boulder beach to protect gabion walls;
- boulder beach to protect the road edge close to the beach.

Typical profiles of these three forms of boulder beach are set out below:

Figure 2 - Boulder beach to protect cliff areas

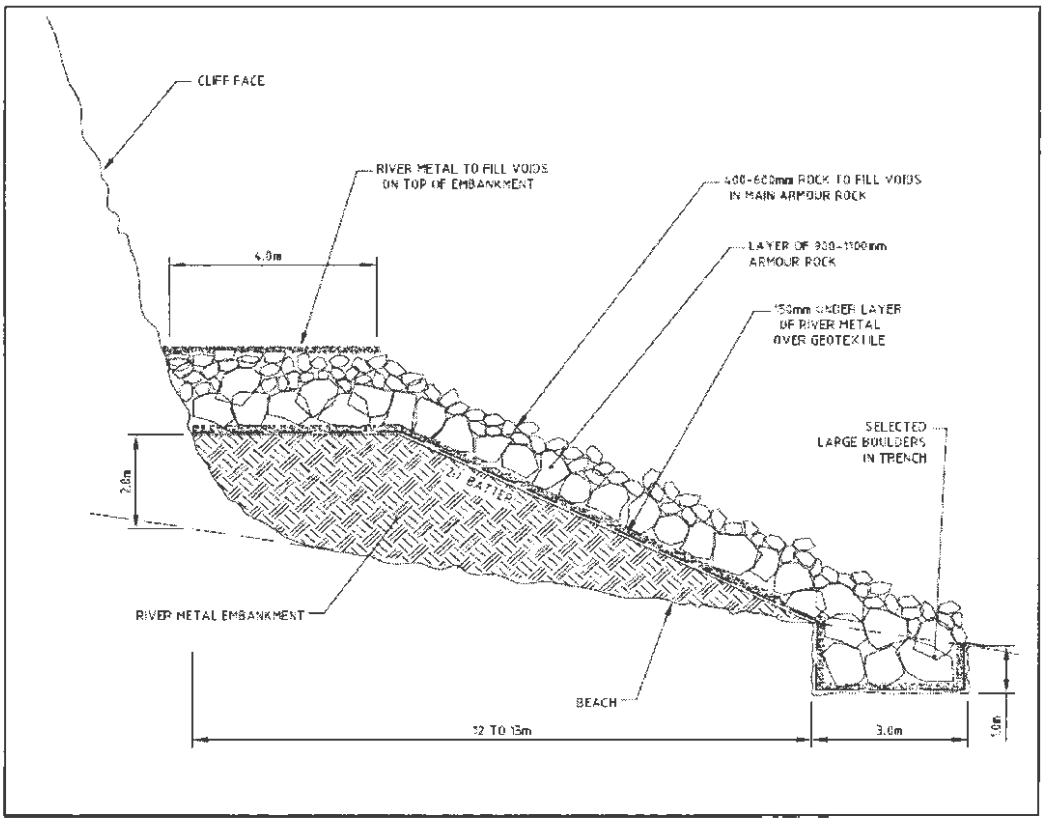


Figure 3 – Boulder beach to protect gabion walls

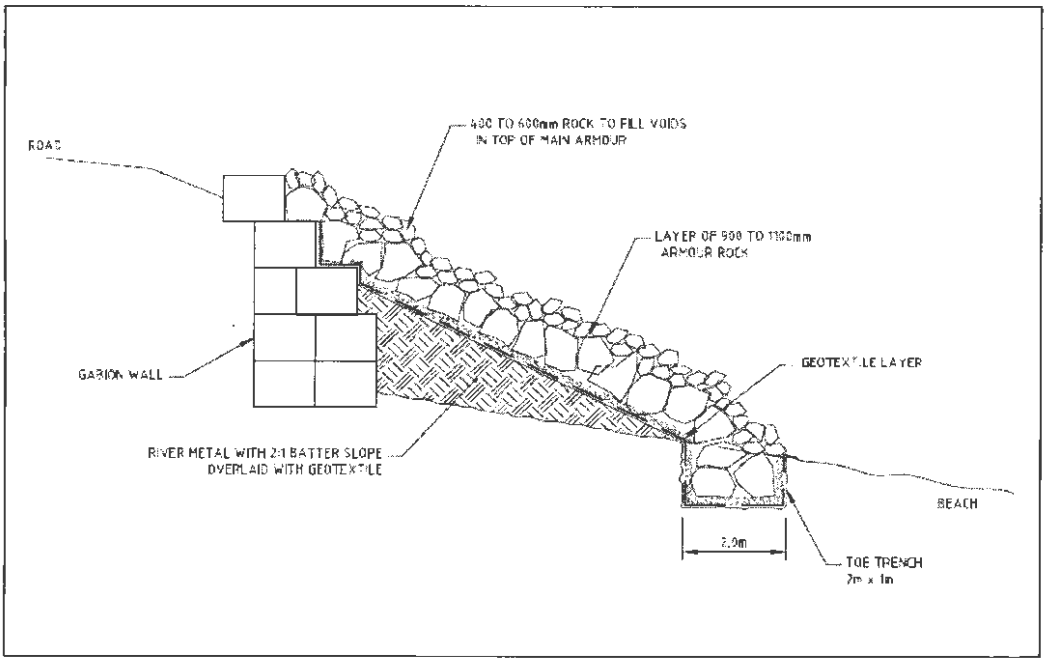
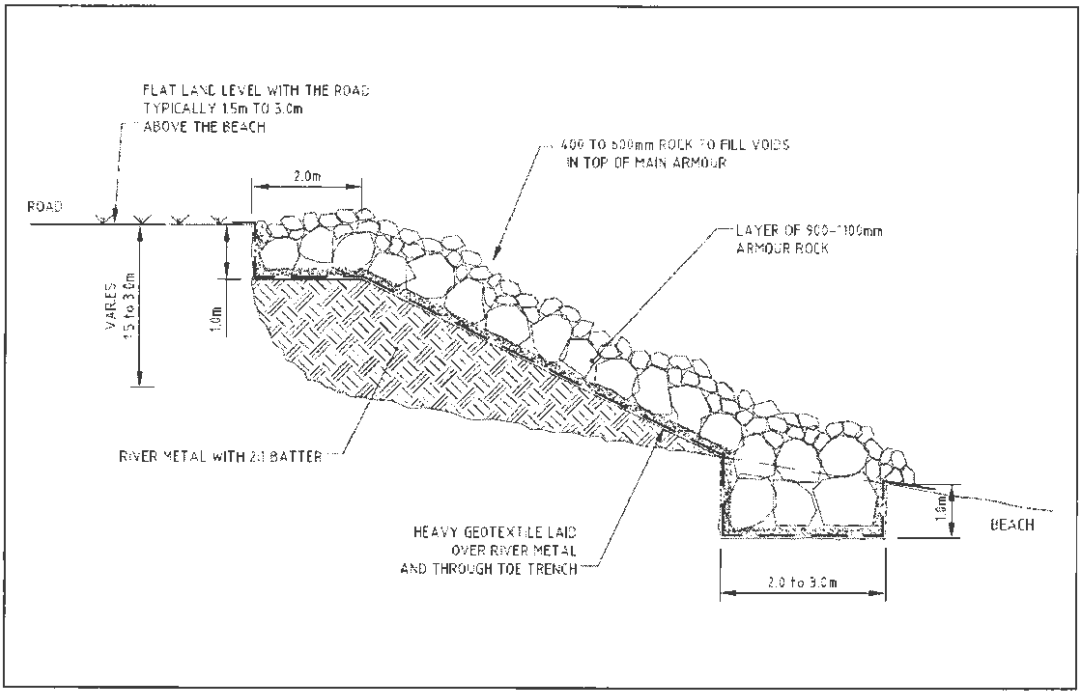


Figure 4 – Boulder beach to protect the road edge close to the beach



The construction process is similar for each of the boulder beaches outlined above. As long as the boulder beach formation is constructed to an adequate height against the toe of the hill (or gabion wall, or backshore scarp) protection from erosion by wave run-up should be provided.

Construction will initially involve preliminary site earthworks to establish access, a working profile and backwall support, from the seaward footing to the back wall. Excavation of the backwall and base of the subject site will be limited to that required to provide a suitable foundation, and backwall support. In particular, excavation rebating the rip-rap base stones into the upper beach deposits, and trimming the backwall to an appropriate batter-slope.

River metal will be placed over the foundation and graded at a slope of 2H to 1V. The river metal will be overlaid by a heavy-duty geotextile, which will extend from the seaward footing to the embankment at the rear of the beach. The boulder beaches will comprise a sequence of angular, quarried armour rock (approximately 900-1,100mm diameter) recessed at the seaward margin 0.9 metre into the underlying beach. The rock protection will be placed at a slope of 2H to 1V. The heavy armour rock will be overlaid by smaller capping stones of 400-600mm diameter, to bring the completed structure to an approximately even grade.

Material excavated from the beach will be side-cast into the sea adjacent to the site, thereby providing some temporary nourishment to this section of the coast.

Existing Beaches and Key Design Issues

At high tide the swash zone extends in places right to the embankment, but (generally) recedes back from the boulder beaches at low tide. The existing beaches commonly comprise poorly sorted coarse sand, gravel, stone and some boulders. The upper beaches are frequently finer textured with coarse sand and gravel being the principal component, and with a shallower angle of slope. The lower beaches are often coarser textured, with a correspondingly steeper gradient.

Water levels control the design environment for hard protection structures. High water levels allow higher waves to come closer into shore, subjecting the structure and its foreshore to high forces and high rates of erosion. Very high water levels may cause waves to overtop the hard protection structure resulting in erosion at the back of the revetment.

Additional design considerations for hard protection structures are:

- They are dangerous during times of high water and storm. People on or near the structure may potentially be injured or swept out to sea. The risk to people at times of high water and storm events is considered to be no greater following construction of the rock revetment structures than the pre-existing situation. This section of coastline is very exposed to southerly weather conditions, and subject to wave attack and high sea conditions during swells. The eroded beaches have near vertical escarpments at their faceted back berms. The resultant cliffs are commonly several metres or more in height and effectively impede escape in adverse sea conditions. The rock revetments will infill the back berm area. By so doing they will avoid potential entrapment at the base of the back berm. In my view the risk associated with public use of the beach under unsafe sea conditions not significantly different following construction of the protection works than in currently the case.

- Under very high water conditions, any overtopping will project salt water spray inland, and may result in further accelerated erosion.

  Salt water induced accelerated erosion is not at issue in that the risk is far greater without the revetment structures in place. The principal risk to stability in this location is from direct wave attack rather than salt water induced erosion. This latter process is on-going, irrespective of whether the revetment structure is in place. I am satisfied that risk of accelerated erosion without the proposed rock revetment is considerably greater than the risk of accelerated erosion that may arise from sea water occasionally overtopping the protection structure in severe storm events.

- They form a physical barrier to cross-shore movement of people and wildlife.

Physical barriers resulting from the protection work are an inevitable consequence of coastal interventions of this type. However, the proposed works are discontinuous along this coastline, and will only be implemented in accordance with the priority schedule based on the degree of risk at the respective locations.

Furthermore, as outlined previously, the existing eroded back berms present a near vertical escarpment that prevent direct public access to the beach at many points along this coastline. Taking this into account, through infilling the back berm areas with rock, public access to some of the beaches is likely to be improved relative to the existing situation. This issue is addressed in the recommended conditions of consent which will require that where public access is currently enjoyed, public access paths will be installed at least every 100 metres. These areas are shown on the revised maps of September 2010. Access points will be installed, in accordance with the design contained in Appendix I of the AEE report.

- The ends of a revetment structure are difficult to design. Since the structure actually defines where the shore – sea interface shall be in the shore section it protects, a disjunction will form between the structure, which does not move, and the surrounding shore, which continues to recede. There will also be local accelerated erosion, damaging the adjacent shore. To prevent undermining and flanking of the revetment at its ends, the structure needs to be well back into the existing shore wherever possible. The difficulty in designing the ends of the structures and preventing erosion damage to adjacent properties emphasises the need for integrated shore protection design.

  These end-wall effects are addressed variously in section 9 of this report. In brief, there are a wide range of circumstances over the 25km coastline subject to this application. In some cases there are rock outcrops which provide a fixed point to key in a rock revetment. In many cases though, the rapidly eroding shoreline is immediately adjacent to the formed road. In this situation there is no available space set-back the protection structure into the existing shoreline. Where this is the case, longer lengths of protection works are planned to mitigate end-wall effects to the extent practicable. This may be achieved by extending construction to a point where a wider shoreline exists, in which case long-term maintenance may be required to address selective erosion. Elsewhere, the hard structure may terminate at a stream mouth where the rock revetment may define the stream mouth and be phased out progressively within the stream channel.

In this case, adopting revetment structures constructed of rip rap offer the following advantages in comparison with alternative methods of construction:

- They generally cost less to install than vertically faced seawalls.
- They dissipate more of the wave energy, producing less scour of the fronting beach than do vertical seawalls.

- Because of their roughness, they allow less overtopping by run-up than do seawalls of the same height.

- Because of their flexibility, they may settle under wave attack, but do not succumb to rapid and complete failure.

- They are easily maintained by the placement of additional rock.

- They allow rapid drainage of any water behind the structure back to the sea thereby minimising any build-up of water landward of the rock revetment.

A well designed and constructed riprap revetment incorporates several components. An outer layer of large armour rocks is backed by smaller rocks and a finer matrix; this grading of the material acts to prevent a strong surge of water through the structure, which could sap the sea cliff or other ground materials behind the structure. The underlying river gravel overlain by geotextile fabric helps prevent the armour stones from sinking into the beach. If a fabric is used, it should have a pore space that is small enough to prevent passage of the underlying sediment, while at the same time allowing the passage of water so there is no build up of pore-water pressure on the landward side of the structure. It is important that the toe of the structure is trenched well down under the beach sediment and is armoured by large stones so that it will not move under the forces of the most extreme waves that are expected at the site. The *Shore Protection Manual* (CERC, 1984) recommends that riprap subject to breaking waves be placed at slopes of 1.5h:1v or less (1.5 vertical to 1 horizontal), that is at 35^{o} or less. The design elevation is based on expected storm wave heights and run-up levels, and expected mean water elevations due to tides and storm surge.

The stones of a riprap revetment must be durable and free from cracks and composed of a material that will not readily abrade or dissolve. Rounded stones such as river boulders, flattish stones with one very short axis, and stones with one very long axis should be avoided as they are less stable, being easily rolled or slid out of position by the wave surge. Estimates of the weights of armour units required to resist the forces of waves generally are based on the Hudson formula (Hudson – CERC, 1984). The derivation of this formula involves an analysis of the forces acting on an individual rock placed on the sloping surface of the riprap – the forces exerted by the waves, the component of gravity acting down the riprap slope, and the frictional resistance or mechanical constraint of the underlying units that act to hold the exposed rock in position (Komar, 1998). The formula indicates a strong dependence of the armour-unit weight on the design-wave height (the height of the largest wave expected to impact the structure within its designed lifetime), such that even a moderate increase in wave height produces a large increase in the required weight of the armour rock. For example, a 10% increase in wave height produces a 30% increase in the required weight (of an individual armour unit), while doubling wave height requires an 800% increase in armour weight to have a stable structure.

Failure

The failure of a riprap revetment usually comes from a combination of settlement and stone dispersal. Such models of failure have been described by Griggs and Fulton-Bennet (1988) for structures built along the California coast. Unless constructed immediately on top of a bedrock platform, riprap tends to settle with time, requiring the addition of more rock on top of the degraded structure. Much of this settlement can occur during storm wave attack, so the structure loses much of its effectiveness just when needed the most. It is best to anticipate that some settlement will occur, possibly as much as 1-2m if built over sand, requiring that the structure be substantially higher than expected to halt wave run-up during extreme storms.

The other common mode of failure for riprap has been described variously as sliding or rolling of the individual stones out of position, allowing them to move downward and out onto the fronting beach. Griggs and Fulton-Bennet indicated that repairs are commonly required in California every 5-10 years following the occurrence of major storms of even moderate wave energy.

It is important to recognise that the purpose of the hard protection structure is to protect the land supporting the road from wave attack and erosion, and its success or failure must be based on that criterion. In protecting the road link, the structure necessarily alters the patterns of wave swash, nearshore currents, and sediment movements. The potential modifications of these processes will depend in large part on the position of the hard protection structure relative to the active beach face. A protection structure located landward of the mean shoreline will not influence the nearshore processes except during exceptionally high water as might occur during a storm surge, while those structures located within the surf will actively modify the processes of waves and currents and therefore the beach morphology.

5. Statutory reasons for requiring resource consents

The reasons for requiring the five consents that have been applied for are set out below. All the consents listed below are required under various rules in the Wellington Regional Coastal Plan.

Occupation by Structures of the Coastal Marine Area

Section 12(2)(a) of the RMA states that no person may occupy any part of the coastal marine area unless the expressly allowed to do so by a rule in a regional coastal plan, or a resource consent.

This statutory provision is not permissive, and therefore requires resource consent, unless expressly allowed by a rule in the Regional Coastal Plan.

Rule 16 of the Regional Coastal Plan provides for occupation by structures of land of the Crown or any related part of the CMA as a controlled activity, subject to meeting the stated terms. As the terms can be met by the application, an application is to be processed for occupation of the CMA under Rule 16 as a controlled activity.

Install Structures within the Coastal Marine Area

Section 12(1)(b) of the RMA states that no person may erect any structure or any part of a structure that is fixed in, on, … or over any foreshore or seabed, unless the expressly allowed to do so by a rule in a regional coastal plan … or a resource consent.

This statutory provision is not permissive, and therefore requires resource consent, unless expressly allowed by a rule in the Regional Coastal Plan.

Rules 6 to 16 of the Regional Coastal Plan provide for various activities involving the use or development of any structure fixed in, on, under or over foreshore or seabed as permitted or controlled activities. As the proposal is not covered under any of those rules, and it is outside an area of significant conservation value, an application is to be processed for installation and use of structures within the CMA under Rule 25 as a discretionary activity.

Disturb the Foreshore or Seabed

Section 12(1)(c) of the RMA states that no person may disturb any foreshore or seabed (including by excavating …) in a manner that has or is likely to have an adverse effect on the foreshore or seabed; unless the expressly allowed to do so by a rule in a regional coastal plan … or a resource consent.

This statutory provision is not permissive, and therefore requires resource consent, unless expressly allowed by a rule in the Regional Coastal Plan.

Rules 28 to 36 of the Regional Coastal Plan provide for activities involving disturbance of the foreshore or seabed as permitted or controlled activities. As the proposal is not covered under any of these rules, and it is outside an area of significant conservation value, an application is to be processed for disturbance of the foreshore or seabed within the CMA under Rule 40 as a discretionary activity.

Deposit Substances on the Foreshore or Seabed

Section 12(1)(d) of the RMA states that no person may deposit in, on, or under any foreshore or seabed any substance that is likely to have an adverse effect on the foreshore or seabed; unless the expressly allowed to do so by a rule in a regional coastal plan … or a resource consent.

This statutory provision is not permissive, and therefore requires resource consent, unless expressly allowed by a rule in the Regional Coastal Plan.

Rules 44 to 45 of the Regional Coastal Plan provide for activities involving deposition of natural beach sand and for beach nourishment on the foreshore or seabed as permitted or controlled activities. As the proposal is not covered under either of these rules, and it is outside an area of significant conservation value, an application is to be processed for deposition of substances on the foreshore or seabed within the CMA under Rule 48 as a discretionary activity.

Reclamation within the CMA

Section 12(1)(a) of the RMA states that no person may reclaim or drain any foreshore or seabed; unless expressly allowed to do so by a rule in a regional coastal plan … or a resource consent.

This statutory provision is not permissive, and therefore requires resource consent, unless expressly allowed by a rule in the Regional Coastal Plan.

Rule 1 of the Regional Coastal Plan states that any activity involving reclaiming foreshore or seabed outside the commercial port area, which extends 100 or more metres in any direction, and is proposed for an area of the CMA outside of any area of significant conservation value, is both a discretionary activity and a restricted coastal activity. As the reclamation component of the application will exceed 100 metres in length, an application is to be processed as a discretionary and restricted coastal activity.

I have considered the proposal as a whole as a discretionary and restricted coastal activity. This is in accordance with the principle of consent bundling (*Tairua Marine Limited v Waikato Regional Council*, High Court CIV-2005-485-1490) that provides where there is an overlap between two consents it is generally appropriate to treat the application as one requiring assessment on the basis of the most restrictive activity.

6. Other consents and approvals required

There may be isolated instances where a land use consent may be required from South Wairarapa District Council (e.g. for temporary stockpiling of materials above mean high water springs). This will be addressed as required when the detailed design is completed for programmed works, and any land use consent required will be obtained from SWDC prior to commencement of that phase of the works.

7. Resource consent processing

7.1 Consultation

Pre-application site meeting

A pre-application site meeting was held with Ian Richards (SWDC engineer), and the applicant's consultants. This dealt in a preliminary way with the scope and intent of the application. It was recommended that emphasis be placed on prioritising the protection works to be undertaken whilst retaining flexibility to address future emerging problem areas over the 35 year term of the consent.

Department of Conservation (DoC)

DoC staff expressed some concerns relating to certain areas of ecological significance. In response, these areas were allocated Priority 0 status, and no coastal protection works will be carried out at these locations. They have been identified in the maps within Appendix A of the application.

Iwi

Appendix H of the application confirms details of consultation between the applicant, Rangitane o Wairarapa and Kahungunu ki Wairarapa in December 2008. Both iwi confirmed their support for the proposal. At a meeting on 1 December 2008, Kahungunu ki Wairarapa requested that the area of coastal protection works be extended south of Ngawi, past Kupe's sail to the end of Cape Palliser Road. This area was allocated Priority 2 status, and the method of coastal protection will be different to the proposed boulder beaches to minimise visual effects. Recommended conditions of consent have been included to require direct consultation with iwi, DoC, Forest and Bird New Zealand, the New Zealand Historic Places Trust, and GWRC prior to undertaking any future works proposed in this sensitive area.

Historic Places Trust (NZHPT)

Preliminary consultation with NZHPT recommended that archaeological assessment be undertaken along the coast. It was agreed that prior to commencing works along any specific section of the coast, an archaeological assessment will be carried out in conjunction with NZHPT.

Land Owners

A meeting with land owners was convened on 6 October 2008. The outcome was a general endorsement of the proposal, subject to environmentally sensitive areas being appropriately managed.

7.2 Public Notification

The application was publicly notified in the Wairarapa Mid Week newspaper on 5 May 2009, and in the Wairarapa News on 6 May 2009. In addition two signs were installed at the site and notice of the application was served on 184 potentially affected parties, including:

- All adjacent property owners; and
- South Wairarapa District Council
- Department of Conservation
- The Chairperson, Wellington Conservation Board
- Fish & Game New Zealand
- Wairarapa Public Health
- Rangitane o Wairarapa
- Kahungunu ki Wairarapa
- Sustainable Wairarapa

- Land Information New Zealand, C/- Director General of Surveying
- Royal New Zealand Navy, C/- The Hydrographer, Devonport Naval Base

The applicant has described the consultation which they undertook prior to lodging their application in section 6 of their Assessment of Environmental Effects.

Public Meeting

A general public meeting to discuss the proposal was held on 11 October 2008 at the Ngawi Fire Station. Only one person attended, and no significant concerns were raised at that meeting.

7.3 Pre-hearing meeting

No request for a formal pre-hearing meeting with the applicant, submitters and GWRC was received. As outlined previously, following the close of submissions and revisions (downward) of the extent of the proposed works, the applicant engaged in consultation with these persons to establish whether their concerns could be addressed through recommended conditions of consent.

7.4 Submissions

At the close of submissions ten submissions had been received. No late submissions were received.

Seven submissions were received in support or conditional support of the proposal and one submission was received in opposition (in part). Two neutral submissions were received.

A summary of all submissions received and the issues raised is attached as Appendix 2 to this report.

7.5 Issues raised by submissions

7.5.1 Issues raised by submissions in support

Rangitane o Wairarapa

- Rangitane o Wairarapa has no major concerns but would like to be kept informed as to when and where the work would be carried out.

W, D, and E Regnault

- Supports the proposal provided there will be no adverse effects in relation to properties within the Blue Disc subdivision area. The submitters are affected by coastal erosion and want the protection works to proceed.

BVR and SM Drummond

- The submitters own a property at Whatarangi and coastal erosion has already taken a considerable amount of their land. They are adversely affected by coastal erosion and want the protection works to proceed as soon as possible.

KM and TJ Cottle

- Support the proposal in order to stop any more coastal erosion. The submitters own a property and seek protection from any further loss of land from their property.

MW and PA Bruce

- Supports the application but would like to be present during construction works adjacent to the Punuruku wetland (just south of the woolshed at Ngawi). Concerned to retain the integrity of the drainage point from the lagoon during any works. Requests that due attention be made to conserve the biological and natural environment of the coastal areas above and below high and low water marks.

R and V Penman

- The Cape Palliser coastline needs additional protection from erosion. It is an area of great natural beauty and holds significant importance to both the Wairarapa and Wellington people who frequent this area. The coastline, roading, existing homes, power lines, and telecommunications should all be protected to avoid further destruction and isolation from this beautiful area.

- Focus should be given to areas such as Whatarangi Priority 1 on map 2, but also be extended to the existing homes (which are currently shown as Priority 2). These homes welcome many visitors to this area and a delay in supporting the cliffs will mean a far larger expense at a later date when existing infrastructure is eroded.

7.5.2 Issues raised by submissions of conditional support or neutral submissions

Kahungunu ki Wairarapa

- Application must provide for the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga; protect historic heritage; and protect recognised customary activities (s.6 RMA).

- Application must have a particular regard for kaitiakitanga and take into account the principles of the Treaty of Waitangi as is required (s 7-8 RMA).

- The assessment of environmental effects needs to consider the historical, spiritual and cultural effects on several matters of national importance to Maori [clause 1(h) Fourth Schedule RMA].

- Wants a cultural impact report to be prepared.

Royal Forest and Bird Protection Society of New Zealand

- The South Wairarapa coastline is characterised by its wildness and remote location. Natural coastal erosion is causing problems with infrastructure and housing. Forest and Bird accepts that these values need to be protected and managed.

- The Palliser Coast has some outstanding natural values, including gravel beaches, coastal turf and sand dunes. Some of these values are enhanced by the dynamic processes that occur at the coast and these forces should not be controlled by the construction of coastal protection works.

- Appendix A (of the application) shows the location of Priority 0 (Areas of high ecological value) and Priorities 1 and 2. Our concern is with the identification of Priority areas 0 and 2.

- Many areas of High Ecological Value have been identified as Priority 2, rather than as (areas with high ecological value) Priority 0. These include:

    - The whole area between Te Kawakawa Pt and Cape Palliser lighthouse (which includes the rock-outcrops with the fur seal colonies) – refer to maps 8, 9 and 10 of Appendix A.

    - The area of active dunes north of Okataha Stream. At the point where it connects with the Priority 1 area are some high ecological values, including the best Cape Palliser population of the coastal sedge pingao (map 5).

- Forest and Bird proposes that the two areas mentioned above be marked as Priority 0 rather than Priority 2, because of the significant ecological values present at these sites.

