

7.1 Matters to be considered – Section 104 RMA

The Mangawhai sewerage scheme addresses a range of critical issues for the Kaipara district and for the Northland region such that its construction has been keenly awaited. In its entirety it meets a range of objectives and policies in the Regional Policy Statement, and in the various Regional and District Plans. This section sets out the statutory considerations that must be canvassed and an assessment against the relevant provisions of the Regional and District Plans in accordance with the consents sought.

Section 104 of the RMA sets out the matters to be considered when assessing resource consents. This consideration is subject to Part II of the Act. This section of the AEE assesses the proposed activities in terms of Part II, followed by consideration of the relevant statutory documents.

7.2 Part II of the RMA

7.2.1 Section 5 – Purposes and principles

The purpose of the RMA is,

To promote the sustainable management of natural and physical resources.

Section 5(2) of the Act defines sustainable management as,

Managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while,

(a) sustaining the potential of natural and physical resources (excluding mineral) 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.

The Mangawhai sewerage scheme will assist in safeguarding the life-supporting capacity of the Mangawhai Estuary through the avoidance of wastewater discharges to ground and subsequent release into the coastal marine area from stormwater and groundwater discharges. As a result, the proposed wastewater system will contribute to the preservation of the marine ecosystem of the estuary, which is ranked as being of international significance in the district plan. This is seen as sustaining the potential of the resource to meet the foreseeable needs of future generations and better enabling the Mangawhai community to provide for their social, economic and cultural wellbeing and health and safety.

Overall, it is considered that the stated adverse effects associated with the present method of wastewater disposal will be remedied by the proposed reticulation system, WWTP, discharge pipeline, and discharge to land. The installation, operation and maintenance of the scheme will be undertaken in a manner that

will avoid, remedy and mitigate the effects on the surrounding residential and downstream marine receiving environment.

For the reasons discussed in this AEE, it is considered that the proposed sewerage scheme will be consistent with the promotion of the sustainable management of natural and physical resources.

7.2.2 Section 6 – Matters of national importance

Section 6 of the RMA states:

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:

Those matters of national importance relevant to the proposed sewerage scheme are:-

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

For the reasons outlined in Section 7 of this AEE the Mangawhai sewerage scheme will be able to be constructed and operated in a manner that is consistent with achieving the above matters.

7.2.3 Section 7 – Other Matters

Section 7 of the RMA identifies those matters that:

“In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to.”

Those matters relevant to the proposed wastewater system are:

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- (a) *Kaitiakitanga:*
 - (aa) *The ethic of stewardship:*
 - (b) *The efficient use and development of natural and physical resources:*
 - (ba) ...
 - (c) *The maintenance and enhancement of amenity values:*
 - (d) *Intrinsic values of ecosystems:*
 - (e) ...
 - (f) *Maintenance and enhancement of the quality of the environment:*
 - ...

The Mangawhai sewerage scheme will be consistent with the principles identified in section 7 of the RMA.

7.2.4 Section 8 – Treaty of Waitangi

Section 8 of the RMA states,

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

The Mangawhai sewerage scheme will be consistent with the principles of the Treaty of Waitangi.

7.3 Actual and Potential Effects (S104 (1) (a))

An assessment of the actual and potential effects of the proposal is set out in Section 6 of this report.

7.4 National Policy Statements (S104) (1) (b) (i))

Other than the New Zealand Coastal Policy Statement there are no other National Policy Statements relevant to the proposal.

7.5 New Zealand Coastal Policy Statement (S104) (1) (b) (ii))

The purpose of the New Zealand Coastal Policy Statement (NZCPS) is set out in Section 56 of the RMA which states:

The purpose of the New Zealand Coastal Policy Statement is to state policies in order to achieve the purpose of this Act in relation to the coastal environment of New Zealand.

The NZCPS contains a broad framework of policies to be given effect to through the preparation of policy statements and plans and the control of activities within the coastal environment. These policy instruments are reflected in the various statutory documents discussed in the following sections.

In addition, the NZCPS contains a number of policies that are of direct relevance, where the location of the pipelines within the CMA is concerned

Policy 3.2.5 Development in the coastal environment should be conditional on the provision of adequate services (particularly the disposal of wastes), and the adverse effects of providing these services should be taken into account ... when considering applications for resource consent.

The adverse effects on the coastal environment associated with the current septic tank discharges at Mangawhai are outlined in Section 6 in this AEE. An assessment of the effects associated with the location of the pipelines within the CMA at is provided in Section 6. Overall, it is considered that the scheme is consistent with the relevant policies in the NZCPS.

Policy 4.2.2 All persons exercising functions and powers under the Act in relation to land of the Crown in the CMA should ... make provision for consultation with Tangata Whenua which is early, meaningful and on-going, and which is as far as practical in accordance with Tikanga Maori

An outline of the consultation process that the Kaipara District Council has engaged in with Tangata Whenua is provided in Section 8 of this AEE. Land disposal of treated effluent is understood to be in accordance with Tikanga Maori.

7.6 Regional Policy Statement (S104 (1) (b) (iii))

The Regional Policy Statement is concerned with achieving the purposes of the RMA by providing an overview of the significant resource management issues of the region and policies and methods to achieve integrated management of the natural and physical resources of the region. The objectives and policies of the policy statement are umbrella provisions that have effect in the more specific provisions of the various regional plans and district plans. The relevant objectives and policies of the Regional Policy Statement are considered below in section order.

Overall, the Mangawhai sewerage scheme can be seen to be supporting a plethora of objectives and policies in the Regional Policy Statement by removing a major source of contamination that has affected a significant natural resource, the Mangawhai Estuary, and that has posed health and safety risks to the local population, in terms of its use of the coastal environment for recreation, and for food gathering. The proposal to discharge the treated effluent to land supports further objectives and policies by not discharging directly to water or a natural wetland.

Effective Consultation and Participation

Objective 13.3.1 sets out an objective related to

“The informed participation of the community in the management of the natural and physical resources of the region”

This is followed by policy (13.4 (b) 2) ensuring:

“That appropriate consultation is undertaken with interested parties as part of the resource consent application process and sufficient information is provided to such parties to allow informed comment.”

This is further supported by the policy on consent processes (13.4 (d) 1),

To encourage all applicants to consult with relevant community groups and other interested parties prior to submitting their resource consent applications.

Extensive consultation has been undertaken in the course of this project, as set out in Section 8 of this report.

The objective of involvement of tangata whenua in the management of natural and physical resources (14.3) has been fully supported by the Kaipara District Council, which has a memorandum of understanding with Te Uri o Hau that ensures its involvement in issues of relevance to its interests. They have met regularly to discuss aspects of the project, including a meeting in July 2006 to discuss the option of disposal to land at the Lincoln Downs property.

Air Quality

The relevant objective is 16.3.1:

“The sustainable management of the air resource by avoiding, remedying, or mitigating adverse effects on the environment from the discharge of contaminants to air.”

The explanation to the policy notes the existing high air quality of most of the region, but accepts that new discharges would be considered where they do not compromise the present high quality. Policies and methods of implementation include

Requiring the adoption of the Best Practicable Option for discharges of contaminants to air;

Avoiding nuisances by requiring separation of incompatible land uses; and

Providing services and promoting practices which would avoid or mitigate nuisance effects.

The proposal will be consistent with the objectives and policies relating to air quality. Odours may arise from the proposed system, but a detailed assessment of the effects of these odours and methods to mitigate them is detailed in section 6 of this report.

Water Quality

The water quality objectives are set out in Part 17.3 of the Plan:

The first objective is:

“The maintenance or enhancement of the water quality of natural water bodies and coastal waters in Northland to be suitable, in the long term, and after reasonable mixing of any contaminant with the receiving environment and disregarding the effect of any natural events, for such of the purposes listed below as may be appropriate.”

Mangawhai Estuary would seem to fall within the category of a degraded estuary which the sewerage scheme will assist in rectifying. Note however, that not all activities around the estuary will be connected, for example, properties on the southern side of the estuary, such as the camping ground. Similarly, nutrient contamination from rural runoff will continue to affect the estuary.

The second objective is:

“The reduction and minimisation of the quantities of contaminants which adversely affect water quality entering water bodies, and coastal waters, in particular those that are potentially toxic, persistent or bio-accumulative.”

The third objective is to:

“Avoid, remedy or mitigate the adverse effects of discharges of contaminants on the traditional, cultural and spiritual values of water held by tangata whenua.”

Related policies are:

17.4 Policies

(a) Water Quality Standards

1. *To ensure that discharges of contaminants, and water and land use are managed so as to achieve or exceed, where practicable, the water quality standards suitable for the desired purposes, as set out in Objective 17.3.1.*
2. *To have particular regard, when setting water quality standards and rules in plans and when setting conditions to resource consents to:*
 - (i) *Potential effects on the gathering of kaimoana and kaiawa; and*
 - (ii) *The long term goal of enhancing inner harbour and estuarine areas.*

(b) Effluent Treatment and Disposal Systems

1. *To require that all new discharges of organic contaminants, particularly sewage and animal wastes, either be onto or into land, or be the best practicable option when compared to land*

disposal. Discharges shall be considered to have been disposed onto land or into land where they have been passed through soil, or a constructed wetland where there is no discharge to surface water.

3. *Subject to policy 1; to promote the exploration and adoption of effective and efficient effluent treatment technology.*
4. *To encourage regular maintenance of effluent treatment and disposal systems.*

The land disposal of nominal Category 1 treated effluent to land will satisfy the above policies. Should overland flow occur, it will be controlled by the conditions to a resource consent.

(c) *Diffuse Source Contamination, Stormwater Drainage System Contamination and Riparian Area Management*

1. *To promote the use of best management practices to avoid the contamination of natural water bodies and coastal waters arising from sediment and leachates in runoff and groundwater and from contaminated stormwater.*
2. *To avoid the discharge of industrial or household wastes or sewage into stormwater drainage systems.*
3. *To promote and, where it is important for the maintenance, restoration or enhancement of water quality, to require the retention or enhancement of riparian vegetation, including wetlands, estuaries, lake, stream and coastal margins.*

The scheme will support the above policies by removing the potential source of contamination through the discharge of sewage into the estuary and into groundwater. In relation to riparian vegetation, the buffer area between the disposal fields and the unnamed tributaries of Cook's Creek will be developed as swale, to mitigate the unplanned discharges of reclaimed effluent that may enter water as overland flows.

(e) *Unauthorised Discharges*

2. *Include provisions in regional and district plans requiring all major discharge consent holders, industrial operations, waste processing, treatment or storage facilities, hazardous substance or waste reticulation operators to prepare and implement accidental discharge response strategies. (Regional Council and District Councils).*

A hazardous substances response plan will be included in the standing orders for the WWTP.

Outstanding Natural Features and Outstanding Landscapes

The relevant objectives and policies relating to Outstanding Natural Features and Landscapes are contained in Part 19 of the Northland Regional Policy Statement, and are set out below:

19.3 Objectives

1. *The identification of outstanding natural features and outstanding landscapes and their protection of from inappropriate subdivision, use and development.*
2. *To recognise, in the identification and protection of outstanding natural features and outstanding landscapes, that their values include intrinsic values of ecosystems, ecological, heritage, cultural, spiritual, and amenity aspects.*
3. *Any adverse effects of human activities on natural and physical resources are avoided, remedied or mitigated so that the qualities and values of any outstanding natural features and outstanding landscapes are maintained.*

19.4 Policies and Methods of Implementation

2. *To ensure protection of outstanding natural features and outstanding landscapes, particularly those important to the natural character of the coastal environment, wetlands, and lakes and rivers and their margins, by avoiding, remedying or mitigating adverse effects from inappropriate subdivision use and development, which may include activities such as earthworks, structures and vegetation clearance.*
3. *To establish and provide for the relationship of Maori and their culture and traditions with their ancestral lands in relation to outstanding natural features and outstanding landscapes.*
4. *To recognise and provide for outstanding natural features and outstanding landscapes and associated intrinsic values of ecosystems, and for heritage, ecological, cultural, spiritual and amenity values.*
5. *To recognise and provide for the protection of outstanding landscapes by avoiding those effects of subdivision, use and development which adversely impact on the integrity of an outstanding landscape unit.*

Although not directly related to the sewerage scheme, the scheme itself will provide the impetus for closer subdivision in the Mangawhai area, as opposed to larger lot subdivision that would be required in order to accommodate satisfactorily the drainage requirements of most on-site systems. In addition, a reticulation system will enable the amelioration of the detrimental aspects development on the ecology of the area.

