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**MANUHERIKIA CATCHMENT WATER
STRATEGY GROUP**

**Feasibility Study - Resource
Management Act 1991 and
Statutory Planning
Considerations**

Submitted to:
MCWSG



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REPORT





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Report Limitations.



Abbreviations and Glossary of Terms

CODC	Central Otago District Council
District Plan	Central Otago District Plan
DOC	Department of Conservation
Electricity NPS	National Policy Statement for Renewable Electricity Generation 2011
Freshwater NPS	National Policy Statement for Freshwater Management 2011
Golder	Golder Associates (NZ) Limited
KTKO	Kai Tahu ki Otago. The four Papatipu Runaka and associated whanau and ropu of the Otago region
KTKO Plan	Kai Tahu ki Otago's Natural Resource Management Plan 2005
LINZ	Land Information New Zealand
MCWSG	Manuherikia Catchment Water Strategy Group. This group consists of community representatives, including farmers, irrigators and community interest groups from the Manuherikia valley, Ida valley and parts of the Wedderburn area of the Maniototo.
MfE	Ministry for the Environment
ONF	Outstanding Natural Feature, as identified in the District Plan
ONL	Outstanding Natural Landscape, as identified in the District Plan
Opus	Opus International Consultants Limited
ORC	Otago Regional Council
Proposed PC6A	Proposed Plan Change 6A (Water Quality) to the Regional Plan: Water for Otago
RMA	Resource Management Act 1991
RPS	Regional Policy Statement for Otago 1998
RRA	Rural Resource Area, as identified in the District Plan
SAL	Significant Amenity Landscape, as identified in the District Plan
Water Plan	Regional Plan: Water for Otago
Water Take Regs	Resource Management (Measurement and Reporting of Water Takes) Regulations 2010



1.0 INTRODUCTION

1.1 Background

The Manuherikia Catchment Water Strategy Group (MCWSG) was established with the aim of developing and implementing cost effective, efficient and sustainable irrigation options for water users within the Manuherikia catchment.

A staged assessment approach has been adopted in order to assess the viability of any future irrigation options. The first stage of assessment was a High Level Overview Study which assessed water availability and demand within the catchment. This was followed by a Prefeasibility Study which assessed potential development options for improved irrigation within the catchment. The conclusions arising from these studies were:

“... that the catchment was not water short and that there are promising options that could increase the reliability of the current irrigation area or potentially increase the total area of irrigated land from approximately 15,000 hectares to 35,000 hectares” (MCWSG 2013).

The irrigation development options identified in the Prefeasibility Study included raising Falls Dam (by 5 m, 8 to 10 m or 27 m) and developing a dam at Mt Ida.

MCWSG have now commissioned a Feasibility Study, which is due for completion in October 2014, and is the next phase of assessment. The Feasibility Study will assess the technical, environmental, economic and financial feasibility of the options that have been identified. In addition, the Feasibility Study is required to ensure that sufficient information is available upon its completion for MCWSG to proceed to the next phase of the project (i.e., including sufficient information to support resource consent application/s). Golder Associates (NZ) Limited (Golder) has been engaged by MCWSG to undertake the Feasibility Study.

The next phase of the project, following completion of the Feasibility Study, entails three key components. The first is the preparation and lodgement of applications under the Resource Management Act 1991 (RMA) and any other environmental legislation. The remaining components entail undertaking full engineering design work and developing the irrigation prospectus document.

1.2 Purpose and Structure of this Report

This report¹ identifies the RMA and associated statutory planning considerations that have the potential, from both a technical and environmental perspective, to influence the assessment of the irrigation options being considered as part of the Feasibility Study.

As this report has been prepared during the early stages of the Feasibility Study it does not assess each of the options against the RMA and associated statutory planning considerations. The final Feasibility Study will contain that assessment. In addition, the Feasibility Study will contain a consent strategy. The consent strategy is to be developed as part of a consultative process with the Otago Regional Council (ORC) and Central Otago District Council (CODC).

Given the purpose of this report, Section 2 contains an overview of the nature of resource utilisation activities that will be associated with developing and implementing a new irrigation scheme or schemes within the catchment. The considerations arising from the RMA are identified in Section 3. Sections 4 to 6 identify the considerations arising from the national, regional and district level statutory planning documents. Section 7 identifies other considerations, specifically those arising from other legislation that may be of relevance to the project. A summary of the key matters for consideration when assessing the options as part of the Feasibility Study is contained in Section 8 of this report.

¹ Your attention is drawn to the 'Report Limitations, as attached in Appendix A. The statements presented in that document are intended to advise you of what your realistic expectations of this report should be, and to present you with recommendations on how to minimise the risks to which this report relates which are associated with this project. The document is not intended to exclude or otherwise limit the obligations necessarily imposed by law on Golder Associates (NZ) Limited, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.



In preparing this report, an attempt has been made to avoid unduly repeating the RMA related considerations already identified during assessments carried out as part of the earlier phases of the project. However, for the purposes of completeness, pertinent overview information has been incorporated into this report. The two relevant reports are:

- Manuherikia Catchment Study: Stage 3 – Implications of a “Do Minimum” Option (Opus 2012a).
- Manuherikia Catchment Study Stage 3 – Planning Issues (Opus 2012b).

2.0 MANUHERIKIA CATCHMENT IRRIGATION PROJECT

The Manuherikia catchment, including both the Manuherikia and Ida Burn valleys, covers an area of approximately 3,000 km². At present, six irrigation companies operate within this area as well as a number of private irrigators with rights to abstract water for irrigation purposes. The irrigation companies include the Omakau Irrigation Company, Blackstone Irrigation Company, Hawkdun/Idaburn Irrigation Company, Ida Valley Irrigation Company, Manuherikia Irrigation Company and the Galloway Irrigation Company. The Omakau, Manuherikia and Blackstone companies have shares in the Falls Dam Company Limited which manages the key water storage infrastructure for these irrigation companies (MCWSG 2013).

Falls Dam is also utilised for the generation of hydro-electricity. The hydro-electric system at Falls Dam is managed by Pioneer Generation Limited.

Most of the irrigation companies were established in the 1930s and, except for Hawkdun/Idaburn, rely heavily on mining privileges to dam, divert, take and use water. The water management regimes accommodated within the mining privileges were developed from the 19th century. The Hawkdun/Idaburn Irrigation Company does not rely on mining privileges as it sought and has been granted resource consents under the RMA (MCWSG 2013).

As a simplistic overview, in terms of water resource use, the existing irrigation schemes:

- Dam water for storage.
- Divert, or take, water to supplement storage or irrigation activities (i.e., into water races or other distribution systems).
- Use the water within the scheme by irrigating it onto land.

The other key resource utilisation aspect of the schemes include: various structures within and on the beds of rivers that enable the damming, diversion and taking of water; and, a water distribution network, consisting of open races and / or pipelines, traversing the land within the catchment. In addition, the existing system also discharges unused irrigation water as a by-wash.

An amended or new irrigation scheme in the catchment will continue to utilise both the water, river and land resources in a similar manner to those associated with the existing schemes (albeit, possibly in or from different locations). However, it is anticipated that by-wash discharges will generally not be required given the resource use efficiency that will be incorporated into the scheme. In relation to these activities, given that the mining privileges expire in 2021, and given MCSWG’s aim to implement a cost effective, efficient and sustainable irrigation option, resource consents (if required) under the RMA will need to be sought. In addition to these operational activities, resource consents for construction activities (e.g., earthworks, vegetation clearance, temporary water diversion etc.) will also be required.

Other approvals under other legislation may also be required as discussed in Section 7 of this report. For example, if the distribution system crosses land owned by the Crown and managed by government agencies such as the Department of Conservation (DOC) (i.e., the Central Otago Rail Trail).



3.0 RESOURCE MANAGEMENT ACT 1991

3.1 Overview

The RMA, and associated statutory documents, identify the circumstances where approvals (i.e., a resource consent or a designation) are required for an activity. The RMA also establishes the ‘thresholds’ that must not be contravened by any resource utilisation activity.

This section of this report therefore identifies the provisions of the RMA that will need to be assessed in relation to any application for approvals that are made under the RMA in relation to implementing a preferred irrigation option.

The government is currently consulting on potential amendments to the RMA and any such amendment, if passed into law, may change the nature of the provisions outlined below. For the purposes of this assessment, it is only appropriate to consider the provisions that currently have legal effect. However, if the RMA is amended prior to the completion of the Feasibility Study, then the appropriate amended provisions of the RMA will be considered as part of the Feasibility Study.