- Other high ecological values along the Palliser coast may as yet be undiscovered or not recognised in Priority 2 areas and there may need to be room for protecting these values from coastal protection work at a later date. This means that there needs to be an opportunity to change an area from Priority 2 to 0, if such a situation occurs during the term of the global consent. This should be addressed in the conditions of consent.

- Although Forest and Bird recognises the need for immediate action in areas zoned Priority 1, significant ecological values at these sites need to be identified, respected and where practical protected from damage during coastal protection work construction. It is therefore important

that all ecologically significant values are known, mapped and available to any Council workers and contractors who undertake these works.

- Recommends that contact between the applicant and the Department of Conservation occur prior to any coastal work taking place.

New Zealand Historic Places Trust

- Notes that an archaeological assessment of the effects of the proposal has not yet been undertaken.

- NZHPT request that prior to any coastal protection works, any potential adverse impacts on any archaeological values are assessed by a qualified archaeologist, and where necessary, to apply for an archaeological authority as required (Historic Places Act 1993).

- Requests that a condition of consent be included to give effect to the matters outlined above.

7.5.3 Issues raised by submissions in opposition

Department of Conservation

- The affected coastline contains a number of significant ecological features (e.g. Te Humenga Point re management of coastal foredune vegetation).

- Other dune systems within the affected coastline are likely to provide important habitat for threatened animal species including: Katipo spider, Notoreas moth, and spotted skink. Also threatened plant species including *Muehlenbeckia ephedroides, Muehlenbeckia astonii, Austrofestuca littoralis, Pimeli aff. Arenaria* and *Desmoschenus spiralis*.

- Concerned that the application does not provide an adequate assessment of ecological values that could be affected by the proposal. Considers further assessment required.

- The dunes to the south of Te Humenga Point have values that are contiguous with Te Humenga Point, being one of the few sites along this part of the coast of pingao/spinifex duneland. A more thorough assessment of the extent of the exclusion area should be undertaken, and this should include an assessment of potential effects resulting from boulder beach protection adjacent to these sites with methods to monitor and mitigate any potential end effects.

- Supports identifying areas of high value (such as ecological, cultural, historic or for landscape reasons), and excluding such areas from the proposed works.

- Particular attention should be given to cultural and landscape values near Kupe's Sail area.

- DoC records indicate there are a large number of archaeological sites along this part of the coast. Concerned re possible effects of construction on these sites and on biota in the foreshore environment regarding vehicle movements, access to the sites, and location of stockpiles of boulders.

- Concerned about insufficient information and assessment re effects of climate change on the adequacy of, and need for the proposed works.

- Application does not adequately address areas where other options, including managed retreat or "do nothing" may be appropriate (particularly in Priority 0 and 2 areas).

- Application does not provide sufficient detail re boulder protection works at river and stream mouths. Requires evaluation to ensure that the natural dynamics and movement of the river mouths is not adversely affected by the protection works.

- Requests that conditions be included to avoid, remedy or mitigate any effects such as sedimentation, maintaining fish passage, changes to channel form and function, contamination, and ongoing maintenance.

- Concern at restricted access to the foreshore as a consequence of continuous stretches of boulder beach protection. The proposed design considers only access by "able bodied persons".

- Concerned at proposed 35 year term of consent.

- Concerned that the proposal confers too much discretion with the applicant and does not provide sufficient certainty to stakeholders.

- Application in its present form is likely to be contrary to the provisions of the New Zealand Coastal Policy Statement, Wellington Regional Policy Statement(s), the Regional Coastal Plan, and sections 5, 6, 7(d) and (f) together with s.88 and Schedule 4 of the RMA.

- Requests that consent be declined for Priority 0 and 2 areas.

- If consent is granted for Priority 1 areas, include suitable conditions to ensure construction processes and ongoing maintenance avoids, remedies and mitigates any adverse effects on river mouths, foreshore biota, public access and archaeology.

- Include suitable conditions to monitor the effectiveness of the works.

7.6 Consultation – following receiving submissions

A draft assessment report (with attached conditions) was prepared and forwarded to all parties to the application for their consideration and response. The applicant consulted with all of these parties and obtained a written withdrawal of the right to be heard at a formal hearing.

The Department of Conservation (DoC) recommended minor amendments to some of the draft conditions of consent. These amendments were evaluated by GWRC and have been incorporated in the assessment report. A summary of the amendments to the conditions of consent includes the following:

- DoC does not wish to be included in step two of the management plan (condition 7) – the preparation of an immediate works zone site environmental management plan.

- DoC requests that a brief written assessment of each option below on step one for managing coastal protection within an active management zone (condition 9). DoC requests that the assessment shall take into account coastal processes, past works completed and monitored under this consent, public access requirements and the ecological, cultural and archaeological values of the site. Doc wants all of the following options to be assessed before SWDC confirms what it considers to be the most appropriate option:

    10. ‘Soft defence works’ such as dune re-shaping and re-vegetation;

    11. ‘Hard defence works’ as enabled under this consent; and

    12. Relocation of Cape Palliser Road.

- Under step three of the management plan for the active management zone, DoC wants included that Greater Wellington confirm the option for managing coastal protection as part of this process.

- Doc also sought amendments to condition 22 (dealing with dotterels). The revised condition is reproduced as follows:

    22a. “The consent holder shall ensure the activity does not disturb the nesting or breeding of nesting dotterel (Charadrius sp).

    22b. The consent holder shall ensure that between 1 August and 31 December each year, work shall only take place:

        1) when an inspection of the site by a suitably trained person knowledgeable in dotterel identification and habitats shows no dotterel are present within 50m of the work area or will not be disturbed; or

2) *where the construction works commenced at the same location prior to 1 August and has not been interrupted for more than 7 days.*

It is accepted that DoC have specific knowledge regarding native fauna. In this case the amendments to condition 22 introduce an obligation on the consent holder to engage a suitably trained and experienced person in dotterels and their habitat to implement the condition.

Overall, I am satisfied that the amendments to the above-mentioned conditions proposed by DoC will improve the environmental outcomes and streamline implementation of the consent. I am also satisfied that, none of the other submissions received would be compromised at all by amending the conditions outlined above as recommended by DoC.

8. Matters for consideration

This section sets out the framework that has been used to assess the application.

8.1 Statutory criteria

The requirements of the Act that relate to the decision making process are contained within sections 104 - 119A of the Act. The sections of particular relevance to this application are listed below, and are presented in their entirety in Appendix 2 to this report. As the application was lodged prior to the inception of the Resource Management (Simplifying and Streamlining) Amendment Act 2009, the relevant sections contained in Appendix 2 are those of the preceding legislation.

The matters to which a consent authority shall have regard when considering applications for resource consents and submissions are set out in section 104(1) of the Act as follows:

When considering an application for 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; and

(b) any relevant provisions of –

i. a national policy statement,

ii. a New Zealand coastal policy statement,

iii. a regional policy statement or proposed regional policy statement; and

iv. a plan or proposed plan; and

(c) any other matters the consent authority considers relevant and reasonably necessary to determine the application.

The provisions of s104 are all 'subject' to Part II, which means that the purpose and principles of the Act are paramount.

8.2 Resource Management Act 1991 – Specific Provisions

8.2.1 Part 2 of the Act

Consideration of an application under section 104 of the Act is subject to Part 2. "Subject to" gives primacy to Part 2 and is an overriding guide when applying the provisions of the Act.

Section 5 sets out the purpose of the Act, which is to promote the sustainable management of natural and physical resources, and sections 6, 7 and 8 set out matters that consent authorities should consider when exercising their functions under the Act.

8.2.2 Section 5 – Purpose and Principles

Section 5 defines "sustainable management" as:

"managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enable 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."

In assessing the effects of the proposal in Section 9 of this report, I have taken into account the purpose and principles of the Act and the matters identified in Section 5. I consider that the proposal, as modified by the recommended conditions of consent, will achieve the required balance of enabling people and communities to provide for their social, economic, and cultural wellbeing whilst ensure the adverse effects associated with that activity are avoided, remedied or mitigated.

On balance, provided that the activities are undertaken in accordance with the recommended conditions of consent, I consider the proposed coastal protection works will meet the purpose and principles of the Act.

8.2.3 Section 6 – Matters of National Importance

In exercising its powers and functions under the Act, the Council must recognise and provide for the matters of national importance listed in section 6 of the Act. I consider that the following matters are of relevance to this application and have addressed the effects of the proposal on that basis.

Section 6(a) recognises the importance of preserving the natural character of the CMA and rivers and their margins and protecting them from inappropriate use and development. **Section 6(b)** provides for the protection of outstanding natural features and landscapes from inappropriate use and development. **Section 6(c)** provides for the protection of areas of significant habitats of indigenous fauna. **Section 6(d)** provides for the maintenance and enhancement of public access to and along the CMA. **Section 6(e)** provides for the relationship of Maori with their ancestral lands, water, sites, waahi tapu and other taonga, **Section 6(f)** provides for protection of heritage from inappropriate use and development and **Section 6(g)** provides for the recognition of customary activities.

I have concluded in Section 11 of this report that the potential adverse effects of the proposed activity on coastal geomorphology, important habitats within and adjacent to the site, public access and on iwi and heritage resources can be adequately avoided or mitigated provided the recommended conditions of consent are complied with. As such, I consider the proposal will not be inconsistent with any matter of national importance as identified under section 6 of the Act.

8.2.4 Section 7 – Other Matters

The other matters to which GWRC must have particular regard in relation to managing the use, development, and protection of natural and physical resources are listed in section 7 of the Act.

- Section 7(b) The efficient use and development of natural and physical resources
- Section 7(f) The maintenance and enhancement of the quality of the environment
- Section 7(g) Finite characteristics of natural and physical resources

I do not consider that the other matters listed in section 7 are of relevance to this application.

I consider that the proposed activity, as modified by the recommended conditions of consent, will assist retain the natural and physical resources available at Palliser Bay in a manner which recognises the finite characteristics of the sediment supply to the bay and wider coastline and maintains the quality of the coastal environment.

8.2.5 Section 8 – Principles of the Treaty of Waitangi

Section 8 of the Act requires GWRC to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) when considering applications for resource consent. The Waitangi Tribunal and Courts continue to establish the principles of the Treaty of Waitangi and it is recognised that the principles are continuing to evolve. The two key principles that are of relevance to this application are active protection of Mäori interests and consultation.

The principle of active protection has been described as a "guarantee to Maori to continue a relationship with resources that was as much about their use as about their conservation" *NZ Cooperative Dairy Company Limited v Commerce Commission* (1991). In the context of this application, active protection must be taken into account when considering the tangata whenua relationship with their ancestral land, water, waahi tapu and other taonga.

The general requirements of 'consultation' have been well established by the judiciary and Courts both within and outside the Act. Consultation should facilitate tangata whenua understanding of the effects of a proposal on their relationship with the area in question to a point where the applicant can consider how those effects might be avoided, remedied or mitigated. GWRC requires this kind of information to be able to assess how the Council can meet its statutory responsibilities.

Consultation between the applicant and iwi has been carried out, and is summarised in section 7.1 of this report.

Taking into account the recommendations made in the cultural impact report, conditions have been imposed on the consents to ensure all reasonable steps are undertaken to meet the aspirations of tangata whenua.

8.2.6 Permitted baseline assessment

Section 104(2) states:

"...when forming an opinion for the purpose of subsection 1(a), a consent authority may disregard an adverse effect of the activity on the environment if the plan permits an activity with that effect."

The RCP does not provide for disturbance of the CMA as a permitted activity aside from that associated with clearance of piped stormwater outfalls, beach grooming and recontouring, river and stream mouth cutting, drilling and maintenance dredging in specified locations. The proposal does not accord with any of these permitted activities and the application site is not included in any of the specified locations.

The RCP does not provide for deposition of substances on the foreshore or seabed as a permitted activity aside from the deposition of windblown material.

Accordingly, there is no relevant permitted baseline that needs to be assessed when considering the effects of the proposed activity.

8.2.7 Section 104 - Consideration of applications

(1) When considering an application for 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; and (refer to Sections 9.1 to 9.4 of this report);

(b) any relevant provisions of -
(i) a national policy statement;
(ii) a New Zealand Coastal Policy Statement (NZCPS - see Sections 8.4 and 8.5 of this report);
(iii) a Regional Policy Statement … (WRPS - see Section 8.6.;
(iv) a plan … (RCP - see Section 8.8); and

(c) any other matter the consent authority considers relevant and reasonably necessary to determine the application (WCS - see Section 8.9).

The relevant planning instruments to take into account are outlined in section 8.3 of this report. Assessment of relevant policies in these planning instruments is provided in sections 8.4 to 8.9.

8.2.8 Section 117 – Provisions applicable to CMA

For activities seaward of mean high water springs (which are a restricted coastal activity), s.117(6) RMA requires:

(6) A committee that considers an application for a coastal permit for a restricted coastal activity –
(a) May exercise any of the powers or rights of a consent authority under sections 37 and 39 to 42A; and
(b) Shall, having regard to the restrictions in s.119(6), make a recommendation on the application to the Minister of Conservation after exercising any of the powers, duties, rights, and discretions set out in sections 91, 92, and 99 to 108 –

as if every reference in those sections to a consent authority was a reference to the committee, and every reference to a decision was a reference to a recommendation

The restriction in s.119(6) referred to is that the Minister must not grant a coastal permit for a restricted coastal activity if the activity is contrary to:

- the production of conspicuous oil or grease films, scums or foams or floatable or suspended materials;
- any conspicuous change in the colour or visual clarity;
- any emission of objectionable odour;
- the rendering of any fresh water unsuitable for consumption by farm animals;

- any significant adverse effect on aquatic life

8.2.9 Section 119 - Decision on application for restricted coastal activity

Section 119 of the Act sets out the procedures for making a decision on an application for a restricted coastal activity. Section 119 states:

"(1) Within 20 working days of receiving—

(a) A recommendation on an application for a coastal permit for a restricted coastal activity; or

(b) Where an inquiry by the Environment Court into that recommendation has been made, the report of the Environment Court ,—

the Minister of Conservation shall make a decision on the application and give reasons for that decision.

(2) When considering his or her decision on the application, the Minister of Conservation shall—

(a) Take into account the recommendation of the hearing committee or report of the Environment Court, as the case may be; and

(b) Have regard to the matters set out in section 104—

and, subject to subsections (3) and (6), may grant or refuse to grant the coastal permit and, in granting the permit, may include any conditions in it in accordance with section 108…"

Section 119A of the Resource Management (Simplifying and Streamlining) Amendment Act 2009 requires that any application received prior to 1 October 2009 for a restricted coastal activity be treated as if granted by regional council. As the application was received and publicly notified before 1 October 2009, the provisions of the Act prior to the 2009 amendments applies.

8.3 Planning instruments and other matters

The following planning instruments and documents are relevant to this application:

National

- The Foreshore and Seabed Act 2004
- The New Zealand Coastal Policy Statement 1994
- The Proposed New Zealand Coastal Policy Statement 2008

Regional

- The Regional Policy Statement for the Wellington Region 1995
- The Proposed Wellington Regional Policy Statement 2009
- The Regional Coastal Plan for the Wellington Region 2000

The actual and potential effects on the environment of allowing the activities are addressed in section 9 of this report.

Other matters relevant to this application are considered in section 8.9 of this report. One other matter is the Wairarapa Coastal Strategy (March 2004).

8.4 New Zealand Coastal Policy Statement

The New Zealand Coastal Policy Statement (NZCPS) is a National Policy Statement and it became operative in May 1994. It contains policies intended to achieve the purpose of the Act in relation to the coastal environment of New Zealand.

NZCPS Chapters 1 and 3 contain key policies relevant to this application, as follows:

1.1.1 It is a national priority to preserve the natural character of the coastal environment by:

(a) encouraging appropriate development in areas where the natural character has already been compromised and avoiding sprawling or sporadic development in the coastal environment;

(b) taking into account the potential effects of development on the values relating to the natural character of the coastal environment, both within and outside the immediate location; and

(c) avoiding cumulative adverse effects of … use and development in the coastal environment.

This policy is potentially relevant to the application as the development may impact on natural character. Unfortunately the NZCPS does not provide guidance on what constitutes "appropriate" or inappropriate development. The Wairarapa Coastal Strategy (WCS) was developed to help identify at a local scale the issues and policies that would help define what "appropriate" development is. Subsequent discussion will consider natural character evident at this location. Section 8.9 of this report considers the WCS matters of relevance to this application.

1.1.4 It is a national priority for the preservation of natural character of the coastal environment to protect the integrity, functioning, and resilience of the coastal environment in terms of:

(a) *the dynamic processes and features arising from the natural movement of sediments, water and air;*

(b) [not relevant to this report]

(c) *natural substrate composition;*

(d) [not relevant to this report]

(e) *natural bio-diversity, productivity and biotic patterns; and*

(f) *intrinsic values of ecosystems.*

The proposal will affect the dynamic processes, biotic patterns and the values of existing ecosystems. As such the proposal will not be contributing to the preservation of the natural character of the coastal environment. As will be discussed subsequently, previous attempts at stabilising sections of this coastline have already compromised the natural character of parts of the overall site.

3.3.1 *Because there is a relative lack of understanding about coastal processes, a precautionary approach should be adopted towards proposed activities, particularly those whose effects are as yet unknown or little understood. The provisions of the Act which authorise the classification of activities into those that are permitted, controlled, discretionary, non-complying or prohibited allow for that approach.*

3.4.3 *The ability of natural features such as beaches, sand dunes, mangroves, wetlands and barrier islands, to protect subdivision, use of development should be recognised and maintained, and where appropriate, steps should be required to enhance that ability.*

The application as originally lodged, potentially sought to install hard protection in front of an existing dune system. The application was subsequently amended, and the coastline adjacent to the established dune sequences was reassigned as Priority 0. In essence, this recognises and enables the dunes to provide buffer to offset potential seasonal losses and attrition as a consequence of specific storm events. It needs to be determined whether or not it is appropriate to enhance the ability of the existing dunes to provide protection. If it is appropriate to enhance them, then steps should be taken to do so.

3.4.6 *Where existing subdivision, use or development is threatened by a coastal hazard, coastal protection works should be permitted only where they are the best practicable option for the future. The abandonment or relocation of existing structures should be considered among the options. Where coastal protection works are the best practicable option, they should be located and designed so as to avoid adverse environmental effects to the extent practicable.*

This is similar to the hierarchical approach to hazard mitigation outlined in the WCS and is discussed further in section 8.9.

3.5.2 In order to recognise the national importance of enhancing public access to and along the coastal marine area, provision should be made to identify, as far as practicable:

(i) the location and extent of places where the public have the right of access to and along the coastal marine area;

(ii) those places where it is desirable that physical access to and along the coastal marine area by the public should be enhanced; and

(iii) those places where it is desirable that access to the coastal marine area useable by people with disabilities be provided.

Public access in the coastal marine area is considered further in Policy 4 of the Wellington Regional Policy Statement.

8.5 Proposed New Zealand Coastal Policy Statement 2008

The Proposed New Zealand Coastal Policy Statement (NZCPS) is also National Policy Statement. The period for receiving submissions closed on 7 May 2008. It contains policies intended to achieve the purpose of the Act in relation to the coastal environment of New Zealand.

The Proposed NZCPS Chapters 1 and 3 contain key policies relevant to this application, as follows:

Reclamations

Policy 27: The adverse effects of reclamation of the coastal marine area shall be avoided unless land outside the coastal marine area is not available for the proposed activity and there are no practicable alternative methods of providing for the activity. In considering a resource consent application for reclamation, particular regard shall be had to:

(a) whether the proposed activity can only, by nature, be located adjacent to the coastal marine area; and

(b) the expected effects on the site of climate change and sea level rise, over no less than 100 years.

Where reclamation is considered to be a suitable use of the coastal marine area, its form and design shall:

(c) ensure as far as possible that the shape of the reclamation, and the materials used, are visually and aesthetically compatible with the adjoining coast;

(d) avoid the use of materials in the reclamation containing contaminants that could adversely affect water quality in the coastal marine area;

(e) provide for public access, including walking access, to and along the coastal marine area at high tide, unless a restriction on public access is appropriate as provided for in Policy 43;

(f) remedy or mitigate adverse effects on the coastal environment;

(g) ensure that the reclamation is designed and located to anticipate climate change impacts; and

(h) avoid consequential erosion and accretion.

Restrictions on access

Policy 43: A restriction on public access to and along the coastal marine area shall only be imposed where such a restriction is necessary:

(i) to ensure a level of security consistent with the purpose of a resource consent.

Coastal Hazards – Protection Structures

Policy 54: When considering the potential use of hard protection structures in response to coastal hazard risk, local authorities shall:

(a) promote alternative responses, including soft engineering solutions and the relocation, removal or abandonment of existing structures;

(b) take into account the expected effects of climate change, over at least a 100-year timeframe; and

(c) evaluate the likely public costs and benefits of any proposed hard protection structure, and the effects on the environment, over at least a 100-year timeframe.

Where hard protection structures are considered to be necessary, local authorities shall:

(d) generally avoid the location of such structures in the coastal marine area;

(e) promote the location of hard protection structures on private land, rather than public land, where the purpose is to protect private land;

(f) ensure provision for the continuation or restoration of public access to and along the coastal marine area at high tide; and

(g) ensure structures are designed to minimise consequential erosion.

All of the issues raised in the Proposed New Zealand Coastal Policy statement have been addressed in some detail in the assessment, and therefore it is not considered necessary to discuss them further at this point.

8.6 Wellington Regional Policy Statement

The Wellington Regional Policy Statement includes the following policies of relevance in assessing this application:

Policy 1

To give effect to the following matters when planning for and making decisions on use and development in the coastal environment:

(1) Protection, from all actual or potential adverse effects, of areas of nationally or regionally significant indigenous vegetation and significant habitats for indigenous fauna, including those listed in table 8;

(2) Protection of the values associated with nationally or regionally outstanding landscapes, seascapes, geological features, landforms, sand dunes and beach systems and sites of historical or cultural significance, including those listed in tables 9 and 10;

(3) Protection of sensitive, rare or unusual natural and physical resources, habitats, amenity values and ecosystems which are unique to the coastal environment (including estuaries, coastal wetlands, mangroves and dunes, and their margins) by avoiding, remedying or mitigating adverse effects so as to preserve the natural character of the coastal environment;

(4) Protection of the integrity, functioning and resilience of the coastal environment in terms of the:

(a) Dynamic processes and features arising from the natural movement of sediments, water and air;

(b) Natural movement of biota;

(c) Natural substrate composition;

(d) [not relevant to this report]

(e) Natural biodiversity, productivity and biotic patterns; and

(f) Intrinsic values of ecosystems.

Regarding parts one and two of this policy, Cape Palliser, including the lighthouse, "Kupe's Sails", and views of the South Island are listed in Table 9 and 10 as significant for indigenous vegetation, significant landscape and seascape, natural features, and landforms. The dune system at Te Humenga Point is listed under Part 2 of Table 10, being a sand dune and beach system with nationally significant biological value. Further, the dunes west of Cape Palliser are identified under Part 2 of Table 10 as being sand dunes and beach systems with regional significance. When making a decision on the application the actual and potential effects on the values associated with the geological, landform and biological values outlined above should be considered.

In giving effect to parts 3 and 4 of this policy, consideration should be given to the impact the proposal will have on existing coastal processes including the dune systems and other geological features identified in Policy 1.

Policy 2

To consider, where relevant and to the appropriate extent, the following matters when planning for and making decisions about …, use or development in the coastal environment:

(1) *The degree to which the proposed activity will impose effects additional to those resulting from existing subdivision, use and development, and the extent to which such cumulative adverse effects on natural character may be avoided, remedied or mitigated;*

(2) *The extent to which natural character has already been compromised in an area and the need to avoid sprawling or sporadic subdivision, use or development;*

(3) [not relevant to this report]

(4) *The potential impact of projected sea level rise;*

(5) *The actual or potential adverse effects of subdivision, use or development on areas of cultural or spiritual significance, heritage resources and on scenic, scientific, recreation, open space or amenity values; and*

(6) *The adequacy of provision of infrastructure services …*

Given the generally moderate/low natural character values of the immediate site area the proposal is unlikely to impact to a large degree on existing natural character values. However, the proposal should still consider ways in which it can avoid, remedy or mitigate against any adverse effects on natural character.

The proposal should also consider the actual or potential adverse effects on scenic, recreation, open space and amenity values.

A comprehensive landscape assessment was carried out for the proposal, and is included in Appendix E of the AEE report. In response to the landscape

assessment report the application was modified to include a greater range of resultant beach profiles and heights than was originally contemplated by the applicant. In my view, the range of options to be considered respond better to the variable nature of the existing coastline, and as a consequence the rock revetments will blend more aesthetically into this coastal environment than otherwise would have occurred.

Splaying of the edges of the rock revetments at their margins will also assist to merge the completed structures more naturally with the natural terrain, thereby avoiding terminating the boulder beaches abruptly. This can be readily incorporated into the construction process and will soften the visual impact of the structures along this coastal edge.

Finally, the application includes the provision of public access points to be formed from smaller rocks at locations where an existing track crosses any of the proposed boulder beaches.

On balance, I am satisfied that by taking the above-mentioned considerations into account, the effects of this proposal on the Palliser Bay landscape would both protect the coastal road while not significantly disrupting the natural character, landscape or amenity values of the area.

Policy 3

To restore and rehabilitate the natural character of the coastal environment where appropriate.

There is the potential to enhance the natural character of the area, particularly those locations where old, existing structures will be replaced by boulder beaches. In these areas, natural character has already been compromised and the removal of the old structures will be a significant improvement on the historic groynes etc.

Policy 4

To ensure, in planning for or making decisions about new … use or development, that there is no reduction in the quality of existing legal access to and along the coastal marine area; and that opportunities are taken, other than in exceptional circumstances, to enhance the amount and variety of public access to and along the coastal marine area.

This proposal has the potential to reduce public access to the coast (in terms of accessibility rather than legal public access) as the proposed structure would not be easy to climb down or walk along. However, the proposal also provides an opportunity to enhance the amount and variety of public access to and along the coast at specific locations adjacent to the settlements or other features of geological or scientific interest. This could be done through the creation of walkways, beach access steps and ramps, and allowing for different types of access in locations that may not have previously been accessible. The decision-makers should consider how the proposal meets this policy.

Other references to the Cape Palliser area in the Regional Policy Statement include:

Table 9: Landscapes and seascapes of national or regional significance (Cape Palliser, including the lighthouse, "Kupe's Sails" and views of the South Island - Regionally important. Reference DoC, 1990. The Coastal Resources Inventory).

Table 10: Outstanding natural features. Landforms and sites of historical importance. (dune system at Te Humenga Point - Nationally significant. Sand dune and beach systems with national or regional biological values).

In each of these circumstances, the Regional Policy Statement refers to features within the overall site. In the case of landforms, landscapes, seascapes, natural features, and sites of historical or cultural significance that have special values associated with them. The policy aims to ensure that for any proposed activity (such as that in this application), the values that make the features significant in some way are protected from any adverse effects that may arise.

Clauses (3) and (4) provide a general requirement for the protection of specific components of natural character through the management of adverse effects of activities in all parts of the coastal environment.

The matters outlined above have been evaluated in the landscape report included in Appendix E of the AEE report, and has already been assessed in this report.