Coastal Management

The relevant objectives and policies relating to Coastal Management are contained in Part 22 of the Northland Regional Policy Statement, and are set out below:

22.3 Objectives

2. *Prevention of damage to and loss of traditional fisheries habitats and tangata whenua resources of significance to the tangata whenua.*

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3. *Maintenance and enhancement of public use, enjoyment of and access to the coastal environment.*
 4. *The minimisation of the conflicts between uses in the coastal environment and their effects on public health and safety.*

Relevant policies and methods of implementation are set out in Part 22.4 of the Plan:

22.4 Policies and Methods of Implementation

(a) Preservation of Natural Character

1. *In both the plan preparation and resource consent processes, to preserve the natural character of the coastal environment by, as far as practicable, avoiding adverse effects on:*
 - (i) *significant landscape values, including seascapes and significant landforms which impart a distinctly coastal character; and*
 - (ii) *significant indigenous vegetation, significant habitats of indigenous fauna, predominantly indigenous ecosystems and indigenous biodiversity; and*
 - (iii) *natural coastal processes, including the movement of sediments, water and biota; and*
 - (iv) *water quality; and*
 - (v) *cultural heritage values, including historic places and sites of significance to Maori; and*
 - (vi) *intrinsic and amenity values, including the values of wild and scenic areas*

Where avoidance is not practicable adverse effects should be mitigated and provision made for remedying those effects to the extent practicable.

(c) Allocation Of Space In The Coastal Marine Area

1. *To enable the establishment and planned expansion of activities which have an operational need to be located in the coastal marine area, provided the adverse effects can be avoided, remedied or mitigated.*
2. *To limit the occupation of space including the erection of structures and facilities in areas of high cultural, ecological, landscape or recreational value.*
3. *To avoid, remedy, or mitigate the adverse effects of the establishment and expansion of activities in the coastal marine area; to encourage the multiple use and/or consolidation of structures and other facilities; and where an area is already adequately served by such*

The proposal involves the crossing of the Coastal Marine Area by two pipelines of 250mm diameter at the bridge on Molesworth Drive (refer to the plan titled “*Mangawhai Ecocare Scheme – Locations of Water Course Crossings*”). As detailed previously in this report, the pipelines will be suspended from the bridge beneath the decking structure.

It is considered that the proposed crossings of the CMA will be consistent with the objectives and policies set out above as there will be no alteration or change to any existing public access to the coastal environment. Indirectly, it is anticipated that the proposed sewage treatment and disposal system will result in an enhancement of the water quality of the CMA.

Ecosystems and Biodiversity

The relevant objectives and policies relating to Ecosystems and Biodiversity are contained in Part 23 of the Northland Regional Policy Statement, and are set out below:

23.3 Objectives

- 2. Protection of the life supporting capacity of ecosystems through avoiding, remedying or mitigating (in that order of priority) the adverse effects of activities, substances and introduced species on the functioning of natural ecosystems.*

23.4 Policies

- 1. To maintain general ecosystem health and indigenous biodiversity by avoiding, remedying or mitigating adverse effects of land use activities, water use activities and contaminant discharges on natural ecosystems.*
- 8. To recognise and provide for the maintenance or enhancement of riparian vegetation and habitats, and encourage their restoration, for the protection of significant indigenous vegetation, significant habitats of indigenous fauna, preservation of natural character and the maintenance of general ecosystem health and indigenous biodiversity.*

The proposal is considered to be consistent with the objectives and policies set out above as the scheme will prevent the release of contaminants to the Mangawhai Estuary from existing septic tanks and other on-site sewage treatment systems. The disposal of treated effluent at the Lincoln Downs site will be managed to avoid direct discharge of treated effluent to watercourses.

Heritage Protection

The relevant objectives and policies relating to Heritage Protection are contained in Part 24 of the Northland Regional Policy Statement, and are set out below:

24.3 Objective

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1. *Protection and where possible, enhancement of the cultural, historic and amenity values of heritage features.*

24.4 Policies

(a) Identification and Recording of Heritage Features

1. *To identify heritage features and ensure that appropriate recording systems are in place.*
2. *To ensure that recording systems are established in consultation with affected land owners, the Historic Places Trust, iwi authorities, the Department of Conservation and other relevant bodies.*

(b) Protection and Enhancement of Heritage Features

1. *To encourage and, where appropriate, require the protection of heritage features, including waahi tapu.*
2. *To facilitate and promote the public use and enjoyment of appropriate heritage features.*

Archaeological sites are identified in the Kaipara District Planning maps where known. None are identified in the areas subject to the sewerage scheme.

All excavation works will be undertaken in accordance with archaeological protocols whereby work will cease and the appropriate authorities (including the New Zealand Historic Places Trust and Te Uri o Hau) will be informed if archaeological remains are found during excavation works. Where appropriate, services will be relocated to protect archaeological features.

Consultation has been undertaken with Te Uri o Hau, and it is to be expected that they will be represented at certain stages of the work.

Waste Management

The relevant objectives and policies relating to Waste Management are contained in Part 25 of the Northland Regional Policy Statement, and are set out below:

25.3 Objectives

2. *Efficient and environmentally sound collection, treatment and disposal of waste.*

25.4 Policies

(b) Waste Collection, Treatment and Disposal

3. *To promote the establishment of sewage treatment systems utilising land disposal.*
5. *To ensure the provision of adequate waste collection, treatment and disposal facilities for summer holiday populations.*

The Mangawhai sewerage scheme will fulfil the policy of promoting land disposal. It has significant over-capacity in respect of those aspects of the plant that are difficult or expensive to replace, for example, the reticulation network, while being flexible in terms of the peaks and troughs of demand that are typical of coastal holiday communities. In addition, the disposal system has been designed to accommodate significant growth, although the present contract requires the contractor to plan only for growth until 2015.

7.7 Relevant Plans or Proposed Plans (S104 (1) (b) (IV))

7.7.1 Regional Soil and Water Plan for Northland

7.7.1.1 Reasons for Consent

The consent requirements for the proposal are detailed in Section 4 of this report. In summary, the consents sought under the Regional Soil and Water Plan for Northland are as follows:

- Discharge permit for the discharge of treated effluent at Lincoln Downs site;
- Discharge permit for the discharge of treated effluent to a watercourse;
- Discharge permit for unintended discharges from pump stations as a controlled activity;
- Water permit for use of water in a dam that is not in a stream or riverbed or lake;
- Discharge permit for diversion and discharge associated with land disturbance activities;
- Land use consent for land disturbance associated with construction of a dam
- Land use consent for land disturbance and trenching in road reserves;
- Land use consent for land disturbance and trenching in road reserves and other locations in the Riparian Management Zone;
- Land use consent for structures and works in, on under or over the bed of a river or lake.

7.7.1.2 Objectives and Policies

Recognition of and Provision for Maori and their Culture and Traditions

Relevant objectives and policies relating to Maori and their culture and traditions are set out in Section 6 of the Plan and are set out below:

Objective 6.3.1 The management of the natural and physical resources within the Northland region in a manner that recognises and provides for the traditional and cultural relationships of tangata whenua with the land and water.

Related policies seek to achieve this objective by:

Recognising and providing for the relationship of Maori and their culture and traditions with respect to the use, development and protection of natural and physical resources in the Northland region;

Gaining an understanding, and as far as practicable, providing for the concerns and cultural perspectives of tangata whenua in regard to the disposal of waste into water.

Having particular regard for kaitiakitanga and considering options for the involvement of tangata whenua in monitoring the use, development and protection of resources within the Northland Region.

Providing appropriate technical advice and information to assist iwi authorities in the development of hapu/iwi management plans for natural and physical resources within the area of their rohe.

The objective of management of the natural and physical resources in a manner that recognises and provides for the traditional and cultural relationships of tangata whenua with the land and water has been fully supported by the Kaipara District Council, which has a memorandum of understanding with Te Uri o Hau that ensures its involvement in issues of relevance to its interests. They have met regularly to discuss aspects of the project, including a meeting in July 2006 to discuss the option of disposal to land at the Lincoln Downs property.

Water Quality Management

Relevant objectives and policies relating to Water Quality Management are set out in Section 7 of the Plan and are set out below:

Objective 7.4.1 The maintenance or enhancement of the water quality of natural water bodies in the Northland region to be suitable, in the long-term, and after reasonable mixing of any contaminant with the receiving water and disregarding the effect of any natural events, for such of the purposes listed below as may be appropriate:

TYPE OF WATER BODY	PURPOSE
<i>Lakes, rivers, streams</i>	<i>aquatic ecosystem, contact recreation, water supplies, aesthetic and cultural</i>
<i>Freshwater wetlands</i>	<i>Aquatic ecosystems, cultural processes</i>
<i>Groundwater, potentially usable</i>	<i>Water supply, protection of uses of receiving water body</i>

Other groundwater	protection of uses of receiving water body
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Policy 7.5.3 *Until such time as the classification system referred to in Policy 7.05.02 is introduced, when processing applications for discharge permits, the Council will have regard to:*

- (a) Existing water quality and uses of the subject water body;*
- (b) Community aspirations for future use of the water body (as expressed in submissions on consent applications);*
- (c) Opportunities for enhancement of water quality;*
- (d) Relevant water quality guidelines (refer also Methods 7.06.07 to 7.06.10)*

The scheme will support the above policies by removing the potential source of contamination through the discharge of sewage into the estuary and into groundwater. The buffer area between the disposal fields and the unnamed tributaries of Cook's Creek will be developed as swale, to mitigate the unplanned discharges of reclaimed effluent that may enter water as overland flows.

Discharges

Relevant objectives and policies relating to discharges are set out in Section 8 of the Plan and are set out below:

Objectives 8.6

- 1. The effective treatment and/or disposal of contaminants from new and existing discharges in ways which avoid, remedy or minimise adverse effects on the environment and on cultural values.*
- 2. The reduction and minimisation of the quantities of contaminants entering water bodies, particularly those that are potentially toxic, persistent or bio-accumulative.*

Policies 8.7

- 1. To require all new discharges of sewage or discharges with a high organic content to be:*
 - (a) By land disposal; or*
 - (b) To water, if after reasonable mixing:*
 - (i) it does not cause a discernible adverse change in the physicochemical and/or microbiological water quality of the receiving water at the time of discharge; and*
 - (ii) It is the best practicable option (as defined by Section 2 of the Act).*

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3. *To ensure there are adequate separation distances between water bodies and discharges to land to avoid or mitigate adverse effects on water quality.*
 4. *To promote effective effluent treatment and disposal systems which are:*
 - (a) *Low maintenance and low risk;*
 - (b) *Land based, where the soil types, available disposal areas, back-up facilities and pumping systems are adequate;*
 - (c) *Operated in accordance with approved maintenance and contingency plans; and*
 - (d) *Designed and maintained so as to prevent the collection of catchment runoff.*

8.9 Specific Policies for Sewage Discharges

1. *To avoid the cumulative adverse effects of sewage discharges, particularly in areas subject to concentrated development, a high water table, poorly draining soils, very free draining soils, or in areas which are ecologically and/or culturally sensitive.*
2. *To promote the installation of reticulated community sewerage schemes in urban and rural residential areas where on-site disposal systems contribute or are likely to contribute to the contamination of water, including coastal water and groundwater.*
3. *To promote alternative methods to reticulated sewage systems and septic tanks for sewage disposal.*

The proposed sewage treatment and disposal system will result in disposal of treated effluent to land, which is consistent with the objectives set out above. Adequate buffer distances are proposed to avoid or mitigate adverse effects on water quality and are detailed further in Sections 6 and 3 of this report. Contingency plans and alarm systems are detailed for the proposed treatment and disposal system and set out in Sections 6 and 3 of this report.

The proposal supports the policy of installing reticulated community sewerage schemes and will assist in removing contaminants from the natural environment that occur as a result of existing on-site treatment systems.