3.2 Part 2 Considerations

Part 2 of the RMA outlines the purpose and principles of the RMA. Section 5 states:

- “(1) *The purpose of this Act is to promote the sustainable management of natural and physical resources.*
- (2) *In this Act, ‘sustainable management’ means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while*
 - (a) *sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
 - (b) *safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
 - (c) *avoiding, remedying, or mitigating any adverse effects of activities on the environment.”*

Section 6 of the RMA identifies matters of national importance which shall be ‘recognised and provided for’ while section 7 identifies matters that ‘particular regard shall be given to’ when making any decisions under the RMA. At this stage of the Feasibility Study, given that the identification of values is still being carried out, it is possible that all of the section 6 and 7 matters may be of relevance to the project. Relevant section 6 and 7 matters are as follows:

- “6(a) *the preservation of the natural character of ... wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:*
- 6(b) *the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:*
- 6(c) *the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna;*
- 6(d) *the maintenance and enhancement of public access to and along the ... lakes, and rivers:*
- 6(e) *the relationship of Maori and their culture and traditions with their ancestral lands, waters, sites, waahi tapu, and other taonga:*
- 6(f) *the protection of historic heritage from inappropriate subdivision, use, and development:*
- 7(a) *kaitiakitanga:*
- 7(aa) *the ethic of stewardship:*



7(b) *the efficient use and development of natural and physical resources:*

7(c) *the maintenance and enhancement of amenity values:*

7(d) *intrinsic values of ecosystems:*

7(f) *maintenance and enhancement of the quality of the environment:*

7(g) *any finite characteristics of natural and physical resources:*

7(h) *the protection of the habitat of trout and salmon:*

7(i) *the effects of climate change:*

7(j) *the benefits to be derived from use and development of renewable energy.”*

In addition, section 8 of the RMA requires “*all persons exercising functions and powers*” under the RMA to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

The preferred option/s for irrigation, particularly in terms of resource utilisation activities that require an ‘approval’ under the RMA, will need to ensure that it achieves the purpose and principles as outlined in sections 5 to 8. That is, that the activities are consistent with the relevant matters from sections 6, 7 and 8 and that the project promotes “*the sustainable management of natural and physical resources*” as outlined in section 5 of the RMA.

3.3 Sections 9 to 15 Considerations

Sections 9 to 15 of the RMA identify the circumstances under which a resource consent must be sought to utilise land, the coastal marine area, the beds of lakes and rivers, water, or New Zealand’s air resource.

Section 9 identifies that a land use consent must be sought for new land use activities if a rule in a district plan (or regional plan), including proposed plans, or national environmental statements requires a land use consent to be sought. Therefore, if there is no relevant land use rule that applies to an activity, or an activity is a permitted activity, a land use consent does not need to be sought. However, if this is not the case, then a land use consent must be sought from the relevant consent authority. The land use activities that may trigger the need to seek land use consents include construction activities and the establishment of land-based irrigation infrastructure.

For activities managed by regional councils, a resource consent is generally always required unless a relevant permitted activity rule applies to the activity. Therefore, in relation to a new irrigation scheme in the Manuherikia catchment, unless classified as permitted activities, it is anticipated that resource consents will be required in relation to:

- Any structures on the bed of rivers (section 13(1)(a)).
- Disturbance of the bed and deposition of material onto the bed of rivers during construction (section 13(1)(b) and (d)).
- Damming and diversion of water, both during construction and once the scheme is operational (section 14).
- Taking and using water for the purposes of irrigation (section 14).

It is understood that there is unlikely to be any discharges associated with the project once implemented, principally as the water will be taken for use as irrigation water (rather than being discharged to land). However, if any bypass discharges or other similar discharges are incorporated into the preferred option, then discharge permits, unless the discharges are permitted activities, may also be required for these activities under section 15 of the RMA.



Sections 5 and 6 of this report provide an overview of the rules in the relevant regional and district plans that may trigger the need to seek various resource consents for the proposed irrigation scheme within the Manuherikia catchment.

3.4 Section 104 Considerations

For any resource consent application, section 104 of the RMA requires the consent authority (or consent authorities, if a joint application has been lodged), in making a decision on such an application, to consider:

- The actual and potential effects of allowing the activity (section 104(1)(a)).
- The relevant provisions of any national environmental standards, other regulations, national policy statement, coastal policy statement, regional policy statement or proposed regional policy statement, plan or proposed plan (section 104(1)(b)).
- Any other matters considered relevant or necessary to consider (section 104(1)(c)).

Given that any irrigation scheme on the Manuherikia catchment will be utilising a range of the area's natural and physical resources, these matters need to be considered when assessing the irrigation options for the catchment. They will also need to be addressed within the resource consent application for the preferred option/s in order to ensure that the consent authority has sufficient information to determine whether the resource consents can be granted.

The statutory planning document provisions which are relevant to any proposed irrigation scheme in the Manuherikia catchment, and which therefore must be considered by the consent authority pursuant to section 104(1)(b), are identified in Sections 4 to 6 of this report. The relevant statutory planning documents, applying at the national, regional and district levels, are:

- National Provisions:
 - Resource Management (Measurement and Reporting of Water Takes) Regulations 2010, hereafter referred to as the 'Water Take Regs'.
 - National Policy Statement for Renewable Electricity Generation 2011 (Electricity NPS). As the existing Falls Dam generates renewable electricity, and the extent of future generation at this site is being considered as part of the project, the Electricity NPS is relevant to this project.
 - National Policy Statement for Freshwater Management 2011 (Freshwater NPS).
- Regional Provisions:
 - Regional Policy Statement for Otago (RPS).
 - Regional Plan: Water for Otago (Water Plan), including relevant plan changes.
- District Provisions:
 - Central Otago District Plan (District Plan), including relevant plan changes.

In relation to the 'other matters' that the consent authority must consider under section 104(1)(c), the only other matter considered to be of relevance to a Manuherikia catchment irrigation scheme is:

- Kai Tahu ki Otago's "*Natural Resources Management Plan 2005*" (KTKO Plan). This plan is an iwi resource management plan and therefore is of relevance to the MCWSG project. The provisions of relevance to a proposed irrigation scheme, in the area proposed, are identified in Section 5.4 of this document.



3.5 Other Matters

Sections 166 to 186 of the RMA outlines the process associated with designations, including the parties that have the authority to seek a designation.

Section 166 defines the various terms that apply to designations. The technical definition of a designation is “a provision made in a district plan to give effect to a requirement made by a requiring authority ...”. A requiring authority is either a Minister of the Crown, a local authority or a network utility operator. A network utility operator is a ‘person’ (or organisation), who undertakes or operates a range of activities, including, “... the distribution of water for supply (including irrigation)” (section 166(d)). To become a requiring authority, a network operator must apply and receive approval from the Minister for the Environment (section 167).

For those parties that have the authority to seek a designation (i.e., a requiring authority) a designation is an alternative means of gaining ‘approval’ for district level land use activities (i.e., section 9 activities). That is, rather than applying for land use consents from a territorial authority (a district or city council), a requiring authority can lodge an application (called a ‘notice of requirement’) to designate the land for a specific purpose (e.g., for irrigation purposes). New designations are publicly notified and follow a similar process to resource consent applications in terms of requesting submissions and a having a hearing, if required. On this basis, a joint process can still be held in relation to a joint notice of requirement and resource consent application. Once a designation is confirmed, the territorial authority must include it within the district plan (and / or proposed district plan).

The main advantage of a designation is that provided the designation covers the land being used, the requiring authority does not need to seek land use consents from the territorial authority provided that the proposed activity is consistent with the purpose of the designation. However, under section 176A of the RMA, an outline plan “... of the public work, project, or work to be constructed ...” must be provided to the territorial authority so that they can request changes prior to construction commencing. Another advantage is that no-one else may do anything in relation to land covered by the designation without the approval of the requiring authority (this includes additional designations over the same piece of land). Finally, the designation remains in place, unless removed by the requiring authority, and therefore is not affected by proposed changes to the district plan in the future.

Given the potential long term advantages associated with designating the proposed Manuherikia catchment irrigation scheme, it may be worth applying, under section 167 of the RMA, for the irrigation company that will have responsibility for the scheme to become a requiring authority.

In addition, some existing and lawfully established land use activities associated with the existing irrigation schemes, if incorporated into the new scheme or schemes may have existing use rights under sections 10 of the RMA. If existing use rights apply a resource consent does not need to be sought, even if a rule is a district plan or proposed district plan triggers the need to seek a resource consent.

3.6 Summary

Provisions of the RMA of particular significance to any preferred irrigation scheme for which approvals under the Act are required, that will need to be considered and assessed, include:

- Whether or not the preferred irrigation option achieves the purpose and principles of the Act, as outlined in Part 2 of the RMA. This includes considering whether the proposal is consistent with the relevant matters from sections 6 to 8 of the Act, and whether the project promotes sustainable management as outlined in section 5 of the RMA.
- Whether or not resource consents are required, in accordance with sections 9 to 15 of the RMA and associated statutory plans, for the various resource utilisation activities associated with the project.
- The actual and potential effects on the environment of the project, and any measures that will ensure that adverse effects are avoided, remedied or mitigated.