8.7 Proposed Wellington Regional Policy Statement

The proposed RPS was notified on 21 March 2009. Decisions on submissions on the proposed RPS were approved by Council on 18 May 2010 and notified on 22 May 2010. The appeal period closed on 6 July 2010. Eight appeals have been received on the decision. The provisions in the proposed RPS must be considered pursuant to Section 104(1)(b)(v) of the Act. Section 4.2 of the proposed RPS contains the relevant regulatory policies to be given particular regard when assessing and deciding on resource consent applications. I consider that, with the application of the recommended conditions of consent, the proposed activity is consistent with the policies in Section 4.2 of the proposed RPS.

8.8 Wellington Regional Coastal Plan

Policies

In assessing the application, the following objectives and policies from the Regional Coastal Plan are relevant. Refer to Appendix 2 for the full versions of these objectives and policies. The matters outlined in the listed objectives and policies have been considered in the assessment in Section 9 below and are not repeated here.

- Policy 4.2.2 (New developments encouraged only in areas where natural character has already been compromised).

- Policy 4.2.3 (Recognise permanency of occupancy of CMA, whether

adverse effects are irreversible, and those which have ongoing or long term adverse effects).

- Policy 4.2.5 (Adopt precautionary approach in to resource management decisions in CMA - where difficult to predict adverse effects with certainty).

- Policy 4.2.14 (Have regard to adjacent land areas administered by Department of Conservation in deciding resource consents).

- Policy 4.2.15 (Avoid adverse effects of new development on existing lawful public access within and adjacent to CMA).

- Policy 4.2.16 (Support where practicable any initiatives to improve public access along and within the CMA).

- Policy 4.2.21 (Development to take account of natural hazards).

- Policy 4.2.33 (Identify land occupancy in the CMA).

- Policies 4.2.35, 4.2.36, and 4.2.37 (Placing conditions on resource consents to address the listed matters).

- Policy 4.2.39 (In some circumstances, applications will be declined).

- Policy 4.2.42 (Have regard to the district plan where an activity spans the CMA).

- Policy 5.2.1 (All reclamations will have adverse effects).

- Policy 5.2.3 (To not allow reclamation if there are any practicable alternatives …).

- Policy 5.2.4 (To allow reclamation only for … provision of a road link …).

- Policy 5.2.6 (Ensure all reclamation is no larger than minimum required for the activity).

- Policy 5.2.7 (Reclamation designed to minimise adverse effects on physical processes).

- Policy 5.2.8 (Reclamation design to provide for listed physical factors).

- Policy 5.2.9 (Reclamations designed to prevent leaching of contaminants into CMA).

- Policy 5.2.10 (Create esplanade reserves over reclaimed land).
- Policies 6.2.1 to 6.2.3 (Appropriate structures with minor adverse effects).
- Policy 6.2.5 (Natural hazards).
- Policy 6.2.7 (Maintenance of structures).
- Policy 7.2.1 (Activity to meet stated criteria).
- Policy 7.2.4 (Restrictions on when destruction within CMA may occur).
- Policy 8.2.1 (Criteria to be met re deposition within the CMA).
- Policy 8.2.2 (Not to deposit material in the CMA where alternative methods are available that would have less adverse effects on the environment).
- Policy 8.2.3 (Restrictions on the type of materials that may be deposited in the CMA).

8.9 Wairarapa Coastal Strategy

The Wairarapa Coastal Strategy (WCS) identifies the issues specific to the Wairarapa coast. Based on extensive consultation, it provides policy and direction for decision-makers, applicants and the wider community.

WCS Landscape and Natural Character Chapter

Policy 5

Manage development and activities to minimise negative impacts and maximise positive impacts on landscape values and natural character.

Policy 6

Ensure public facilities … are designed and located to minimise negative impacts on landscape and natural character.

Most of the areas for the proposed boulder beaches generally have moderate/low natural character. While it is not possible to avoid a reduction in some of the elements that contribute to natural character (e.g. natural sediment movement and processes, and modifications through the placement of a structure in the coastal environment) it may be possible to enhance the natural character in other ways. This could include but is not limited to: dune restoration (either on-site or in the surrounding area); weed control on existing dunes; and revegetation using indigenous species.

WCS Hazards Chapter

The section on hazards is considered to be of most relevance to this application.

Regarding hazards, the policy of the WCS is:

Policy 2

Adopt a hierarchical approach to manage the risk from natural hazards so that taking into consideration the social, economic, cultural and environmental costs, we:

(i) *avoid placing people and property in areas that will increase the risk of loss of life or property damage from natural hazards;*

(ii) *manage the retreat of people and development from areas currently at risk from natural hazards;*

(iii) *use "soft" engineering solutions such as dune restoration to mitigate against hazards, and, finally;*

(iv) *limit the use of coastal "hard" protection measures to those areas where all other options have been exhausted and it is necessary to protect community infrastructure and/or public health and safety.*

This policy gives clear guidance that hard protection measures should be used only "*where all other options have been exhausted*". In some instances it may be too late to implement other options (including retreat and soft engineering options), because the risk is too great, or because the natural processes have already been so disturbed that soft engineering options will no longer be viable. However, in cases where soft engineering options are possible they should be used in preference to hard engineering solutions.

The policy also states that the hierarchical approach should be adopted while "*taking into consideration the social, economic, cultural and environmental costs*". Any application should be considered in this context. Matters relating to this policy were evaluated in detail in both section 4.5 of the AEE report, in the assessment of alternative options in section 3.5 of the AEE report, and in the options for continued access in Appendix F of the AEE report.

WCS Access and Recreation Chapter

Policy 3

Encourage the provision of walking access to and along the Wairarapa Coast.

Policy 5

Ensure public facilities and access are provided and where necessary upgraded or rationalised to meet user demand and reasonable expectations, while minimising impacts on landscape and the environment.

Under the coastal guidelines section dealing with access, Policy 5 intends that public facilities are provided and where necessary upgraded or rationalised to meet user demand and reasonable expectations, while minimising impacts on landscape and the environment. Rock protection is consistent with rationalising existing access, as Cape Palliser Road is the only road access serving the south-eastern coastline. Given the extent of development along Cape Palliser Road, retention of road access is essential. The physical works proposed are significant, but necessary to counter the force of wave attack under particular storm conditions. The environmental consequences of the boulder beaches, whilst significant, are unavoidable in the circumstances. However, the potential consequences of inaction will almost certainly result in both the loss of the main road access and of private (residential) properties in this locality. In this case, the physical works are a response to remedy an existing problem. It is not a new development in this coastal domain. The work needs to be considered in this context. The outcome will be a series of boulder beaches constructed of natural rock rather than a mixture of built forms comprising different materials.

Policy 7

Ensure new development is designed and located so that it does not create an impression of privatisation or exclusivity of the beach.

The construction of boulder beaches can have both positive and negative impacts on access and recreation opportunities. Constructing boulder beaches and reclaiming some land will help address the issue of the erosion of public reserves and provide for recreation opportunities such as picnicking. However, the construction of hard-rock protection may remove some access and recreation opportunities as people can no longer walk down to or along the beach where the boulder beaches have been constructed.

Any proposal for protection works should consider the policy in the WCS and ensure that the design and location of the works, including any additional landscaping and access treatments help to encourage walking access to the beach, provide for reasonable user demand, and avoid giving the impression of privatisation of the beach. These matters have already been addressed in this report, in particular in relation to the Wellington Regional Policy Statement. In essence, existing walking access points will be retained as set out in Appendix I of the AEE report.

9. Assessment of actual and potential effects 104(1)(a)

9.1 Occupation of Crown Land in the Coastal Marine Area (CMA)

The application is to construct a form of protection structure to be built along the shoreline. It is a response to a situation in which further shore erosion will result in excessive damage to Cape Palliser Road and to other network utilities that also occupy the road reserve. There is generally no prospect of realigning this section of road to avoid the need for occupation of part of the CMA by the coastal protection works. The landward side of the road, opposite many Priority 1 areas, comprises steeply sloping, unstable terrain. It is clearly

impractical for realignment purposes for this isolated and remote section of public road. Under these circumstances, on balance it is considered that occupation of part of the CMA by the proposed boulder beach is the best practical option for stabilising this section of road.

The use of placed angular rock boulders as a construction material is considered to be more aesthetically appropriate in this coastal environment than using alternative means such as a reinforced concrete wall. The beach surface to be protected is often narrow, and located below the road surface.

The area of coastline concerned is not identified in the Wellington Regional Coastal Plan as an area of 'Important Conservation Value'. I am satisfied that the revised scheduled works represent the best and only practical option for retaining existing road access.

9.2 Hard protection structures

Hard protection structures are designed to resist the force of wave attack in order to prevent the erosion of the land. Their design will therefore reflect the amount of wave energy experienced by a particular coastline. In order to accommodate waves into the design of structures, it is important to have knowledge of the waves occurring in the area in which the structure will be sited. Estimation of wave height is critical for protection structures, given that wave energy is a function of the square of wave height. Komar (1998) refers to this as the *design wave* (H_{max}); it is a function of the water depth in front of the structure. From here, it is possible to identify a further concern arising out of beach lowering: as a beach loses sediment and gets lower, the water depth, and thus the size of the design wave, will increase.

This case involves a wave-dominated coastline of high energy. The proposed boulder beaches have been designed to withstand direct, high energy wave attack. The most fundamental problem with most hard protection structures in the form of sea walls is that they tend to reflect wave energy. In a worst case scenario, the reflected energy may interact with incoming waves to set up a standing wave which can result in scouring of sediment on the beach fronting the wall. This is a major problem in sea-wall design; it can even result in wall undermining and eventual collapse. In this application, the proposal is to install armour-stone (piles of graded boulders) in order to protect the toe of the wall from sediment loss due to scour, and also to reduce reflected waves by scattering the direction of reflection. An uneven face of the type proposed will reflect wave energy in random directions, but may also act to absorb some of this energy, so that not all will be focussed back towards the beach. The large rocks are less reflective than solid walls and produce greater dissipation of wave energy.

9.3 Effects arising from completed structure

Once the structure is in place, it has the potential to cause a number of effects on the environment. These effects are identified and assessed in the following section of this report.

9.3.1 Benefits of rock revetment walls

Rock revetment structures such as boulder beaches are an effective way of protecting high value land which, in this instance, cannot be effectively protected in other ways. It is also true that some hard protection structures do not produce the negative impacts described subsequently in this report; this suggests that under certain design criteria and environmental conditions, they are an effective way to protect existing infrastructure such as the road link.

9.3.2 Increasing the success of hard protection structures

The position of any undefended coastline is a function of sediment supply, wave energy, and sea level. The first complicating issue is that none of these are constant, in that sediment supply varies over time with rainfall, storm erosion, etc. Wave energy is dependant on meteorological conditions and sea level often reveals upward or downward trends in the medium and longer term.

Despite this, however, coastlines can achieve a dynamic equilibrium, meaning that they can maintain a net stability in the range of variation offered by the three variables. To gain the optimum result from hard protection structures, they need to be constructed in a way that minimises their impact on these three variables.

First, protection that cuts off an area's only supply of sediment (e.g. a cliff) will have a major impact on the beach, while an area which has many sources of sediment (e.g. from offshore and longshore drift) will have alternate sources and will not have to rely on the fronting beach to source its sediment.

Secondly, wave energy will dissipate naturally over beach profiles and hence the further inland that hard protection can be placed, the fewer problems with interference with incident waves, and the less seaward penetration into the surf zone. In effect, this means that a wide beach in front of the hard protection structure, supplied from distant sources, will be an ideal situation, with the structure protecting the hinterland from erosion. However, this ideal is frequently not achievable. In such cases, it is important to minimise the impact of the structure through effective design. The problem of sea level rise is much more complicated because it also affects the first two variables.

The careful placement of hard protection structures, therefore, can help reduce impacts on beaches. Another method is to alter the design of the structure to suit local conditions. For example, sea walls which reflect wave energy are bad and lead to scour. Conversely, hard protection structures which dissipate energy, either by absorption or by random deflection on an irregular surface, can be effective. The proposed rock revetment structures are of the latter category, and in similar circumstances elsewhere have been effective in dissipating wave energy.

9.3.3 Fixing of the sea/land boundary by revetment structures

The coastline represents the boundary between marine and terrestrial environments. In a natural setting, this is usually not a permanent line on a

map; rather, it is a dynamic environment in which land and sea are constantly interacting (eroding and accreting) in response to external factors, both natural and human induced.

One of the main problems with hard defences is that, once built, they fix the coastline in the position it was in at the time of construction. However, coastlines are not static structures; they migrate landwards and seawards over a variety of time scales in response to factors such as sea level, wave climate, and seasons. The type of coastline will govern the severity of the restrictions imposed through coastal defence structures; for example, dune coasts will fluctuate seasonally to changes in sediment transfer to and from the beach without which the complex dynamic stability of the dune/beach system will be lost. On cliffed sections of the coast, the main problem lies with the input of sediment to the coastal sediment budget, the loss of which can have important repercussions for the beaches down drift.

The problems of a static coastline can be summarised as follows:

- inability to respond to sea level changes in the medium and long term;
- cessation of beach / dune interactions;
- cessation of sediment inputs to the sediment budget;
- instability in fronting beaches.

It is important to consider longer-term implications of for example, building a rock revetment in front of an eroding cliff. The protection structure may well stop that specific area from eroding, but it will also stop the sediment from the eroding cliff entering the coastal sediment budget. If this sediment was important in supplying beaches down drift with sand, this supply would cease and these beaches would lose their sediment supply and may start to erode. It is therefore entirely possible that solving one erosion problem using rock revetment may potentially create another.

All of the above-mentioned factors will promote instability in the coastal system and therefore induce erosion as the system attempts to regain a form of dynamic equilibrium. Preventing a coastline from being able to respond to sea level rise is of paramount importance. Increased coastal instability will occur as sea level rises. In order to maintain dynamic equilibrium under conditions of sea level rise, the equilibrium beach and near-shore profile needs to relocate upwards and landwards. Where there are hard defences such landward movement is prohibited the coastline cannot reach equilibrium with the new sea level conditions, and as a consequence, frequently results in the further loss of beach sediments. (French, 2001). Pilkey and Wright (1988) suggest that not only do sedimentary environments become squeezed under these circumstances, but so do processes. During storms on undefended coasts, the surf zone widens in the landward direction. Where hard defences have been built, this landward extension may not develop fully, thereby concentrating the greater intensity of surf zone processes into a confined area. The intensification of longshore currents, wave reflection, rip-currents, and pressure-gradient related currents all could be responsible for increased sediment losses from beaches fronting revetment walls during storms.

Contemporary coastal management now has to address a legacy of problems (in this case maintaining road access) largely as a result of coastal development which must be protected. Such problems often restrict best practice and prevent preferred options from being implemented. This case is no exception, and the construction programme will be expensive to install and maintain. It is my view that, on balance, due to the extent of existing development along this very exposed coastline, the imperative to protect road access overrides other considerations, irrespective of what factors come into play with regard to coastal movements and dynamics.

9.3.4 Impacts of boulder revetments on fronting beaches

Of all the impacts commonly cited against the construction of sea walls/revetments, the problem of scouring is perhaps the most significant. Tait and Griggs (1990) claim to have identified a series of commonly observed phenomena on beaches fronting such structures:

- formation of a scour trough – a linear parallel depression fronting a sea wall defence;
- formation of a deflated profile – the uniform general lowering of the fronting beach;
- formation of beach cusps – semi-circular, seawards opening embayments;
- formation of a rip current trough – a linear shore normal depression;
- terminal scour – accelerated (active) erosion on beaches and coasts immediately down drift;
- up-drift sand accretion, due to impounding at the up-drift end of the wall.

In essence, the first four observations relate to the reflection of waves from the structure, and the interaction of these reflected waves with incoming waves and the beach. The fifth problem, terminal scour, will occur when the reflected energy, in excess of that which moves sediment off the beach, is focussed towards the end of the wall, and starts to create an artificial embayment. Finally, where a structure protrudes out from the coastline due to continued retreat of adjacent undefended coasts, then it can act as a groyne by interrupting longshore sediment movement and causing sediment impoundment, and down-drift starvation.

The problem with scour processes is that by continuing to lower fronting beaches, they can potentially undermine the protection structure itself. However, in this case excessive scour is unlikely to become evident as the submarine substrate is commonly comprised of intact rock overlain by a shallow veneer of coarse sandy gravel.

Flanking or terminal scour is a common problem at the ends of hard protection structures. Essentially, excess wave energy is being ‘transferred’ along the coast fronting the protection structure and is causing the increased erosion at its down-drift end in cases where it meets erodible sediment. Griggs and Tait (1988, 1989) have observed reflected waves travelling parallel to revetment walls for up to 30m; the interference of these reflected waves with incoming waves results in excessive scour. For the reasons outlined above, to avoid end scour it is desirable to terminate a revetment structure at a rock outcrop if

possible. Where this is not practicable, it may be necessary to consider some specific design solutions to address end-wall effects at a particular locality. Any specific design that may be required can be implemented at the construction phase as it is not practical to address by way of detailed design at the consent stage every contingency for a site that extends for approximately 25km.

9.3.5 Hard protection structures and sea level rise

Under a scenario of increasing sea levels but a fixed coastline, the water depth in front of hard protection structures will increase, as will the wave base, meaning that larger waves, with higher energy, can penetrate further inshore. In any areas where reflection from sea walls is currently a problem, this will exacerbate the rate of beach scour and loss of sediment. Furthermore, the lateral transfer of energy along a hard protection structure causing terminal scour may also become more acute as these energy levels increase in line with a deepening wave base.

In essence, the survival of beaches depends on the following:

- the maintenance of an adequate sediment supply; and
- the ability of the beach to relocate inland.

For a beach backed by a hard protection structure such as a sea wall, this landward migration is not possible, forcing the beach to occupy a position further into the surf zone than it would 'naturally' do. As a result, it will occupy a position in the tidal frame at which it will not achieve stability, and will attempt to adjust accordingly. The associated increased erosion and beach lowering caused by rising sea levels will lead to a loss in amenity value as beaches narrow, and also to the potential of failure of the hard protection structure due to undermining following wave reflection-induced scour. This impact is particularly acute in areas where there is infrastructure that would be costly or practically difficult to replace, as is the case with Cape Palliser Road. In relation to this application, it is generally not practicable to allow the hard protection structure to retreat inland.

Evaluation of the effects of sea level rise is a complex matter. In this case, Dr John Bevan (GNS scientist) confirmed that in the short to medium term (of most significance re assessment of this application), the 25km coastline is actually subsiding at a rate of approximately 4 to 5mm per year. This subsidence effect is attributed to subduction of the Pacific plate beneath the Australian plate. Over a period of say 50 years, it is possible that without even considering sea level rise, the land surface could be lowered by 250mm.

In the long term, however, infrequent very large magnitude earthquakes do uplift the site area in rebound, and this is evidenced by the sequence of beach terraces. Because of the absence of monitoring records over a long period of time, it is not possible to state equivocally whether the infrequent uplift arising from earthquakes is likely to offset the persistent lowering of the land surface as outlined above. Scientific instruments are in place now to record any future seismic events.

Predictions are that mean global sea level is increasing, and this needs to be considered in relation to this application. Clearly, as sea levels rise, so water depths increase, and the wave base will get deeper. This means that waves reaching the coast will have more energy, and, therefore will be able to erode and transport greater quantities of sediment. Similarly, with greater water depth, the volume of water exchanged in stream mouths on flood and ebb tides, and therefore ebb/flood current velocities, will also increase.

Bray (1997) predicts the rate of sea level rise as being between 23cm by 2050 and 48cm by 2100, representing a rise of approximately 4mm per year. This is a global figure and needs to be adjusted to take into account local and regional differences.

Clearly, a coast with subsiding land and increasing ocean volume will experience a greater net sea level rise than one with a rising land mass.

In summary, the issue of sea level rise is multifaceted and produces a range of environmental problems. It means that high tides become higher, wave base increases, and so the energy received at the coast may also increase. Put another way, the energy received at the defence structure will increase, and many coastal environments may go into disequilibrium if not allowed to adjust to new sea level conditions. This may potentially lead to the need for expensive future upgrades to retain the integrity of the boulder beach defences.

Sea level rise will cause two things to happen:

- an increase in the instability of undefended (soft) coasts with adjustment to new sea levels as necessary; and
- an increase in coastal squeeze and habitat modification on coasts with hard defences leading to impacts on fronting beaches, stream mouths, and related implications for the sediment budget and longshore processes. In addition, increasing water depth along a 'fixed' coastline will cause an increased exposure of defences to wave attack and potential storm damage.

With ongoing sea level rise, there will be an increasing need for adaptation and response to the changing coastline. In this case, the proposed use of rock revetment structures differs significantly from a fixed (rigid) seawall constructed of materials such as concrete. Rock revetments are more flexible solutions and are capable of being modified in response to rising sea levels in contrast to rigid seawalls that cannot be readily adapted. This is an advantage offered by the proposal that would not be practicable if a traditional seawall was being considered. As sea levels rise, high tides become higher, the wave base deepens and energy received at the coast increases. As a consequence, there will be an increased need for adaptation and response to the changing coastline with rising sea levels. On balance, I am satisfied that installing rock revetment protection as proposed will provide the flexibility required to adapt the structures in response to predicted rising sea levels.

9.3.6 Modification of the tidal regime of estuaries and stream mouths

In estuaries and near stream mouths, the predominant impact is on the tidal processes of the system. As the tide flows into an estuary, it gradually fills up until it reaches the top of the salt marsh, then flows over its surface to higher land. The space which this influx fills is known as the tidal volume, while the volume of water is known as the tidal prism.

When hard protection structures are built along an estuary, the space for water to occupy is reduced, yet the tidal prism is not. So, with the same volume of water flowing into a smaller space, the level of that water will be higher.

French (1997) summarises the main impacts of hard protection structures in estuaries, and suggests ways in which the estuarine environment can be changed:

- the tide will have less area to inundate and so water depth could increase, covering areas for longer and inducing change in vegetation communities, and also increasing the tidal range upstream;
- as with the open coast, sea defences represent a 'hard' barrier between land and sea which can act as a reflector for waves, causing back scour, and preventing natural habitat adjustment in response to external factors, such as sea level rise;
- the cross sectional area and channel morphology of an estuary will undergo modification through reduction in intertidal area, thus causing further implications for current activity, wave propagation, sediment movement and ebb/flood dominance;
- removal of part of the temporary sediment store represented by salt marsh sediments from possible reworking and input to the sediment budget.

The primary impacts in estuaries, therefore, lie in the alteration of the estuarine system which can be fundamental in the functioning of the whole coastline. Sea walls can force many estuaries into an artificial morphology, which cannot respond to environmental forcing factors. Under conditions of sea level rise, an estuary needs to respond by lateral shifts of habitats upwards and landwards. Clearly, with hard protection structures, as in the open coast, this will not be possible and coastal squeeze results.

In this case, following consultation with DoC, the revised application maps indicate Priority 0 adjacent to the larger river and stream mouths. I am therefore satisfied that the potential adverse effects on estuaries and stream mouths will be avoided through reassigning their status to Priority 0.

9.3.7 Visual

The question of 'naturalness' with respect to the coast will occur in this case, as whenever the coast is defended, there is a degree of artificiality imposed on it. This may lead to consequential changes in coastal processes, and thus in the behaviour of the affected coastal landforms.

The proximity of Cape Palliser Road to the coastline in many locations along the 25km comprising the site, and the difficult terrain landward of the road commonly prevents alternative options from being viable. It is accepted that the 'do nothing' option will eventually lead to the erosion of the road so that it is no longer passable and realignment would prove costly and in places impossible to achieve due to the local topography. It is therefore accepted that some form of artificial protection is required to defend parts of this dynamic coastline. It is also accepted that the best way of defending and managing the affected coastline is to proceed in a way which is most closely aligned to nature, with an outcome which is likely to have the greatest amount of 'naturalness' and result in a minimal number of problems.

In my opinion if such a strategy is adopted, then coastal defence and management will become more effective with respect to habitat protection, and be more closely aligned with the natural elements of waves, tide and wind, then the boulder beaches are the best that can be achieved in the circumstances.

The boulder beach is a non-natural structure, but it is largely constructed from natural rock materials. It will be visible from both the coastal marine area, and from Cape Palliser Road when approaching from either direction. It will comprise of angular shaped blocks, but the rocks are nonetheless products of nature. The proposed rock weathers to a grey colour. The structure will be visible from the sea when in close proximity in terms of near-shore views, but is unlikely to be visually prominent or obtrusive in the overall landscape at this location and will, in time, blend in and become an accepted part of the landscape.

9.3.8 Public access

The structure will impede public access or recreational use of this section of the coastal marine area. Once in place, there will be an obstacle to pedestrian traffic along the beach, with large boulders sloping down from the toe of the hill to the sea at a moderately steep angle, past the low tide mark. There is no practical means to mitigate this effect, as smaller diameter material would be eroded by wave action under storm conditions. It is accessible only at low tide and can be quite dangerous.

However, it should be noted that as the boulder beaches to be constructed are not continuous along the coastline, then access to the coast is feasible through unprotected sections of the shoreline. The applicant has confirmed that access points will be designed for boulder beaches that extend for more than 500m.

9.3.9 Mitigation of wave action

The composition and physical form of the boulder beach structure is likely to dissipate much of the wave energy. However, it is possible that there may still be accelerated erosion at the lateral ends of the boulder beach, therefore regular maintenance checks will be necessary. Maintenance and repair of structures in the coastal marine area is a permitted activity in the Regional Coastal Plan provided the structure is not enlarged by more than 5% of its plan or cross-sectional area; or 5 metres in horizontal projection and 1 metre in vertical

projection. Therefore, opportunity exists for slight additions if necessary as a permitted activity.

Mitigation of much of the wave energy will therefore be achieved through the engineering design. Construction of a sloping embankment as proposed (previously 2H:1V) will assist in reducing wave run-up. It will avoid overtopping by waves, thereby avoiding wave attack on the toe of the sea cliff.

Mitigation will also result through installing geotextile and filter layers, by reducing the potential for scouring to occur both under and behind the structure.

9.3.10 Coastal dynamics

Boulder beaches are common features of many rocky coastlines. They generally form at the base of sea cliffs and provide a protective buffer against wave attack. In essence, the potential energy carried away by the water that percolates into the beach results in a situation where the return flow of the backwash will be a less competent flow than the up-rush of the swash. The main role of the backwash on a boulder beach is to remove finer material, thereby maintaining an armoured beach face characterised by high porosity. These dynamic characteristics of a boulder beach buffer the back-shore environment from direct wave attack, with consequent stability enhancement for the embankment.

The area is also subject to infrequent severe southerly storms. These will reach wind speeds between 40 to 50 knots, but on a long-term basis their contribution to energy flux is small due to the low percentage of time that these storms occupy.

The existing beaches will be altered completely post construction in several key respects:

- The textural composition of the boulder beaches will be radically coarser than is the case for the existing beach prior to construction.

- The boulder beaches will extend seawards, thereby at least partially denying the seasonal summer accretion and winter recession which is an integral part of the beach sediment budget process.

- A new equilibrium in terms of coastal dynamics post construction will be established, with the probability of transfer of accelerated erosion from this location to a point of lesser resistance beyond the protection works, possibly the at lateral ends of the structure.