8.17 Specific Policies for Stormwater Diversions and Discharges

1. *To manage the diversion and discharge of stormwater in a way that provides safeguards against flooding and maintains or enhances water quality.*
2. *To require the inclusion of water quality controls as far as practicable in existing stormwater management systems that are known to be causing concentrations of contaminants within the receiving environment that are in excess of applicable water quality and/or sediment quality guidelines.*

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3. *To manage the diversion and discharge of stormwater in urban areas through long duration resource consents that are supported by comprehensive stormwater management plans.*
 4. *To promote best practice for stormwater management design, including low impact options.*
 5. *To promote stormwater management practices that avoid or minimise the discharge of contaminants from industrial and trade premises into stormwater drainage systems.*
 6. *To encourage activities to operate in accordance with industry standards and/or environmental guidelines where these are intended to avoid, remedy or mitigate the adverse effects of stormwater contamination.*

Use of River and Lake Beds and Development on Floodplains

Relevant objectives and policies relating to the use of river and lake beds and the development on floodplains are set out in Section 11 of the Plan and are set out below:

Objective 11.4

1. *The use of the beds of rivers and lakes in a manner that preserves natural character and has regard to maintaining amenity values, minimises erosion and safeguards the life supporting capacity of associated ecosystems.*

11.5 Policies

1. To ensure that as a result of any use of a river or lake bed:

- (a) The natural character of the river or lake and its margins is preserved, except where preservation is not consistent with sustainable management.*
- (b) There are no more than minor adverse effects of the aquatic habitats of rivers, or sections of rivers, or lakes deemed to have outstanding values identified in Policy 9.05.01 or any dune lake listed in Schedule E.*
- (c) Adverse effects on indigenous wetlands are avoided, remedied or mitigated as far as practicable.*
- (d) Existing lawful public access to and along the river or lake is maintained or enhanced.*
- (e) Any adverse effects on amenity or recreational values are avoided, remedied or mitigated.*
- (f) Bed and bank stability is maintained or enhanced.*
- (g) Significant ecosystem effects arising from short-term adverse water quality effects are avoided.*
- (h) Long-term water quality is maintained or enhanced.*

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- (i) Access by indigenous fish and invertebrates to any upstream habitats is maintained, or, where appropriate, restored if such maintenance or access would promote the sustainable management of resources.
- (j) Adverse effects on peatlands and their hydrology and dependant ecosystems are not more than minor.
- (k) Adverse effects on human life, health and safety, private and community property are avoided.
2. When considering applications for activities affecting the bed of a river or lake, to recognise, and as far as practicable, provide for the cultural and spiritual values held by the tangata whenua for the bed, and for the water body.

The proposal involves the crossing of several watercourses, as detailed in previous sections of this report. Section 6 sets out an assessment of the effects on the environment of the proposal, including an assessment of the effects of the proposed crossings of watercourses. Three types of crossings are proposed: crossings adjoining existing culvert crossings, crossings through bed of watercourses, and boring under watercourses.

Crossings that adjoin existing culvert crossings will reduce potential impacts on the environment such as erosion of the watercourse bed, sedimentation, and impact on aquatic life.

Those crossings that will pass through the bed of watercourses will be carried out on watercourses that are ephemeral or have very low water flows, and construction will be carried out in summer. Given that this type of crossing is proposed only in land subject to dairy production, the aquatic life within the watercourse is very limited. Coupled with the low flows and the ability to time construction to suit the most quiescent periods, the impact on the environment during construction of these crossings is limited.

In one instance it is proposed to directionally drill beneath the Hakaru River, as prospects for trenching are limited due to the level of water flows in the river. The boring is proposed to be at a sufficient depth such that the riverbed will not be affected, and the pipeline is proposed to be encased in a polyethylene sleeve to minimise damage in the unlikely event of a failure in the disposal line.

Land Management

Relevant objectives and policies relating to land management are set out in Section 12 of the Plan and are set out below:

Objectives 12.5

1. *The protection of the soil resources including soil quality and soil quantity, from degradation or loss as a result of unsustainable land use and land use practices.*
2. *The safeguarding of the life-supporting capacity of water and ecosystems from the adverse effects of unsustainable land uses and land use practices.*

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4. *Avoid, remedy or mitigate the adverse effects of activities so as to achieve the protection of areas of significant indigenous vegetation, significant habitats of indigenous fauna, natural character of water bodies and their margins; and to recognise and provide for waahi tapu and other sites of significance to tangata whenua.*

Policies 12.6

2. *To avoid, remedy or mitigate adverse effects of land use activities on water bodies and their margin, particularly on water quality, water flows and levels, aquatic ecosystems and riparian habitats.*
3. *To avoid or reduce the discharge of sediment to all surface waters and to minimise soil losses from land use activities, particularly on erosion prone land.*
4. *When assessing applications for resource consents for land disturbance activities adjacent to water bodies, to have regard to:*
 - (a) *The maintenance of biological and physical processes;*
 - (b) *The maintenance of habitat for feeding, breeding and sheltering indigenous fauna;*
 - (c) *The maintenance of biodiversity;*
 - (d) *The maintenance of migratory pathways for fish;*
 - (e) *The times of day or year which will least affect feeding, spawning or migratory patterns of fish and other aquatic species;*
 - (f) *The amount of shading the existing riparian vegetation provides;*
 - (g) *Any proposals for restoration or enhancement of riparian vegetation or aquatic ecosystems.*
12. *To have regard to the cultural and spiritual values held by the tangata whenua for the resource when considering applications for land disturbance activities.*

The proposed sewage treatment and disposal scheme will assist in improving soil quality and water quality by removing the potential for contaminants to enter the natural environment from existing septic tank systems. This will assist in improving the natural character of the Mangawhai Harbour by improving its water quality.

The existing stream environments at the disposal site have been surveyed and the results are contained in the Ecological Assessment at Appendix 9 of this report. The streams on the disposal site were found to have poor water and ecological quality. The proposed method of irrigation will seek to ensure that no direct discharge of effluent to these watercourses results.

Methods for avoiding the discharge of sediments to watercourses during excavation and earthworks are detailed in Section 6 of this report, and a construction management plan is attached at Appendix 6 to this report.

7.7.1.3 Assessment Criteria

The table below sets out the relevant assessment criteria in the Plan that are required to be considered for the consent types sought under this application. It is noted that it is stated in Section 36 of the Plan that:

“The primary criteria for assessing and deciding on applications for resource consents are listed in the Act under s.104 – Matters to be considered and s.105 – Decisions on applications. Under these Sections, decisions are subject to Part II of the Act. Additional assessment criteria which will be applied in the consideration of applications for discretionary and non-complying activities are detailed [in the Plan].”

Table 7-1: Relevant Assessment Criteria – Regional Water and Soil Plan for Northland

Consent Type Sought	Activity Status	Assessment Criteria
Unintended discharges from pump stations that meet criteria set out in Clause 15.2 of the Plan	Controlled	Clause 36.1 states that applications for discharges that are controlled activities will be assessed against the matters for control set out in clause 15.2 of the Plan
Diversion and discharge of stormwater by way of an open constructed diversion system or piped system into water or into land where it might enter water which does not meet the permitted activity standard	Controlled	None specified in Plan, matters for control set out in clause 21.2.1 of the Plan
Discharge of treated effluent at Lincoln Downs site	Discretionary	Those set out in clause 36.1
Discharge of treated effluent to a water course	Discretionary	Those set out in clause 36.1
Unintended discharges from pump stations that do not meet controlled activity status	Discretionary	Those set out in clause 36.1
Use of water in a dam that is not in a stream or riverbed or lake	Discretionary	Those set out in clause 36.2
Diversion and discharge associated with land disturbance activities	Discretionary	Those set out in clause 36.4

Consent Type Sought	Activity Status	Assessment Criteria
Structures (other than dam structures or weirs) in, on, under or over beds of rivers and lakes	Discretionary	Those set out in clause 36.3
Land disturbance and trenching in road reserves	Controlled	Those set out in clause 33.2
Land disturbance associated with the construction of a dam	Controlled	Those set out in clause 33.2
Land disturbance and trenching in road reserves and other locations in Riparian Management Zone	Discretionary	Those set out in clause 36.4
Diversion and discharge of stormwater from WWTP	Discretionary	Those set out in clause 36.4

The assessment criteria identified in the above table are set out below, with an assessment of the proposal against these criteria.

Assessment Criteria for Discharge Permit Applications – Clause 36.1

Discharge permits are sought for:

Discharge of treated effluent at Lincoln Downs site;

Discharge of treated effluent to a water course;

Unintended discharges from pump stations that do not meet controlled activity status;

Diversion and discharge associated with land disturbance activities;

Clause 36.1 states that applications for discharge permits for discretionary and non-complying activities will be assessed in accordance with Sections 104, 105 and 107 of the RMA and have regard to the following assessment criteria:

(a) The level of treatment provided by the proposed effluent or stormwater collection, treatment and disposal system.

With reference to the discharge of treated effluent at Lincoln Downs site:

Section 3.5.3 of this report confirms that treated effluent will meet Fonterra's requirements for dairy grazing as well as the Department of Health standards with relation to irrigation of public amenities.

With reference to the discharge of treated effluent to a water course:

Section 6 of this report assesses the potential effects to the environment in the unlikely event of the discharge of treated effluent to a water course. It is noted that treated effluent stored in the storage dam will be well below recognised treatment standards.

With reference to unintended discharges from pump stations that do not meet controlled activity status:

The design of the pump stations is intended to achieve controlled activity status as set out in Section 4.3.2 of this report. Section 3.4.3 of this report sets out the way in which the pump stations have been designed to meet the controlled activity standards set out in the Plan.

With reference to diversion and discharge associated with land disturbance activities;

Section 3.7.7 of this report sets out the construction methodology for the proposed storage dam, including the measures that will be taken to control silt and sediment runoff from the proposed earthworks.

Section 6.3.12 of this report sets out an assessment of the potential effects of land disturbance activities, including the proposed mitigation measures.

(b) The concentrations and loadings of contaminants in the discharge.

The treatment process at the WWTP will produce reclaimed water which will conform to the following parameters:

- BOD <10mg/L,
- SS <10mg/L,
- Total N <30mg/L,
- P <10mg/L,
- TDS 600mg/L,
- Faecal coliforms <23organisms/100mL.

All irrigated water will be processed through the surface soil layer and through the vegetation. The nutrients in the water supply approximately 50 per cent of the nutrient requirements of the pasture. Although reclaimed water can also contain viruses, they are eliminated quickly in soil that is not saturated.

(c) The nature and sensitivity of the receiving environment including the proximity of the discharge to water bodies and the water body's associated cultural values, and the proximity to identified significant natural features, archaeological sites and historic features.

A detailed assessment of the effects of the proposal on the environment is set out in Section 6 of this report. In summary, the water quality and ecology of the small streams in the area are adversely affected by pastoral development. Many of the minor creeks and streams have been heavily modified, with most lower streams formed into channels, at least in part, and generally devoid of riparian vegetation. These in

turn detrimentally affect the Mangawhai Estuary, effects which are magnified by discharges of human sewage to groundwater and thence the estuary.

The foreshore is largely developed in the Mangawhai area, with dwellings running down to the foreshore or esplanade reserves.

Monitoring of the estuary has been undertaken since 1976 and has shown frequent instances of sewage contamination in excess of accepted guidelines.

Overall the proposed wastewater reticulation system will have a beneficial impact on local stormwater and groundwater quality through the provision of a comprehensive wastewater collection and treatment system.

(d) The mitigation measures and safeguards incorporated into the design of the various components of the proposed effluent or stormwater collection, treatment and disposal system.

Mitigation measures and safeguards to be incorporated into the various components of the proposed effluent treatment and disposal system are detailed in Section 3 of this report and include the avoidance and management of blockages, contingency plans for loss of power to the pumping stations, emergency storage facilities, alarms, overflow control and maintenance.

Mitigation measures for the proposed waste water treatment plant include measures to mitigate noise and odour and are detailed in Section 3.5.4 of this report.

(e) The adequacy of the Assessment of Environmental Effects.

It is considered that the Assessment of Effects on the Environment supplied in this report is sufficiently detailed and informative for a proposal of this nature.

(f) The adequacy of the assessment of alternatives and whether or not the proposed effluent treatment and disposal system is the best practicable option.

An assessment of the alternatives and options is set out in Section 5. It is considered that the proposed system is the best practicable option for treatment and disposal of effluent in the Mangawhai area.