- The implications, thresholds and restrictions, in terms of the resource utilisation activities associated with the project, that arise from the provisions of the relevant statutory planning documents developed under the RMA, namely the Water Take Regs, Electricity NPS, Freshwater NPS, RPS, Water Plan and District Plan.
- The implications for the project that arise from KTKO's iwi resource management plan, the KTKO Plan.
- Whether or not the irrigation company that will operate the preferred irrigation option/s should apply to the Minister for the Environment to become a requiring authority so as to enable a designation for irrigation purposes to be utilised as a means of authorising the scheme's land use activities. It is important to note that the Minister will consider a range of matters before deciding whether or not to give his / her approval.

These matters will need to be specifically considered and addressed within any application for approvals under the RMA. Accordingly, these matters should also underpin an assessment of the irrigation options being considered as part of the Feasibility Study.

4.0 NATIONAL RESOURCE MANAGEMENT PROVISIONS

4.1 Overview

This section identifies the relevant provisions from the national regulations and statutory planning documents. As outlined in Section 3.4, the relevant national resource management documents are the Water Take Regs, the Electricity NPS and the Freshwater NPS.

Although not assessed within this report, it is acknowledged that the requirements of two national environmental statements may also need to be considered, depending on the final design of the preferred option. They are:

- Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009. This national environmental standard may be of relevance if a new electricity transmission system associated with a revised hydro-electricity scheme at Falls Dam is required.
- Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011. This national environmental standard may trigger the need to seek a land use consent from CODC if any earthworks associated with construction are located on contaminated land².

4.2 Regulation – Measurement and Reporting of Water Takes

The Water Take Regs came into effect in August 2010. They impose minimum measurement and reporting requirements on resource consent holders who hold water permits to take water, provided that the take is greater than 5 L/s and is not a non-consumptive³ take (Regulation 4). The requirements of the Water Take Regs prevail over the requirements of any regional rules or conditions attached to existing water permits (Regulation 12).

For existing water permits, transitional provisions in the regulations mean that compliance with the Water Take Regs is to be achieved in November 2012, 2014 and 2016 dependent on the volume of water being taken (>20 L/s, between 10 and 20 L/s, between 5 and 10 L/s). Regulations 5 to 8 detail the manner in

² Although not assessed in this report, under the Regional Plan: Waste for Otago 1997, if disturbance (i.e., earthworks) of a contaminated site does occur as part of any construction activity then a land use consent to disturb the site in accordance with Rule 5.6.1.1 and to discharge contaminants to air in accordance with Rule 5.6.1.5 will be required. The activity status of both of these rules is discretionary.

³ Regulation 4(2) outlines that a non-consumptive take is where the same amount of water is returned to the same water body at or near the location from where it was taken, and there is no significant delay in returning the water.



which water takes are to be measured and reported. Regulations 9 to 11 identify that regional councils may, at their discretion, give approval (or revoke that approval) to measure water taken weekly rather than daily, or to use a device or system installed near the water take.

The Water Take Regs are relevant to this project, as the water takes associated with the preferred irrigation option/s will be required to be measured (to an accuracy of ± 5 to 10 %), recorded and the amount of water taken throughout the system documented. All the takes associated with the project will probably exceed 5 L/s.

Existing water permits to take water in excess of 20 L/s within the catchment should have complied with the Water Take Regs by November 2012. Golder understands that not all the relevant water takes are currently meeting this requirement due to the unavailability of suitable water meters.

In summary, all water takes associated with the preferred irrigation option/s will need to be measured to an accuracy of ± 5 to 10 %, recorded and the amount of water taken throughout the system documented in accordance with the Water Take Regs.

4.3 National Policy Statement for Freshwater Management 2011

The Freshwater NPS was gazetted on 12 May 2011 and came into effect on 1 July 2011. The Freshwater NPS is a national policy statement that establishes an overarching policy framework for the management of New Zealand's freshwater resources. As such, it instructs local government (regional councils) to manage water in an integrated and sustainable way while also providing for economic growth but within established water quantity and quality limits.

The Freshwater NPS contains objectives relating to water quality, water quantity, integrated management as well as tangata whenua roles and interests. The water quality and quantity provisions are of specific relevance to this project. The objectives are supported by policies which largely direct regional councils to make or change regional plans in order to provide for specific requirements. The policies also identify matters to consider when making decisions on resource consent applications and when imposing conditions on resource consents. The Freshwater NPS also requires local government to provide for, and take reasonable steps, to involve iwi and hapu (Objective and Policy D1). Timeframes are also established (Policy E1) for local government to deliver on the requirements of the Freshwater NPS, including the requirement that the Freshwater NPS is fully implemented by 31 December 2030.

The water quality objectives aim to: ensure that the life-supporting capacity of freshwater is safeguarded while providing for the sustainable use of land and water (Objective A1); and, ensure that overall water quality in a region is maintained or improved, while protecting outstanding water quality and values of wetlands and improving areas of degraded water quality (Objective A2).

The supporting water quality policies require regional councils to: ensure that regional plans establish freshwater objectives and limits to give effect to the objectives as well as establishing methods to avoid over-allocation (Policy A1); specify targets and methods to improve water quality within a specified timeframe where the freshwater objective is not met (Policy A2); require that discharges adopt the best practicable option to prevent or minimise adverse effects and specific consent conditions which will ensure limits and targets are met (Policy A3); and, to amend regional plans (without using the Schedule 1 process), as an interim measure until freshwater objectives are in place, so that consideration is given to avoiding the adverse effects of discharges to land and water on life-supporting capacity and ecosystems (Policy A4).

The water quantity objectives aim to: ensure that the life-supporting capacity of freshwater is safeguarded while providing for the sustainable use of taking, using, damming and diverting water (Objective B1); avoid over-allocation and phase out existing over-allocation (Objective B2); improve and maximise efficient allocation and use of water (Objective B3); and, protect the significant values of wetlands (Objective B4). Similar to the water quality policy framework, the supporting policies require regional councils to: ensure that



regional plans establish freshwater objectives and environmental flows or levels to give effect to the objectives (Policy B1); provide for, within regional plans, the efficient allocation of water within the limits set (Policy B2); ensure that regional plans identify the decision making criteria to be used when considering whether water use represents improved and maximised efficient allocation (Policy B3); ensure regional plans encourage efficient water use (Policy B4); ensure that no decision results in future over-allocation (Policy B5); establish timeframes and methods for phasing out over-allocation (Policy B6); and, to amend regional plans (without using the Schedule 1 process), as an interim measure, so that consideration is given to avoiding the adverse effects of new or additional water permits to take, use, dam or divert water on life-supporting capacity and ecosystems (Policy B7).

Due to a number of issues that have been identified in relation to New Zealand's freshwater management regime, in November 2011 the Government advised that it proposes to amend the Freshwater NPS. A discussion document (MfE 2013a), outlining the reasons for the proposed amendments and inviting submissions, was released on 7 November 2013. Submissions closed on 4 February 2014. If the amendments come into force, then they will have implications for the proposed irrigation option/s in the Manuherikia catchment. However, in making this observation it is important to acknowledge that until any amendments are gazetted, the final form of the amendments, and thus the implications, may change significantly from those currently being considered.

In effect the proposed amendments to the Freshwater NPS are designed to ensure that a nationally consistent approach to freshwater resource planning, based on clearly identified bottom lines and values, is implemented throughout New Zealand. Except for the introduction of the proposed water quality 'national bottom lines' for some parameters⁴, the proposed amendments, at present, do not significantly change the current framework established by the Freshwater NPS. The overarching intent of the NPS, as outlined within the objectives, largely remains unchanged, although safeguarding the people and communities from the adverse effects of secondary contact with freshwater has been added to Objective A1. The main impact of the proposed amendments will arise once regional councils start amending or preparing regional plans in accordance with the process outlined in the proposed amendments.

In relation to the proposed national bottom lines, the discussion document notes that the water quality in most freshwater bodies in New Zealand is above these default receiving water standards or targets. In Otago, the Proposed Plan Change 6A (Water Quality) (Proposed PC6A) to the Water Plan contains 'good quality water' receiving water standards for some of the national bottom line parameters that are more stringent than those proposed in the amendments to the Freshwater NPS.

In summary, the key implications when considering the irrigation options for the Manuherikia catchment, and when preparing any associated application for approvals, arise from the Freshwater NPS objectives. That is, ensure outstanding values of water bodies are protected, the life-supporting capacity of freshwater is safeguarded (while also providing for the sustainable use of water) and that within the catchment the water quality is maintained or improved (particularly if water quality is degraded). Over-allocation of water, which is the current case within the catchment, is to be phased out while also ensuring water is used and allocated efficiently.