It is important to appreciate that coastal protection measures can, and frequently do, affect adjacent or down-drift areas so that, for instance, a wall may deflect waves into an adjacent property, worsening the erosion problem for the adjacent land. For this reason, coastal protection must be examined on a comprehensive basis, which will as far as possible, avoid any protected area being undermined or outflanked as a result of the protection system used elsewhere. The old erosion control measures along this section of coastline

lack any form of comprehensive approach, and construction of protection systems without a proper design basis should not be permitted. However, recent approaches to coastal protection have been planned in an integrated manner, and in accordance with an overall strategy, with long-term benefits of this approach likely to result.

One principal effect on the environment arising from the proposed structure relates to the existing coastal dynamics. In particular, wave energy tends to be reflected from structures rather than being dissipated in the swash zone. Several effects are generated:

a) the structure will receive directly maximum impact from wave action; and
b) the reflected wave energy will be effectively transferred to other elements of the beach system;
c) the dynamic beach equilibrium in existence prior to the remedial works will be altered, with consequential effects expected whilst a new coastal equilibrium is established post construction. There is potential for transfer of accelerated coastal erosion to focus on the lateral margins of the stabilised section, with relocation of the erosive cycle being the result.

Mitigation of the reflected wave energy is proposed by means of engineering design. Construction of a sloping revetment as proposed will assist in reducing wave run-up in a storm event. It will also lessen the extent of overtopping by waves, and resultant undermining of the toe of the hill immediately behind the backwall. Mitigation will also result through placement of rock rip rap armouring to a layer thickness corresponding to approximately twice the mean rock diameter. The method of construction outlined will accordingly reduce the potential for scouring to occur both under and behind the structure.

Regular and frequent monitoring of the subject area will be required to enable a prompt response in the event of accelerated erosion resuming as a consequence of reflective wave energy, notwithstanding the installation of the protection works. This will be addressed by way of a condition of consent.

The works are not expected to result in any long-term disturbance to the sediment-beach budget. However, it should be noted that the medium to long term beach sediment budget appears to be in deficit as is apparent from recent beach recession and erosion in this general vicinity. That would suggest a deficit in sediment supply relative to the ability of longshore sediment transport to remove entrained sediment from this location. Dynamic equilibrium of the beach sediment budget is likely to be restored soon after construction is completed. It should be noted however, that increments to the sediment beach budget until recently acquired from the actively eroding road reserve will no longer be available post construction. Clearly, any deficit in sediment supply or availability is likely to result in long term beach recession, with consequential adverse effects on the structure.

9.3.11 Damage or destruction

Should the structure be damaged or destroyed, the construction method allows for relatively easy and rapid repair or replacement. Boulders released under such circumstances may be readily moved and re-used as is practicable. While the boulders do not naturally occur on this portion of the coast, they are a natural and inert material that will have minimal adverse impact on the marine environment. More particular care, however, must be taken to remove any geotextile material in the unlikely event that it became separated from the structure. A condition of consent will be necessary to ensure this material is removed from the coastal marine area.

9.3.12 Flora and fauna

The revised application for boulder beaches should have little or no adverse effects on coastal flora and fauna. Areas of significant terrestrial-based flora and fauna were identified in the site inspection of 2 June 2009. As a consequence, areas of identified ecological value were reassigned as Priority 0, and therefore will be excluded from the proposed coastal protection works. Accordingly, I am satisfied that the final structure will not adversely affect fauna or flora in this high-energy coastal domain.

9.3.13 Sediment supply

The structure will remove a portion of the coast as a sediment source, however the implications of this on biota are considered minimal as any sediment currently activated from the site is only during periodic events when large amounts of sediment are also activated from other sources. The net reduction in sediment supply will have a negligible effect on flora and fauna, and the structure will not make additional material available.

9.4 Effects during construction phase

During the construction of the boulder beaches, there is some potential for adverse effects to occur. However, these effects can be avoided or mitigated through conditions of consent, and supported by contractual requirements in letting physical works contracts.

The construction process will be simplified through gaining (sometimes temporary) access to the beach to deliver rock from the boulder stockpiling areas. These materials can be transported along the beach to the construction sites as tide and weather conditions permit.

Construction will involve preliminary site earthworks to establish a working profile and backwall support. This activity is likely to be carried out by digger, with excavated material side-cast into the sea adjacent to the site, thereby providing some temporary nourishment to this section of the coast.

It is expected that the works will temporarily affect water quality. Any movement of bed materials will disturb fine silts and sands, increasing suspended solids and raising turbidity levels. There are a number of adverse

effects that the release of suspended solids may have on near-shore biota, including:

- Reduction in light penetration causing reduced ability of aquatic plants to photosynthesise.
- Reduction in visual range for sight-feeding fish and birds.
- Clogging of bed gravels causing potential adverse effects on fish egg survival.
- Avoidance of waters with high levels of suspended solids by invertebrates, fish and birds.
- Accumulation of particles on body surfaces and respiratory organs of fish.
- Reduced water clarity and settlement of particulate matter can reduce primary production and invertebrate feeding efficiency.

Sediment may also be released during future maintenance activities.

9.4.1 Contaminants

The use of machinery within and adjacent to the coastal marine area creates the potential for contamination to occur from fuel, oil and other compounds. To reduce the potential for these effects to occur, standard conditions of consent require that machinery should not be refuelled in the coastal marine area. If spills do occur, remedial action should be taken immediately.

9.4.2 Machinery

Machinery also has the potential to disrupt biota living in the foreshore environment. It is considered that the potential for these effects is minor, as the machinery will generally be working only in the immediate vicinity of the proposed structures. Of necessity, there will be many return trips from the working base and stockpiling areas to the construction sites, along the access-ways (to be constructed).

There are no known established populations of flora or fauna on or near the sites within the revised Priority 1 areas. These sites are not within Areas of Important Conservation Value or Areas of Significant Conservation Value. Additionally, the erosive and dynamic nature of the portion of coast requiring protection is such that there is limited opportunity for species to become established. It is a high-energy coastal environment with no significant biota occupying the inter-tidal narrow beach. Individually, the proposed works are for a short period of time, so any disruption that may be caused will be short-lived.

9.4.3 Noise

Noise created during construction is expected to be no more significant than that created during normal road-works activity. Provided the operation is

confined to working hours specified in the consent, at levels specified in the South Wairarapa District Plan (for activity outside the Coastal Marine Area) and the *General Standards and Terms* of the Regional Coastal Plan, adverse effects on people will be no more than minor.

9.4.4 Foreshore disturbance and deposition

During construction, an even foundation will be excavated for the boulder beach structure. This will require the removal of gravel from the foreshore close to the base of the erosion area. The material will be spread out adjacent to the excavation area. By this means the excavated material will provide some beach nourishment (albeit temporary). It is very likely that this material will be redistributed by storm wave action, and will be entrained as littoral drift.

Stones and boulders for the construction of the boulder beach will be placed directly by heavy earthmoving equipment. It is not proposed to place imported material in the coastal marine area unless it is contained within, or is a part of the proposed structures.

Surplus excavated beach material not used as fill within the boulder beach structure will mostly be side-cast into the foreshore area, with some being spread on the existing beach. Given that the excavated material is sourced directly from the beach and immediate environs, the surplus to be deposited will be consistent with the existing lithology, and therefore compatible with the present beach composition. Any additional material will be excavated from the beaches to provide a suitable foundation and backwall support. In particular, excavation will rebate the structures into the upper beach deposits, and trim the backwall to an appropriate batter-slope. Given the state of flux of the beach dynamics, the volumes to be excavated to prepare a suitable foundation cannot be predicted in advance with any accuracy.

In my view, any physical evidence of the placement of surplus material on the beach berm will rapidly be mitigated by a succession of tidal cycles. A combination of wave action and wind erosion/deposition of finer particles will quickly erase any visual suggestion of mechanical emplacement of the material. It is my view that the deposition of excavated material will contribute in a positive (but very temporary) way to beach nourishment.

9.4.5 Natural events

There is some potential for construction material to enter the coastal marine area during a storm event if the proposed structure has not been completed. Should this occur, the only non-natural materials that will enter the coastal marine area will be the geotextile material. This is a low probability potential effect, but to avoid it occurring, geotextile material should be secured directly in place, or otherwise removed from the coastal marine area.

10. Alternative Methods

The applicant has previously considered alternatives to constructing a boulder beach. These included the do-nothing option, maintaining the status quo, beach nourishment, other 'hard' structures, and relocation of the road via an inland route.

The erosion management options were examined in terms of:

- Expected performance in controlling erosion.
- Risk assessment of performance.
- Maintenance expectations.
- Estimated costs.

Boulder beaches were considered the only method to be financially viable in this situation. It follows on from previous successful construction programmes that have been undertaken. An entire volume of an AEE report prepared for WAR010336 (Te Kopi/Whatarangi area) was compiled evaluating a range of options for continued access. Reference should be made to this document for a detailed discussion of alternative methods considered by the applicant.

The decision to proceed with the coastal protection works as being the best practical option, thereby satisfying Policy 3.4.6 of the New Zealand Coastal Policy Statement, was based upon an evaluation of many factors, including but not limited to the following:

- Predicted future coastal erosion referenced to historic records of cyclic erosion patterns.

- Consideration of various realignment options, ranging from coastal reconstruction to inland routes.

- Provisional cost estimates of alternative options.

- Future road relocation will be substantially more expensive and difficult, as it will be necessary to excavate and rebench the full height of the cliff face. Remedial action now to avoid more slumping of the road by coastal erosion, will avert the need for major and ongoing physical works on the landward road batter.

- In that location, by using angular, quarried boulders, the slope of the boulder beach can be approximately 22^0. An alternative design using rounded river stone would have needed to extend further out into the sea bed as it could not be laid at such a steep angle as the angular quarried boulders. Also, design using river boulders would have require significant lengths of rock on either side of the protected area, making protection of short lengths significantly more expensive.

- Do nothing option, which would result in the loss of any road connection along this section of the coast. It would restrain physical access to existing properties to boat access alone, a difficult and potentially

dangerous scenario in this area, with the absence of any protected moorings. Given the severe erosion already observed in the Priority 1 areas, and unpredictability of the onset of erosion cycles, the life expectancy for the route if left unattended is very tenuous.

Maintaining the existing road requires continuous repair works, with unpredictable delays for road users. For a reliable road connection, the proposed coastal protection works represent the least disruptive option available. In this way the stability of the coast road can hopefully be improved, without the need to engage in major road construction works through the rugged and frequently unstable terrain inland, as would be required in the coastal bypass option detailed in the AEE report for WAR010336. Adverse environmental effects arising from construction of a coastal bypass in this terrain are expected to be far greater than the potential effects of the proposed boulder beach.

Based on the information outlined above, the local community does require road access to be retained along this section of the coast. The proposed coastal protection works represent the most practical option based on social, economic and technical considerations. It is considered to be more environmentally practical over the alternative of vertical seawall construction, and allows for progressive construction, which is not possible through adopting a sand beach nourishment programme.

11. Conclusions

Based on the information outlined in the application and AEE report, and as discussed in the assessment, overall the proposed coastal protection works are considered to represent the most practical option based on social, economic and technical considerations. The boulder beaches are considered to be a pragmatic and practical option to achieve the desired coastal protection at this location. In my view due regard must be given to the coastal environment as it exists. This means recognising and providing for those elements of the natural environment and the physical processes that in combination have contributed to the present form of Cape Palliser. It also means recognising the settlements as they exist, including the key roading and services infrastructure.

The boulder beaches are a response to protect development that was authorised prior to the level of knowledge of coastal systems and their dynamics that currently exists.

The assessment has focussed on balancing the inherent environmental issues and processes with acknowledgement of the reasonable concerns of each of the submitters. The assessment required determining the principal components of the natural system, the coastal processes evident at this location, and to facilitate coastal protection in accordance with the attributes and limitations identified.

In my view, some form of coastal protection is required to protect key infrastructure, and on balance the proposal represents the most suitable means to achieve this.

12. Recommendation

It is recommended that resource consent application WAR090322 be granted for a term of 35 years from the date of commencement for the construction and installation of the boulder beaches, subject to the conditions of consent in Appendix 1 of this report.

In relation to resource consent application WAR090322 (restricted coastal activity), (pursuant to sections 104B, 108, 117 and 118 RMA) it is recommended that the Hearings Committee make a further recommendation to the Minister of Conservation to approve the application for a term of 35 years for ongoing maintenance of the seawall structure, subject to the conditions of consent in Appendix 1 of this report.

In recommending the above decision and conditions to the Minister of Conservation, the Wellington Regional Council believes that:

13. The activity will avoid, remedy or mitigate any adverse effect of the boulder beaches and associated works/structures on the coastal environment at Cape Palliser.

14. All submissions made on the application have been carefully considered and where appropriate, consent conditions have been proposed that avoid and/or mitigate any potential adverse effects of the proposal.

15. The proposed activity is not inconsistent with the relevant rules and policies of the operative Regional Coastal Plan.

16. The proposed activity is consistent with the Purpose and Principles of the Resource Management Act 1991.

17. The proposed activity will not have any significant adverse, actual or potential impact on natural and physical resources or the environment.

18. The terms and conditions of the consent maintain the natural and physical resource by avoiding, remedying or mitigating any adverse effects of activities on the environment.

13. Duration of consent(s)

In my view the coastal permit, if granted, should have a 35 year term for the completed structure(s) given the permanent nature of the work.

There is no prescribed limit of the works that may be required to be undertaken during the term of this consent. It is very likely that future erosion events (within the term of this consent) will occur and may need remedial works to safeguard the road link. This may necessitate undertaking works at that stage in response to accelerated erosion in locations that were not identified as being Priority 1 in 2011 (at the time of this assessment).

For this reason, it is proposed that the lapsing period set out in s.125 of the RMA be extended effectively for the term of this consent rather than the standard five year period. The application has contemplated this situation, and in the further information provided, proposed an evaluation to determine the necessity for undertaking the works, any consultation proposed as part of this process, the parties to be present during excavation works, and set out the methods to be engaged to prevent damage or destruction to ecologically sensitive sites.

The process also addressed the specific issues outlined in submissions by the Department of Conservation, Royal Forest and Bird Protection Society of New Zealand and MW and PA Bruce. The recommended conditions of consent have been agreed by all of these parties to address the environmental issues identified in the application, in the submissions received and in the assessment report.

14. Monitoring

Monitoring of the resource consent will be carried out post construction. A recommended condition of consent will require the consent holder to take a series of photographs of the site (pre-construction), the physical works undertaken, and of the site following completion of the project. A condition will require the consent holder to forward a copy of the photographs to Greater Wellington within one month of completing the work to enable compliance with the consent conditions to be assessed, for the term of this consent.

A charge for compliance monitoring will be made in accordance with the Resource Management Charging Policy, and set out in the decision letter.

Report prepared by:

Grant Kneebone
Resource Advisor, Environmental Regulation

Recommendation approved by:

Al Cross
Manager, Environmental Regulation

15. References

Bray M.J. and Hooke J.M. (1997) 'Prediction of soft-cliff retreat with accelerating sea level rise', *Journal of Coastal Research* 13(2): 453-67.

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Griggs G.B. and Tait J.F. (1988) 'The effects of coastal protection structures on beaches along northern Monterey Bay, California', *Journal of Coastal Research,* SI 4: 93-111.

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Pilkey O.H. and Wright H.L. (1988) 'Sea walls versus beaches', *Journal of Coastal Research,* SI 4: 41-64.

Tait J.F. and Griggs G.B. (1990) 'Beach response to the presence of a seawall', *Shore and Beach,* 58(2): 11-28.

16. Appendix 1: WAR090322 conditions of consent recommended to the Minister of Conservation to apply to WAR090322 [27566 - 27570]

Below are officer recommended consent conditions to avoid, remedy or mitigate potential adverse effects on the environment.

Administrative

1. The location, design, implementation and operation of the physical works shall be in general accordance with the consent application and its associated plans and documents lodged with the Wellington Regional Council on 27 April 2009, and the amended application dated 17 September 2010.

   For the avoidance of doubt, where information contained in the application is contrary to conditions of this permit, the conditions shall prevail.

   Note: Any change from the location, design concepts and parameters, implementation and/or operation may require a new resource consent or a change of consent conditions pursuant to section 127 of the Resource Management Act 1991.

2. The Manager, Environmental Regulation, Wellington Regional Council, shall be given a minimum of two working days (48 hours) notice prior to the works commencing.

   Note: Notifications can be emailed to notifications@gw.govt.nz. Please include the consent reference WAR090322 and the name and phone number of a contact person responsible for the proposed works.

3. The consent holder shall provide a copy of this consent and any documents and plans referred to in this consent to each operator or contractor undertaking works authorised by this consent, prior to the works commencing.

   Note: It is recommended that the contractors be verbally briefed on the requirements of the conditions of this consent prior to works commencing.

4. The consent holder shall ensure that a copy of this consent and all documents and plans referred to in this consent, are kept on site at all times and presented to any Wellington Regional Council officer on request.

5. All works including tidy up on completion of the works shall be completed to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

6. The management of activities and their effects will be carried out according to three defined zones as defined by this consent:

   - Immediate Works Zones – where hard defence works may be constructed according to the process set out in condition 8

- Active Management Zones – where boulder beaches may be constructed and / or a range of management techniques will be used, according to the process set out in condition 9.

- No Go Zones – where no work will be undertaken.

The 'Immediate Works', 'Active Management' and 'No Go' Zones are identified on the 'Priority Rating' Maps 1-10, submitted to Wellington Regional Council on 17 September 2010 as part of the WAR090322 section 92 RMA response.

Management Plans

7. The consent holder shall prepare, submit and implement a site-wide Environmental Management Plan (EMP) for all construction works authorised by this consent to the Manager, Environmental Regulation, Wellington Regional Council, for approval at least 20 working days prior to works commencing. The EMP shall include, but not be limited to:

    - roles and responsibilities, including appointment of a representative to be the primary contact person in regard to matters relating to this consent;
    - overview of operations, including notifications, operating hours, erosion and sediment control principles, general construction methodologies, dust control, condition and operation of machinery, noise control; and, site tidy up;
    - recording, reporting and inspections, including consent availability, incidents; and, complaint management;
    - site safety; and,
    - contingencies, including discovery of archaeological sites, discharges of contaminants to water, land and air; noise, mud of roads; and reviews.

    Note: The EMP provides an umbrella document that identifies the management processes and techniques to ensure appropriate environmental management of the site. The EMP's (IWZSEMP and AMZSEMP set out below) are undertaken in general accordance with the procedures outlined in the EMP.

8. Prior to any work occurring in the **Immediate Works Zones**, the following information shall be submitted to the Manager, Environmental Regulation, Wellington Regional Council, 10 days prior to the commencement of construction:

    - An Immediate Works Zone Site Environmental Management Plan (IWZSEMP), which shall be in general accordance with the EMP. The IWZSEMP shall include, but not be limited to:
        - a detailed design and construction methodology for the works including measures to control traffic, ensure public safety and provision for public access;
        - an erosion and sediment control plan;
        - confirmation of outcomes with stakeholders;

- notification of operator or contractor appointed to carry out the works authorised by this consent including the contractor's company;
- address, named representative and their contact details; and,
- a detailed schedule of construction activities including the expected commencement date and duration of works in each location within the area.

The consent holder shall prepare the IWZSEMP using the following steps:

- **Step One:** The consent holder will notify the Manager, Environmental Regulation, Wellington Regional Council of the area and extent where boulder beaches are necessary, and of the intention to prepare a IWZSEMP for works to occur;

- **Step Two:** The consent holder will consult with Rangitane o Wairarapa and Kahungunu ki Wairarapa, Forest and Bird and the New Zealand Historic Places Trust, in the preparation of the IWZSEMP and confirm what mitigations measures of other actions have been taken to address any concerns raised. Consultation shall include the offer of a direct meeting between the above-mentioned persons to discuss the proposed works. The SEMP shall confirm what mitigation measures or other actions shall be or have been taken to address any concerns raised.

- **Step Three:** The consent holder shall submit the IWZSEMP to the Manager Environmental Regulation, Wellington Regional Council for approval no less that 10 working days before works are to commence. Works shall not proceed until approval is provided.

- **Step Four:** 48 hours before commencing works, the consent holder will notify Rangitane o Wairarapa and Kahungunu ki Wairarapa, Department of Conservation, Forest and Bird and the New Zealand Historic Places Trust and residents within 50m of the proposed working area.

- Specific engineering designs of the hard defence works to be constructed.

- Specific investigations of any site specific environmental concerns that may arise as requested by the Manager, Environmental Regulation, Wellington Regional Council, or through consultation with stakeholders, including:
  - An archaeological assessment;
  - An ecological assessment;
  - A cultural assessment;
  - An assessment of impacts on coastal processes or river hydrology; and,

- An assessment of the impact of sea level rise or other changes in natural hazard risks.

9. Prior to any work occurring in the **Active Management Zones**, the following information shall be submitted to the Manager, Environmental Regulation, Wellington Regional Council, 10 days prior to the commencement of construction:

- **Step One:** A brief written assessment of each option below for managing coastal protection shall be undertaken. The assessment shall take into account coastal processes, past works completed and monitored under this consent, public access requirements and the ecological, cultural, archaeological values of the site. All of the following options shall be assessed before the consent holder confirms what it considers to be the most appropriate option:
  - 'Soft defence works'; such as dune re-shaping and re-vegetation;
  - 'Hard defence works' as enabled under this consent; and,
  - Relocation of Cape Palliser Road.

- **Step Two:** The consent holder will consult with Rangitane o Wairarapa and Kahungunu ki Wairarapa, Department of Conservation, Forest and Bird and the New Zealand Historic Places Trust and confirm what investigations, mitigations measures or other actions are appropriate to address concerns raised;

- **Step Three:** The consent holder shall inform the Manager, Environmental Regulation Wellington Regional Council of the outcome of steps one and two. The Manager, Environmental Regulation, Wellington Regional Council shall confirm the option for managing coastal protection, need to undertake investigations, implement mitigation measures or other actions.

- **Step Four:** An Active Management Zone Site Environmental Management Plan (AMZSEMP) shall be submitted to and approved by the Manager, Environmental Regulation, Wellington Regional Council. The AMZSEMP shall include:
  - a design overview and construction methodology for the works;
  - notification of operator or contractor appointed to carry out the works authorised by this consent including the contractor's company;
  - address, named representative and their contact details; and,
  - the expected commencement date and duration of works.

- **Step Five:** Where, following step one, a decision is made to construct 'hard defence works', the same process for approval of a IMZSEMP as described in Condition [8] shall apply prior to those works occurring (except that the stakeholder engagement shall be deemed to have occurred). Where relocation of the road is required, further resources consents may be required depending on location.

- **Step Six:** 48 hours before commencing works, the consent holder will notify Rangitane o Wairarapa and Kahungunu ki Wairarapa, Department of Conservation, Forest and Bird and the New Zealand Historic Places Trust and residents within 50m of the proposed works.

Note: an AMZSEMP may be for specific construction areas or for extended areas within the Zone.

Cultural and archaeological sites, artefacts and human remains

10. All contractors undertaking work enabled under this consent shall undergo archaeological site identification training (e.g. middens, taonga etc.) prior to the commencement of work. The archaeological training shall be conducted by a suitably qualified and experienced person.

11. An archaeological and cultural assessment will be undertaken at each site, prior to the commencement of any coastal protection works. The New Zealand Historic Places Trust (NZHPT) will be contacted prior to the commencement of any works, and the archaeological assessment will be submitted for their assessment. An archaeological authority from the NZHPT shall be obtained if the NZHPT deems it necessary, before works commence on site.

12. The applicant shall contact the New Zealand Historic Places Trust, Kahungunu ki Wairarapa and Rangitane o Wairarapa if the presence of an archaeological site or taonga is suspected. Work affecting archaeological sites is subject to a consenting process under the Historic Places Act 1993. If any activity associated with this proposal, such as earthworks, fencing or landscaping, may modify, damage or destroy any archaeological site(s), an authority (consent) from the New Zealand Historic Places Trust must be obtained for the work to proceed lawfully.

    Note: Evidence of archaeological sites may include burnt and fire cracked stones, charcoal, rubbish heaps including shell, bone and/or glass and crockery, ditches, banks, pits, old building foundations, artefacts of Maori and European origin or human burials.

13. In the event that koiwi are encountered during works for the proposed development, work shall cease immediately and the consent holder shall immediately notify Kahungunu ki Wairarapa, Rangitane o Wairarapa, the New Zealand Historic Places Trust and the New Zealand Police for advice on how to proceed.

    Note: Site rehabilitation post construction, maintenance and structural repairs have the potential to disturb further material, and as such a further requirement for archaeological authorities may be triggered.

14. The consent holder shall implement the following procedures if archaeological artefacts or koiwi remains are discovered:

a) work is to cease immediately;

b) the consent holder shall contact: the Manager, Environmental Regulation, Wellington Regional Council; the District Planner, South Wairarapa District Council; Rangitane o Wairarapa; Kahungunu ki Wairarapa and the New Zealand Historic Places Trust immediately;

c) representatives of Rangitane o Wairarapa and/or Kahungunu ki Wairarapa iwi authority and the New Zealand Historic Places Trust are to be given sufficient time to carry out an investigation of the site to determine any cultural issues and an appropriate course of action. At the discretion of the Manager, Environmental Regulation, Wellington Regional Council, this action may include a permanent or temporary cessation of work on the site; and

d) works shall not recommence until all necessary approvals have been obtained from the New Zealand Historic Places Trust.

15. The consent holder shall provide appropriate information to contractors and operational staff regarding the nature of koiwi remains and archaeological artefacts so that if they are uncovered they will be recognised as such.

Public Safety

16. The consent holder shall ensure that during the construction phase of the physical works, warning signs advising of the works being undertaken shall be erected at both ends of the works area.

17. The consent holder shall ensure that the construction sequence is appropriately managed to minimise the risk to exposed surfaces of adjacent property from accelerated erosion.

Public Access

18. Where public access is currently enjoyed, public access paths will be installed at least every 100 metres. These areas are shown on the amended maps provided with the further information on 17 September 2010. Access points will be installed, in accordance with the design contained in Appendix I of the application.

Handling of fuel and other Hazardous substances

19. No contaminants (including, but not limited to, oil, petrol, diesel, hydraulic fluid) shall be released to water from equipment being used for the activity and no refuelling of equipment shall take place on any area within the coastal marine area.

20. In the event of a spill of fuel, hydraulic fluid, or other potential liquid contaminants, immediate steps shall be taken to remove or contain the spilled material. Secondly, the consent holder shall notify the Environmental Regulation, Wellington Regional Council, as soon as practicable after the spill.

Construction practices

Hours of Operation

21. Work associated with the construction of the erosion protection structures enabled under this consent shall only take place between the hours of 6:00am and 8.00pm Monday to Saturday inclusive.

Note: Hours of operation within the Coastal Marine Area are subject to tidal movements which restrict the hours of operation. Quiet set-up activities prior to works commencing on any particular day, and quiet set-down activities following completion of any particular days works days works can occur outside of the stated hours of operation.

Timing

22a. The consent holder shall ensure the activity does not disturb the nesting or breeding of nesting dotterel (Charadrius sp).