(g) The adequacy of any Management Plan (where required) for the operation and management of the proposed effluent treatment and disposal system.

A Management Plan for the proposed effluent treatment and disposal system has been prepared and is attached as Appendix 5.

(h) For stormwater discharges, the adequacy of the collection and reticulation system in relation to the overall catchment drainage and the need for a stormwater management plan to be prepared.

(i) The adequacy of any proposed monitoring programme to monitor the effects of the discharge.

Discharge of treated effluent at Lincoln Downs site:

This is addressed in the site environmental plan referred to above for the treatment and disposal sites

Discharge of treated effluent to a water course; and

Unintended discharges from pump stations that do not meet controlled activity status;

An alarm system is in place so that at all times operators know:

1. When spills from pump station are imminent
2. When spills from pump station into emergency storages start occurring
3. When the emergency storage reaches capacity and spills to the environment is imminent

These procedures are described in Sections 3.4.3, 3.4.5, 3.4.6 and 3.4.7 of this report.

Diversion and discharge associated with land disturbance activities;

A draft "Project Specific Environment Management Plan" is attached at Appendix 5 to this report.

In summary it is considered that the proposal is consistent with the assessment criteria for Discharge Permit applications.

Assessment Criteria for Water Permit Applications to Take, Use, Dam and Divert Water - Clause 36.2

A water permit is sought for:

The use of water in a dam that is not in a stream or riverbed or lake

Clause 36.2 states that applications for water permits for discretionary and non-complying activities will be assessed in accordance with Sections 104 and 105 of the RMA and have regard to the following assessment criteria, of which there are general assessment criteria and specific criteria for the taking of water from dams:

36.2.1 General Assessment Criteria

(a) The adequacy of the Assessment of Environmental Effects, in terms of the Fourth Schedule of the Act.

It is considered that the Assessment of Effects on the Environment supplied in this report is sufficiently detailed and informative for a proposal of this nature.

(b) The adequacy of information substantiating the applicant's need for water.

It is not proposed to take water from an existing water body, but to create a storage dam and then irrigate land with the water stored in this dam.

(c) The extent to which the taking of water from the proposed source will impact on the resource, and on other users, including any cumulative effects of the takes on the resource.

As stated above, the proposed dam will be constructed for the sole purpose of storing treated effluent prior to its disposal by irrigation to farm land.

(d) The adequacy of the assessment of any alternative water sources considered, or other water management strategies and the reasons for selecting the proposed water source.

No other sources were considered, as the proposed dam is to be constructed as part of the treatment and disposal system.

(e) The adequacy of any water conservation and mitigation measures for the proposed system.

The scheme enables the reuse and conservation of water resources.

(f) The number, location and type of point source discharges which could contribute nutrients and organic material to the river, and the effect of the water take on the ability of the water body to assimilate those contaminants.

There will be two sources of water to the dam: treated effluent from the waste water treatment plant, and rainfall. The dam will be emptied annually by way of irrigation of surrounding farm land.

(g) The extent to which the natural character of the environment is maintained.

(h) The extent to which amenity, cultural, recreational and social values and economic well-being are adversely affected.

An assessment of the effects of the proposal on the natural character of the environment, and on the amenity, cultural, recreational and social values and economic well-being is set out in Section 6 of this report.

(i) The adequacy of any proposed monitoring programme to monitor the effects of the taking, use, damming or diverting of water.

It is considered that a monitoring programme is not required in this case as the dam will be purpose built for the storage of treated effluent prior to disposal.

36.2.3 Assessment Criteria for Takes from Dams

(a) The adequacy of information on fish migration in the catchment and the likely effects of the proposed dam on fish migration.

As the dam will be a standalone structure and will not be formed from an existing watercourse, it is considered that there will be no effects on fish migration.

(b) The extent to which siltation and plant growth downstream of the dam may be affected, particularly during dam replenishment.

(c) The adequacy of any provisions made to ensure downstream water quality is maintained.

The dam will be a standalone structure and will not be created from an existing watercourse.

(d) The level of the water supply intake within the dam reservoir, and the likelihood of offensive odours from the intended use of the water.

A discussion of the potential odour effects is set out in Section 6 of this report.

In summary it is considered that the proposal is consistent with the assessment criteria for Water Permit applications.

Assessment Criteria for Land Use Consent Applications for Structures and Works in, on, under or over the Bed of a River or Lake – Clause 36.3

The proposal will involve the crossing of several watercourses, ranging from farmland creeks to the Hakaru River. Details of these crossings are set out in Section 6.3.2 of this report.

Clause 36.3 states that applications for land use consents for discretionary and non-complying activities will be assessed in accordance with Sections 104 and 105 of the Act and have regard to the following:

36.3.1 General Assessment Criteria

(a) The adequacy of the Assessment of Environmental Effects, in terms of the Fourth Schedule of the Act.

It is considered that the Assessment of Effects on the Environment supplied in this report is sufficiently detailed and informative for a proposal of this nature.

(b) The adequacy of the assessment of any alternative locations or methods considered, and the reasons for selecting the proposed location and/or method.

An assessment of the alternatives and options is set out in Section 5.

(c) The length of time to complete the works and whether the resulting degradation in water quality is considered to be temporary.

(d) The adequacy of any proposed mitigation measures for the proposed system.

The length of time taken to complete works to install the crossings of watercourses detailed in Section 6.3.2 of this report will vary depending on the type of crossing. Open excavations may be up to three days in duration, but will only be used where water flow is low. Boring under creeks would take up to five days, and trenching in road shoulders adjacent to watercourses may also take up to 5 days. Sedimentation control measures will be put in place as detailed in Section 6.3.2.

(e) The adequacy of any proposed monitoring programme to monitor the effects of the proposed structure or works.

A monitoring programme is not considered necessary given the scale and nature of the proposed watercourse crossings.

(f) The proximity of the proposed works to any protected natural feature, protected archaeological site or historic feature, waahi tapu or urupa and any effects on them.

Details of the archaeological, historic and waahi tapu effects are set out in Section 6.3.8 of this report.

(g) The adequacy of the provision made to maintain fish movement upstream and downstream where this is required.

(h) The extent to which the structure or works would cause adverse drainage or flooding effects on surrounding properties.

It is considered that due to the nature of the watercourses being crossed and the methods employed for their construction, there will be no adverse drainage or flooding effects on surrounding properties. The pipelines will either be attached to existing bridges or bored or excavated underground.

(i) Where an indigenous wetland is likely to be adversely affected, whether the indigenous wetland has significant ecological values in accordance with the criteria outlined in Appendix 13B, Criteria for Significant Areas of Indigenous Vegetation and Habitats of Indigenous Fauna (Also in Regional Policy Statement, Section 23).

As detailed in Section 6 of this report, it is considered that the proposal will not result in adverse effects on an indigenous wetland.

(j) The extent to which amenity, cultural, recreational and social values and economic well-being are adversely affected.

An assessment of the proposal against amenity, cultural, recreational and social values and economic well-being is set out in Section 6 of this report.

(k) The extent to which the structure is likely to cause scour or erosion and the methods proposed for avoiding these effects.

Refer to comments made with reference to criteria (c) and (d).

(l) The extent to which the proposal would require the destruction of riparian vegetation and the adequacy of proposals for enhancement or restoration of riparian vegetation.

The plan titled “*Mangawhai Ecocare Scheme – Locations of Water Course Crossings*” shows the proposed water course crossings. Having regard to this plan, the following comments are made with respect to the impact of each crossing on riparian vegetation:

1. Estuary Crossing: No removal or damage to riparian vegetation as the pipeline will be attached to an existing bridge, and in the areas either side of the bridge, the pipeline will be constructed in the road shoulder (remote from vegetation).

-
2. (i) Transfer Pipeline within Estuary Estate: No removal or damage to vegetation.

(ii) Sewage Pipeline along Molesworth Drive: The pipeline will be constructed in the road shoulder (remote from vegetation)
 3. Hakaru tributary Wintle Property: The pipeline will be constructed within an existing race and at the creek crossing, span the creek adjacent to an existing culvert. No damage to riparian vegetation will result.
 4. Hakaru River Tributary Brunt Property: The pipeline will be dug through the watercourse (it is a minor one) and there is no vegetation in the stream area.
 5. Hakaru River: The pipeline will be bored – partly because the stream is more significant than others and partly because of the vegetation on the verges of the stream
 6. Cook Creek Tributary: No damage or removal of riparian vegetation
 7. Cook Creek: No damage or removal of riparian vegetation
 8. Cook Creek: No damage or removal of riparian vegetation, the pipeline will be constructed to span the creek adjacent to an existing bridge

Considerations of applications of this type must also give consideration to the provisions of Proposed Plan Change 1 24.01.05b, which have been considered in Section 4.3.3 of this report.

In summary it is considered that the proposal is consistent with the assessment criteria for applications for structures in, on, over, or under the beds of rivers or lakes.

Assessment Criteria for Applications for Land Disturbance Activities – Controlled Activity Clause 33.2

Provided the applicant satisfies the matters over which the council has determined it will exercise control, applications for controlled activities must be granted. In this case the council has determined to exercise its control over

1. *The adequacy of sediment and run-off control measures.*
2. *The location and extent of any earthworks.*
3. *The adequacy of the site rehabilitation and revegetation measures to control sediment discharge and adverse effects on soil conservation.*
4. *Information and monitoring requirements.*

In the circumstances of this application where trenching will operate within confined areas of properties and road reserve, it is proposed that the council impose a set of standard conditions appropriate to this type of work. Refer to Section 6 and Appendix 6.

In respect of the dam, where the elements over which the council would expect to exercise its control will be determined at the time of detailed design of the dam, it is proposed that the council impose conditions including a management plan to reflect the matters over which the council will exercise its control, such a plan to be subject to approval by an officer of the council.

Assessment Criteria for Applications for Land Disturbance Activities – Clause 36.4

These criteria would apply in respect of applications for land disturbance and trenching in road reserve and other locations in the Riparian Management Zone (34.03.01). Clause 36.4 states that applications for land use consents for discretionary and non-complying activities for land disturbance activities will be assessed in accordance with Sections 104 and 105 of the Act and have regard to the following:

(a) The scale, method and timing of the land disturbance activity and the nature of the surrounding catchment.

(b) The proximity of the land disturbance activity to any water body, the nature and sensitivity of the water body and any associated values and the likely effects on that water body.

An assessment of the effects of the proposed land disturbance activities is set out in Section 6.3.12 of this report.

(c) The proximity of the land disturbance activity to any areas of significant indigenous vegetation and significant habitats of indigenous fauna that meet the criteria in Appendix 13B, any outstanding or significant natural feature identified in a regional or district plan, any known archaeological site or historic feature, waahi tapu or urupa; and any effects on them.

Details of the archaeological, historic and waahi tapu effects are set out in Section 6.3.8 of this report.

(d) The expected efficiency of sediment control measures and any other mitigation measures.

Proposed sediment control measures are set out in Section 6 of this report.

(e) The removal and/or any retention of vegetation and the expected efficiency of any revegetation and/or rehabilitation programme.

Section 5.5.2 of this report summarises the reasons for adopting the proposed alignment of the pipelines, which will mainly be in the road reserve, as this will avoid impacts on native vegetation. Section 6.3.3 of this report further notes that the reticulation system, transfer pipeline for treated effluent, and reuse area will largely avoid vegetation. The WWTP is proposed to be located within vegetated parkland, but in order to minimise loss of vegetation, the footprint is minimised and vegetation will be retained for screening purposes.

(f) The adequacy of any proposed monitoring programme to assess the effects of the activity on the environment.

No monitoring programme is proposed at this stage, but would be appropriate to set as a condition of consent.

(g) The practicality of alternative methods to undertake the activity and their likelihood of having reduced environmental effects.

An assessment of the practicability of alternative methods to undertake the activity is set out in Section 5 of this report.

In summary it is considered that the proposal is consistent with the relevant assessment criteria for applications for land disturbance activities.

7.7.2 Regional Air Quality Plan

7.7.2.1 Reasons for Consent

The consent requirements for the proposal are detailed in Section 4 of this report. In summary, the consents sought under the Regional Air Quality Plan for Northland are as follows:

- Air discharge permit for discharge of dust from earthworks
- Air discharge permit for the discharge of odour from the sewerage scheme in its entirety (Waste Water Treatment Plant, reticulation system, pump stations, and disposal site).