4.4 National Policy Statement for Renewable Electricity Generation 2011

The Electricity NPS was gazetted on 14 April 2011 and came into effect on 13 May 2011. The definition 'renewable electricity generation' in the Electricity NPS includes hydro-electric generation (i.e., as is currently produced at Falls Dam).

⁴ The proposed amendments to the Freshwater NPS include national bottom lines that will apply as a default to waterbodies throughout New Zealand until regional plan provisions identify the same or better requirements. National bottom lines are proposed for chlorophyll a, total nitrogen, total phosphorus, nitrate toxicity, ammoniacal nitrogen, dissolved oxygen, periphyton, *E. Coli*, cyanobacteria and 'suitability for recreation grade'.



The Electricity NPS's objective is to recognise that providing for renewable electricity generation is a matter of national significance given that there is a need to increase such generation in order to meet the government's national target for renewable electricity generation. The preamble to the Electricity NPS identifies that the current national target is 90 % renewable energy generation by 2025.

The Electricity NPS preamble also states that it does not apply to the allocation and prioritisation of freshwater given that this is a matter for regional councils to address.

The Electricity NPS objective is then supported by a range of policies that aim to: recognise the benefits of renewable electricity generation (Policy A); acknowledge the practicable implications of achieving the target (Policy B); acknowledge the practical constraints associated with such development (Policies C1 to C2); manage reverse sensitivity effects (Policy D); incorporate provisions for renewable electricity generation into statutory planning documents (Policies E1 to E4 and F); and, identify generation possibilities in statutory planning documents (Policy G). The Electricity NPS also identifies related implementation timeframes (Policies H1 and H2).

The broad driver for the Electricity NPS is to ensure that the resource management framework established under the RMA, specifically regional and district level statutory plans, recognise and provide mechanisms that appropriately accommodate existing and new renewable electricity generation activities. This is due to the fact that significant development is required to meet the government target (Policy B(c)).

In relation to meeting this target, parts (a) and (b) of Policy B also acknowledge that when making decisions under the RMA, decision makers need to consider protecting electricity generation assets so as to maintain generation outputs as even minor reductions in output can cumulatively have significant adverse effects on the national, regional and local electricity generation. In assessing the irrigation option/s linked to utilisation of the Falls Dam for storage, the potential reduction in electricity generation should be considered.

In summary, the aim of the Electricity NPS to increase renewable electricity generation as a matter of national significance needs to be recognised when considering the implications of the preferred irrigation options in terms of potential impacts on Falls Dam's generation capacity. While this is the intent of the Electricity NPS, any resource consents for the proposed irrigation option will still be assessed on balance in accordance with the requirements of the RMA.

4.5 Summary

The key matters arising from the national regulations and statutory planning documents that are of significance to any preferred scheme that will need to be recognised when considering options and preparing an application for approvals under the RMA, include:

- All water takes associated with the preferred irrigation option/s will need to be measured to an accuracy of ± 5 to 10 %, recorded and the amount of water taken throughout the system documented in accordance with the Water Take Regs.
- From the Freshwater NPS:
 - while providing for the utilisation of water, such use must ensure that outstanding values of water are protected, the life-supporting capacity of freshwater is safe-guarded and that when considering the catchment as a whole that water quality is at least maintained (or improved, if considered degraded)
 - there is a strong driver to phase out the existing over-allocation of water, which is the case within the Manuherikia catchment, while also ensuring that water is used and allocated efficiently.
- From the Electricity NPS, the aim to increase renewable electricity generation will need to be considered in relation to the implications of the preferred options on the generation from Falls Dam.



5.0 REGIONAL PROVISIONS

5.1 Overview

This section identifies the provisions of regional statutory planning documents that are of relevance to the assessment of irrigation options within the Manuherikia catchment. As outlined in Section 3.4, the relevant planning documents are the RPS and Water Plan (including associated plan changes).

In addition, the relevant provisions of the KTKO Plan, which relates to natural resource management activities within the Otago region, are also identified within this section.

Although not assessed within this document, dependent on the final design of the preferred option, two other regional plans may also trigger the need to seek resource consents for construction activities. They are:

- Regional Plan: Air for Otago. As assessed in Opus 2012b (refer to Table 1 of that report), if permitted activity Rule 16.3.13.1(2) cannot be complied with then a discharge permit will be required in accordance with Rule 16.3.14.1 for a discretionary activity.
- Regional Plan: Waste for Otago. If earthworks of a contaminated site occurs as part of any construction activity, a land use consent to disturb the site in accordance with Rule 5.6.1.1, and to discharge contaminants to air in accordance with Rule 5.6.1.5 will be required. The activity status of both of these rules is discretionary.

5.2 Regional Policy Statement for Otago

The RPS, which became operative in October 1998⁵, provides an overview of resource management issues within the region. As such it establishes a framework for achieving integrated management of resources while also providing guidance for subordinate statutory planning documents.

The matters of regional significance covered by the RPS include the manawhenua perspective, land, water, air, coast, built environment, biota, natural hazards, energy, wastes and hazardous substances as well as monitoring and review of the RPS and cross boundary issues.

A number of the RPS's chapters are relevant to assessing the irrigation options for the Manuherikia catchment and for future applications for approvals under the RMA. Objectives and policies of relevance to this project, along with comment on the nature of the implications for the project, are contained in Table 1 below.

Table 1: RPS – Relevant objectives and policies.

Objectives	Policies and comment
Chapter 4 – Manawhenua Perspective	
Obj. 4.4.3 – Wai (Water). To recognise the principle of wairua and mauri in the management of Otago's water bodies.	Policies 5.5.1, 6.5.1, 9.5.1 and 10.5.1 expand on the matters of relevance to Kai Tahu in relation to land, water, the built environment and biota. In relation to water and in terms of an irrigation project, Policy 6.5.1 aims to eliminate pollutants from entering water and seeks that Kai Tahu are consulted in relation to the mixing of waters from different water bodies and the setting of water flows and levels. The matters that are significant to iwi, as outlined in these objectives and the above policies, need to be considered when assessing irrigation options.
Obj. 4.4.4 – Mahika Kai (Places where food is produced or procured). To maintain and enhance mahika kai and access to those traditional resources.	
Obj. 4.4.5 – Kaitiakitanga (Guardianship). To incorporate the concept and spirit of kaitiakitanga in the management of Otago's natural and physical resources in a way consistent with the values of Kai Tahu.	

⁵ Since being made operative in 1998, no changes to the RPS have been notified.



FEASIBILITY STUDY - RMA AND STATUTORY PLANNING CONSIDERATIONS

Objectives	Policies and comment
Chapter 5 – Land	
<p>Obj. 5.4.1 – To promote the sustainable management of Otago’s land resources in order:</p> <p>(a) To maintain and enhance the primary productive capacity of land resources; and</p> <p>(b) To meet the present and reasonably foreseeable needs of Otago’s people and communities.</p>	<p>In support of this objective, Policy 5.5.4 promotes the diversification and use of the region’s land resource in order to achieve sustainable land use and management practices. These provisions aim to ensure that land can be utilised, provided it can be done in a sustainable manner. These provisions underpin the proposed irrigation project.</p>
<p>Obj. 5.4.2 – To avoid, remedy or mitigate degradation of Otago’s natural and physical resources resulting from activities utilising the land resource.</p>	<p>Policy 5.5.5 supports this objective by seeking to minimise adverse land use activities on the quality and quantity of water by: creating, retaining or enhancing riparian margins; maintaining and enhancing land and water values including vegetation cover and wetlands; and, avoiding, remedying or mitigation the effects on groundwater and water from land use activities using chemicals or releasing nutrients and sediments.</p> <p>In relation to the irrigation of land as a result of this project, it will be necessary to ensure that control measures are in place that ensure that any such effects, particularly on the area’s water resources, are avoided, remedied or mitigated.</p>
<p>Obj. 5.4.3 – To protect Otago’s outstanding natural features and landscapes from inappropriate subdivision, use and development.</p>	<p>Policy 5.5.6 outlines the values that contribute to outstanding natural features and landscapes.</p> <p>The District Plan (covered in Section 6 of this document) identifies a range of values, including an outstanding natural landscape above the existing Falls Dam. In assessing the irrigation options, and identifying mitigation measures for the preferred option, the need to protect these values from inappropriate development needs to be provided for.</p>
<p>Obj. 5.4.5 – To promote the sustainable management of Otago’s mineral resources in order to meet the present and reasonably foreseeable needs of Otago’s communities.</p>	<p>In support of this objective, Policy 5.5.8 identifies that resource management tools should recognise known mineral deposits, while considering how other land use activities may compromise or remove access to these resources.</p> <p>It is understood that there is a known lignite resource in the Home Hills that may be affected if the level of the Falls Dam lake is raised. The potential effects, in light of these provisions of the Water Plan, will need to be considered when assessing the irrigation options.</p>
Chapter 6 – Water	
<p>Obj. 6.4.1 – To allocate Otago’s water resources in a sustainable manner which meets the present and reasonably foreseeable needs of Otago’s people and communities.</p>	<p>Policy 6.5.2 outlines the matters to consider when allocating water in areas with insufficient water, while Policy 6.5.3 describes the manner in which efficient use of water will be promoted. Policy 6.5.4 identifies the values that are to be protected when setting minimum flows, flow regimes and maximum and minimum lake levels.</p> <p>The Water Plan (Section 5.3 of this document) provides more detail on how these matters will be addressed and considered in a resource management context.</p>
<p>Obj. 6.4.2 – To maintain and enhance the quality of Otago’s water resources in order to meet the present and reasonably foreseeable needs of Otago’s communities.</p>	<p>Policy 6.5.5 identifies the approach that will be adopted, while considering financial and technical constraints, in order to reduce the adverse effects of contaminant discharges to the region’s water bodies.</p> <p>Proposed PC 6A of the Water Plan (refer to Section 5.3) provides specific detail on these matters.</p>