22b. The consent holder shall ensure that between 1 August and 31 December each year, work shall only take place:

1. when an inspection of the site by a suitably trained person knowledgeable in dotterel identification and habitats shows no dotterel are present within 50m of the work area or will not be disturbed; or

2. where the construction works commenced at the same location prior to 1 August and has not been interrupted for more than seven days.

Concrete

23. New concrete or mortar shall not be exposed to water before the concrete or mortar has hardened to a strength of at least 10 MPa, or for at least 48 hours.

Stockpiling of Materials

24. Where imported material is required to be stock piled during construction of the structure, it shall be stock piled outside the coastal marine area unless otherwise agreed in writing by the Manager, Environmental Regulation, Wellington Regional Council.

Note: Stockpiling will only be allowed to occur in the coastal marine area when there is no suitable area available outside the coastal marine area. Preference shall be given to using the storage areas shown on Maps 1-10 (the revised maps provided on 17 September 2010).

25. Stockpiling of material for emergency use and maintenance (i.e. not associated with a specific current approved work) shall be limited to no more than 1,000 tonnes of boulders at any of the storage areas identified on Maps 1-10 (the revised maps provided on 17 September 2010) for maintenance works.

Noise

26. Noise generated by work in the coastal marine area associated with the construction of the structure shall meet the following:
    - the activity will not cause excessive noise (defined in Section 326 of the Resource Management Act 1991) outside the coastal marine area;
    - any construction activities within the Rural Zone shall meet the relevant requirements of the table and provisions in Rule 4.5.2 (e)(i) and 4.5.2 (e)(ii) of the Proposed Wairarapa District Plan and any subsequent amendments or updates;
    - any construction activities within the Residential Zone shall meet the relevant requirements of the table and provisions of Rule 5.5.2 (f)(i) and 5.5.2 (f)(ii), and of the Proposed Wairarapa District Plan and any subsequent amendments or updates.

    Note: Rule 4.5.2(e)(i) and (ii) of the Proposed Wairarapa District Plan has not been appealed, is therefore a dominant provision and has effect in relation to administering the Plan. This is intended to achieve consistency in administration in relation to construction activities landward of the coastal marine area that are under the jurisdiction of South Wairarapa District Council.

Environmental Disturbance

27. The consent holder shall take all practical steps to minimise as far as is practicable the nuisance effects of wind-blown dust from construction materials exposed during the construction phase, including but not limited to the use of measures such as dampening the works area.

28. The consent holder shall take all reasonable steps to ensure minimal disturbance to the surrounding environment occurs while any works are proceeding and will make every effort to complete all works in the coastal marine area as soon as is practicable so that disturbance of the foreshore will be limited in duration.

29. The consent holder shall remove from the beach any construction material (including placed rock) that is not an integral component of the structures and placed at an appropriate destination outside of the coastal marine area.

30. The consent holder shall ensure that any subsequent materials associated with repair and maintenance activities authorised by this consent that are no longer required as part of the works, are removed from the site.

31. The consent holder shall ensure that any fill (unprotected by geotextile) used in the seawall structure is free of fine textured material such as silt and clay.

Post construction

32. All equipment and surplus materials used for any of the activities shall be removed from the coastal marine area on completion of the works.

33. Any existing materials on the site that are not naturally occurring, and which are not incorporated as fill behind the seawall shall be removed from the site and disposed of appropriately within 1 month of completing construction of the rock revetment structure.

34. The consent holder shall remove all old riprap and other ad hoc protection not incorporated in the new structure that has been placed on the beach at the site in the past to control erosion. These materials are to be removed within one calendar month of completing the physical works.

35. The consent holder shall ensure that upon completion of the works, the beach is left in a smooth state free of holes, mounds, stockpiles, depressions or surplus materials.

Rehabilitation Post Construction

36. Any exposed soils within the construction site area shall be prepared and sown with grass seed as soon as practicable following completion of the construction works.

Monitoring

37. The consent holder shall make inspections of the protection works after known storm events. The consent holder shall identify and undertake any maintenance, rehabilitation and/or restoration required to the erosion protection structure within three months of the storm event occurring. Geotextile and/or other man-made material that has been uncovered, eroded and/or disturbed from the structure shall be either removed or replaced as soon as is practicable.

38. Inspections of the erosion protection works constructed under this consent shall be undertaken annually (by 31 May of each year) by the consent holder. Both hard and soft erosion protection ‘structures’ shall be inspected.

39. A written report shall be sent to the Manager, Environmental Regulation, Wellington Regional Council, outlining the results of annual monitoring,

including whether any changes in the structure are observed that require corrective actions made to the structure and any subsequent erosion at the ends of the structure.

Record of Public Complaints

40. The consent holder shall maintain a record of any complaints relating to coastal erosion and/or adverse environmental effects within the site and the coastal environment adjacent to the rock revetment structures, and shall be forwarded to the Manager, Environmental Regulation, Wellington Regional Council, on request, and shall include:
    - the location where the adverse effect was detected by the complainant;
    - the date and time when the adverse effect was detected;
    - a description of the adverse effect(s) that led to the complaint;
    - a description of the weather and sea conditions at the time the adverse effect was detected by the complainant;
    - the most likely cause of the adverse effect detected; and
    - any corrective action undertaken by the consent holder to remedy or mitigate the adverse effect detected by the complainant.

Maintenance

Structural Repairs

41. In the event of damage to the structure, any of the construction materials so dislodged should either be used to repair the damage, or alternatively be removed from the CMA.

    Note: Maintenance shall be within the scope of the information and design specifications set out in the resource consent application. The structure should not be enlarged as a result of maintenance, unless within the scope of a permitted activity rule.

42. The consent holder shall maintain all structures installed in relation to this consent in a safe and usable condition, and shall repair any damage from storm events as soon as practicable, for the term of this consent.

Removal of Structure

43. Prior to a decision to remove the structure, an assessment of the effects of removal relative to leaving the structure in place shall be carried out, and a copy of the report shall be sent to the Manager, Environmental Regulation, Wellington Regional Council. Should the structure fail and/or the consent holder decides to no longer maintain the structure, any man-made material shall be promptly removed from the coastal marine area and disposed of in an appropriate manner.

Existing Structures

44. All existing structures (boulder beaches), as identified on the Map series submitted with the consent application lodged with the Wellington Regional Council on 24 April 2009 and the further information dated 17 September 2010, are to be managed in accordance with these conditions.

Review of Conditions

45. The Wellington Regional Council may review any or all conditions of this permit by giving notice of its intention to do so pursuant to section 128 of the Resource Management Act 1991, at any time within three months of the date of commencement of this permit for either of the following purposes:

- Dealing with any adverse effects on the environment which may arise from the exercise of this consent, and which is appropriate to deal with at a later stage; and/or

- To review the adequacy of any plans and/or alter any monitoring requirements prepared for this consent so as to incorporate into the consent any modification which may become necessary to clarify or deal with any adverse effect on the environment of arising from this activity; and/or

- To enable consistency with the Regional Coastal Plan and/or with National Environmental Standards.

Notes:

a) A charge, set in accordance with section 36(2) of the Act, shall be paid to the Wellington Regional Council for carrying out its functions in relation to the administration, monitoring, and supervision of the activity, and for carrying out is functions under section 35 (duty to gather information, monitor and keep records) of the Act.

b) The Wellington Regional Council shall be entitled to recover from the consent holder the costs of the conduct of any review, calculated in accordance with and limited to that Council's scale of charge in force and applicable at that time pursuant to Section 36 of the Resource Management Act 1991.

17. Appendix 2: Summary of Submissions

South Wairarapa District Council – Palliser Bay Coastal Protection Works

No.	Name	Support / Oppose/ Neutral	Summary
1	Rangitane o Wairarapa	Support	Rangitane o Wairarapa has no major concerns but would like to be kept informed as to when and where the work would be carried out.
2	Kahungunu ki Wairarapa	Support (in principal) (wishes to be heard)	Application must provide for the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga; protect historic heritage; and protect recognised customary activities (s.6 RMA). Application must have a particular regard for kaitiakitanga and take into account the principles of the Treaty of Waitangi as is required(s 7-8 RMA). The assessment of environmental effects needs to consider the historical, spiritual and cultural effects on several matters of national importance to Maori [clause 1(h) Fourth Schedule RMA]. Wants a cultural impact report to be prepared.
3	Department of Conservation	Oppose (in part) (wishes to be heard)	The affected coastline contains a number of significant ecological features (e.g. Te Humenga Point re management of coastal foredune vegetation) Other dune systems within the affected coastline are likely to provide important habitat for threatened animal species including: Katipo spider, Notoreas moth, and spotted skink. Also threatened plant species including *Muehlenbeckia ephedroides, Muehlenbeckia astonii, Austrofestuca littoralis, Pimeli aff. Arenaria* and *Desmoschenus spiralis*. Concerned the application does not provide an adequate assessment of ecological values that could be affected by the proposal. Considers further assessment required. The dunes to the south of Te Humenga

No.	Name	Support / Oppose/ Neutral	Summary
			Point have values that are contiguous with Te Humenga Point, being one of the few sites along this part of the coast of pingao / spinifex duneland. A more thorough assessment of the extent of the exclusion area should be undertaken, and this should include an assessment of potential effects resulting from boulder beach protection adjacent to these sites with methods to minitor and mitigate any potential end effects. Supports identifying areas of high value (such as ecological, cultural, historic or for landscape reasons), and excluding such areas from the proposed works. Particular attention should be given to cultural and landscape near Kupe's Sail area. DoC records indicate there are a large number of archaeological sites along this part of the coast. Concerned re possible effects of construction on these sites and on biota in the foreshore environment regarding vehicle movements, access to the sites, and location of stockpiles of boulders. Concerned about insufficient information and assessment re effects of climate change on the adequacy of, and need for the proposed works. Application does not adequately address areas where other options, including managed retreat or "do nothing" may be appropriate (particularly in Priority 0 and 2 areas). Application does not provide sufficient detail re boulder protection works at river and stream mouths. Requires evaluation to ensure that the natural dynamics and movement of the river mouths is not adversely affected by the protection works. Requests that conditions be included to avoid, remedy or mitigate any effects such as sedimentation, maintaining fish passage, changes to channel form and function,

No.	Name	Support / Oppose/ Neutral	Summary
			contamination, and ongoing maintenance. Concern at restricted access to the foreshore as a consequence of continuous stretches of boulder beach protection. The proposed design considers only access by "able bodied persons". Concerned at proposed 35 year term of consent. Concerned that the proposal confers too much discretion with the applicant and does not provide sufficient certainty to stakeholders. Application in its present form is likely to be contrary to the provisions of the New Zealand Coastal Policy Statement, Wellington Regional Policy Statement(s), the Regional Coastal Plan, and sections 5, 6, 7(d) and (f) together with s.88 and Schedule 4 of the RMA. Requests that consent be declined for Priority 0 and 2 areas. If consent is granted for Priority 1 areas, include suitable conditions to ensure construction processes and ongoing maintenance avoids, remedies and mitigates any adverse effects on river mouths, foreshore biota, public access and archaeology. Include suitable conditions to monitor the effectiveness of the works.
4	New Zealand Historic Places Trust	Neutral (does not wish to be heard)	Notes that an archaeological assessment of the effects of the proposal has not yet been undertaken. NZHPT request that prior to any coastal protection works, any potential adverse impacts on any archaeological values are assessed by a qualified archaeologist, and where necessary, to apply for an archaeological authority as required (Historic Places Act 1993). Requests that a condition of consent be included to give effect to the matters outlined above.

No.	Name	Support / Oppose/ Neutral	Summary
5	Royal Forest and Bird Protection Society of New Zealand	Neutral (wishes to be heard)	The South Wairarapa coastline is characterised by its wildness and remote location. Natural coastal erosion is causing problems with infrastructure and housing. Forest and Bird accepts that these values need to be protected and managed. The Palliser Coast has some outstanding natural values, including gravel beaches, coastal turf and sand dunes. Some of these values are enhanced by the dynamic processes that occur at the coast and these forces should not be controlled by the construction of coastal protection works. Appendix A (of the application) shows the location of Priority 0 (Areas of high ecological value) and Priorities 1 and 2. Our concern is with the identification of Priority areas 0 and 2. Many areas of High Ecological Value have been identified as Priority 2, rather than as (areas with high ecological value) Priority 0. These include: The whole area between Te Kawakawa Pt and Cape Palliser lighthouse (which includes the rock-outcrops with the fur seal colonies) – refer to maps 8, 9 and 10 of Appendix A. The area of active dunes north of Okataha Stream. At the point where it connects with the Priority 1 area are some high ecological values, including the best Cape Palliser population of the coastal sedge pingao (map 5). Forest and Bird proposes that the two areas mentioned above be marked as Priority 0 rather than Priority 2, because of the significant ecological values present at these sites. Other high ecological values along the Palliser coast may as yet be undiscovered or not recognised in Priority 2 areas and there may need to be room for protecting these values from coastal protection work at a later date. This means that there needs to

No.	Name	Support / Oppose/ Neutral	Summary
			be an opportunity to change an area from Priority 2 to 0, if such a situation occurs during the term of the global consent. This should be addressed in the conditions of consent. Although Forest and Bird recognises the need for immediate action in areas zoned Priority 1, significant ecological values at these sites need to be identified, respected and where practical protected from damage during coastal protection work construction. It is therefore important that all ecologically significant values are known, mapped and available to any Council workers and contractors who undertake these works. Recommends that contact between the applicant and the Department of Conservation occur prior to any coastal work taking place.
6	W, D and E Regnault	Support (does not wish to be heard)	Supports the proposal provided there will be no adverse effects in relation to properties within the Blue Disc subdivision area. The submitters are affected by coastal erosion and want the protection works to proceed.
7	BVR and SM Drummond	Support (does not wish to be heard)	The submitters own a property at Whatarangi and coastal erosion has already taken a considerable amount of their land. They are adversely affected by coastal erosion and want the protection works to proceed as soon as possible.
8	KM and TJ Cottle	Support (does not wish to be heard)	Support the proposal in order to stop any more coastal erosion. The submitters own a property and seek protection from any further loss of land from their property.
9	MW and PA Bruce	Support (does not wish to be heard)	Supports the application but would like to be present during construction works adjacent to the Punuruku wetland (just south of the woolshed at Ngawi). Concerned to retain the integrity of the drainage point from the lagoon during any works. Requests that due attention be made to conserve the biological and natural environment of the coastal areas above and below high and low water

No.	Name	Support / Oppose/ Neutral	Summary
			marks.
10	R and V Penman	Support (wishes to be heard)	The Cape Palliser coastline needs additional protection from erosion. It is an area of great natural beauty and holds significant importance to both the Wairarapa and Wellington people who frequent this area. The coastline, roading, existing homes, power lines, and telecommunications should all be protected to avoid further destruction and isolation from this beautiful area. Focus should be given to areas such as Whatarangi Priority 1 on map 2, but also be extended to the existing homes (which are currently shown as Priority 2). These homes welcome many visitors to this area and a delay in supporting the cliffs will mean a far larger expense at a later date when existing infrastructure is eroded.

Appendix 3 – Resource Consent for Gravel Extraction (WAR130295)

Quality for Life

greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao

Resource Consent

RESOURCE MANAGEMENT ACT 1991

Consent No. WAR130295

[32301]: Category: Land use consent
Gravel extraction – Awhea catchment

[32302]: Category: Coastal permit
Gravel extraction – Hurupi Stream

[32303]: Category: Land use consent
Gravel extraction – Opouawe catchment

[32304]: Category: Land use consent
Gravel extraction – Pahaoa River

[32305]: Category: Land use consent
Gravel extraction – Makara River

32306]: Category: Coastal permit
Gravel extraction – Otakaha Stream

Pursuant to sections 104B and 108, and subject to all the relevant provisions of the Resource Management Act 1991 and any regulations made thereunder, a consent in respect of a natural resource is hereby granted to:

Name	South Wairarapa District Council	
Address	PO Box 6, Martinborough 5741	
Duration of consent	Granted: 12 September 2014	Expires: 12 September 2024
Purpose for which right is granted	To disturb the bed of six rivers in the easlem hills and south coast and the adjacent Coastal Marine Area to extract gravel for roading and coastal erosion protection purposes	
Location	Attached as schedule 1	
Legal description of land	Attached as schedule 1	
Conditions	[32301, 32303, 32304 & 32305]: 1 – 28 as attached in schedule 2 [32302 & 32306]: 1 – 28 as attached in schedule 3	

For and on behalf of
WELLINGTON REGIONAL COUNCIL

.....
Team Leader, Environmental Regulation

Data: 12/9/14

.....

greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao

Components of your annual consent monitoring charge

Your annual consent monitoring charge is made up of several components. These components do not necessarily apply to all consents, so you may have only one or two of the following on your invoice:

- ***Customer Service Charge***: This charge applies to all consents. It covers administrative services such as providing information and advice about your consent, maintaining your consent as a public record and recording changes in consent status (for example, if you surrender your consent or transfer it to another person).

- ***Compliance Monitoring Charge***: The purpose of compliance monitoring is to confirm that you are meeting the conditions of your consent(s). To do this, we will either undertake a site visit or audit any self-reporting monitoring information to assess your operations compliance with the conditions and report our results back to you. Your compliance monitoring is tailored to your individual circumstances. You pay only for the cost of monitoring your consent.

- ***State of the Environment Monitoring Charge (SoE Charge)***: GWRC undertakes a wide range of monitoring to assess the state of the environment. A proportion of the monitoring costs is passed on to the consent holders. The amount you pay for state of the environment monitoring is dependent on the scale and associated effects of your activity and its location.

Resource Consent

RESOURCE MANAGEMENT ACT 1991

Consent No. WAR130295

[32301]: Category: Land use consent
Gravel extraction – Awhea catchment

[32302]: Category: Coastal permit
Gravel extraction – Hurupi Stream

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Gravel extraction – Opouawe catchment

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Gravel extraction – Pahaoa River

[32305]: Category: Land use consent
Gravel extraction – Makara River

32306]: Category: Coastal permit
Gravel extraction – Otakaha Stream

Pursuant to sections 104B and 108, and subject to all the relevant provisions of the Resource Management Act 1991 and any regulations made thereunder, a consent in respect of a natural resource is hereby granted to:

Name	South Wairarapa District Council	
Address	PO Box 6, Martinborough 5741	
Duration of consent	Granted: 12 September 2014	Expires: 12 September 2024
Purpose for which right is granted	To disturb the bed of six rivers in the eastern hills and south coast and the adjacent Coastal Marine Area to extract gravel for roading and coastal erosion protection purposes	
Location	Attached as schedule 1	
Legal description of land	Attached as schedule 1	
Conditions	[32301, 32303, 32304 & 32305]: 1 – 28 as attached in schedule 2 [32302 & 32306]: 1 – 28 as attached in schedule 3	

For and on behalf of
WELLINGTON REGIONAL COUNCIL

.....
Team Leader, Environmental Regulation

Date: 12/9/14

Summary of your rights and responsibilities

(Not part of the resource consent)

This resource consent gives you the right to use a public resource (e.g. water, air, the coastal marine area) in the manner specified in the consent.

You may exercise the resource consent as you see fit provided that you comply with all the conditions of your resource consent and all other laws of the land.

If you wish to change the way you operate under this resource consent or if you wish to change or cancel any consent conditions, please contact the Wellington Regional Council (hereafter referred to as Greater Wellington) prior to making the changes. You may need a formal change to your resource consent conditions.

You may transfer your coastal, discharge, or water permit to any other person. If you sell your operation please contact Greater Wellington and we will arrange the transfer. The service is free of charge.

If your resource consent application contained inaccurate or misleading information, Greater Wellington may cancel or alter the resource consent.

Your resource consent does not:

- provide any warranty of any structure or process;
- provide any guarantee that the resource will be available at all times;
- provide any right of access through or over public or private land;
- negate the need for any approvals necessary under other legislation.

You as the holder(s) of this resource consent and your agents (including contractors and employees), are jointly and severally liable for compliance with the conditions of this consent. It is important that anyone operating on your behalf fully understands and complies with the conditions of the resource consent.

You are required to pay any relevant charges that are associated with the processing and monitoring of your consent under section 36 of the Resource Management Act 1991. Charges may be reviewed every year. If you would like a copy of our current Resource Management Charging Policy please ask us.

You have the right to object to the decision on your consent and/or any additional charges (over and above fixed charges) under section 357A and 357B of the Resource Management Act 1991. Such an objection should be made in writing, setting out the reasons, and be received by us within 15 working days of any decision on your consent and/or additional charges being notified to you.

You are required to allow Greater Wellington Enforcement Officers access to your site and operation at any reasonable time so that we can inspect your operation and confirm that it is complying with your resource consent.

Your resource consent will lapse if you do not give effect to it within five years of the date it was granted (unless otherwise specified in the resource consent conditions). If you wish to apply for an extension of this lapse date please contact Greater Wellington before the lapse date.

If you stop using your resource consent for a continuous five-year period, Greater Wellington may cancel your resource consent. We will advise you in advance if we propose to cancel your consent. You have the right to object to your consent being cancelled.

This consent is issued without prejudice to any claim that is lodged with the Waitangi Tribunal in relation to the customary ownership of natural resources, whether it be a claim that is awaiting hearing or awaiting settlement by the Crown.

Components of your annual consent monitoring charge

Your annual consent monitoring charge is made up of several components. These components do not necessarily apply to all consents, so you may have only one or two of the following on your invoice:

- ***Customer Service Charge***: This charge applies to all consents. It covers administrative services such as providing information and advice about your consent, maintaining your consent as a public record and recording changes in consent status (for example, if you surrender your consent or transfer it to another person).

- ***Compliance Monitoring Charge***: The purpose of compliance monitoring is to confirm that you are meeting the conditions of your consent(s). To do this, we will either undertake a site visit or audit any self-reporting monitoring information to assess your operations compliance with the conditions and report our results back to you. Your compliance monitoring is tailored to your individual circumstances. You pay only for the cost of monitoring your consent.

- ***State of the Environment Monitoring Charge (SoE Charge)***: GWRC undertakes a wide range of monitoring to assess the state of the environment. A proportion of the monitoring costs is passed on to the consent holders. The amount you pay for state of the environment monitoring is dependent on the scale and associated effects of your activity and its location.

Schedule 2 Conditions to Resource Consent WAR130295 [32301, 32303, 32304 & 32305]

The following conditions relate to the Awhea, Opouawe, Pahaoa and Makara gravel extraction sites.

General condition

1. The location, design, implementation and operation of the activity shall be in general accordance with the consent application and its associated location plans and documents lodged with the Wellington Regional Council on 7 August 2013 *and further information received on 15 May 2014 and 10 July 2014.*

   Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

   Note: Any change from the location, design concepts and parameters, implementation and/or operation may require a new resource consent or a change of consent conditions pursuant to section 127 of the Resource Management Act 1991.

2. The Manager, Environmental Regulation, Wellington Regional Council shall be given a minimum of two working days (48 hours) notice prior to any extraction activity commencing.

   Note: Notifications can be emailed to notifications@gw.govt.nz. Please include the consent reference WAR130295 and the name and phone number of a contact person responsible for the proposed works.

3. Prior to extracting gravel each year from the Awhea catchment, the Opouawe catchment, the Pahaoa River and the Makara River, the consent holder shall consult with Greater Wellington Regional Council, Land Management Officer's to determine the most appropriate, specific extraction locations. Copies of all consultation shall be provided to the Manager, Environmental Regulation, Wellington Regional Council within two weeks of the consultation being undertaken.

   Note 1: The above condition is intended to ensure gravel is extracted in a manner that aids river management and avoids creating and/or exacerbating any flooding and/or erosion issues.

   Note 2: Copies of the consultation can be emailed to notifications@gw.govt.nz. Please include the consent reference WAR130295.

4. The consent holder shall provide a copy of this consent and any documents and plans referred to in this consent to each operator or contractor undertaking works authorised by this consent, prior to the works commencing.

   Note: It is recommended that the contractors be verbally briefed on the requirements of the conditions of this consent prior to works commencing.

5. All works authorised by this consent including tidy up on completion of the works are the responsibility of the consent holder and shall be completed to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Quantity of gravel extracted

6. The combined total volume of gravel extracted in any one financial year (1 July to 30 June) under this consent shall not exceed the volumes specified at each extraction site given below:

   - Awhea Catchment (two sites): 1,000m^3/year. In addition, the total volume of gravel extracted for the duration of this consent shall not exceed 10,000m^3

- Opouawe Catchment: 3,000m3/year. In addition, the total volume of gravel extracted for the duration of this consent shall not exceed 30,000m3.

- Makara River: 200m3/year. In addition, the total volume of gravel extracted for the duration of this consent shall not exceed 2,000m3.

- Pahaoa River (three sites): 3,000m3/year, with no more than 2,000m3/year to be extracted from the Moeraki and Hinekura sites. In addition, the total volume of gravel extracted for the duration of this consent shall not exceed 30,000m3.

Records

7. The consent holder shall supply within one month of completing gravel extractions at any site authorised under this consent, records of the quantity of gravel, sand or other material excavated (in cubic metres) measured with an accuracy of + 10% or better and supply these to the Manager, Environmental Regulation, Wellington Regional Council.

   Note: Records can be emailed to notifications@gw.govt.nz. Please include the consent reference WAR130295 and a contact name and phone number of the person responsible for the gravel extraction.

Photographic record

8. The consent holder shall compile photographic records of each area of gravel extraction, every time gravel is extracted under this consent. As far as practicable, the consent holder shall select one location where photographs will be taken from for each site. These photographic records shall include, but not be limited to, photographs of the following items:

   a) The location of the proposed works: incorporating the works area and the stretches of the stream that may be affected by the extraction (i.e. **prior to each extraction commencing**);

   b) The site during the extraction: incorporating the works area and stretches of the stream identified in (a); and

   c) The site immediately upon the completion of the extraction (within one week): incorporating the works area and stretches of the stream identified in (a).

   The photographic record of items identified in (a), (b) and (c) shall be submitted to the Manager, Environmental Regulation, Wellington Regional Council, as soon as possible but within one week of the photographs identified in (c) being taken.

   All submitted photographs shall include:

   - The date the photographs were taken
   - The time the photographs were taken
   - A description of the site location (e.g. map reference, address) of where the photograph was taken, and
   - A description of what aspect of the works the photograph relates to

   The photographs and details shall be to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

   Note 1: The photographic record should demonstrate compliance with the conditions of this consent.

   Note 2: Photographic records i.e. electronic picture files from digital cameras can be emailed to notifications@gw.govt.nz. Please include the consent number WAR130295 date and time photographs were taken and a description of the site location (e.g. map reference, address).

Continued Conditions to Resource Consent WAR130295 [32301, 32303, 32304 & 32305]

Timing of extraction

9. The extraction of gravel shall be limited to the following times between Monday and Friday of any week (unless otherwise agreed upon in writing to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council):

   - For Daylight Saving between 6.00am and 8.00pm.
   - For times outside Daylight Saving, normal working hours of 7.30am to 5.00pm.
   - Extraction is to cease immediately outside of normal working hours (7.30am to 5.00pm) if there are any recreational users in the riverbed within 300 metres of the extraction site.

10. No gravel extraction and associated river crossings will be carried out within 200 metres of any public access point to the river bed, on public holidays, or between the periods 24 December to 3 January inclusive.