7.7.2.2 Objectives and Policies

The objectives and policies of the Regional Air Quality Plan are set out in section 6 of the Plan.

Relevant objectives are:

The sustainable management of Northland's air resource including its physical, amenity and aesthetic qualities by avoiding, remedying or mitigating adverse effects on the environment from the discharge of contaminants to air.

The maintenance and, where necessary, enhancement of the quality of the environment so that it is free from noxious, dangerous, offensive or objectionable adverse effects associated with discharges to air, such as odour, dust, smoke and poor visibility.

The reduction and minimisation of adverse effects from discharges of contaminants to air of global significance, such as greenhouse gases or ozone depleting substances, in agreement with government policy.

Related policies seek to:

To maintain the existing high standard of ambient air quality in the Northland region, and to enhance air quality in those instances where it is adversely affected, by avoiding, remedying or mitigating adverse effects of activities discharging contaminants to air.

To avoid, remedy or mitigate the adverse effects generated by discharges of contaminants to air including cumulative or synergistic/interactive effects.

To recognise that many activities which discharge contaminants to air have a minor effect on the quality of Northland’s air environment.

To manage the discharge of hazardous, noxious and dangerous contaminants to air in a manner that ensures any adverse environmental effects, including on human health, are avoided, remedied or mitigated.

Where the effects of activities are unknown or not well understood, to adopt a precautionary approach to the granting of resource consent applications for the discharge of contaminants to air where it is considered that the effects of such discharges on the environment may be significant.

Where necessary, apply the best practicable option to discharges of contaminants to air, while complying with the other policies in this Plan.

To recognise that discharges of contaminants to air may adversely affect other receiving environments.

Potential discharges to air resulting from the proposed activity may arise in the form of dust from construction earthworks and odour from the waste water treatment plant, pumping stations, and the disposal site. The likely extent and effect of these discharges is assessed in Section 6 of this report, as well as mitigation measures. It is not considered that these discharges will be of a scale or nature that would make them of global significance.

7.7.2.3 Assessment Criteria

The table below sets out the relevant assessment criteria in the Plan that are required to be considered for the consent types sought under this application.

Table 7-2: Assessment Criteria under the Regional Air Quality Plan for Northland

Consent Type Sought	Activity Status	Assessment Criteria
Air discharge permit for discharge of dust from earthworks	Discretionary (where permitted activity standards set out in 9.1.4 not met)	12.2 – General Assessment Criteria 12.4 – Assessment Criteria for Dust
Air discharge permit for discharge of odour from sewerage system	Discretionary (where permitted activity standards set out in 9.1.6 not met)	12.2 – General Assessment Criteria 12.7 – Assessment Criteria for

Consent Type Sought	Activity Status	Assessment Criteria
		Odour

The assessment criteria identified in the above table are set out below, with an assessment of the proposal against these criteria.

General Assessment Criteria for Applications for Air Discharge Applications – Clause 12.2

Clause 12.2 states that applications for Air Discharge Permits for Discretionary Activities and Non-complying Activities will be assessed in accordance with Sections 104 and 105 of the Act and have regard to the following matters:

- (a) Whether the applicant has proposed the best practicable option to avoid, remedy or mitigate adverse effects on the environment and whether the applicant has considered a range of alternative options for mitigation.*
- (b) Whether the applicant has proposed good management practices to avoid, remedy or mitigate adverse effects arising from discharges.*
- (c) The adequacy of any proposed monitoring programme to assess the effects of the discharge.*
- (d) Any actual or potential adverse effects on human health, safety and wellbeing.*
- (e) Any actual or potential adverse effects on the health and functioning of ecosystems and plants and animals, including those of commercial significance.*
- (f) Any actual or potential adverse effects on cultural, scenic, amenity, recreational or heritage values of any areas, places, sites or features.*
- (g) Any actual or potential adverse effects on other receiving environments.*
- (h) Where technically possible the extent to which the proposal will add to the synergistic, interactive or cumulative adverse effects of discharges on ambient air quality.*
- (i) Whether there are sensitive adjoining land activities or features such as public places, water bodies, dwellings.*
- (j) Any effects of low probability but high potential impact.*
- (k) Surrounding environmental conditions that may affect the frequency, duration, intensity and degree of environmental effects, including topography, wind speed and direction, and other climatic conditions.*
- (l) The extent to which the proposal provides compensating environmental benefits.*

(m) The degree to which the discharger adopts the best practicable option.

(n) The extent to which the proposal contributes or may contribute to economic, social and cultural wellbeing of the people and the communities.

The detailed assessment of effects of the proposal on the environment set out in Section 6 covers the relevant assessment criteria above.

Additional Criteria for Discharges of Dust – Clause 12.4

(a) Whether it is reasonable to permit frequently used yards and accessways of industrial and trade premises to be left unsealed.

This criterion is not considered to be applicable to this proposal.

(b) Whether the proposal incorporates dust prevention or mitigation measures such as buffer areas or screen planting.

The potential discharge of dust may arise from the earthworks required for the construction of the proposed reticulation system, the waste water treatment plant, and the pipeline from the waste water treatment plant to the storage dam. A detailed assessment of these effects and mitigation measures proposed is set out in section 6.3.12 of this report.

Additional Criteria for Discharges of Odour – Clause 12.7

(a) Whether the activity complies with the relevant national regulations, standards and codes of practice.

Odour management will be carried out in line with the “*Good Practice Guidelines for Assessing and Managing Odour in New Zealand*”.

This involves design activities in order to obtain:

1. a resource consent for a new activity, and
2. monitoring for compliance with resource consent conditions

More details on these matters is provided in Section 6.3.6 of this report.

(b) Whether there are sufficient buffer areas and/or screening from adjacent land uses.

(c) Whether measures have been taken to ensure that there will be no discharge of odour which is offensive or objectionable at or beyond the property boundary.

(d) The frequency, intensity, duration and offensiveness of the odour associated with the discharge.

As outlined in Section 5 of this report, the proposed sewerage scheme will involve air discharges from the pump stations and pipelines in various locations, as well as from the WWTP. Where practicable, odours

at discharge locations will be avoided or mitigated through the use of blowers, such that odour levels are reduced to less than noticeable levels. At the WWTP specific controls will be put in place related to the influent screen in particular, as well as by housing the area and reducing the degree of turbulence. It is considered therefore that the discharges to air will, with the appropriate levels of mitigation, provide adequate mitigation of effects. However, a review clause would be anticipated, so that further work may be in consultation with the regional council if the measures specified prove not to be entirely satisfactory.

7.7.3 Regional Coastal Plan

7.7.3.1 Reasons for Consent

The consent requirements for the proposal are detailed in Section 4 of this report. Consent is sought under the Regional Coastal Plan for Northland for a non-complying activity for the construction of pipelines crossing the Coastal Marine Area. This is a non-complying activity pursuant to Clause 31.3.4m of the Plan.

7.7.3.2 Objectives and Policies

As with the regional policy statement, the sewerage scheme satisfies a range of objectives and policies by seeking to remove the discharge of sewage from indirect discharge to the coastal marine area. Therefore these will not be canvassed again where they have already been considered under the policy statement. Rather consideration will be given to issues related to the pipelines that cross the coastal marine area at three locations, bearing in mind that co-location with other services is the selected option.

Protection of Significant Indigenous Vegetation and the Habitats of Significant Indigenous Fauna

The relevant objectives and policies relating to the protection of significant indigenous vegetation and fauna are contained in Section 9 of the Northland Regional Coastal Plan, and are set out below:

Objective 9.1.3

The protection of areas of significant indigenous vegetation within Northland's coastal marine area from the adverse effects of subdivision, use and development.

Policy 9.1.4.1

To identify areas of significant indigenous vegetation, including mangroves, within Northland's coastal marine area and protect these from the adverse effects of subdivision, use and development

Although not directly related to the sewerage scheme, the scheme itself will provide the impetus for closer subdivision in the Mangawhai area, as opposed to larger lot subdivision that would be required in order to accommodate satisfactorily the drainage requirements of most on-site systems. In addition,

reticulation system will enable the amelioration of the detrimental aspects development on the ecology of the area.

Recognition of and provision for Maori and their culture and traditions

The relevant objectives and policies relating to the recognition of Maori and their culture and traditions are contained in Section 11 of the Northland Regional Coastal Plan, and are set out below:

Objective

The management of the natural and physical resources within Northland's coastal marine area in a manner that recognises and respects the traditional and cultural relationships of tangata whenua with the coast.

Policies

1. *To recognise and, as far as practicable, provide for the concerns and cultural perspective of tangata whenua with respect to the protection of natural and physical resources (especially seafood) in the coastal marine area.*
2. *To recognise and, as far as practicable, provide for the concerns and cultural perspectives of tangata whenua in regard to the disposal of waste into water.*
3. *To directly involve tangata whenua in resource management decision making in the following areas:*
 - (a) *Where Taiapure are established under the provisions of the Fisheries Act 1996;*
 - (b) *Where maataitai reserves are established under the provisions of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992;*
 - (c) *Waters classified for cultural purposes.*

Te Uri o Hau have been involved in discussions about and are supportive of the proposed sewerage scheme since its inception. Support was expressed at the last meeting in July 2006 between the council, Te Uri o Hau and Earth Tech for the proposal to discharge treated effluent to land. Te Uri o Hau will continue to be involved in the construction process.

Cultural Heritage Values

The relevant objectives and policies relating to cultural heritage values are contained in Section 12 of the Northland Regional Coastal Plan, and are set out below:

Objectives

1. *The recognition and protection of sites, buildings and other structures, places or areas of cultural heritage value within Northland's coastal marine area.*
2. *The recognition and protection of sites, buildings and other structures, places or areas of cultural heritage value that exist adjacent to the coastal marine area and may be adversely affected by use and development of the coastal marine area.*

Policies

1. *To identify sites, buildings and other structures, places or areas of cultural heritage value within Northland's coastal marine area and, where practicable, assist in the protection of those at risk from the adverse effects of use and development.*
2. *To encourage tangata whenua to identify waahi tapu and other sites of traditional, spiritual or cultural significance to Maori within or immediately adjacent to the coastal marine area within their rohe and to assess for themselves the most appropriate means of providing for the protection of these sites.*
3. *In assessing the potential effects of a proposed activity to identify whether an activity will have an adverse effect on a known site, building, place or area of cultural heritage value within the coastal marine area or on adjoining land.*

Archaeological sites are identified in the Kaipara District planning maps where known. None are identified in the areas subject to the sewerage scheme.

All excavation works will be undertaken in accordance with archaeological protocols whereby work will cease and the appropriate authorities (including the New Zealand Historic Places Trust and Te Uri o Hau) will be informed if archaeological remains are found during excavation works. Where appropriate, services will be relocated to protect archaeological features.

Consultation has been undertaken with Te Uri o Hau, and it is to be expected that they will be represented at certain stages of the work.

Water Quality

The relevant objectives and policies relating to water quality are contained in Section 13 of the Northland Regional Coastal Plan, and are set out below:

Objective

The maintenance, and where practicable, enhancement of water quality within Northland's coastal marine area.

Policies

1. *To classify the waters within Northland's coastal marine area as a means of clearly identifying the water quality management aims for individual areas of coastal water, and in a manner which recognises:
 - (a) the high standard of existing water quality of the majority of Northland's coastal waters;
 - (b) existing detailed information on the quality of the waters of the Whangarei Harbour and the Bay of Islands;
 - (c) the importance of water quality to safe contact recreation and the quality of naturally occurring and commercially-grown edible shellfish resources;
 - (d) the need to safeguard the life-supporting capacity of coastal waters and ecosystems, and to ensure that appropriate water quality standards are maintained.*
2. *As far as practicable, to identify any parts of the coastal marine area which are, or which have the potential to be, significantly degraded by use and development and institute appropriate remedial action giving priority to areas of high use by the general public.*
3. *To increase public awareness of the importance of maintaining and enhancing coastal water quality.*

The proposed treatment and disposal system will assist in the enhancement of water quality of water bodies in the Mangawhai area, particularly the estuary.