FEASIBILITY STUDY - RMA AND STATUTORY PLANNING CONSIDERATIONS

Objectives	Policies and comment
Obj. 6.4.3 – To safeguard the life-supporting capacity of Otago’s water resources through protecting the quantity and quality of those water resources.	
Obj. 6.4.4 – To maintain and enhance the ecological, intrinsic, amenity and cultural values of Otago’s water resources.	<p>As specific measures, Policy 6.5.6 identifies that the region’s remaining wetlands are to be protected from the adverse effects of other activities, while Policy 6.5.7 identifies that existing riparian margins are to be maintained or enhanced, and the creation of new riparian margins are to be created.</p> <p>The preferred irrigation option/s will need to ensure that the values associated with the area’s water resources are at least maintained, if not enhanced.</p> <p>In relation to specific considerations, the preferred irrigation option/s will need to ensure that wetlands in the area, particularly those identified in the Water and District Plan, are not adversely affected by any of the specific aspects of the project. In addition, the project should aim to retain areas of existing riparian planting, while considering creating new areas.</p>
Obj. 6.4.5 – To avoid, remedy or mitigate degradation of water resources resulting from the use, development or protection of the beds and banks of Otago’s water bodies and of adjacent land areas.	<p>Policy 6.5.9 expands on these objectives by identifying that the use of the beds and banks of water bodies is to be allowed, provided adverse effects on specific values are avoided, remedied or mitigated and life-supporting capacity is maintained, while also ensuring that river function is maintained (or enhanced) and that the threat of flooding and erosion has been lessened.</p> <p>In considering the need and nature of structures that are to be placed within water bodies as part of the irrigation scheme, these requirements will need to be provided for.</p>
Obj. 6.4.6 – To mitigate the threat of flooding and riverbank erosion resulting from the use, development or protection of Otago’s water bodies and lake beds.	<p>Policy 6.5.9 expands on these objectives by identifying that the use of the beds and banks of water bodies is to be allowed, provided adverse effects on specific values are avoided, remedied or mitigated and life-supporting capacity is maintained, while also ensuring that river function is maintained (or enhanced) and that the threat of flooding and erosion has been lessened.</p> <p>In considering the need and nature of structures that are to be placed within water bodies as part of the irrigation scheme, these requirements will need to be provided for.</p>
Obj. 6.5.7 – To maintain and enhance public access to and along the margins of Otago’s water bodies.	<p>Policy 6.5.10 outlines the various means by which the aim of this objective can be achieved.</p> <p>In developing the preferred irrigation options, it will be necessary to consider the public access intent of this policy.</p>
Obj. 6.4.8 – To protect areas of natural character, outstanding natural features and landscapes and the associated values of Otago’s wetlands, lakes, rivers and their margins.	Refer to the above comment in relation to Obj. 5.4.3.
Chapter 7 - Air	
Obj. 7.4.1 – To maintain and enhance Otago’s existing air quality, including visual appearance and odour.	<p>Policy 7.5.2 identifies that, amongst other things, adverse human health and visual effects on the air resource are to be avoided, remedied or mitigated.</p> <p>Control measures will need to be identified that ensure that any earthwork activities do not create a dust nuisance.</p>
Chapter 9 – Built Environment	
Obj. 9.4.2 – To promote the sustainable management of Otago’s infrastructure to meet the present and reasonably foreseeable needs of Otago’s communities.	<p>Policy 9.5.2 identifies efficiency in the use and development of Otago’s infrastructure is to be promoted by a number of approaches, including, maximising the use of existing infrastructure, promoting co-ordination amongst network utility operators and encouraging the reduction in the use of non-renewable resources.</p> <p>These provisions support the proposed irrigation option/s as it is to evolve from existing infrastructure and will meet the needs of the catchment’s primary production industry.</p>
Obj. 9.4.3 – To avoid, remedy or mitigate the adverse effects of Otago’s built environment on Otago’s natural and physical resources.	<p>Policy 9.5.2 identifies efficiency in the use and development of Otago’s infrastructure is to be promoted by a number of approaches, including, maximising the use of existing infrastructure, promoting co-ordination amongst network utility operators and encouraging the reduction in the use of non-renewable resources.</p> <p>These provisions support the proposed irrigation option/s as it is to evolve from existing infrastructure and will meet the needs of the catchment’s primary production industry.</p>



Objectives	Policies and comment
	However, while this is the case, any adverse effects of the project on the area's natural and physical resources will need to be avoided, remedied or mitigated.
Chapter 10 – Biota	
Obj. 10.4.1 – To maintain and enhance the life-supporting capacity and diversity of Otago's biota.	Policy 10.5.2 describes the values associated with areas of significant indigenous vegetation and significant habitats of indigenous fauna. It also identifies an aim to promote and encourage the retention, enhancement and re-establishment of indigenous ecosystems. In assessing the preferred irrigation options, it will be necessary to ensure that they ensure that the aim of these objectives can be achieved.
Obj. 10.4.3 – To maintain and enhance the natural character of areas of significant indigenous vegetation and significant habitats of indigenous fauna.	
Chapter 12 – Energy	
Obj. 12.4.1 – To avoid, remedy or mitigate the adverse effects on Otago's communities and environment resulting from the production and use of energy.	Policy 12.5.2 expands on the matters identified in these objectives. The potential impacts of continuing to operate the Falls Dam, or enhanced Falls Dam hydro-electric generation facility, will need to be avoided, remedied or mitigated. As outlined in the Electricity NPS, which the RPS must give effect to, the generation of electricity from renewable sources is preferable.
Obj. 12.4.2 – To sustainably and efficiently produce and use energy, taking into account community values and expectations.	
Obj. 12.4.3 – To encourage use of renewable resources to produce energy.	

5.3 Regional Plan: Water for Otago

5.3.1 Overview

The Water Plan became operative in January 2004. Since then, a number of plan changes and amendments have been notified and have become operative. The most recent is Plan Change 2 (Regionally Significant Wetlands) in October 2013. The Water Plan promotes the sustainable management of Otago's water resources.

In addition to the operative provisions of the Water Plan, there is also a plan change that needs to be considered as part of this assessment, Proposed PC6A (Water Quality). The rules in Proposed PC6A had legal effect from the time the plan change was publicly notified in March 2012. Proposed PC6A seeks to maintain or improve water quality by controlling contaminants discharging from rural land to water. Decisions on Proposed PC6A were released in April 2013, with the plan change now under appeal. ORC have advised MCWSG that it seems probable that all the appeals will be mediated such that the plan change will become fully operative in the coming months.

ORC recently invited comment on a draft plan change to the Water Plan with submissions closing on 31 January 2014. The aim of this plan change is to manage groundwater allocation and avoid over-allocation in Otago's aquifers. This draft plan change has no legal weight and is therefore not considered further within this report. In addition, Golder anticipates that the proposed irrigation will not be associated with a groundwater take and therefore this draft plan change is not relevant to the project.