Method of extraction

11. Prior to the extraction of gravel occurring at any site, the consent holder shall check the site for the invasive plant 'purple pampas'. Should any 'purple pampas' plants be found, they shall be removed prior to extraction commencing. Removed plants shall be disposed of to a lined landfill.

12. There shall be no excavation of gravel, sand, or other material from the active river channel containing flowing water, and there shall be no diversion of any flowing water as a result of the extraction works.

13. Gravel extraction shall be limited to a level no less than 100mm above the prevailing water level.

14. No machinery shall operate in flowing water in the active river channel, except for crossings to access gravel deposits and to haul gravel. River crossings shall be generally limited to one crossing point at each gravel extraction location, and otherwise shall be kept to a practicable minimum where one single crossing point may not be achieved.

15. Gravel extraction shall be undertaken in strips parallel with the flow of the river, commencing from the riverward edge of the gravel beach and moving landward where possible.

16. There shall be no long-term stockpiling of excavated material in the river-bed and any small stockpiles formed in the river-bed on a daily basis shall be positioned in alignment parallel with the flow of the river.

Gravel extraction – Site rehabilitation

17. Oversize boulders or other sediment initially removed from the riverbed, but later considered unsuitable for use, shall be spread in holes or hollows on the gravel beaches from which the original extraction was undertaken. This unsuitable material shall not be left in piles in the riverbed.

18. The area from which the material is extracted, or unsuitable material is replaced, shall be smoothed over after use so that there are no depressions or mounds in or on the riverbed.

19. Any damage or erosion to river banks, access tracks (including the public road) that is attributable to the gravel extraction operation shall be remedied by the consent holder as soon as practicable.

    Note: Additional resource consent may be required to undertake any remedial works.

Effects on birds

20. The consent holder shall take all reasonable steps to identify the location of nests and avoid disturbance to nesting native birds, in particular banded dotterels, black-fronted dotterels, black-billed gulls, pied stilts and variable oyster-catchers during the months of September to December, inclusive.

Protection of fish life

21. The consent holder shall ensure that fish passage at the work site is not inhibited as a result of the works.

Public Access and Safety

22. Public access to the river-bed shall not be restricted by gravel extraction operations, other than in situations where there is a demonstrable risk to public safety.

23. The consent holder shall erect warning signs in the vicinity of the works where the extraction operation is likely to be potentially hazardous to any person using the associated stretch of the river.

Handling of fuel, machinery and other hazardous substances

24. The consent holder shall ensure that:

    a) All machinery is thoroughly cleaned of vegetation (e.g. weeds), seeds or contaminants at least 10 metres away from any watercourse, water flow channel or stormwater system, prior to entering the site

    b) All machinery shall be regularly maintained in such a manner to ensure no contaminants (including but not limited to oil, petrol, diesel, hydraulic fluid) shall be released into water, or to land where it may enter water, from equipment being used for the works

    c) All contaminant storage or re-fuelling areas are bunded or contained in such a manner so as to prevent the discharge of contaminants to water or to land where it may enter water.

    d) No machinery is cleaned, stored or refuelled within 10 metres of any waterbody, water flow channel or stormwater system

25. In the event of a spill of fuel, hydraulic fluid, or other potential liquid contaminants, immediate steps shall be taken to remove or contain the spilled material. Secondly, the consent holder shall notify the Manager, Environmental Regulation, Wellington Regional Council.

26. The consent holder shall ensure that prior to entering the riverbed that all vehicles, mobile plant, or machinery is inspected for the presence of invasive or pest aquatic plants including 'didymo'. In the event that an invasive or pest aquatic plant or 'didymo' is discovered upon the vehicle, mobile plant, or machinery it shall be cleaned, to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

    Note: The machinery shall be cleaned in accordance with the Ministry for Primary Industries cleaning methods which can be found at ***http://www.biosecurity.govt.nz/pests***.

Cultural sites, artefacts and human remains

27. The consent holder shall implement the following procedures if archaeological artefacts or koiwi remains are discovered:

    a) work is to cease immediately;

    b) the consent holder shall contact the Manager, Environmental Regulation, Wellington Regional Council, District Planner, South Wairarapa District Council, Rangitane o Wairarapa, Kahungunu ki Wairarapa, and the New Zealand Historic Places Trust immediately;

Continued Conditions to Resource Consent WAR130295 [32301, 32303, 32304 & 32305]

c) representatives of Rangitane o Wairarapa and/or Kahungunu ki Wairarapa Iwi Authority and the New Zealand Historic Places Trust are to be given sufficient time to carry out an investigation of the site to determine any cultural issues and an appropriate course of action. At the discretion of the Manager, Environmental Regulation, Wellington Regional Council, this action may include a permanent or temporary cessation of work on the site; and

d) works shall not recommence until all necessary approvals have been obtained from the New Zealand Historic Places Trust.

The consent holder shall provide appropriate information to contractors and operational staff regarding the nature of koiwi remains and archaeological artefacts so that if they are uncovered they will be recognised as such.

Review of conditions

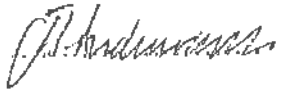
28. The Wellington Regional Council may review any or all conditions of this permit by giving notice of its intention to do so pursuant to section 128 of the Resource Management Act 1991, at any time within three months of the date of commencement of this permit for either of the following purposes:

- Dealing with any adverse effects on the environment which may arise from the exercise of this consent, and which is appropriate to deal with at a later stage; and/or
- To review the adequacy of any plans and/or alter any monitoring requirements prepared for this consent so as to incorporate into the consent any modification which may become necessary to clarify or deal with any adverse effect on the environment of arising from this activity; and/or
- To enable consistency with the Regional Freshwater Plan, the Regional Coastal Plan and/or with National Environmental Standards.

Notes:

a) A resource management charge, set in accordance with Section 36(2) of the Resource Management Act 1991 (the Act) shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring, and supervision of resource consents and for the carrying out of its functions under section 35 (duty to gather information, monitor and keep records) of the Act.

b) The Wellington Regional Council shall be entitled to recover from the consent holder the costs of the conduct of any review, calculated in accordance with and limited to that Council's scale of charge in force and applicable at that time pursuant to Section 36 of the Resource Management Act 1991.



Schedule 3 Conditions to Resource Consent WAR130295 [32302 & 32306]

The following conditions relate to the Hurupi and Otakaha gravel extraction sites

General condition

1. The location, design, implementation and operation of the activity shall be in general accordance with the consent application and its associated location plans and documents lodged with the Wellington Regional Council on 7 August 2013 *and further information received on 15 May 2014 and 10 July 2014.*

   Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

   Note: Any change from the location, design concepts and parameters, implementation and/or operation may require a new resource consent or a change of consent conditions pursuant to section 127 of the Resource Management Act 1991.

2. The Manager, Environmental Regulation, Wellington Regional Council, and the National Hydrographer, Land Information New Zealand shall be given a minimum of two working days (48 hours) notice prior to the works commencing.

   Note: Notifications can be emailed to notifications@gw.govt.nz and customersupport@linz.govt.nz (attention to National Hydrographer, Land Information New Zealand). Please include the consent reference WAR130257 and the name and phone number of a contact person responsible for the proposed works.

3. The consent holder shall provide a copy of this consent and any documents and plans referred to in this consent to each operator or contractor undertaking works authorised by this consent, prior to the works commencing.

   Note: It is recommended that the contractors be verbally briefed on the requirements of the conditions of this consent prior to works commencing.

4. All works authorised by this consent including tidy up on completion of the works are the responsibility of the consent holder and shall be completed to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Quantity of gravel extracted

5. The combined total volume of gravel extracted in any one financial year (1 July to 30 June) under this consent shall not exceed the volumes specified at each extraction site given below:

   - Otakaha Stream: 5,000m3 in the first year of extraction and 2,000m3/year thereafter. In addition, the total volume of gravel extracted for the duration of this consent shall not exceed 23,000m3.

   - Hurupi Stream: 400m3/year, while the total volume of gravel extracted for the duration of this consent shall not exceed 4,000m^3.

Records

6. The consent holder shall supply within one month of completing gravel extractions at any site authorised under this consent, records of the quantity of gravel, sand or other material excavated (in cubic metres) measured with an accuracy of + 10% or better and supply these to the Manager, Environmental Regulation, Wellington Regional Council.

   Note: Records can be emailed to notifications@gw.govt.nz. Please include the consent reference WAR130295 and a contact name and phone number of the person responsible for the gravel extraction.

Photographic record

7. The consent holder shall compile photographic records of each area of gravel extraction, every time gravel is extracted under this consent. As far as practicable, the consent holder shall select one location where photographs will be taken from for each site. These photographic records shall include, but not be limited to, photographs of the following items:

   a) The location of the proposed works: incorporating the works area and the stretches of the stream that may be affected by the extraction (i.e. **prior to each extraction commencing**);

   b) The site **during the extraction**: incorporating the works area and stretches of the stream identified in (a); and

   c) The site immediately **upon the completion** of the extraction (within one week): incorporating the works area and stretches of the stream identified in (a).

   The photographic record of items identified in (a), (b) and (c) shall be submitted to the Manager, Environmental Regulation, Wellington Regional Council, as soon as possible but within one week of the photographs identified in (c) being taken.

   All submitted photographs shall include:

   - The date the photographs were taken
   - The time the photographs were taken
   - A description of the site location (e.g. map reference, address) of where the photograph was taken, and
   - A description of what aspect of the works the photograph relates to

   The photographs and details shall be to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

   Note 1: The photographic record should demonstrate compliance with the conditions of this consent.

   Note 2: Photographic records i.e. electronic picture files from digital cameras can be emailed to notifications@gw.govt.nz. Please include the consent number WAR130295 date and time photographs were taken and a description of the site location (e.g. map reference, address).

Timing of extraction

8. The extraction of gravel shall be limited to the following times between Monday and Friday of any week (unless otherwise agreed upon in writing to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council):

   - For Daylight Saving between 6.00am and 8.00pm.
   - For times outside Daylight Saving, normal working hours of 7.30am to 5.00pm.
   - Extraction is to cease immediately outside of normal working hours (7.30am to 5.00pm) if there are any recreational users in the riverbed within 300 metres of the extraction site.

9. No gravel extraction and associated river crossings will be carried out within 200 metres of any public access point to the river bed, on public holidays, or between the periods 24 December to 3 January inclusive.

Method of extraction

10. The consent holder shall ensure no gravel is extracted from within 50 metres of mean high water springs.

Continued Conditions to Resource Consent WAR130295 [32302 & 32306]

11. Prior to the extraction of gravel occuring at any site, the consent holder shall check the site for the invasive plant 'purple pampas'. Should any 'purple pampas' plants be found, they shall be removed prior to extraction commencing. Removed plants shall be disposed of to a lined landfill.

12. There shall be no excavation of gravel, sand, or other material from the active river channel containing flowing water, and there shall be no diversion of any flowing water as a result of the extraction works.

13. Gravel extraction shall be limited to a level no less than 100mm above the prevailing water level.

14. No machinery shall operate in flowing water in the active river channel, except for crossings to access gravel deposits and to haul gravel. River crossings shall be generally limited to one crossing point at each gravel extraction location, and otherwise shall be kept to a practicable minimum where one single crossing point may not be achieved.

15. Gravel extraction shall be undertaken in strips parallel with the flow of the river, commencing from the riverward edge of the gravel beach and moving landward where possible.

16. There shall be no long-term stockpiling of excavated material in the river-bed and any small stockpiles formed in the river-bed on a daily basis shall be positioned in alignment parallel with the flow of the river.

Gravel extraction – Site rehabilitation

17. Oversize boulders or other sediment initially removed from the riverbed, but later considered unsuitable for use, shall be spread in holes or hollows on the gravel beaches from which the original extraction was undertaken. This unsuitable material shall not be left in piles in the riverbed.

18. The area from which the material is extracted, or unsuitable material is replaced, shall be smoothed over after use so that there are no depressions or mounds in or on the riverbed.

19. Any damage or erosion to river banks, access tracks (including the public road) or the coastal marine area that is attributable to the gravel extraction operation shall be remedied by the consent holder as soon as practicable.

    Note: Additional resource consent may be required to undertake any remedial works.

Effects on birds

20. The consent holder shall take all reasonable steps to identify the location of nests and avoid disturbance to nesting native birds, in particular banded dotterels, black-fronted dotterels, black-billed gulls, pied stilts and variable oyster-catchers during the months of September to December, inclusive.

Protection of fish life

21. The consent holder shall ensure that fish passage at the work site is not inhibited as a result of the works.

Public Access and Safety

22. Public access to the river-bed shall not be restricted by gravel extraction operations, other than in situations where there is a demonstrable risk to public safety.

23. The consent holder shall erect warning signs in the vicinity of the works where the extraction operation is likely to be potentially hazardous to any person using the associated stretch of the river.

greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao

Non-notified resource consent application report and decision

Summary of decision

Activity:	To disturb the bed of six rivers in the eastern hills and south coast and the adjacent Coastal Marine Area to extract gravel for roading and coastal erosion protection purposes
File Reference:	**WAR130295**
Date Granted:	12 September 2014
Commencement date:	12 September 2014
Applicant:	South Wairarapa District Council PO Box 6 Martinborough 5741 **Attention: Russell Hooper**
Decision made under:	Sections 104B and 108 of the Resource Management Act 1991 (RMA)
Consents Granted:	**[32301]: Discretionary activity** Land-use consent to extract up to 1,000m^3/year of gravel from two sites in the Awhea catchment (works in a streambed – gravel extraction) **[32302]: Discretionary activity** Coastal permit to extract up to 400m^3/year from the Hurupi Stream (to disturb the coastal marine area gravel extraction) **[32303]: Discretionary activity** Land-use consent to extract up to 3,000m^3/year of gravel from the Opouawe catchment (works in a streambed – gravel extraction) **[32304]: Discretionary activity** Land-use consent to extract up to 3,000m^3/year of gravel from three sites in the Pahaoa River (works in a streambed - gravel extraction)

	[32305]: Discretionary activity Land-use consent to extract up to 200m^3/year of gravel from the Makara River (works in a streambed – gravel extraction) **[32306]: Discretionary activity** Coastal permit to extract up to 5,000m^3 in the first year and 2,000m^3/year thereafter from the Otakaha Stream (to disturb the coastal marine area – gravel extraction)
Locations:	Eastern Hills and South Coast – further detail in attachment 3
Map References:	Attachment 3
Legal Descriptions:	Attachment 3
Duration of Consents:	[32301]: 10 years [32302]: 10 years [32303]: 10 years [32304]: 10 years [32305]: 10 years [32306]: 10 years
Subject to conditions:	Attachments 1 and 2

Decision recommended by:	Jock Farrow	Resource Advisor, Environmental Regulation	
Decision peer reviewed by:	Heidi Andrewartha	Senior Resource Advisor, Environmental Regulation	HSAndrewartha
Decision approved by:	Shaun Andrewartha	Team Leader, Environmental Regulation	

Reasons for decision: resource consent WAR130295 [32301, 32302, 32303, 32304, 32305 and 32306]

1. Background and proposal

South Wairarapa District Council (the applicant) has applied to Greater Wellington Regional Council (GWRC) for a replacement consent to extract gravel from multiple sites in six catchments. The proposal equates to a combined volume of 9,600m^3/year (12,600m^3 in the first year) over 10 years for a total volume of 99,000m^3. The gravel from the streambed sites (outside of the coastal marine area) is to be used for the maintenance of local unsealed roads, while the metal from the coastal sites (within the coastal marine area) will be used for coastal erosion protection works (works authorised under consent WAR090322).

The general locations of the extraction points are shown in Figures 1 through 8 below. The specific gravel extraction locations are identified in the document titled 'Resource Consent Application to Extract Gravel from Various Sites within the South Wairarapa, this document was submitted to GWRC along with the consent application on 7 August 2013. However, following further information received by GWRC on 15 May 2014, the extent of the Tuturumuri extraction site has since been reduced to only occur south of the White Rock Road Bridge. As there is a discrepancy between the maps in the application and the current proposal (for the Tuturumuri site only), I have included in figure 2 the extent of the extraction to occur at the Tuturumuri site. The extents of the sites are marked in yellow.

The applicant's previous consent WAR090085 covers six groups of sites.

- Awhea catchment (two sites)
- Pahaoa River (three sites)
- Opouawe catchment
- Makara River
- Hurupi Stream
- Thrust Creek.

It is proposed to continue to extract gravel from all the sites previously authorised except the Thrust Creek site. It is proposed that an additional site, the Otakaha Stream, will replace the site at Thrust Creek.

The applicant was initially granted a resource consent in 1997 for the same activity which has subsequently been renewed in 1998, 1999, 2001, 2003 and 2008. The applicant is now seeking a renewal of their consent WAR090085, which was granted in 2008. WAR090085 expired on 14 November 2013;

however, the applicant can continue to operate under this consent pursuant to section 124 of the Act.

The proposed maintenance work of the roads is predominantly undertaken in spring with some additional maintenance taking place in the autumn (hence the bulk of works is likely to take place from April to June each year). Typically the gravel would be extracted for less than 20 days annually and it would be undertaken by the applicant's road maintenance contractors.

The general works process is as follows:

- A suitable beach is selected in consultation with the Land Management Department, GWRC outside of the active river channel and ideally in a position where no crossing of the active channel is required. The selected beach would also be as close to the road access point as possible.

- Gravel will be extracted with an excavator or loader from the gravel beach, onto trucks. A screen is placed over the truck to exclude larger material. The oversized material is pushed back into the excavated area and levelled out.

- Where possible, gravel is taken in strips parallel with the flow of the river, starting from the river edge and moving landward.

- Metal is generally removed from the bed as it is extracted. Stockpiling of material is not anticipated but could occur over a temporary period. If this occurs, it will be positioned in alignment with the river's flow.

The applicant has stated that gravel extraction will take place as per the previous consent, that is:

During daylight savings from Monday to Friday:

- 6am to 8pm

- No river crossings shall occur after 5pm

- Extraction will cease immediately outside of normal working hours (7:30am to 5:30pm) if there are any recreational users in the riverbed within 300m.

- Outside of daylight savings extraction will occur between 7:30am to 5pm.

The applicant has also stated that no gravel extraction will be undertaken within 200m of any public access point to the river bed on public holidays or between 24 December and 3 January in any year.

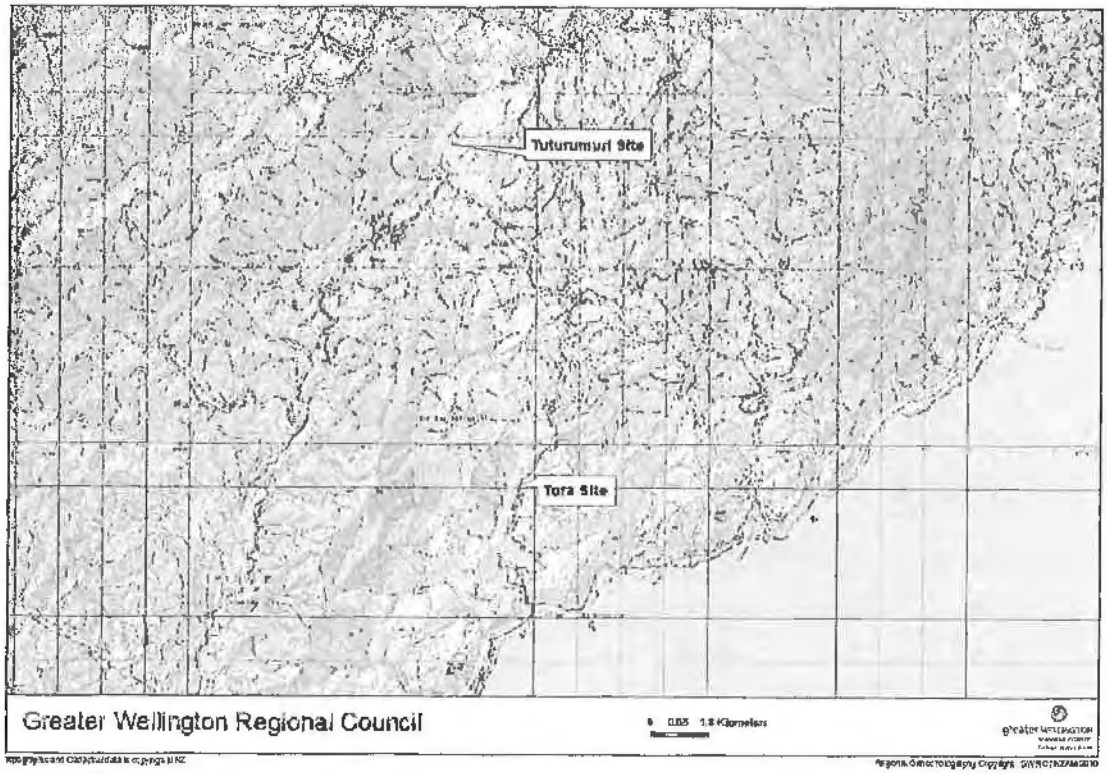


Figure 1 – Sites in the Awhea Catchment

Figure 2: Tuturumuri Site, Awhea Catchment

9. Attachment 1 WAR130295 [32301, 32303, 32304 & 32305]

The following conditions relate to the Awhea, Opouawe, Pahaoa and Makara gravel extraction sites

General condition

1. The location, design, implementation and operation of the activity shall be in general accordance with the consent application and its associated location plans and documents lodged with the Wellington Regional Council on 7 August 2013 *and further information received on 15 May 2014 and 10 July 2014.*

   Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

   Note: Any change from the location, design concepts and parameters, implementation and/or operation may require a new resource consent or a change of consent conditions pursuant to section 127 of the Resource Management Act 1991.

2. The Manager, Environmental Regulation, Wellington Regional Council shall be given a minimum of two working days (48 hours) notice prior to any extraction activity commencing.

   Note: Notifications can be emailed to notifications@gw.govt.nz. Please include the consent reference WAR130295 and the name and phone number of a contact person responsible for the proposed works.

3. Prior to extracting gravel each year from the Awhea catchment, the Opouawe catchment, the Pahaoa River and the Makara River, the consent holder shall consult with Greater Wellington Regional Council, Land Management Officer's to determine the most appropriate, specific extraction locations. Copies of all consultation shall be provided to the Manager, Environmental Regulation, Wellington Regional Council within two weeks of the consultation being undertaken.

   Note 1: The above condition is intended to ensure gravel is extracted in a manner that aids river management and avoids creating and/or exacerbating any flooding and/or erosion issues.

   Note 2: Copies of the consultation can be emailed to notifications@gw.govt.nz. Please include the consent reference WAR130295.

4. The consent holder shall provide a copy of this consent and any documents and plans referred to in this consent to each operator or contractor undertaking works authorised by this consent, prior to the works commencing.

   Note: It is recommended that the contractors be verbally briefed on the requirements of the conditions of this consent prior to works commencing.

5. All works authorised by this consent including tidy up on completion of the works are the responsibility of the consent holder and shall be completed to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Quantity of gravel extracted

6. The combined total volume of gravel extracted in any one financial year (1 July to 30 June) under this consent shall not exceed the volumes specified at each extraction site given below:

   - Awhea Catchment (two sites): 1,000m^3/year. In addition, the total volume of gravel extracted for the duration of this consent shall not exceed 10,000m^3.

   - Opouawe Catchment: 3,000m^3/year. In addition, the total volume of gravel extracted for the duration of this consent shall not exceed 30,000m^3.

   - Makara River: 200m^3/year. In addition, the total volume of gravel extracted for the duration of this consent shall not exceed 2,000m^3.

   - Pahaoa River (three sites): 3,000m^3/year, with no more than 2,000m^3/year to be extracted from the Moeraki and Hinekura sites. In addition, the total volume of gravel extracted for the duration of this consent shall not exceed 30,000m^3.

Records

7. The consent holder shall supply within one month of completing gravel extractions at any site authorised under this consent, records of the quantity of gravel, sand or other material excavated (in cubic metres) measured with an accuracy of + 10% or better and supply these to the Manager, Environmental Regulation, Wellington Regional Council.

   Note: Records can be emailed to notifications@gw.govt.nz. Please include the consent reference WAR130295 and a contact name and phone number of the person responsible for the gravel extraction.