Air Quality

The relevant objectives and policies relating to air quality are contained in Section 14 of the Northland Regional Coastal Plan, and are set out below:

Objectives

1. *To maintain the high standard of air quality within Northland's coastal marine area.*
2. *To achieve the integrated management of coastal air quality across the administrative boundary of the line of Mean High Water Springs.*

Policies

2. *When considering any application for a plan change or resource consent for activities within or near to the coastal marine area that involve discharges of contaminants into air, consent authorities shall recognise that airborne contaminants can drift in either direction across the line of Mean High Water Springs.*

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3. *Unless a different approach is required in response to specific coastal issues, methods for the control of particular types of discharge to air within the coastal marine area shall be the same as those adopted on the landward side of Mean High Water Springs.*
 4. *Differences in the nature and sensitivity of the receiving environment (including existing ambient air quality) shall be recognised when determining an acceptable level of effect on the environment in relation to discharges of contaminants into air within the coastal marine area.*

The proposal will be consistent with the objectives and policies relating to air quality. Air discharges in the form of odours and dust may arise from the proposed system. A detailed assessment of the effects of these odours and methods to mitigate them are detailed in Section 6 of this report.

Natural Hazard Management

The relevant objectives and policies relating to natural hazard management are contained in Section 15 of the Northland Regional Coastal Plan, and are set out below:

Objectives

1. *The avoidance, remediation, or mitigation of the adverse effects of natural hazards on coastal subdivision, use and development.*
2. *The avoidance, remediation, or mitigation of the adverse effects of subdivision, use and development on the exacerbation of natural hazards in the coastal marine area.*

Policies

1. *To promote a consistent and co-ordinated approach toward managing coastal erosion and other natural hazards in Northland, including the identification and protection of natural systems which are a natural defence against erosion and inundation.*
2. *In consideration of coastal permit applications as far as practicable, to ensure that use and development, including coastal works, structures and reclamations within the coastal marine area:*
 - (a) are located and designed so as to avoid risk of damage by natural hazards; and,*
 - (b) cause minimal interference with natural sediment transport processes.*

The proposal involves the crossing of the Coastal Marine Area at three locations as detailed in section 6.3.1 of this report. One of these crossings will be on the bridge on Molesworth Drive, and two will be crossings of unnamed creeks. Given the location of the proposed crossings on the bridge on Molesworth Drive (an existing structure) and the crossing of the two unnamed creeks (having low water levels), it is

considered that the proposed crossings will not result in an exacerbation of any natural hazards associated with the coastal marine area, nor be at risk of damage by natural hazards.

Structures

The relevant objectives and policies relating to structures are contained in Section 17 of the Northland Regional Coastal Plan, and are set out below:

Objective

The provision for appropriate structures within the coastal marine area while avoiding, remedying or mitigating the adverse effects of such structures.

Policies

2. *Within all Marine Management Areas, to provide for:*

(a) the authorisation of appropriate existing unauthorised structures and to facilitate

(b) the removal of all other unauthorised existing structures which do not meet those specified criteria.

3. *Within all Marine Management areas, to consider structures generally appropriate where:*

(a) there is an operational need to locate the structure within the coastal marine area; and

(b) there is no practical alternative location outside the coastal marine area; and

(c) multiple use is being made of structures to the extent practicable; and

(d) any landward development necessary to the proposed purpose of the structure can be accommodated; and

(e) any adverse effects are avoided as far as practicable, and where avoidance is not practicable, to mitigate adverse effects to the extent practicable.

A structure that does not meet all of the considerations listed above may also be an appropriate development, depending on the merits of the particular proposal.

4. *Notwithstanding Policy 3, within Marine 1 and Marine 2 Management Areas, to assess applications for new structures, with particular reference to the nature of and reasons for the proposed structures in the coastal marine area and to any potential effects on the natural character of the coastal marine area, on public access, and on sites or areas of cultural heritage value.*

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7. *In assessment of coastal permit applications to promote the integrated management of structures and their associated activities where these traverse the landward coastal marine area boundary.*
 8. *In assessment of coastal permit applications to require that all structures within the coastal marine area are maintained in good order and repair and that appropriate construction materials are used.*
 9. *In Marine 1, 2, 3 and 4 Management Areas to restrict the presence of buildings and signs within the coastal marine area.*

It is proposed to construct two pipelines crossing the existing bridge at Molesworth Drive, one carrying raw sewage and one carrying treated effluent. Locating the pipelines on the existing bridge were considered to be the most practicable options as it allows for the easiest means of construction, avoids the need for intrusion into private property and intrusion into estuarine environment which would be required if other alignments were adopted, and facilitates access to the pipelines should further maintenance works be required. The construction of the pipelines on the existing bridge removes the necessity for a secondary structure to be constructed, thereby minimising impacts on the coastal environment, as well as the potential cumulative visual impacts of structures in the coastal environment.

Discharges to Water

The relevant objectives and policies relating to discharges to water are contained in Section 19 of the Northland Regional Coastal Plan, and are set out below:

Objective

The avoidance of the effects of discharges of contaminants to Northland's coastal water and the remediation or mitigation of any adverse effects of those discharges of contaminants to coastal waters, which are unavoidable.

Policies

2. *Subject to Policy 1, in the consideration of coastal permit applications, to progressively eliminate direct discharges of human sewage to the coastal marine area from land-based wastewater treatment facilities, including existing authorised discharges, except where:*
 - (a) the allowance of the discharge better meets the purpose of the Act than disposal on to land; and*
 - (b) there has been consultation with the tangata whenua in accordance with tikanga Maori and due weight has been given to Sections 6, 7 and 8 of the Act; and*
 - (c) there has been consultation with the community generally.*

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4. *To ensure that the individual and cumulative effects of authorised discharges to the coastal marine area do not compromise the maintenance and enhancement of coastal water quality.*
 5. *To progressively eliminate, as far as practicable, unauthorised discharges of contaminants to the coastal marine area, particularly those which contain:*
 - (a) untreated sewage (including those from ships and other vessels); or*
 - (b) toxic substances in concentrations or amounts which are likely to have significant adverse effects on aquatic life or other uses of the coastal marine area.*

The proposed waste water treatment and disposal system will assist in the elimination of uncontrolled direct discharges of human sewage to the coastal marine area. It is proposed to dispose of treated effluent to land, and the proposal should result in the enhancement of the water quality of the Mangawhai Harbour as a result of an improved waste water treatment and disposal system.

Network Utilities and Services

The relevant objectives and policies relating to Network Utilities and Services are contained in Section 24 of the Northland Regional Coastal Plan, and are set out below:

Objective

Provision for network utilities and services within Northland's coastal marine area while avoiding, remedying or mitigating the adverse effects of such activity.

Policies

1. *To identify within this Plan, the type and location of existing authorised network utilities and services currently within the coastal marine area and provide for their operation and maintenance subject to specified criteria.*
2. *To ensure that existing authorised network utilities and services in the coastal marine area are managed so as to, avoid, remedy or mitigate adverse environmental effects.*
3. *To ensure that any new network utilities and services within the coastal avoid adverse environmental effects, and where avoidance is not practicable, to mitigate adverse effects and provide for remedying those effects to the extent practicable.*
4. *Subject to policy 3, to provide for the construction or emplacement of new network utilities and services within the coastal marine area provided that it can be shown that:*
 - (a) existing facilities are insufficient, inappropriate and/or have adverse environmental effects;*
 - and,*

(b) the new facility will have a demonstrable public benefit; and

(c) there is no practicable alternative method, route, or site on land which better meets the purpose and principles of the Act.

The objective above provides for Network Utilities in the coastal marine area. An assessment of the likely adverse effects on the environment is set out in Section 6 of this report, including any mitigation measures proposed.

Marine 1 (Protection) Management Area

Parts of Mangawhai Harbour are in the Marine 1 (Protection) Management Area. The relevant objectives and policies relating to Marine 1 (Protection) Management Area are contained in Section 25 of the Northland Regional Coastal Plan, and are set out below:

Objectives

- 1. The protection of the important conservation values identified within Marine 1 (Protection) Management Areas including their ecological, cultural, historic, scientific, scenic, landscape and amenity values.*
- 2. Subdivision, use, and development in Marine 1 (Protection) Management Areas occurring without adverse effects on the areas' important values and natural character.*
- 3. To achieve local community involvement in the identification and protection of the important conservation values (as identified in Appendix 9), and the preservation of the natural character, of areas within the Marine 1 (Protection) Management Area.*

Policies

- 1. The Council and Consent Authorities will give priority to avoiding adverse effects on the important conservation values (as identified in Appendix 9) associated with an area within any Marine 1 (Protection) Management Area when considering the subdivision, use, development and protection of the Northland Region's Coastal Marine Area.*
- 2. The Northland Regional Council will consider additional means of protecting the important conservation values identified in the Marine 1 (Protection) Management Areas beyond the scope of the Resource Management Act 1991, and encourage other agencies including the Department of Conservation, Ministry of Fisheries and Iwi Authorities to do the same.*
- 3. When considering any coastal permit application within the Marine 1 (Protection) Management Area, to implement the policies in the New Zealand Coastal Policy Statement and in Part IV (Protection Policy) of the Regional Coastal Plan for Northland which are consistent with the purpose of this Marine Management Area.*

4. *Subdivision, use and development proposals within the Marine 1 (Protection) Management Area will be considered appropriate where;*
- (a) the proposal gives rise to a demonstrable public benefit; and*
 - (b) there are no practical alternative locations available outside the Marine 1 (Protection) Management Area; and*
 - (c) the level of adverse effects on the important conservation values identified as occurring within that particular area are no more than minor.*

The provision of a waste water reticulation and treatment system will assist in the enhancement of the water quality of the Mangawhai Harbour. There is demonstrable public benefit arising from the scheme. An assessment of the effects of the proposal is set out in Section 6 of the report and Section 5 of the report details the alternative options considered and the reasons for selecting the proposed development.

7.7.3.3 Assessment Criteria

The table below sets out the relevant assessment criteria in the Plan that are required to be considered for the consent types sought under this application.

Table 7-3: Relevant Assessment Criteria in the Regional Coastal Plan

Consent Type Sought	Activity Status	Assessment Criteria
Construction of pipelines crossing the Coastal Marine Area	Non-complying	32.1 – General Criteria 32.2.1 – Specific Criteria for Structures

The assessment criteria identified in the above table are set out below, with an assessment of the proposal against these criteria.

General Assessment Criteria – Clause 32.1

Clause 32.1 states that the primary criteria for assessing applications for coastal permits are the relevant provisions of the Resource Management Act, New Zealand Coastal Policy Statement and the Regional Policy Statement, which in turn require regard to be had to the objectives and policies within the Regional Coastal Plan. The following criteria are intended to assist the consent authority and applicants in determining the actual and potential effects of activities which are subject to consent requirements under section 26 of the Regional Coastal Plan.

- 1. The reasons for and operational requirements of the proposed use or development within the coastal marine area and the extent to which alternative options to a location within the coastal marine area have been considered.*

The reasons for the requirement of the sewerage scheme are set out in Section 3 of this report, and the alternatives considered are set out in Section 5. The requirement for the proposed scheme is well established and anticipated by the local community.

2. The extent to which existing facilities of a similar scale and nature to the proposed use or development are:

(a) located in the vicinity of the site of the proposed use or development especially on land; and,

(b) are fully utilised or otherwise not able to satisfy the potential demand for such use or development.

3. The extent to which the proposal will add to the cumulative adverse effects of use and development on the coastal environment, including those associated with similar existing uses or developments within the same locality.

4. The extent to which cumulative effects on the coastal environment can be minimised.

The proposed crossing of the CMA will occur by the installation of two pipelines on the bridge on Molesworth Drive. The pipelines will therefore be utilising an existing structure. An assessment of the potential effects of the proposed activity on the coastal environment is detailed in Section 6 of this report.

5. The extent to which the proposal will avoid sprawling, sporadic or ad hoc use or development in the coastal environment.

The installation of the proposed waste water reticulation and treatment system may indirectly discourage ad hoc subdivision in the coastal environment by providing an infrastructural incentive to developers to subdivide land that is served by the scheme.