5.3.2 Relevant values

The Water Plan maps and schedules identify the values associated with the Otago region, as recognised when the Water Plan (or plan changes which updated it) was publicly notified. From these maps and schedules, the values identified as being present within the Manuherikia catchment as a whole include:



- **Natural values** (Schedule 1A):
 - Manuherikia main stem: The bed of the river is characterised by gravel. In terms of habitat, there are areas which are significant for trout spawning and juvenile fish development and areas of riparian vegetation that are of significance to aquatic habitats. The river is weed free. Trout and eels are present in the river as well as a significant range of indigenous invertebrates in the mid reaches of the river. There is an area of significant habitat, above Falls Dam, which is important to the internationally uncommon black fronted tern
 - Rocks Creek: The creek is weed free and an indigenous invertebrate threatened with extinction is present (upstream of NZMS260 H40 620976)
 - Unnamed tributary of Manor Burn (at NZMS260 G42 435365). This tributary is weed free and a roundhead galaxiid, which is threatened with extinction, is present
 - Chatto Creek: The bed of the creek is characterised by boulders. In terms of habitat, there are areas that are significant for fish spawning and areas of riparian vegetation that is of significance to aquatic habitats. The river is weed free and there significant numbers of eels and trout in the creek. The creek provides habitat for a roundhead galaxiid, which is threatened with extinction
 - Devonshire Creek: The bed of the creek is characterised by boulders. In terms of habitat, there are areas that are significant for fish spawning and juvenile fish development and areas of riparian vegetation that are of significance to aquatic habitats. Trout are present in the creek
 - Ophir Drainage Channel: A weed free channel that provides habitat for a roundhead galaxiid which is threatened with extinction
 - Dunstan Creek: The bed of the creek is characterised by gravel. In terms of habitat, there are areas that are significant for trout spawning and juvenile trout development and areas of riparian vegetation that are of significance to aquatic habitats. Trout are present in the lower reaches. Blue Lake is an outstanding natural feature, formed by old gold sluicing and there is a high degree of naturalness above 900 m asl
 - Ida Burn and Pool Burn: In terms of habitat, there are areas which are significant for fish spawning and juvenile fish development. Eels and trout are present in these streams
 - Donald Stuarts Creek: The bed of the creek is characterised by gravel, it is weed free and there are no exotic fish species (i.e., trout) present in the creek. An indigenous invertebrate, threatened with extinction, is also present in the creek (upstream of NZMS260 H41 508840). There is a high degree of naturalness above 900 m asl
 - Dovedale Creek: A weed free channel that provides habitat for a roundhead galaxiid, which is threatened with extinction.
- **Otago Resident Native Freshwater Fish – Threat Status** (Schedule 1AA): This schedule lists 18 native fish species resident in the region which are classified as declining, nationally vulnerable, nationally endangered and nationally critical. A number of these are only found in the Otago region. The schedule identifies that the Alpine galaxias, which is nationally endangered, is in the Manuherikia.
- **Water Supply Values** (Schedule 1B and Maps A2 and A4). The St Bathans water supply is taken from tributaries of the Manuherikia River and the Omakau / Ophir water supply is taken from the main stem of the river in the vicinity of these townships. The water supply for Alexandra is taken from groundwater.
- **Registered Historic Places** (Schedule 1C). Places on the Manuherikia River include the Shakey Bridge in Alexandra and the Daniel O'Connor Bridge on Ophir Bridge Road between Ophir and Omakau.



- **Kai Tahu Values** (Schedule 1D). This schedule identifies Kai Tahu beliefs, values and uses that they ascribe to various water bodies. In the Manuherikia catchment, these are identified as:
 - Manuherikia River and other Manuherikia tributaries: Kaitiakitangi (exercise of guardianship), mauri (life force), waahi tapu and / or waiwhakaheke (sacred places), and waahi toaka (treasured resource). Access and customary use interests include mahika kai (places where food is procured and produced), kohanga (important nursery / spawning areas for native fisheries and / or breeding grounds for birds), trails and cultural materials
 - Moa Creek: Waahi taoka.
- **Primary allocation limits and minimum flows** (Schedule 2 and Map Series B). For specific catchments, including the Manuherikia, primary allocation limits and minimum flows are specified in accordance with Policies 6.4.2(a) and 6.4.1A. ORC are currently carrying out a review of Manuherikia limits and flows specified within this schedule. Schedule 2D outlines the matters to be considered when setting minimum flows and allocation limits. However, until such time as new limits and flows are publicly notified, the relevant criteria are:
 - minimum flow of 820 L/s at Ophir (Site MS 8 – Map B2)
 - primary allocation limit of 3,200 L/s from the mouth to the headwaters of the catchment.
- **Water bodies sensitive to suction dredge mining** (Schedule 7 and Map E3). Although not of direct relevance to this project, this schedule identifies that the Manuherikia River above Falls Dam and Dunstan Creek are sensitive to suction dredging due to 'fisheries values'.
- **Regionally Significant Wetlands and Wetland Management Areas** (Schedule 9 and Maps F11 to F18). Within the Manuherikia catchment, there are the following significant wetlands: Rockdale Inland Saline Wetland Management Area, Dunard Inland Wetland Management Area, Moa Creek Inland Saline Wetland, Galloway (No. 1 and No. 2) Inland Saline Wetland Complex, Long Gully Marsh, Lower Manorburn Dam Margins, Kirkwoods Creek Wetland Management Area, Kirk Creek Headwaters Marsh Complex, Hawkdun Runs Road Marsh and Hut Creek Swamps. In addition, under Policy 10.4.1A, any wetland on areas above 800 m asl is a Regionally Significant Wetland (i.e., even if not identified in Schedule 9 or Maps F1 to F63).
- **Good Quality Water** (Schedule 15 from Proposed PC6A). This schedule contains water characteristics and numerical standards which are to be maintained, or if not met, then water quality is to be improved (Policy 7.B.1). In effect, these are receiving water standards. The characteristics, which are generally descriptive in nature, relate to clarity, colour, sediment, smell, algae and bank appearance. The numerical standards that apply to the Manuherikia catchment (Receiving Water Group 2), which relate to a 5 year 80 percentile value when water flow is at or below median flows, are as follows:
 - from 31 March 2012:
 - nitrate-nitrite nitrogen – 0.075 mg/L
 - ammoniacal nitrogen – 0.1 mg/L
 - *E. coli* – 260 cfu/100 mL
 - Turbidity – 5 NTU
 - from 31 March 2025 – dissolved reactive phosphorus – 0.01 mg/L.



5.3.3 Relevant objectives and policies

The Water Plan also contains objectives and policies that establish the management framework for activities that have the potential to affect the region's water resource. For this reason, the policy direction outlined in the relevant objectives and policies of the Water Plan are of relevance to the water utilisation activities that will be associated with the preferred irrigation option/s.

Chapters 5 (Natural and Human Use Values of Lakes and Rivers), 6 (Water Quantity), 7 (Water Quality), 8 (The Beds and Margins of Lakes and Rivers), 9 (Groundwater) and 10 (Wetlands) are relevant to this project. Proposed PC6A contains objectives and policies which will replace the operative provisions in Chapter 7 (Water Quality) of the Water Plan. Opus 2012a and 2012b both provide an overview of the implications of relevant objectives and policies from the Water Plan, particularly those relating to water quantity and allocation. For this reason, and while also recognising that the Water Plan must give effect to the RPS and national resource management requirements assessed previously within this report, an overview summary of the relevant objectives and policies is provided below (rather than being provided in full).

- **Natural and Human Use Values** (Chapter 5). Objectives and policies associated with the region's water bodies and margins include:
 - these values, as identified in Schedules 1A to 1D, are to be maintained and enhanced (Objectives 5.3.1 and 5.3.2). Avoiding adverse effects on these values, rather than remedying or mitigating them, is preferred (Policy 5.4.2)
 - natural character is to be protected from inappropriate development (Objective 5.3.3). In considering adverse effects on natural character, regard is to be given to a range of factors including topography, natural flow or level characteristics, natural water colour and clarity, ecology of the water body and its margins and the extent of use and development in the catchment (Policy 5.4.8)
 - amenity values, as well as public access to these areas, are to be maintained or enhanced (Objectives 5.3.4 and 5.3.5). To achieve this:
 - in considering adverse effects on amenity values, regard is to be given to aesthetic values and recreational opportunities (Policy 5.4.9)
 - public access along the margins of rivers and lakes will only be restricted where necessary, such as for the protection of specific values in the area, for safety or security reasons or other exceptional circumstances, and if existing access is to be restricted then alternative access is to be provided (Policies 5.4.6 and 5.4.7)
 - sustainable use and development is to be provided for (Objective 5.3.6), while avoiding adverse effects on existing lawful uses or priorities for use (Policy 5.4.3). The establishment of and support for appropriate water user groups to assist in the management of water resources is promoted (Policy 5.4.12)
 - heritage values are to be maintained and therefore any adverse effects on such values are to be considered (Objective 5.3.7 and Policy 5.4.10)
 - exacerbation or creation of natural hazards associated with lakes and rivers are to be avoided (Objective 5.3.8). This includes, avoiding as a preference, rather than remedying or mitigating, adverse effects which result in flooding, erosion, land instability or property damage (Policy 5.4.2(2))
 - Kai Tahu's interests in the region's lakes and rivers are to be recognised and their involvement in resource consent processes is to be promoted (Policy 5.4.4).
- **Water quantity** (Chapter 6). The existing mining privileges to dam, divert, take and use water, as well as the majority of other water take permits in the catchment, are considered to be primary allocation (Policy 6.4.2). However, the Manuherikia catchment is an over-allocated catchment. In this context, the objectives and policies relevant to the project include:



- ensure that the life-supporting capacity for aquatic ecosystems and natural character is maintained by retaining flows in rivers (Objective 6.3.1), while managing the adverse effects of managed flows (Objective 6.3.7). A residual flow may be required at the point of any water take to provide for these values (Policy 6.4.7), and water takes shall generally be suspended at the specific minimum flows (Policy 6.4.11)
- to provide water to meet the needs of industry (primary and secondary) and domestic community water supplies (Objective 6.3.2). This includes ensuring that conflict amongst those taking water is minimised (Objective 6.3.3), while maximising opportunities for diverse consumptive water uses (Objective 6.3.5). This includes establishing an allocation hierarchy known as primary and secondary allocation, based on the existing uses and the amount of water available (Policies 6.4.2 and 6.4.9). In providing for water to be taken and used, ensure that:
 - hydrological characteristics (i.e., levels and flows and relationships between surface and groundwater) of the water resources are known (Policy 6.4.0)
 - the quantity of water taken is no more than what is required for the purpose while also considering the nature of the environment (i.e., climate, soils, crops, water availability) and the efficiency of the water system (Policies 6.4.0A and 6.6.1)
 - promote and support shared use and management of water (Policies 6.4.0B and 6.6.0)
 - promote as a preference that water is taken and used from the nearest practicable source (Policy 6.4.0C)
 - promote the storage of water, including the use of reservoirs, during periods of high water availability (Policy 6.6.2)
- in relation to any new inter-catchment transfer of water, minimise adverse effects on the quality of the receiving water, including its ecology and mauri (Objective 6.3.5)
- minimise any adverse effects of managed flows (Objective 6.4.6) or fluctuations in levels of controlled lakes (Objective 6.3.7). In relation to controlled lakes, recognise and provide for the reasons for the purpose of that control while also limiting operating levels in order to avoid, remedy or mitigate adverse effects on natural and human use values, natural character, amenity values, lake margin stability and the needs of people and communities (Policies 6.5.2 to 6.5.4)
- in relation to primary allocation applications:
 - allocate no more water than has been taken under the existing resource consent over the past five years (Policy 6.4.2A)
 - if water has been taken above the minimum flow under existing resource consents, then consider granting the new resource consent as supplementary allocation (Policy 6.4.2AA)
 - restrict primary allocation takes of water when river flows are below the minimum flow set in Schedule 2 (Policy 6.4.3 and 6.4.5) unless the quantity taken is within an augmentation flow specifically provided for taking (Policy 6.4.14)
 - consider allowing a lower minimum flow on a case-by-case basis if the take has no measurable effect on the flow at the specified monitoring site, and if adverse effects on aquatic ecosystems, natural character and existing lawful takes are minor (Policy 6.4.6)
 - in accordance with section 136 of the RMA, enable the transfer of a consent holder's interest in water permits to take and use water to a new location without losing its allocation status, provided the take is in the same catchment, the total take does not exceed the consented amount, the take is no more than what is required for the purpose and there are no more than minor adverse effects on other takes or natural and human use values (Policy 6.4.17)



- promote, establish and support water allocation committees who will be responsible for managing water rationing and monitoring during periods of water shortage, as well as co-ordinating takes and use, and recording and reporting to the ORC (Policy 6.4.12, 6.4.12A to 6.4.12C and 6.4.14).
- **Water Quality** (Chapter 7 and Proposed PC6A). The proposed irrigation option/s takes and uses water and does not discharge water to land. On this basis, the relevant water quality objectives and policies include:
 - to maintain or enhance water quality so that the region's water bodies can support their natural and human use values and people's use of water (Objective 7.5.1). Proposed PC6A amends this objective by requiring water quality to be maintained and enhanced where it is degraded, which is when the good water quality characteristics and standards in Schedule 15 are not met (Objective 7.A.1 and Policy 7.B.1)
 - to avoid, remedy or mitigate the adverse effects of increased runoff of nutrients and sediment from, amongst other things, agricultural land uses (Policy 7.8.1).
- **The Beds and Margins of Lakes and River** (Chapter 8). The relevant objectives and policies include:
 - the stability and function of existing structures, the stability of beds and banks, and the flood and sediment carrying capacity of water bodies is to be maintained (Objective 8.3.1). Prioritise avoiding changes to natural flow or sediment processes where such changes can adversely affect the matters listed in Objective 8.3.1 (Policy 8.4.1)
 - minimise reduction in water clarity from bed disturbance (Objective 8.3.2), while also considering adverse effects on spawning requirements, bed and bank stability, water quality, amenity values and downstream users (Policy 8.6.1). Promote best management practises so as to avoid, remedy or mitigate adverse effects associated with bed disturbance activities (Policy 8.6.2)
 - remedy any adverse effect resulting from the failure or overtopping of dam structures (Objective 8.3.4)
 - fish migration, or alternative remedial measures, through or past structures is to be provided for where necessary, desirable and practicable (Policy 8.5.1)
 - consider removal of abandoned structures where they significantly exacerbate flooding or erosion, impede or prevent fish passage, threaten the health and safety of people and communities and degrade amenity values (Policy 8.5.4)
 - promote the creation, retention and enhancement of riparian vegetation, subject to the range of considerations listed in this policy (Policy 8.7.1).
- **Groundwater (Chapter 9)**. The irrigation of water onto land has the potential to adversely affect groundwater quality, while the take of surface water may affect groundwater in circumstances where surface and groundwater are hydraulically connected. On this basis, the objectives and policies relevant to this project include that the recognised uses of groundwater is sustained (Objective 9.3.1) while groundwater quality is maintained (Objective 9.3.3).
- **Wetlands** (Chapter 10). The relevant objectives and policies include:
 - the region's wetlands and their values and uses are to be maintained or enhanced (Objective 10.3.1)
 - Regionally Significant Wetlands, and their values and uses, are to be recognised and sustained (Objective 10.3.2). To achieve this, the adverse effects of activities are to be avoided, unless an activity is already established, is nationally or regionally important and has specific locational constraints, or is for the purpose of maintaining or enhancing the wetland, in which case adverse effects can be remedied or mitigated (Policy 10.4.2). In circumstances where the avoidance, remediation or mitigation measures are not adequate, financial contributions may be required (Policy 10.4.2A).



As the above policy framework is self-explanatory and reflects the policy framework of the RPS, the implications for assessing the irrigation options for the catchment and for any application under the RMA has not been summarised further within this section of this report.

5.3.4 Applicable rules

Table 1 in Section 4 of Opus 2012b provides an overview of the rules that are likely to apply to the preferred irrigation option/s. The activity status of the various rules ranges from permitted to discretionary.

In addition, it is also pertinent to acknowledge the following rules as they have implications when assessing the various irrigation options and / or resource consenting approach. The relevant rules are:

- **Primary allocation prohibited activity rules.** Rule 12.0.1.1 prohibits the “take of water within a primary allocation in a catchment where Policy 6.4.2(b) applies, by a person who does not hold the existing consent to take that water”, while Rule 12.0.1.2 prohibits the “take of water as primary allocation where that take could cause the primary allocation of a catchment to exceed the relevant limits in Policy 6.4.2”. As the Manuherikia catchment is already over-allocated Rule 12.0.1.2 in effect does not apply. However, under Rule 12.0.1.1, it will be necessary to ensure that when resource consents for the proposed irrigation option/s is sought, that the party lodging the application holds the existing take upon which the new take is to rely (even if transferred to a new location under Policy 6.4.17). If this is not the case, a primary allocation take is prohibited and a take as a supplementary allocation will need to be sought.
- **Regionally Significant Wetlands non-complying activity rules.** Dependent on whether other rules permit or prohibit activities, taking, using, damming and diverting surface water within any such wetland is a non-complying activity (Rule 12.1.1A.1 and 12.3.1A.1).
- **Earthworks activities.** Under Proposed PC6A, the discharge of sediment from disturbed land to water is a prohibited activity if no measure is in place to mitigate sediment runoff (Rule 12.C.0.3).
- **Discharge of nitrogen to land.** Although not directly relevant to this project, as there will be no discharge of nitrogen to land, there is the potential that irrigation options may result in more nitrogen leaching occurring. For this reason, it is important to acknowledge the implications of Rule 12.C.1.3 (permitted activity) in Proposed PC6A. This rule permits the discharge of nitrogen to land from 1 April 2020 provided the nitrogen leaching rate does not exceed 30 kgN/ha/year. This applies in areas outside of the Nitrogen Sensitive Zones (Map Series H) which is the case for the Manuherikia catchment. Between March 2014 and March 2020, the landholder is required to assess nitrogen leaching rates using OVERSEER (Condition (b) of this rule).