Photographic record

8. The consent holder shall compile photographic records of each area of gravel extraction, every time gravel is extracted under this consent. As far as practicable, the consent holder shall select one location where photographs will be taken from for each site. These photographic records shall include, but not be limited to, photographs of the following items:

   a) The location of the proposed works: incorporating the works area and the stretches of the stream that may be affected by the extraction (i.e. **prior to each extraction commencing**);

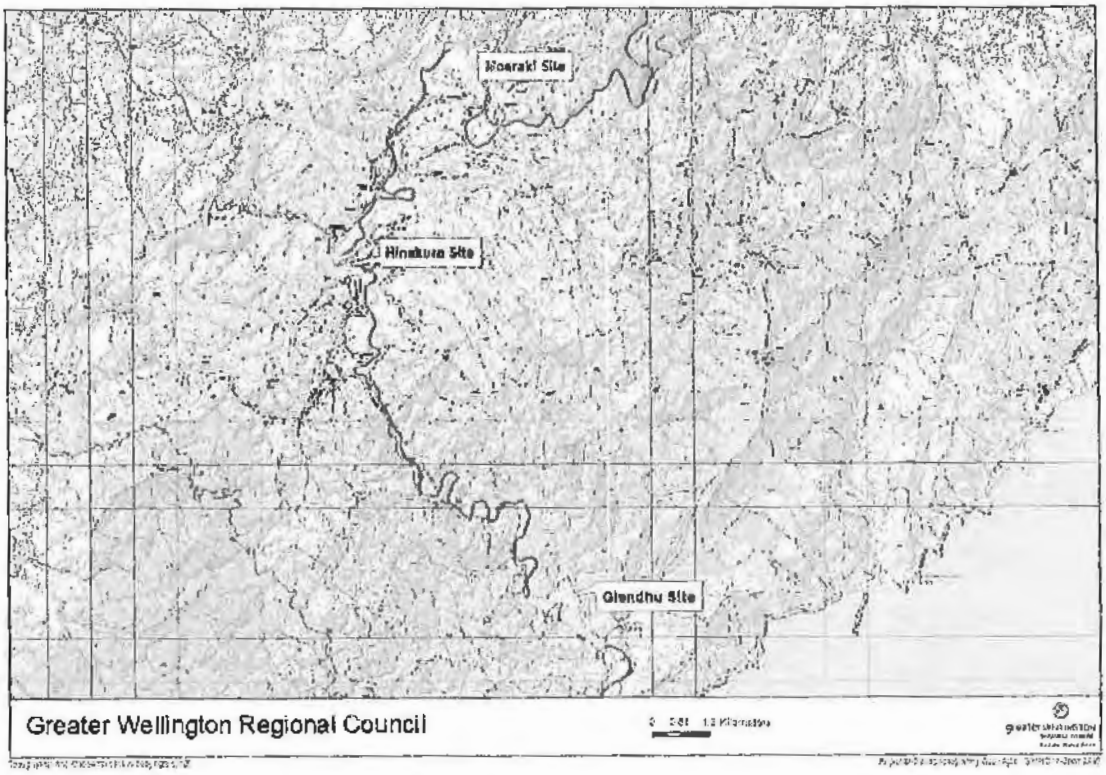


Figure 3: Extraction sites on the Pahaoa River

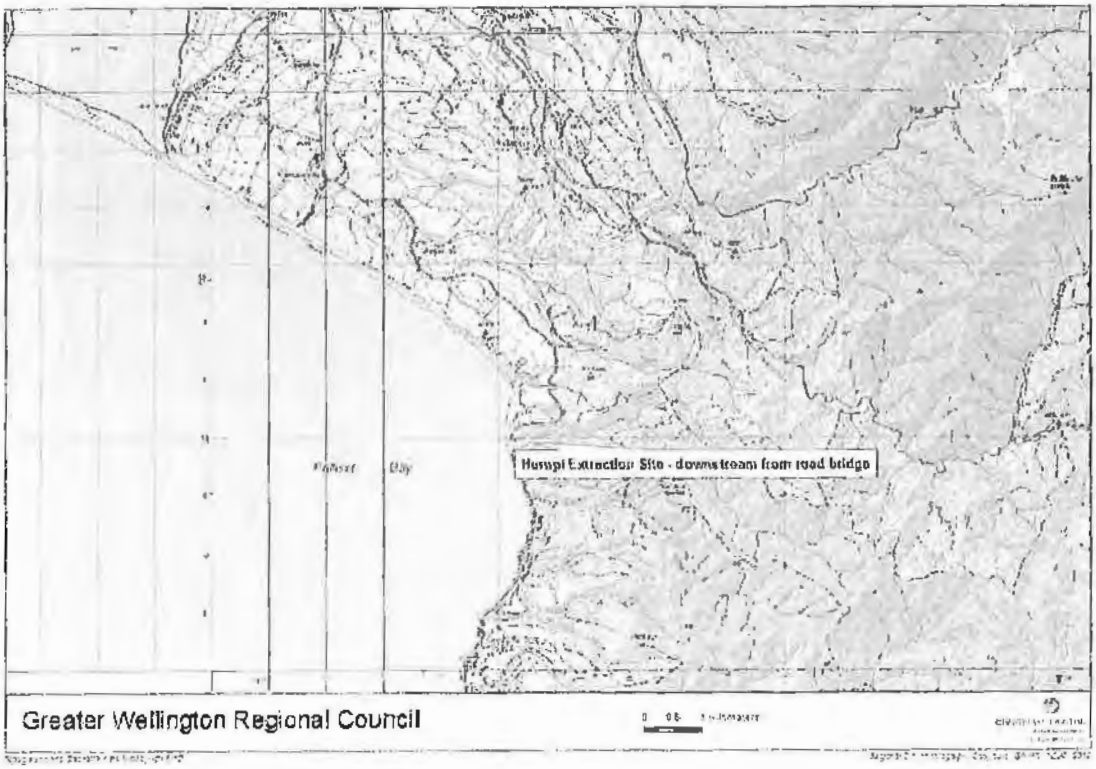


Figure 4: Hurupi Stream Extraction Site

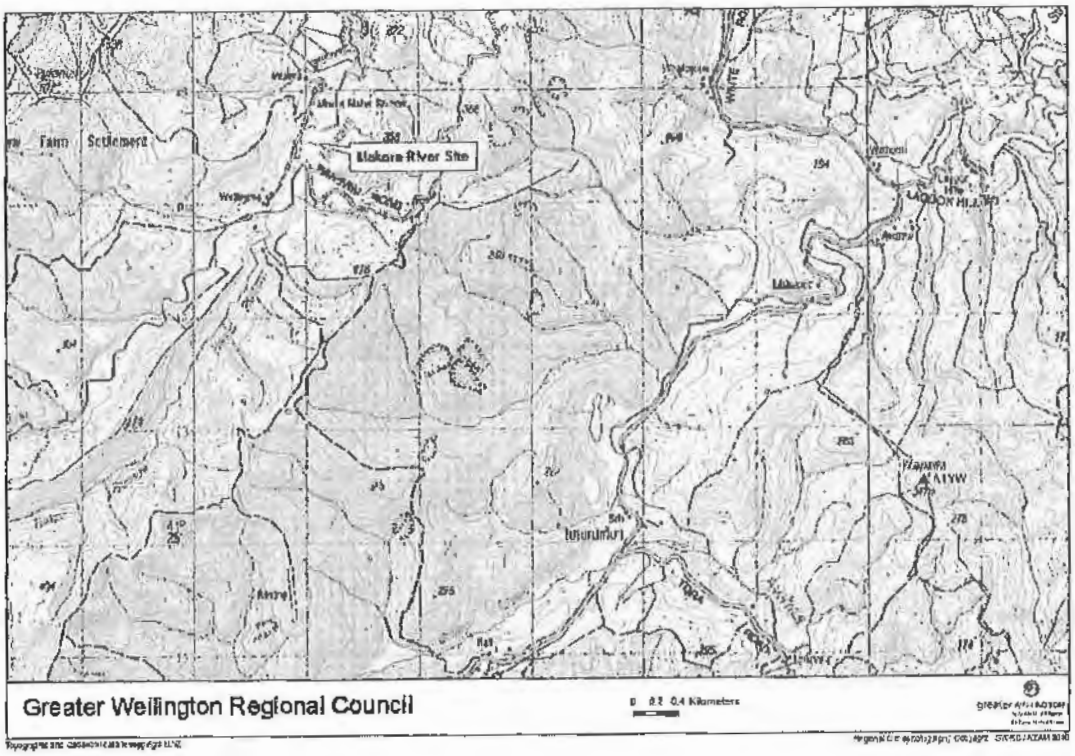


Figure 5: Makara River Extraction Site

Figure 6: Opouawe Extraction Site

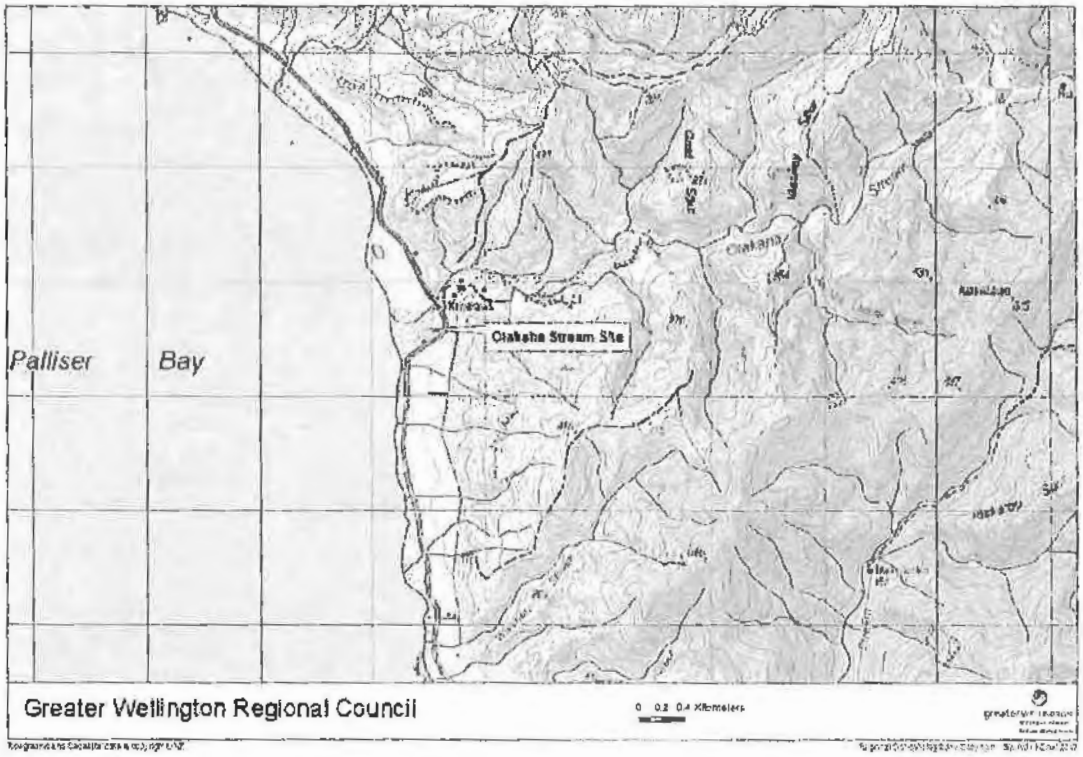


Figure 7: Otakaha Stream Extraction Site

Figure 8: Approximate area of extraction at Otakaha Stream (extraction location shown in red)

More detailed maps of the application sites are provided with the application.

1.1 Resource consents required

Section 13 (1)(b) of the Resource Management Act 1991 (the Act) states that excavating and disturbing a riverbed is not allowed unless permitted by a rule in a regional plan or a resource consent.

Section 12 (2)(b) of the Act states that in relation to land in the CMA, no person may remove any shingle, shell, or other natural material from the land unless expressly allowed by a national environmental standard, a rule in a regional coastal plan or a resource conset.

1.1.1 Rule(s)

Extraction from the riverbed

Rule 38 of the Regional Freshwater Plan for the Wellington Region (RFP) provides for minor gravel extraction as a permitted activity. However, the proposal does not meet the criteria of Rule 38. Accordingly, an application for resource consent has been made under Rule 49 of the RFP, which provides for all remaining uses of riverbeds as a **discretionary activity.**

Extraction from the CMA

Various rules in the Regional Coastal Plan for the Wellington Region (RCP) provide for the destruction, damage, or disturbance of the CMA; however, the proposal does not meet the specific requirements of these rules. Accordingly, an application for resource consent has been made under Rule 40 of the RCP as a **discretionary activity.** Rule 40 of the RCP provides for the destruction, damage, or disturbance of the CMA when an activity can not meet the requirements of rules 28 – 39 and 43 of the RCP.

I note that Rule 40 of the RCP has a specific term which requires the consent holder to notify the Hydrographer of the Royal New Zealand Navy at the time the works in CMA commence and upon completion. However, the position of Hydrographer of the Royal New Zealand Navy has been disestablished and replaced by the National Hydrographer of Land Information New Zealand. Therefore, I have recommended a condition of consent which will require the consent holder to notify the National Hydrographer of Land Information New Zealand at the time the works in CMA commence and upon completion. This condition will be specific to the two sites within the CMA – Hurupi Stream and Otakaha Stream.

2. Consultation

2.1 Iwi

The applicant undertook consultation with both Rangitane o Wairarapa (RoW) and Kahungunu ki Wairarapa (KkW) prior to lodging their application. It is noted that the Otakaha Stream site, has archaeological sites in close proximity to it.

RoW and KkW both responded saying they have no issues with the extraction of gravel from the Otakaha Stream, as long as no works are proposed on the northern side of the stream.

Both KkW and RoW were initially considered affected persons to this application. However, given no extraction (more specifically the Otakaha Stream extraction) will occur within any known archaeological site, I no longer consider RoW or KkW to be affected persons to this application.

In addition, in accordance with the GWRC's agreement with tangata whenua regarding consultation on non-notified consents, RoW and KkW were provided with a copy of the application as interested persons. RoW has stated they have no major concerns. KkW has not responded, it is therefore presumed they have no concerns with the proposal.

2.2 Heritage New Zealand formerly known as New Zealand Historic Places Trust (NZHPT)

The applicant contacted David Rudd at the NZHPT to confirm whether an archaeological assessment would be required for the proposed works at Otakaha Stream. Mr Rudd stated that as long as no vehicles tracked to the north of the site, no archaeological assessment would be required.

In addition, Ann Neill (General Manager) on behalf of NZHPT provided written approval to the proposal. However, the approval did not reference the application on which the approval was based. Jillian Kennemore (Heritage Advisor) on behalf of NZHPT/Heritage New Zealand has since confirmed that the written approval was based on the relevant documents which constituted the application.

I note that following the written approval provided by Ann Neill and prior to the confirmation provided by Jillian Kennemore, the NZHPT was renamed to Heritage New Zealand.

2.3 Department of Conservation (DoC)

The Memorandum of Understanding (MoU) between GWRC and the Department of Conservation (DoC) states that DoC wishes to be treated as an affected party for activities requiring land use consents, such as cross-blading, bed/channel re-contouring and gravel extraction, within water bodies that are listed in the Appendices 1, 2 and 3 of the RFP or that are identified as having important river bird habitat. Furthermore, they wish to be treated as an affected party for the extraction of gravel requiring a coastal permit.

The Awhea and Opouawe catchments have important bird habitat and the Hurupi and Otakaha Streams are within the CMA and require costal permits. As such, DoC are considered to be an affected party.

The applicant has consulted with DoC and obtained their written approval.

2.4 Fish & Game New Zealand

No consultation was undertaken with Fish and Game New Zealand given they were not considered to be potentially affected by the application for the following reasons:

1. None of the rivers and streams in this application are listed in Appendix 4 of the RFP as important trout habitat; and

2. The location of the gravel extraction is aggrading, and has very large alluvial deposits available; and

3. The gravel deposits are elevated and at the scale proposed will not interfere with the dynamic fluvial processes; and

4. Excavation will be restricted to accumulated gravel deposits located outside of the active channel.

2.5 Environmental Policy, GWRC

I have consulted with Iain Dawe, Senior Policy Advisor (Hazards and Coastal Processes), GWRC whom has subsequently reviewed the proposal. Mr Dawe has provided comments on the potential effects on the CMA and the potential for accelerated coastal erosion. Mr Dawe has stated that gravel extraction from the CMA sites may have adverse effects on coastal stability. His primary concerns are centred on the loss of sediment that would otherwise be going to nourish the beaches which are prone to coastal erosion. The applicant has since proposed to use all material extracted from the CMA for the purpose of coastal erosion protection. Mr Dawe is satisfied that the proposed mitigation measure will ensure adverse effects on the CMA are avoided, provided extraction does not occur on the beach itself or the backshore (a buffer area immediately back from the beach) – this is discussed further in section 5 of this report.

2.6 Land Management, GWRC

David Cameron (Manager, Land Management), Scott Andrew (Land Management Officer for the Awhea and Opouawe Catchments) and Stan Braaksma (Team Leader - Land Services, Land Management) have reviewed the proposal with regard to the sustainable extraction of gravel from the streambed sites (outside of the CMA). David Cameron, Scott Andrew and Stan Braaksma have confirmed the volumes requested are reasonable and sustainable for a duration of 10 years. Specific comments are included within Section 5.

2.7 Land owners and occupiers

The applicant has undertaken consultation with the land owners and occupiers whom have subsequently provided their written approval; this is covered further in section 4 below.

3. Notification decision

Section 95D provides the consent authority with a framework under which I have assessed this application. I consider the proposed works will have adverse effects that will be, or are likely to be no more than minor. Given this, I consider that public notification is not required under section 95A(1).

However, under section 95B a consent authority must decide under sections 95E and 95F if there are any affected persons or affected order holders in relation to the proposed works. These are discussed in the following sections.

4. Determination of affected persons and order holders

Under section 95E(1) a consent authority must decide whether a person is affected by the proposed activity, if the adverse effects on the person are minor or more than minor (but are not less than minor).

Under section 95E(2)(a) a consent authority may disregard an adverse effect of the activity on a person if a rule or national environmental standard permits an activity with that effect and/or the person has given written approval for the activity under section 95E(3)(a).

I consider the following persons are affected by this activity:

Table 1: Affected persons and the date written approvals were received by GWRC

Affected person	Approval received
DoC	10-Sept-14
Heritage NZ	11-Aug-14
WILTON, CHRISTINE WINIFRED	11-Aug-14
ELWORTHY JAMES CHURCHILL and ELWORTHY KIRI MICHELLE	11-Aug-14
BRAGGER PETER JEFFREY and BRAGGER RITA	11-Aug-14
BUSBY RAYMOND OWEN, BUSBY JOCELYN DAWNE, BUSBY RUSSELL LINDSEY and DONALD & ASSOCIATES TRUSTEES	10-Sept-14
RIVERSDALE STATION LTD	11-Aug-14
CAMERON JACQUELINE WENDY and CAMERON JANE FRANCIS	11-Aug-14
CRAWFORD SIMON DUNDAS	09-Sept-14
FURNISS JANENE NAN , FURNISS ALEXANDER GEORGE, FURNISS ALEXANDER DUNCAN, WARWICK MEKANIE JOAN	10-Sept-14

The written approvals of all affected persons have been received by GWRC. Therefore, the above persons are not considered to be affected by this application under section 95E(3)(a) and any effects on them cannot be considered.

Under section 95F a consent authority must decide if a person is an affected order holder in relation to the proposed gravel extraction in the stream bed. Currently there are no affected order holders under section 17A(2) in the Wellington region.

5. Environmental effects

5.1 Existing environment

The majority of the sites selected for gravel extraction are located in the Eastern Hill Country of the Wairarapa, which is primarily used for sheep and beef farming. Albeit, two of the sites are located within the CMA, namely the Otakaha and Hurupi Stream sites.

None of the rivers/streams are listed in the appendices of the RFP for having important trout habitat or important amenity and recreational values. Furthermore, none of the application sites are listed in Appendices 2 and 3 of the RFP for having a high degree of natural character or for being habitat to nationally threatened indigenous ecology (with the exception of the Hurupi Stream).

Albeit, while the Hurupi Stream is listed in Appendix 3 of the RFP for having nationally threatened indigenous fish (Shortjawed Kokopu), this classification only applies to the area of stream upstream of the CMA boundary. The CMA boundary in this instance is approximately 625 metres upstream of the stream mouth, which extends well beyond the proposed extraction site i.e. the extraction site is entirely within the CMA. Therefore, it is considered that the works will not be within an area designated in Appendix 3 of the RFP. Furthermore, the Hurupi Stream is also listed within Appendix 2 of the RFP as being a river with a high degree of natural character. However, given the location of the extraction site and as explained above, it is considered that the works will not be within an area designated in Appendix 2 of the RFP.

The areas in which the gravel extractions are to take place are areas where alluvial gravel is aggrading. Generally the areas are characterised by a wide channel with large gravel deposits that have accumulated in the riverbed.

The Otakaha Stream extraction site has a number of recorded archaeological sites associated with Maori occupation in the vicinity. There are also several other recorded archaeological sites in the vicinity of some of the existing extraction sites. However, none of the gravel extractions occur within any known archaeological site.

5.2 Issues associated with gravel extractions

The extraction of gravel is used both to improve the flood-carrying capacity of rivers by reducing the build up of gravel within the flood channel, and to source aggregate. However, over-extraction can destabilise channels and banks, and/or affect the ecologic functioning of rivers, particularly if undertaken at the wrong time, the wrong place, or in a way that damages the river bed or margins.[1]

The potential impacts of over extracting gravel are well known (e.g. Kelly et al. 2005; Rinaldi et al. 2005) and include (but not limited to): bed degradation and consequent effects on channel and bank stability, increased sediment loads, decreased water clarity and sedimentation, changes in channel morphology and disturbance of ecologically important roughness elements in the river bed, ecological effects on bird nesting, fish migration, and impacts on coastal processes.[2]

To mitigate the effects of gravel extraction, regard must be given to the sustainable rate of extraction, the manner in which gravel is extracted and the specific sites from whence it will be extracted.

5.3 Gravel allocation and availability

There is no annual allocation specified for gravel extraction for any of the proposed sites. Therefore, I have discussed the application with David Cameron (Manager, Land Management), Scott Andrew (Land Management Officer for the Awhea and Opouawe Catchments, Land Management) and Stan Braaksma (Team Leader - Land Services, Land Management) regarding gravel availability and the sustainable extraction of gravel at all the sites specified in the application.

Based on discussions with Land Management staff, and based on the photographic evidence provided by the applicant, it appears the riverbed levels (including sites within the CMA) at the proposed extraction sites are aggrading due to erosion and transport of bed-load in the upper catchments. Therefore, I consider that there is a sufficient volume of alluvial material available at all sites.

The previous consent has a maximum extraction restriction of 2,000m^3/year on two of the three sites on the Pahaoa River (Hinakura and Moeraki Road). This restriction will carry forward to the new consent – to be ensured by way of condition. While the volumes applied for are considered to be reasonable across the catchment, if the full allocation were to be taken from one place in the catchment, effects associated with over extraction would likely occur. As such, the proposed condition will help ensure that over extraction does not occur at one site.

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[1] Management of gravel extraction by Nelson City Council. Report produced for Nelson City Council by L. R. Basher of Landcare Research. June 2006

[2] Management of gravel extraction by Nelson City Council. Report produced for Nelson City Council by L. R. Basher of Landcare Research. June 2006

In addition, I have discussed the Otakaha and Hurupi Stream sites with Iain Dawe (Policy, Hazards and Coastal Processes, GWRC) with regard to gravel availability and the sustainable extraction of gravel. Based on these discussions, I consider that there is a sufficient volume of alluvial material available at all sites.

I have recommended a condition of consent that will require the applicant to consult with Land Management staff prior to undertaking any gravel extraction from any streambed site (outside of the CMA). This will ensure gravel is extracted in a manner that aids river management and avoids creating and/or exacerbating any flooding and/or erosion issues.

Furthermore, I have recommended conditions of consent that restrict the extraction to no deeper than 100mm above the prevailing water level, this will ensure the extraction is spread out across the sites.

Given the above and provided the applicant adheres to the conditions of consent, I consider the volumes applied for to be sustainable and that adverse effects on gravel allocation will be no more than minor.

5.4 Potential adverse ecological effects

5.4.1 In-stream species

As stated previously, none of the sites are within areas designated in Appendices 3 and 4 of the RFP as having important trout or native fish habitat. However, as explained in section 5.1 of this report, the Hurupi Stream is listed in appendix 3 of the RFP as having nationally threatened indigenous fish. While the area of extraction is not technically within the area designated under appendix 3 of the RFP, it is reasonable to presume that the area of the Hurupi Stream within the CMA still provides habitat or passage to nationally threatened fish.

The flows of all the rivers/streams applied for vary considerably between seasons and the catchments constitute highly dynamic river environments. The works proposed in the river/stream beds to remove the gravel, taken in the context of these highly active and unstable geomorphological environments, would make little difference to the actual environments. In addition, I have recommended standard consent conditions to ensure that no extraction occurs in the active flowing channel and that river crossings and associated release of suspended sediment are minimised. Given no extraction will occur in the active channel, I consider any adverse effects on in-stream species, including those in the Hurupi Stream, will be less than minor.

5.4.2 Bird nesting

DoC has identified potential bird nesting habitats in both the Awhea catchment and the Opouawe catchment. These areas may be bird-nesting habitats, particularly from September to December inclusive. To mitigate potential adverse effects on nesting birds in the extraction area, conditions of consent will require the consent holder to take all reasonable steps to identify the location of nests and to avoid disturbing nesting birds.

5.4.3 Plants

DoC has advised that the invasive plant 'purple pampas' may be present at some of the extraction sites. Ground disturbance activities such as gravel extraction can allow invasive plants such as 'purple pampas' to seed more easily. Therefore, I have recommended a condition of consent that will require the applicant to remove any 'purple pampas' plants in the vicinity of the extraction area prior to their extraction commencing. The plants must be disposed of to a lined landfill.

5.5 Recreational users and timing of work

The rivers in the application are not identified as having important recreational value in the RFP. The extraction sites are also generally isolated and located on private land. Furthermore, the land owners have provided their written approval. Therefore, the potential adverse effects on any recreational users present are considered to be less than minor. However, I have recommended conditions to regulate the timing of extraction activities to mitigate potential adverse effects on adjacent land owners and recreational users.

5.6 Potential for increased erosion in the bed and banks of the rivers and the CMA

When gravel extractions are undertaken, the bed of the river is modified. The re-contouring of any river bed has the potential to change the flow characteristics of the river, which can lead to increased levels of erosion downstream.

Gravel should be extracted in such a way to keep the beach at an even grade and to ensure a new channel is not created from the extraction. I have recommended conditions of consent to ensure appropriate extraction and rehabilitation methods are implemented.

By definition, the applicant's proposed extraction from the Hurupi Stream and Otakaha Stream are located in the CMA. However, the proposed extraction sites are more characteristic of a river bed than the CMA as the works will take place at least 50m landward of mean high water springs. However, even at a separation distance in excess of 50m to mean high water springs, extracting gravel from the CMA can have adverse effects in terms of coastal erosion.

Natural fluvial and coastal processes interact in the CMA. Gravel is transported via fluvial processes from the upper catchments to be discharged into the CMA. Once in the CMA, coastal processes (wave action and currents) transport the material and deposit it along the coast; this material becomes a buffer to help mitigate coastal erosion. By removing gravel from the lower reaches of a river (where a river becomes the CMA), the natural processes that culminate in coastal erosion protection can be severely impeded. Therefore, to ensure the gravel extractions from the CMA do not result in accelerated coastal erosion, the applicant has agreed to strictly use the material taken from the CMA for the purpose of coastal erosion protection along the south coast (deposited pursuant to consent WAR090322). Therefore, the applicant will be able to use the gravel to target areas of coastal erosion, which may be more

effective than the natural processes. In addition, I have recommended a condition that prohibits any gravel being taken from within 50m of mean high water springs. This will ensure no gravel is taken from the active beach or the backshore, thus ensuring immediate erosion does not occur at the location of extraction. Extracting gravel further upstream will allow the system to recover between extractions.

Provided the applicant adheres to the conditions of consent, I am satisfied that the effects on erosion will be no more than minor.

5.7 Effects on archaeological sites

There are a number of archaeological sites located close to the proposed works at Otakaha Stream, the Awhea River, the Hurupi Stream and Pahaoa River.

The closest historic site at Otakaha Stream is located on the northern side of the stream and is associated with Maori occupation (an urupa). The proposed extraction is to be taken from an area to the south of the stream. Both RoW and KkW have no objections to the application as long as there is no extraction from the north side of the stream. Furthermore, Heritage New Zealand has also provided written approval. The applicant has confirmed that no works will take place on the northern side of the Otakaha Stream to ensure the protection of the historic site.

The archaeological sites on the Awhea River are located near the Tora extraction site. However the extraction site is located further to the north and the historic sites are therefore not likely to be affected.

The archaeological sites on the Pahaoa River are close to the Glendhu extraction site. However the extraction site is located further to the north and as such, the works are unlikely to affect the historic sites.

The archaeological site close to the Hurupi Stream is located on a hill above the river, and as such, it will not be affected by the proposed works.

While it is unlikely any archaeological site will be affected by the works, I have included a condition that requires the applicant to cease works if they discover any archaeological material within the works site; in addition, the applicant will be required to notify the relevant authorities of the discovery.

Given the above and provided the applicant adheres to the proposed conditions of consent, I am satisfied that any adverse effects on archaeological sites will be less than minor.

5.9 Summary

Taking into account the recommended mitigation measures and the conditions of consent, I consider that the potential adverse effects on the environment will be no more than minor.

6. Statutory assessment

6.1 Resource Management Act 1991

Part II (section 5) of the Act defines its purpose as the promotion of the sustainable management of natural and physical resources. Sections 6, 7 and 8 of Part II define the matters a consent authority shall consider when achieving this purpose.

Section 104(1)(b) of the Act outlines the matters a consent authority must have regard to. These matters include any actual and potential effects on the environment of allowing the activity, relevant National Environmental Standard(s), other regulations, relevant objectives, policies and rules of a Regional Plan, the Regional Policy Statement and any other matter considered relevant and reasonably necessary to determine the application.