6. The extent to which the proposed activity is consistent with the planning provisions of the adjacent land (where there are associated land-based requirements)

The extent to which the proposed activity is consistent with the planning provisions of the adjacent land is detailed in other sections of this report. It is noted that the proposed sewerage scheme is a permitted activity under the Kaipara District Plan. Overall the proposed scheme is considered to be generally consistent with planning provisions pertaining to the adjacent land.

7. The extent to which the proposed use or development will maintain or enhance public access to and along the coastal marine area, or to land, with consideration being given to the adverse effects such access would have on the natural character of the coastal environment.

8. The extent to which the proposed activity will maintain or enhance recreational opportunities in the coastal marine area or on adjacent land.

As the pipelines will be attached to an existing bridge, it is considered that there will be no alteration to existing public access to and along the coastal marine area, nor to the recreational opportunities in the coastal marine area or adjacent land.

9. The extent to which the proposal may require dredging, reclamation, impoundment, and/or foreshore protection works and structures, and the likely effectiveness of any provisions to avoid, mitigate, or remedy actual or potential adverse environmental effects caused by such activities.

No dredging, reclamation, impoundment or foreshore protection works and structures will be required to construct the crossings of the CMA.

10. Any effects of the proposed activity on those in the neighbourhood and, where relevant, on the wider community, including any socio-economic and cultural effects.

11. The effect of the proposed activity on the natural character of the site or area within which the activity is proposed and the measures to be undertaken to ensure that natural character will be preserved, particularly in relation to:

(a) the topography or bathymetry within the site or area;

(b) the natural substrate composition within the site or area;

(c) the natural water and sediment movement patterns;

(d) the biodiversity of the site or area;

(e) the biological productivity of the area;

(f) patterns of distribution and abundance of aquatic plants and animals within the site or area;

(g) natural migration or movement of fish and other mobile species.

Refer to Section 6 of this report for a detailed assessment of the effects on the neighbourhood and wider community, as well as ecological effects.

12. The extent to which the proposed development may provide, where appropriate, for the restoration or rehabilitation of the degraded natural character of an area.

Indirectly, the scheme will result in the reduction of the leaching of contaminants from on-site treatment systems to the Mangawhai Harbour, thereby improving the degraded natural character of the harbour.

13. Where the proposed activity is situated near an identified area of outstanding landscape value, as identified in section 8 of this Plan, the extent to which the proposed activity will compromise the landscape values of that area.

It is stated in the Regional Coastal Plan for Northland that an assessment of outstanding landscape areas has not been undertaken for the Kaipara District.

14. Where the proposed activity is situated near an identified landform or geological feature considered to be an outstanding natural feature, as identified in Appendix 3, the extent to which the proposed activity will damage or otherwise adversely affect that feature including effects resulting from enhanced public access, and the likely effectiveness of any proposed measures to avoid or mitigate adverse effects.

The proposed activity is not situated near an identified landform or geological feature identified in Appendix 3 of the Regional Coastal Plan.

15. For applications within Marine 1 (Protection) Management Areas, the effects of the proposal on the important conservation values (as identified in Appendix 9) pertaining to the particular area and the measures proposed to be undertaken to ensure that these values will be protected.

Given that the pipelines will be constructed on an existing structure, it is considered that the proposal will not have a detrimental effect on the conservation values identified in Appendix 9 of the Plan.

16. The potential effect of the proposed activity on saltmarshes, mangroves, eelgrass, seaweed and other forms of significant indigenous vegetation and the likely effectiveness of any proposed measures to avoid or mitigate adverse effects.

An assessment of potential adverse effects is set out in Section 6 of this report. The construction of the proposed scheme will seek to avoid adverse effects on indigenous vegetation.

17. The extent to which the proposed activity will damage or otherwise modify any significant habitat of indigenous fauna within the site or area, including effects resulting from enhanced public access, and the likely effectiveness of any proposed measures to avoid or mitigate adverse effects.

The proposal will not alter the public access to the coastal area in the vicinity of the bridge.

18. The extent to which the proposed activity will restrict public access and the likely effectiveness of any proposed measures to avoid or mitigate adverse effects, including the provision of alternative routes or points of public access.

The proposal will not alter the public access to the coastal area in the vicinity of the bridge.

19. The extent to which the proposed activity will adversely affect any site building, place or area of cultural heritage value within the site or area of the proposed activity, including effects resulting from enhanced public access, and the likely effectiveness of any proposed measures to avoid or mitigate adverse effects.

20. The extent to which the effects of an activity can be addressed through remediation measures.

Section 6 of this report sets out a range of mitigation measures to mitigate any adverse effects arising from the proposed activity.

21. The extent to which the proposed activity adversely affect natural systems acting as a defence against natural hazards and the extent to which the activity has potential to require future hazard protection works.

The pipelines will be attached to an existing bridge and will not adversely affect natural systems acting as a defence against natural hazards.

22. The extent to which provision is made to maintain or enhance water quality.

Indirectly, the scheme will result in the reduction of the leaching of contaminants from on-site treatment systems to the Mangawhai Harbour, thereby improving the water quality of the harbour.

23. The location of the proposed activity in relation to navigation channels, ski lanes, and protected anchorages and the extent to which the proposed activity will adversely affect the use of these areas.

The pipelines will be attached to an existing structure.

24. Whether use of the proposed activity will require facilities such as carparking or refuse disposal facilities and the extent to which these are provided for, or are available on land.

Not applicable to this proposal.

Additional Criteria for Specific Activities – Structures (Clause 32.2.1)

Clause 32.2.1 sets out additional assessment criteria to be considered for structures, as set out below:

1. Within Marine 1 and Marine 2 Management Areas, whether the proposed structure will be the only structure or the first of its type or the first of any significant size, within an estuary, embayment, or unmodified stretch of coastline and whether the approval of the proposed structure is likely to lead to additional proposals for structures or other types of use and development.

The pipelines will be on an existing structure – the Molesworth Drive Bridge.

2. Within Marine 3 Management Areas, the extent to which the structure enhances a safe or efficient marine farming operation or is otherwise required for marine farming operations.

Not applicable as the area is not in the Marine 3 Management Area

3. Within Marine 4 Management Areas, the extent to which the structure provides for the requirements of recreational and commercial vessels and their use, including mooring, refuelling, loading and unloading.

Not applicable as the area is not in the Marine 4 Management Area

4. Within Marine 5 Management Areas, the extent to which the structure enhances the safe or efficient port operation or is otherwise required for port operations.

Not applicable as the area is not in the Marine 5 Management Area

5. The extent to which public access to and along the coastal marine area is maintained or enhanced through the use of the proposed structure.

It is considered that the proposal will not alter any existing public access to and along the coastal marine area.

6. The degree of multiple use proposed.

The proposed pipelines will be on an existing bridge thereby making a multiple use of an existing structure.

7. The use to which the proposed structure is to be put and the appropriateness of that use in the proposed locality.

The reasons for the proposed waste water treatment and disposal system are documented in earlier sections of this report, and an assessment of the options and alternatives contained in Section 5.

8. Whether the proposed structure is the appropriate size to avoid, remedy or mitigate adverse effects (the hierarchy of “avoidance” then “mitigation” then “remediation” shall be interpreted in accordance with Policy 3.2.2 of the NZCPS, 1994) on the coastal environment, taking into account its location and proposed function.

The pipelines to be suspended from the Molesworth Drive bridge will be 250mm diameter and are considered to be of a size that will avoid any adverse effects on the coastal environment. A detailed assessment of effects is contained in Section 6 of this report.

9. The method of construction employed.

The crossings of the CMA will be by pipelines carrying treated and untreated effluent. The pipelines will be attached to the existing bridge. Section 6.3.1 of this report details the potential effects associated with this method of construction, and details why this option was selected. The alternative was to directionally drill beneath the estuary, which would have greater potential adverse effects on the coastal environment.

10. The extent to which adverse visual effects are considered and the likely effectiveness of any mitigation measures proposed. In particular in relation to proposed buildings, consideration will be given to building height, roof pitch, size and orientation of glazing, colours of external surfaces, and the interrelationship with any existing buildings, towards minimising adverse visual effects.

Where the structure is located in the Marine 5 Management Area, consideration will be given to the operational requirement for structures in that area when applying this criterion.

A detailed assessment of effects is set out in section 6 of this report, including mitigation measures where necessary. It is noted that no buildings are proposed in the Coastal Marine Area.

11. With the exclusion of Marine 5 (Port Facilities) Management Area, whether the proposed structure will compromise the recreational use of the site and the surrounding area.

The proposed structures in the Coastal Marine Area will not compromise any recreational uses of the site and surrounding area, given that they will be either attached to existing structures or installed underground.

12. Whether the proposed structure will be located in an area known to be prone to erosion and, if so, the extent to which alternatives to erecting or using the structure have been considered, including for structures associated with erosion control .

The proposed structures are not located in areas identified as being prone to erosion.

13. The extent to which the proposed structure will create erosion or siltation and the likely effectiveness of any avoidance or mitigation measures proposed.

It is considered unlikely that the proposed structures will create erosion or siltation as they will be either underground structures or attached to existing structures (the Molesworth Bridge).

14. In regard to proposed natural control structures, the extent to which alternatives to using structures and the alternative types of structures have been investigated and the reasons given for choosing the preferred option in terms of their long term benefits.

Not applicable to this proposal.

15. The extent to which sea-level rise has been taken into account in the location and design of the proposed structure.

It is noted that the lowest invert level of the pipeline within the Coastal Marine area is 2.6 metres. If the sea level rose by 2.0 metres, and allowing for wave action, the pipeline would still be above the water in the estuary.

16. The necessity for any proposed alteration or extension of an existing structure and the extent to which the proposed alteration or extension will increase adverse effects, including those on adjoining land.

Refer to comments made in response to criterion 9.

7.7.4 Kaipara District Plan

The provisions of the Kaipara District Plan are set out in Section 4 of this report. The plan anticipates the construction of a sewerage scheme and its provisions are framed accordingly, with permitted activity status for a range of public utilities, subject to standards. The conditions to the permitted activities are able to be met. In the Rural-Residential zoned areas, provision for the pipelines are being made by the developers, subject to their consents for earthworks under the District Plan.

7.7.4.1 Reasons for Consent

As detailed in Section 4 of this report, the majority of the 40km of pipe work and 15 pump stations in the Ecocare district and the 13km of pipe work and pump stations to the disposal site on public road and private land is a permitted activity under the Kaipara District Plan, subject to standards. The possible exception would be if, in respect of the individual sites where work might be undertaken, earthworks and land disturbance is likely to be more than the area (200m²) permitted. It is unlikely that this will be the case.

As no consents are sought under the Kaipara District Plan at this stage, no further assessment of the objectives and policies or assessment criteria of the Plan will be considered here. It is noted that Section 4

sets out an assessment of the relevant objectives and policies of the Plan as they support the proposed sewerage scheme.

7.8 Determination

The activities for the sewerage scheme range from permitted (but subject to standards), through discretionary, to non-complying. A range of tests that are set out in Part 6 of the Resource Management Act therefore apply. The tests for designations are set out in Part 8 of the Act.

7.8.1 Sections 104A, 104B, 104C, 104D

Sections 104A, 104B, 104C and 104D relate to the determination of particular types of applications: controlled, discretionary, non-complying or restricted discretionary activities.

Section 104A relates to the determination of controlled activities and states that after considering an application for a resource consent for a controlled activity, a consent authority must grant the resource consent, unless it has insufficient information to determine whether or not the activity is a controlled activity; and may impose conditions on the consent under section 108 for matters over which it has reserved control in its plan or proposed plan.

Section 104B relates to the determination of discretionary or non-complying activities and states that after considering an application for resource consent, a consent authority may grant or refuse the application, and if it grants the application, may impose conditions under Section 108 of the RMA.

Section 104C relates to the determination of restricted discretionary activities and states that when considering an application for resource consent, a consent authority must only consider those matters to which it has restricted the exercise of its discretion, and that it may grant or refuse the application, and may impose conditions subject to Section 108 of the RMA, but only for those matters over which it has restricted the exercise of its discretion.

Section 104D sets out particular restrictions for non-complying activities, and states that a consent authority may grant a resource consent for a non-complying activity only where it is satisfied that either the adverse effects of the activity on the environment (other than any effect to which section 104(3) (b) applies) will be minor; or the application is for an activity that will not be contrary to the objectives and policies of the relevant plan or proposed plan.