6.2 National Policy Statement

The New Zealand Coastal Policy Statement 2010 (NZCPS) provides policies to achieve the purpose of the Act in relation to the coastal environment. The NZCPS includes policies intended to promote sustainable management of natural and physical resources in the coastal environment of New Zealand. Those policies state matters to be included in Regional and/or District Plans as well as priorities for the management of coastal resources.

It contains seven objectives relating to:

1. Safeguarding the coastal environment and sustaining its ecosystems
2. Preserving the natural character of the coastal environment
3. Taking into account the principles of the Treaty of Waitangi
4. Maintaining and enhancing open space and recreation opportunities
5. Managing coastal hazard risks
6. Enabling people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, and
7. Ensuring that management of the coastal environment recognises and provides for New Zealand's international obligations

Objectives 1, 2, 3, 4 and 6 are the most relevant objectives for this application. The key policies of the NZCPS relevant to this activity are Policies 11, 13, 15, 20 and 24. I consider that the application is consistent with the relevant objectives and policies of the NZCPS.

There are no other National Policy Statements relevant to this proposal.

6.3 National Environmental Standard

There are no National Environmental Standards or Regulations that are relevant to this application.

6.4 Regional Policy Statement

The Operative Regional Policy Statement for the Wellington Region (RPS) outlines objectives and policies that promote the sustainable management of natural resources in the Wellington region.

Section 4.2 of the RPS contains regulatory policies to be considered when processing resource consent applications.

The most relevant policies to consider in assessing this application are listed below:

- Policy 40: Maintaining and enhancing aquatic ecosystem health in water bodies – consideration
- Policy 41: Minimising the effects of earthworks and vegetation disturbance – consideration
- Policy 43: Protecting aquatic ecological function of water bodies consideration
- Policy 48: Principles of the Treaty of Waitangi consideration

I consider that, with the application of the recommended conditions of consent, the proposed activity is consistent with the RPS.

6.5 Regional plans

6.5.1 Policies and objectives of the RFP

The RFP has a number of policies that relate to the proposed activity. The most relevant policies to consider in assessing this application are listed below:

Policy 4.2.1	To manage sites of special value to the tangata whenua in river beds so that the cultural values of those sites are not adversely affected.

Policy 4.2.9	To have regard to the following characteristics of rivers and their margins, when considering the protection of their natural character from the adverse effects of subdivision, use, and development: • ecosystems, habitats and species; and • water quality; and • the natural flow characteristics and hydraulic processes (such as sediment transport) of rivers or the pattern and range of water level fluctuations that occur naturally in wetlands or lakes; and • the topography and physical composition of river or lake beds and the course of the river.
Policy 4.2.11	Avoid, remedy or mitigate adverse effects on aquatic habitats and freshwater ecosystems.
Policy 7.2.1	Allow gravel extraction provided that adverse effects are avoided, remedied or mitigated.
Policy 7.2.11	Ensure that activities do not disturb nesting birds or nationally threatened plant species.
Policy 7.2.13	Ensure that gravel extraction is carried out in a manner that does not increase flood or erosion hazard.

I am satisfied that the proposed gravel extraction activity is consistent with the policies outlined above.

6.5.2 Policies and objectives of the RCP

The RCP has a number of policies that relate to the proposed activity. The most relevant policies to consider in assessing this application are listed below:

Policy 4.2.10	Protection of habitats, natural and physical resources and ecosystems
Policy 4.2.12	Protection of significant cultural and historic features
Policy 4.2.21	Effects on natural hazards
Policy 4.2.25	Effects on tangata whenua values

Policy 7.2.1	To allow activities involving damage or disturbance to any foreshore where the adverse effects are short term, reversible or minor or where the adverse effects can be satisfactorily avoided, remedied or mitigated
Policy 7.2.2	To allow the removal of materials that will not result in adverse effects on the shoreline
Policy 7.2.4	To not allow any activity which results in the destruction of the CMA unless any adverse effects are mitigated or remedied as far as practicable

I am satisfied that the proposal is consistent with the policies outlined above.

7. Main findings

The proposed activity will have some short term effects when undertaking the gravel extraction, but the riverbed and coastal environments are unlikely to be adversely affected once the activity is completed. Hence, in summary:

1. The proposed activity is consistent with the Purposes and Principles of the Resource Management Act 1991

2. The proposed activity is consistent with the relevant objectives and policies of the Regional Policy Statement, the RFP, the RCP and the NZCPS.

3. The actual or potential adverse effects of the proposed activity on the environment will be no more than minor.

4. Conditions of the consent will ensure that the adverse effects of the activity on the environment will be appropriately avoided, remedied or mitigated.

5. The proposal incorporates appropriate mitigation measures, to ensure the adverse effects are no more than minor.

7.1 Duration of consent

The applicant has requested a 10 year consent term which is considered to be acceptable given the volumes of gravel available and the conditions of consent.

8. Monitoring

A recommended condition of consent will require the consent holder to take a series of photographs of the site (pre-extraction), during the extraction activity and photographs of the site following completion of the extraction for each extraction site. A condition will require the consent holder to forward a copy of the photographs as well as the record of the volume extracted to GWRC within one week of the photographs being taken. This will enable compliance with the consent conditions to be assessed for the term of this consent.

A charge for compliance monitoring will be made in accordance with the *Resource Management Charging Policy (2013)*, and is set out in the decision letter.

Application lodged:	07/08/13	**Application officially received:**	07/08/13
Application stopped:	15/08/13	**Application started:**	10/09/14
Applicant to be notified of decision by:	30/09/14	**Applicant notified of decision on:**	12/09/14
Time taken to process application:	8 working days		

b) The site **during the extraction**: incorporating the works area and stretches of the stream identified in (a); and

c) The site immediately **upon the completion** of the extraction (within one week): incorporating the works area and stretches of the stream identified in (a).

The photographic record of items identified in (a), (b) and (c) shall be submitted to the Manager, Environmental Regulation, Wellington Regional Council, as soon as possible but within one week of the photographs identified in (c) being taken.

All submitted photographs shall include:

- The date the photographs were taken
- The time the photographs were taken
- A description of the site location (e.g. map reference, address) of where the photograph was taken, and
- A description of what aspect of the works the photograph relates to

The photographs and details shall be to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Note 1: The photographic record should demonstrate compliance with the conditions of this consent.

Note 2: Photographic records i.e. electronic picture files from digital cameras can be emailed to notifications@gw.govt.nz. Please include the consent number WAR130295 date and time photographs were taken and a description of the site location (e.g. map reference, address).

Timing of extraction

9. The extraction of gravel shall be limited to the following times between Monday and Friday of any week (unless otherwise agreed upon in writing to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council):

   - For Daylight Saving between 6.00am and 8.00pm.
   - For times outside Daylight Saving, normal working hours of 7.30am to 5.00pm.
   - Extraction is to cease immediately outside of normal working hours (7.30am to 5.00pm) if there are any recreational users in the riverbed within 300 metres of the extraction site.

10. No gravel extraction and associated river crossings will be carried out within 200 metres of any public access point to the river bed, on public holidays, or between the periods 24 December to 3 January inclusive.

Method of extraction

11. Prior to the extraction of gravel occurring at any site, the consent holder shall check the site for the invasive plant 'purple pampas'. Should any 'purple pampas' plants be found, they shall be removed prior to extraction commencing. Removed plants shall be disposed of to a lined landfill.

12. There shall be no excavation of gravel, sand, or other material from the active river channel containing flowing water, and there shall be no diversion of any flowing water as a result of the extraction works.

13. Gravel extraction shall be limited to a level no less than 100mm above the prevailing water level.

14. No machinery shall operate in flowing water in the active river channel, except for crossings to access gravel deposits and to haul gravel. River crossings shall be generally limited to one crossing point at each gravel extraction location, and otherwise shall be kept to a practicable minimum where one single crossing point may not be achieved.

15. Gravel extraction shall be undertaken in strips parallel with the flow of the river, commencing from the riverward edge of the gravel beach and moving landward where possible.

16. There shall be no long-term stockpiling of excavated material in the river-bed and any small stockpiles formed in the river-bed on a daily basis shall be positioned in alignment parallel with the flow of the river.

Gravel extraction – Site rehabilitation

17. Oversize boulders or other sediment initially removed from the riverbed, but later considered unsuitable for use, shall be spread in holes or hollows on the gravel beaches from which the original extraction was undertaken. This unsuitable material shall not be left in piles in the riverbed.

18. The area from which the material is extracted, or unsuitable material is replaced, shall be smoothed over after use so that there are no depressions or mounds in or on the riverbed.

19. Any damage or erosion to river banks, access tracks (including the public road) that is attributable to the gravel extraction operation shall be remedied by the consent holder as soon as practicable.

Note: Additional resource consent may be required to undertake any remedial works.

Effects on birds

20. The consent holder shall take all reasonable steps to identify the location of nests and avoid disturbance to nesting native birds, in particular banded dotterels, black-fronted dotterels, black-billed gulls, pied stilts and variable oyster-catchers during the months of September to December, inclusive.

Protection of fish life

21. The consent holder shall ensure that fish passage at the work site is not inhibited as a result of the works.

Public Access and Safety

22. Public access to the river-bed shall not be restricted by gravel extraction operations, other than in situations where there is a demonstrable risk to public safety.

23. The consent holder shall erect warning signs in the vicinity of the works where the extraction operation is likely to be potentially hazardous to any person using the associated stretch of the river.

Handling of fuel, machinery and other hazardous substances

24. The consent holder shall ensure that:

    a) All machinery is thoroughly cleaned of vegetation (e.g. weeds), seeds or contaminants at least 10 metres away from any watercourse, water flow channel or stormwater system, prior to entering the site

    b) All machinery shall be regularly maintained in such a manner to ensure no contaminants (including but not limited to oil, petrol, diesel, hydraulic fluid) shall be released into water, or to land where it may enter water, from equipment being used for the works

    c) All contaminant storage or re-fuelling areas are bunded or contained in such a manner so as to prevent the discharge of contaminants to water or to land where it may enter water.

    d) No machinery is cleaned, stored or refuelled within 10 metres of any waterbody, water flow channel or stormwater system

25. In the event of a spill of fuel, hydraulic fluid, or other potential liquid contaminants, immediate steps shall be taken to remove or contain the spilled material. Secondly, the consent holder shall notify the Manager, Environmental Regulation, Wellington Regional Council.

26. The consent holder shall ensure that prior to entering the riverbed that all vehicles, mobile plant, or machinery is inspected for the presence of invasive or pest aquatic plants including 'didymo'. In the event that an invasive or pest aquatic plant or 'didymo' is discovered upon the vehicle, mobile plant, or

machinery it shall be cleaned, to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Note: The machinery shall be cleaned in accordance with the Ministry for Primary Industries cleaning methods which can be found at ***http://www.biosecurity.govt.nz/pests.***

Cultural sites, artefacts and human remains

27. The consent holder shall implement the following procedures if archaeological artefacts or koiwi remains are discovered:

    a) work is to cease immediately;

    b) the consent holder shall contact the Manager, Environmental Regulation, Wellington Regional Council, District Planner, South Wairarapa District Council, Rangitane o Wairarapa, Kahungunu ki Wairarapa, and the New Zealand Historic Places Trust immediately;

    c) representatives of Rangitane o Wairarapa and/or Kahungunu ki Wairarapa Iwi Authority and the New Zealand Historic Places Trust are to be given sufficient time to carry out an investigation of the site to determine any cultural issues and an appropriate course of action. At the discretion of the Manager, Environmental Regulation, Wellington Regional Council, this action may include a permanent or temporary cessation of work on the site; and

    d) works shall not recommence until all necessary approvals have been obtained from the New Zealand Historic Places Trust.

    The consent holder shall provide appropriate information to contractors and operational staff regarding the nature of koiwi remains and archaeological artefacts so that if they are uncovered they will be recognised as such.

Review of conditions

28. The Wellington Regional Council may review any or all conditions of this permit by giving notice of its intention to do so pursuant to section 128 of the Resource Management Act 1991, at any time within three months of the date of commencement of this permit for either of the following purposes:

    - Dealing with any adverse effects on the environment which may arise from the exercise of this consent, and which is appropriate to deal with at a later stage; and/or

    - To review the adequacy of any plans and/or alter any monitoring requirements prepared for this consent so as to incorporate into the consent any modification which may become necessary to clarify or deal with any adverse effect on the environment of arising from this activity; and/or

- To enable consistency with the Regional Freshwater Plan, the Regional Coastal Plan and/or with National Environmental Standards.

Notes:

a) A resource management charge, set in accordance with Section 36(2) of the Resource Management Act 1991 (the Act) shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring, and supervision of resource consents and for the carrying out of its functions under section 35 (duty to gather information, monitor and keep records) of the Act.

b) The Wellington Regional Council shall be entitled to recover from the consent holder the costs of the conduct of any review, calculated in accordance with and limited to that Council's scale of charge in force and applicable at that time pursuant to Section 36 of the Resource Management Act 1991.

10. Attachment 2 WAR130295 [32302 & 32306]

The following conditions relate to the Hurupi and Otaknha gravel extraction sites

General condition

1. The location, design, implementation and operation of the activity shall be in general accordance with the consent application and its associated location plans and documents lodged with the Wellington Regional Council on 7 August 2013 *and further information received on 15 May 2014 and 10 July 2014.*

   Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

   Note: Any change from the location, design concepts and parameters, implementation and/or operation may require a new resource consent or a change of consent conditions pursuant to section 127 of the Resource Management Act 1991.

2. The Manager, Environmental Regulation, Wellington Regional Council, and the National Hydrographer, Land Information New Zealand shall be given a minimum of two working days (48 hours) notice prior to the works commencing.

   Note: Notifications can be emailed to notifications@gw.govt.nz and customersupport@linz.govt.nz (attention to National Hydrographer, Land Information New Zealand). Please include the consent reference WAR130257 and the name and phone number of a contact person responsible for the proposed works.

3. The consent holder shall provide a copy of this consent and any documents and plans referred to in this consent to each operator or contractor undertaking works authorised by this consent, prior to the works commencing.

Note: It is recommended that the contractors be verbally briefed on the requirements of the conditions of this consent prior to works commencing.

4. All works authorised by this consent including tidy up on completion of the works are the responsibility of the consent holder and shall be completed to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Quantity of gravel extracted

5. The combined total volume of gravel extracted in any one financial year (1 July to 30 June) under this consent shall not exceed the volumes specified at each extraction site given below:

- Otakaha Stream: 5,000m3 in the first year of extraction and 2,000m3/year thereafter. In addition, the total volume of gravel extracted for the duration of this consent shall not exceed 23,000m3.

- Hurupi Stream: 400m3/year, while the total volume of gravel extracted for the duration of this consent shall not exceed 4,000m^3.

Records

6. The consent holder shall supply within one month of completing gravel extractions at any site authorised under this consent, records of the quantity of gravel, sand or other material excavated (in cubic metres) measured with an accuracy of + 10% or better and supply these to the Manager, Environmental Regulation, Wellington Regional Council.

Note: Records can be emailed to notifications@gw.govt.nz. Please include the consent reference WAR130295 and a contact name and phone number of the person responsible for the gravel extraction.

Photographic record

7. The consent holder shall compile photographic records of each area of gravel extraction, every time gravel is extracted under this consent. As far as practicable, the consent holder shall select one location where photographs will be taken from for each site. These photographic records shall include, but not be limited to, photographs of the following items:

a) The location of the proposed works: incorporating the works area and the stretches of the stream that may be affected by the extraction (i.e. **prior to each extraction commencing**);

b) The site **during the extraction**: incorporating the works area and stretches of the stream identified in (a); and

c) The site immediately **upon the completion** of the extraction (within one week): incorporating the works area and stretches of the stream identified in (a).

The photographic record of items identified in (a), (b) and (c) shall be submitted to the Manager, Environmental Regulation, Wellington Regional Council, as soon as possible but within one week of the photographs identified in (c) being taken.

All submitted photographs shall include:

- The date the photographs were taken
- The time the photographs were taken
- A description of the site location (e.g. map reference, address) of where the photograph was taken, and
- A description of what aspect of the works the photograph relates to

The photographs and details shall be to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Note 1: The photographic record should demonstrate compliance with the conditions of this consent.

Note 2: Photographic records i.e. electronic picture files from digital cameras can be emailed to notifications@gw.govt.nz. Please include the consent number WAR130295 date and time photographs were taken and a description of the site location (e.g. map reference, address).

Timing of extraction

8. The extraction of gravel shall be limited to the following times between Monday and Friday of any week (unless otherwise agreed upon in writing to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council):

    - For Daylight Saving between 6.00am and 8.00pm.
    - For times outside Daylight Saving, normal working hours of 7.30am to 5.00pm.
    - Extraction is to cease immediately outside of normal working hours (7.30am to 5.00pm) if there are any recreational users in the riverbed within 300 metres of the extraction site.

9. No gravel extraction and associated river crossings will be carried out within 200 metres of any public access point to the river bed, on public holidays, or between the periods 24 December to 3 January inclusive.

Method of extraction

10. The consent holder shall ensure no gravel is extracted from within 50 metres of mean high water springs.

11. Prior to the extraction of gravel occurring at any site, the consent holder shall check the site for the invasive plant 'purple pampas'. Should any 'purple pampas' plants be found, they shall be removed prior to extraction commencing. Removed plants shall be disposed of to a lined landfill.

12. There shall be no excavation of gravel, sand, or other material from the active river channel containing flowing water, and there shall be no diversion of any flowing water as a result of the extraction works.

13. Gravel extraction shall be limited to a level no less than 100mm above the prevailing water level.

14. No machinery shall operate in flowing water in the active river channel, except for crossings to access gravel deposits and to haul gravel. River crossings shall be generally limited to one crossing point at each gravel extraction location, and otherwise shall be kept to a practicable minimum where one single crossing point may not be achieved.

15. Gravel extraction shall be undertaken in strips parallel with the flow of the river, commencing from the riverward edge of the gravel beach and moving landward where possible.

16. There shall be no long-term stockpiling of excavated material in the river-bed and any small stockpiles formed in the river-bed on a daily basis shall be positioned in alignment parallel with the flow of the river.

Gravel extraction – Site rehabilitation

17. Oversize boulders or other sediment initially removed from the riverbed, but later considered unsuitable for use, shall be spread in holes or hollows on the gravel beaches from which the original extraction was undertaken. This unsuitable material shall not be left in piles in the riverbed.

18. The area from which the material is extracted, or unsuitable material is replaced, shall be smoothed over after use so that there are no depressions or mounds in or on the riverbed.

19. Any damage or erosion to river banks, access tracks (including the public road) or the coastal marine area that is attributable to the gravel extraction operation shall be remedied by the consent holder as soon as practicable.

    Note: Additional resource consent may be required to undertake any remedial works.

Effects on birds

20. The consent holder shall take all reasonable steps to identify the location of nests and avoid disturbance to nesting native birds, in particular banded dotterels, black-fronted dotterels, black-billed gulls, pied stilts and variable oyster-catchers during the months of September to December, inclusive.

Protection of fish life

21. The consent holder shall ensure that fish passage at the work site is not inhibited as a result of the works.

Public Access and Safety

22. Public access to the river-bed shall not be restricted by gravel extraction operations, other than in situations where there is a demonstrable risk to public safety.

23. The consent holder shall erect warning signs in the vicinity of the works where the extraction operation is likely to be potentially hazardous to any person using the associated stretch of the river.

Handling of fuel, machinery and other hazardous substances

24. The consent holder shall ensure that:

    a) All machinery is thoroughly cleaned of vegetation (e.g. weeds), seeds or contaminants at least 10 metres away from any watercourse, water flow channel or stormwater system, prior to entering the site

    b) All machinery shall be regularly maintained in such a manner to ensure no contaminants (including but not limited to oil, petrol, diesel, hydraulic fluid) shall be released into water, or to land where it may enter water, from equipment being used for the works

    c) All contaminant storage or re-fuelling areas are bunded or contained in such a manner so as to prevent the discharge of contaminants to water or to land where it may enter water.

    d) No machinery is cleaned, stored or refuelled within 10 metres of any waterbody, water flow channel or stormwater system

25. In the event of a spill of fuel, hydraulic fluid, or other potential liquid contaminants, immediate steps shall be taken to remove or contain the spilled material. Secondly, the consent holder shall notify the Manager, Environmental Regulation, Wellington Regional Council.

26. The consent holder shall ensure that prior to entering the riverbed/coastal marine area that all vehicles, mobile plant, or machinery is inspected for the presence of invasive or pest aquatic plants including 'didymo'. In the event that an invasive or pest aquatic plant or 'didymo' is discovered upon the vehicle, mobile plant, or machinery it shall be cleaned, to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

    Note: The machinery shall be cleaned in accordance with the Ministry for Primary Industries cleaning methods which can be found at ***http://www.biosecurity.govt.nz/pests.***

Cultural sites, artefacts and human remains

27. The consent holder shall implement the following procedures if archaeological artefacts or koiwi remains are discovered:

    a) work is to cease immediately;

    b) the consent holder shall contact the Manager, Environmental Regulation, Wellington Regional Council, District Planner, South Wairarapa District Council, Rangitane o Wairarapa, Kahungunu ki Wairarapa, and the New Zealand Historic Places Trust immediately;

    c) representatives of Rangitane o Wairarapa and/or Kahungunu ki Wairarapa Iwi Authority and the New Zealand Historic Places Trust are to be given sufficient time to carry out an investigation of the site to determine any cultural issues and an appropriate course of action. At the discretion of the Manager, Environmental Regulation, Wellington Regional Council, this action may include a permanent or temporary cessation of work on the site; and

    d) works shall not recommence until all necessary approvals have been obtained from the New Zealand Historic Places Trust.

    The consent holder shall provide appropriate information to contractors and operational staff regarding the nature of koiwi remains and archaeological artefacts so that if they are uncovered they will be recognised as such.

Review of conditions

28. The Wellington Regional Council may review any or all conditions of this permit by giving notice of its intention to do so pursuant to section 128 of the Resource Management Act 1991, at any time within three months of the date of commencement of this permit for either of the following purposes:

    - Dealing with any adverse effects on the environment which may arise from the exercise of this consent, and which is appropriate to deal with at a later stage; and/or

    - To review the adequacy of any plans and/or alter any monitoring requirements prepared for this consent so as to incorporate into the consent any modification which may become necessary to clarify or deal with any adverse effect on the environment of arising from this activity; and/or

    - To enable consistency with the Regional Freshwater Plan, the Regional Coastal Plan and/or with National Environmental Standards.

Notes:

a) A resource management charge, set in accordance with Section 36(2) of the Resource Management Act 1991 (the Act) shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring,

and supervision of resource consents and for the carrying out of its functions under section 35 (duty to gather information, monitor and keep records) of the Act.

b) The Wellington Regional Council shall be entitled to recover from the consent holder the costs of the conduct of any review, calculated in accordance with and limited to that Council's scale of charge in force and applicable at that time pursuant to Section 36 of the Resource Management Act 1991.

11. Attachment 3 Gravel extraction sites, property owners and legal descriptions

Site	Property owner	Legal description
Awhea - Tuturumuri Map references: Northern extent NZTM: 1807842.5412789 Western extent NZTM: 1807840.5411958 Southern extent NZTM: 1809040.5411549	WILTON CHRISTINE WINIFRED	PT SEC 56 TUTURUMURI SETT SECS 1-3 SO 37435 BLK XIV WAIPAWA SD Valuation No: 18390 32 0
		LOT 1 DP 83578 BLK X WAIPAWA SD Valuation No: 1839D 32 3
	ELWORTHY JAMES CHURCHILL , ELWORTHY KIRI MICHELLE	SECS 5 19 PT SEC 45 AREA A SO 31434 TUTURUMURI SETT BLKS X XIV WAIPAWA SD Valuation No: 18390 24 0
	BRAGGER PETER JEFFREY , BRAGGER RITA	PT SEC 57 TUTURUMURI SETT BLK X WAIPAWA SD Valuation No: 18390 32 1
Awhea - Tora Map references: Northern extent NZTM: 1809531.5405270 Southern extent NZTM: 1809992.5403318	N/A - Riverbed	N/A - Riverbed
Hurupi Stream Map references: Eastern extent NZTM: 1785513.5409958 Western extent variable (to coastal backshore)	Partially Crown land, the rest is riverbed	Crown land survey office plan 16688

Site	Property owner	Legal description
Opouawe Map references: Northern extent NZTM: 1804544.5408116 Southern extent NZTM: 1801947.5399501	BUSBY RAYMOND OWEN, BUSBY JOCELYN DAWNE, BUSBY RUSSELL LINDSEY and DONALD & ASSOCIATES TRUSTEES	PT LOT 1 DP 5315 PT SEC 1 SO 17774 SECS 1-13 19-21 PT SEC 15 SO 19272 PT SEC S 63 70 71 114 116 188 190-192 194-198 203 AWHEA BLOCK Valuation No: 18390 47 0
	RIVERSDALE STATION LTD	LOTS 1 2 DP 45807 SECS 9 10 24 25 26 28 37 65 72 199 200 201 213-215 217-220 259 260 PT SECS 7 8 11-15 22 23 27 29 30 34 35 36 38 63 64 66-71 189 190 191 197 261 & CLOSED ROAD BLKS IV VIII XI KAIWAKA SD BLKS III V VI VII OPOUAWE SD BLK XVI HAURANGI SD BLK XIII WAIPAWA SD Valuation No: 18390 46 0
Pahaoa - Moeraki Map references: Northern extent NZTM: 1824730.5429336 Southern extent NZTM: 1824886.5428865	CAMERON JACQUELINE WENDY, CAMERON JANE FRANCIS	SECS 200 201 203 301 PT SECS 191 192 196 202 204-207 302 PAHAOA DIST BLKS I II MT ADAMS SD BLKS XIII XIV WAINUIORU SD Valuation No: 18350 89 0
Pahaoa - Hinekura Map references: Upstream extent NZTM: 1821867.5424788 Downstream extent NZTM: 1821991.5424481	N/A - Riverbed	N/A - Riverbed
Pahaoa - Glendu Map references: Upstream extent NZTM: 1826354.5416769 Downstream extent NZTM: 1827879.5415840	N/A - Riverbed	N/A - Riverbed

Site	Property owner	Legal description
Makara River Map references: Northern extent NZTM: 1804969.5415408 Southern extent NZTM: 1804969.5415408	N/A - Riverbed	N/A Riverbed
Otakaha Stream At or about approximate map reference NZTM: 1785318.5397600	CRAWFORD SIMON DUNDAS	LOT 30 DP 413876 LOTS 1-3 DP 47868 PT LOT 1 DP 69727 SUBJ TO R/W LOT 1 DP 21 090 LOTS 2 4 6 DP 49608 PT LOT 1 DP 9760 PTS KAWAKAWA 2A1 2A2 2B 2C PT LOT 1 DP 8423 LOT 7 DP 49608 BLKS I II III V VI VII KAIWAKA SD - Valuation No: 18370 259 0
	FURNISS JANENE NAN , FURNISS ALEXANDER GEORGE, FURNISS ALEXANDER DUNCAN, WARWICK MEKANIE JOAN	PT KAWAKAWA 1C2 BLK LOTS 1 3 DP 418125 Valuation No: 18370 264 0