7.8.2 Section 105 – Matters Relevant to Certain Applications

Section 105 of the RMA sets out matters relevant to applications for discharge permits and coastal permits and states that if an application for a coastal or discharge permit seeks to discharge a contaminant, the consent authority must also have regard to:

The nature of the discharge and the sensitivity of the receiving environment; and

The applicant's reasons for the proposed choice; and

Any possible alternative methods of discharge, including discharge into any other receiving environment

7.8.3 Section 107 – Restriction on Grant of Certain Discharge Permits

Section 107 of the Act places restrictions on the granting of certain types of discharge permits. It states that a consent authority shall not grant a discharge permit or a coastal permit that would allow the discharge of a contaminant or water into water or a discharge of a contaminant to land in circumstances which may result in that contaminant entering water, if the contaminant or water discharged is likely to give rise to all or any of the listed effects in the receiving water.

These effects include:

- The production of any conspicuous oil or grease films, scums or foam, or floatable or suspended materials:
- Any conspicuous change in the colour or visual clarity:
- Any emission of objectionable odour:
- The rendering of fresh water unsuitable for consumption by farm animals:
- Any significant adverse effects on aquatic life.

However, a consent authority may grant a discharge permit or a coastal permit to do something that may allow any of the effects described above if it is satisfied:

- That exceptional circumstances justify the granting of the permit; or
- That the discharge is of a temporary nature; or
- That the discharge is associated with necessary maintenance work – and that it is consistent with the purpose of the RMA to do so.

7.8.4 Section 108 – Conditions of Resource Consents

Section 108 sets out the types of conditions that can be applied to resource consents.

8.1 Consultation

The Kaipara District Council adopted a consultative approach as soon as the issue became evident. This included consultation and discussion when sewerage schemes were first proposed in 1981 and again in 1988. The community said 'No' to schemes at that time.

The Mangawhai Infrastructural Asset Study initiated the round of consultation which relates to this proposal. This commenced in 1998/99. This involved extensive consultations by newsletter, public meetings, surveys, and workshops. At the end of May 1999 public workshops were undertaken to discuss the issues and options findings, including a proposed community wastewater scheme. In August 1999 a report presented to the council was accepted in principle based on (in relation to waste water alone):

- The accepted need to improve water quality in the estuary
- Indicative costs being affordable (start up fee of \$4,800 + annual rates of \$800).

Although there had already been wide consultation, the council decided to undertake further consultation, including another newsletter and a public workshop in September 1999. Subsequently District Plan Change 9 was promoted, which established planning controls within residential areas and identified areas where septic tanks were no longer acceptable in new housing construction. During the consultation phase every ratepayer was provided with details about how their particular sites were likely to be affected, together with a further opportunity for feedback.

8.1.1 EcoCare Project consultation

All consultation detailed below has been formulated and undertaken by Earth Tech in conjunction with the Kaipara District Council.

From May 2000 the EcoCare project got underway with the adoption by the council of the implementation strategy arising from the Mangawhai Infrastructure Assets Study. This included

- consideration of community feedback;
- assessment of solutions offered by the market;
- establishment of control mechanisms and a vehicle to facilitate communication with the community (project manager, project steering group, and a community liaison group);

From 2001 the following consultations have been undertaken:

- stakeholder meeting (regulators and community groups), 5 April 2001
- community open day, 24 November 2001
- Mangawhai Residents' and Ratepayers' Association meeting with bidders January 2002

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- Council presentation to the community, March 2002
 - Public forum to outline recommendation to council, August 2002
 - Feedback included that new users should pay equivalent of bio-cycle system; and that rates would be too high and should be lowered.
 - 20 community liaison group meetings
 - 8 EcoCare Newsletters, with feedback forms
 - 40 Mangawhai Memo articles, with feedback forms
 - Community open day, November 2002. Feedback included:
 - Something must be done now (90 per cent)
 - Harbour water quality is important (26 per cent)
 - Cost of project – pay over time (30 per cent)
 - Use of septic tanks in some form (38 per cent)
 - People with problem septic tanks should pay (5 per cent)
 - New users should pay (5 per cent)
 - Deal with rural pollution (5 per cent)
 - Discussions with Te Uri o Hau

The first Statement of Proposal under section 83 of the Local Government Act 2003 was issued in July 2003, with hearings in September 2003.

The second Statement of Proposal was issued in February 2006.

Second statement of proposal

The second statement of proposal examined the changed scope of the EcoCare scheme and the decision to adopt a design-build-finance-operate approach, whereby Earth Tech funds the project until it is commissioned, at which time the plant and equipment is turned over to the council, with operational responsibility remaining with the company for 15 years.

In addition, the second statement sets out the framework and principles for council funding and charging.

Community open days were held on Tuesday 17th and Wednesday 18th January at the Village shops on Moir Street, and on Thursday 19th and Friday 29th January at the Wood Street shopping centre in Mangawhai Heads. The open days were staffed by an Earth Tech representative and 2 council employees.

Prior to the open days, advertisements were placed in approximately 20 locations in the Mangawhai Heads and Village area.

It is estimated that between 200 and 250 people attended these open days, and raised a range of questions. Following discussions with several of the attendees, the Earth Tech representative went to visit individual properties to discuss particular issues and look at areas of concern.

Key questions/issues to arise over the course of the open days included:

- Will I have a grinder pump in my property?
- What will the arrangement of pipes be in my property?
- Who pays for which parts of my property drainage?
- Where will the treatment works be? Will there be any smell from the treatment process?
- Where will the treated effluent and sludge be disposed of?
- How will the pipes be laid (open cut or boring)?
- There is a pump station shown outside my property, will there be any smell / noise / visible structures associated with the station.
- What will happen to the existing septic tanks?
- What restrictions will apply to new buildings near sewer alignments on private property?
- My property is shown within the sewerage district but there is no sewer shown servicing my property, am I included in the scheme?
- Why is the school not serviced?
- Why is the motor park in the Village not serviced?
- There is a new development planned near the existing causeway (200+ lots + commercial development) which is not within the existing sewerage district. Will the district boundary be changed to include such developments?
- The plans show my neighbour's property being serviced by a sewer running up their right of way while there is no sewer shown in my right of way. Where will my connection be? Why is there a difference?
- Can my neighbour and I pay the extra cost for a public sewer to be constructed onto our property in order to allow us to share a drainage line?

Some of the issues/questions raised were able to be answered on the day, and others were followed up on an individual basis.

Other general issues which were identified during the week included the need for a permanent display site in town to keep people informed of progress on the project, and the possible use of a mailing list to keep people informed was also suggested.

Following on from the January open days, a one day community open day was held on the 28th July 2006 at the Mangawhai Domain Hall from 10am to 7pm.

In attendance were representatives from the design team, Councillors and council staff.

In a lead up to the open day, aerial photographic plans and topographical maps identified the property being purchased for the reuse enterprise and the indicative location of the transfer pipeline from the water Reclamation Plant to the reuse site. This information was displayed in the front window of the Village 4 Square store and the display cabinet at the Information Centre in Mangawhai Heads from the 20th July 2006.

It is estimated that between 100-150 people attended the open day, where they could ask questions of council staff, Councillors, and members of the design team. Information was also made available at the open day which included:

- Plans of the reticulation area at A1 size which attendees could take away with them;
- A4 sized segments of the district available for attendees to take away with them;
- Copies of the “*Information for Landowners and Residents*” booklet which had previously been distributed at open days held in January 2006;
- Copies of the Mangawhai Ecocare Statement of Proposal

The key issues of a technical nature to arise were:

- Knowledge of some potential objectors to the Resource Consents Application
- Need to consider servicing of Old Waipu Rd area
- Need to consider financial arrangement for servicing Dune View Drive Estate

The Mangawhai Ecocare Wastewater Treatment Scheme project has been under development in some form since the early 1990s when the water quality in the Mangawhai Estuary became noticeably degraded due to a number of contributing factors, including the cumulative impact of sewage disposal, the continued use of septic tanks and long drops, and the number of occupants at Mangawhai during peak summer periods.

Earth Tech have been contracted by the Kaipara District Council to provide wastewater services to Mangawhai for up to 15 years, including the provision of a wastewater collection, treatment and disposal system.

Mangawhai's population was 1,260 at the time of the 2001 Census. It attracts a large holiday population and significant new development has occurred in recent years in the areas surrounding both the Heads and the Village. The size of Mangawhai is predicted to grow from a current size of 1,216 lots to nearly 3,200 lots as a result of recent subdivisions.

The proposed reticulation and treatment system seeks to provide for the existing and proposed development in the Scheme area, by way of a reticulation network, a treatment plant in Mangawhai Park, and disposal of the treated effluent to land via an irrigation system some 10km from the treatment plant. Effluent will be stored in a purpose built dam during winter and applied to land by spray irrigation during summer.

It is anticipated that the proposed sewerage reticulation, treatment and disposal scheme will reduce the incidence of contaminants from sewage entering the natural environment from existing on-site treatment systems and thus improve the water quality of the degraded Mangawhai Estuary.

Resource Management Act 1991

The proposed scheme is considered to be consistent with the purpose and principles of the Resource Management Act 1991 (RMA) as it will assist in safeguarding the life-supporting capacity of the Mangawhai Estuary through the avoidance of wastewater discharges to ground and subsequent release into the coastal marine area from stormwater and groundwater discharges.

Sections 6 and 7 of the RMA sets out matters of national importance, and it is considered that the proposed sewerage scheme will be able to be constructed and operated in a manner that is consistent with achieving the matters set out in these sections of the Act. It will also be consistent with the principles of the Treaty of Waitangi, as required by Section 8 of the RMA.

An assessment of the effects of the proposal on the environment commensurate with the scale of the proposal has been set out in this report, and it is concluded that any adverse effects arising from the construction and operation of the proposal can be avoided, remedied or mitigated where necessary. The proposed scheme will have the positive effect of removing some of the pollutants entering the Mangawhai Estuary from on-site sewage treatment systems, thereby improving the water quality of the estuary.

The proposal is considered to be consistent with the New Zealand Coastal Policy Statement, the Northland Regional Policy Statement, the Regional Soil and Water Plan for Northland, the Regional Air Quality Plan for Northland, the Regional Coastal Plan for Northland, and the Kaipara District Plan, as detailed earlier in this report.

In conclusion it is considered that the proposed sewerage collection, treatment and disposal scheme will have long term benefits to the natural environment of Mangawhai, and in particular the Mangawhai Estuary.

Limitations

URS New Zealand Ltd (URS) has contributed to the preparation of this combined Earth Tech – URS report for the use of Earth Tech Pty Ltd and Kaipara District Council in accordance with the usual care and thoroughness of the consulting profession. It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this combined report.

The methodology adopted and sources of information used by URS are outlined in this report. URS has made no independent verification of this information beyond the agreed scope of works and URS assumes no responsibility for any inaccuracies or omissions. No indications were found during our investigations that information contained in this report as provided to URS was false.

URS disclaims responsibility for any changes that may have occurred after this time.

This report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

VOLUME 2

Mangawhai EcoCare Project Appendices

to accompany applications for
resource consent and a notice of
requirement to designate a site for
waste water treatment purposes

Prepared for

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AUGUST 2006

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The URS logo is displayed in a bold, blue, sans-serif font.

List of Appendices

Appendix 1 - Mangawhai Sewer Scheme Geotechnical Investigation Report, Tonkin and Taylor, May 2006

Appendix 2 - Mangawhai Waste Water Treatment Plant Geotechnical Investigation Report Tonkin and Taylor, June 2006

Appendix 3 - Mangawhai Treated Wastewater Disposal/Reuse Lincoln Downs Site Investigations by RMCG, RMCG April/May 2006

Appendix 4 - Mangawhai Ecocare Project Hydrogeological Investigation – Water Reuse Area, Tonkin and Taylor Ltd, September 2006

Appendix 5 - Draft Lincoln Downs Site Environmental Management Plan, Earth Tech, July 2006

Appendix 6 - Standard Construction Specifications

Appendix 7 - Geotechnical Investigation Report – Winter Storage Dam Site, Tonkin and Taylor Ltd

Appendix 8 - Project Specific Environmental Management Plan

Appendix 9 - Ecological Assessment – Lincoln Downs Site