5.4 Other Matters – Kai Tahu ki Otago’s Natural Resource Management Plan

The KTKO Plan is an iwi management plan developed by the runaka who have kaitaki within the Otago region. It identifies KTKO’s⁶ management framework for the region’s resources.

The appendices to the KTKO Plan identify a range of values of significance to Kai Tahu, including a list of toaka species (Appendix 4), statutory acknowledgement areas, nohoanga and topuni within Otago which are instruments arising out of the Ngai Tahu Claims Settlement Act 1998 (Appendices 8 to 32), and wahi taonga areas in the South Island under the control or ownership of Ngai Tahu (Appendix 34). There are no statutory acknowledgement areas, nohoanga, topuni or wahi taonga within the Manuherikia catchment identified in the KTKO Plan. However, the Clutha River / Mata-au is a statutory acknowledgement area (refer to Appendix 26

⁶ KTKO, as identified in Section 1.5 of the KTKO Plan, is the four Papatipu Runaka (i.e., Te Runanaka o Moeraki, Kati Huirapa Runaka ki Puketeraki, Te Runanga o Otakou and Hokonui Runanga) and associated whanau and ropu (i.e., Moturata Taieri Whanau and Waikoau Ngai Tahu Runanga (S.O.) Incorporated) of the Otago Region.



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of the KTKO Plan or Schedule 40 of the Ngai Tahu Claims Settlement Act 1998). As the Manuherikia River is a tributary of the Clutha River / Mata-au, the potential effects of the irrigation option/s being considered on the cultural values of the Clutha River should be considered as part of the assessment process.

In addition, Section 10.5 of the KTKO Plan identifies that the Manuherikia River was part of an ancient trail (ara tawhito) into the interior of Otago. The Manuherikia River linked coastal north Otago to the inland areas via the Taieri River up into the Manuherikia catchment and then into the Clutha River / Mata-au.

Section 5 of the KTKO Plan outlines the issues, objectives and policies that relate to a range of resource utilisation activities throughout the Otago region, while Section 10 outlines similar considerations that relate to the Clutha River / Mata-au. The objectives and policies of potential relevance to assessing the irrigation options within the Manuherikia catchment and to any application for approvals under the RMA are contained in Table 2.

Table 2: KTKO Plan - Relevant objectives and policies.

Section of the KTKO Plan	Objectives and Policies
Section 5 – Otago Region	
Section 5.3 – Wai Maori	
Objectives (Section 5.3.3)	(i) – The spiritual and cultural significance of water to Kai Tahu ki Otago is recognised in all water management. (ii) – The waters of the Otago Catchment are healthy and support Kai Tahu ki Otago customs. (iv) – Contaminants being discharged directly or indirectly to water are reduced. (v) – Flow regimes and water quality standards are consistent with the cultural values of Kai Tahu ki Otago and are implemented throughout the Otago Region ...
General Policies (Section 5.3.4)	1 – To require an assessment of instream values for all activities affecting water. 2 – To promote the cultural importance of water to Kai Tahu ki Otago in all water management within the Otago Region ... 4 – To protect and restore the mauri of all water. 6 – To oppose any further cross mixing of waters.
Dams/Diversions (Policy) (Section 5.3.4)	19 – To require a Cultural Impact Assessment for all proposals to dam.
Water Extractions (Policy) (Section 5.3.4)	22 – To require that resource consent applicants seek only the amount of water actually required for the purpose specified in the application. 23 – To require that all water takes are metered and reported on, and information be made available upon request to Kai Tahu ki Otago. 25 – To oppose the granting of water take consents for 35 years. Consistent with a precautionary approach, either a review clause or a reduced term may be sought.
Irrigation (Policy) (Section 5.3.4)	26 – To encourage those that extract water for irrigation to use the most efficient method of application. Flood irrigation, border dyke and contour techniques are less likely to be supported than spray irrigation techniques. (Note: Policy 5.3.4.27 then identifies that 5 to 10 year consents should be granted for inefficient irrigation activities so as to allow for upgrades to more efficient methods).



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Section of the KTKO Plan	Objectives and Policies
	28 – To discourage over-watering.
	29 – To encourage irrigation to occur at times when winds are light and evaporation low.
	30 – To encourage dry land farming practices where appropriate.
River and Instream Works (Policy) (Section 5.3.4)	31 – To require that fish passage is provided for at all times, both upstream and downstream. (Note: Policy 10.4.3.1 in relation to the Clutha / Mata-au Catchments reflects a similar intent for native fish).
	Policies 5.3.4.33 to 42 identify a range of controls that are to be in place during construction activities within water bodies.
Land Use and Management (Policy) (Section 5.3.4)	54 – To promote land use that suits the type of land and climatic conditions.
	57 – To require a programme to monitor the effects of stock and agricultural activity on groundwater quality to be established.
	59 – To promote integrated riparian management throughout entire catchments.
Section 5.4 – Wahi Tapu	
Objectives (Section 5.4.3)	(i) - All wahi tapu are protected from inappropriate activities
Earth Disturbance (Policy) (Section 5.4.4)	4 – To require that a Kai Tahu ki Otago mandated archaeologist survey an area before any earth disturbance work commences.
	5 – To promote the use of Accidental Discovery Protocols for any earth disturbance work. (Note: Policy 10.3.3.3 in relation to the Clutha / Mata-au Catchments reflects a similar requirement)
Section 5.5 - Mahika Kai and Biodiversity	
Objectives (Section 5.5.3)	(i) - Habitats and the wider needs of mahika kai, taoka species and other species of importance to Kai Tahu ki Otago are protected.
	(ii) – Mahika kai resources are healthy and abundant within the Otago Region.
General Policies (Section 5.5.4)	6 – To protect and enhance physical access for Kai Tahu ki Otago to mahika kai sites.
	7 – To require that all assessments of effects on the environment include an assessment of the impacts of the proposed activity on mahika kai.
	8 – To promote the protection of remaining indigenous fish habitat ...
	17 – To require that fish screens be fitted to all pumps and race intakes.
Section 10 – Clutha / Mata-au Catchments	
Section 10.2 –Wai Maori	
Dams (Policy) (Section 10.2.3)	1 – To oppose the creation of new dams within this Catchment.
	2 – To require gradual rather than instantaneous ramping to control fluctuations in river flow.
	3 – To require flow regimes that mimic natural flows.
Land Use (Policy) (Section 10.2.3)	9 – To encourage the adoption of sound environmental practices, adopted where land use intensification occurs.



As the above policy framework is self-explanatory, the implications for assessing the irrigation options for the catchment and for any application under the RMA has not been summarised further within this section of this report.

Policy 5.3.4.19 identifies that Kai Tahu will require a Cultural Impact Assessment to be completed for any aspects of the proposal that requires damming and diversion of water. The need for such an assessment, and the scope (i.e., whether it should be for the proposal as a whole, not just the damming and diversion aspects) needs to be determined through consultation with Kai Tahu.

5.5 Summary

The resource management framework reflected in the relevant regional planning documents, and the KTKO Plan, are broad ranging. Irrespective of this, there are strong policy drivers which are of significance to any preferred scheme and that will need to be recognised when considering options and preparing an application for approvals under the RMA. These drivers are overviewed in the above sections of this report.

These policy drivers principally revolve around ensuring that any resource utilisation activity, in relation to this project relates to the use of water and land, and takes place within a sustainable management framework (as outlined in section 5 of the RMA), whereby:

- The values associated with the resource are recognised and provided for.
- Significant and outstanding values and attributes are protected from inappropriate use and development.
- Other values and attributes are maintained and enhanced while the adverse effects are avoided, remedied or mitigated.
- In relation to some activities, avoiding adverse effects is a priority, rather than remedying or mitigating them.

6.0 DISTRICT PROVISIONS – CENTRAL OTAGO DISTRICT PLAN

6.1 Overview

The District Plan became operative in April 2008. The District Plan establishes the framework “*by which the effects of using, developing and protecting the District’s natural and physical resources will be managed in the future*”.⁷

Since 2008 a number of plan changes⁸ have also become operative and incorporated into the District Plan. There are also currently a number of plan changes⁹ at various stages through the 1st Schedule process, although they are not considered to be relevant to this project

6.2 Relevant Values

The planning maps and, where relevant, associated schedules of the District Plan, identify the zones, values and attributes that are present within the Manuherikia catchment. As an overview, they include the following:

⁷ Page 1:1 of the District Plan.

⁸ Plan Changes 2C to 2X, 3A to 3D and 4A to 4B, 5, 7, and 9 have been incorporated into the online version of the District Plan.

⁹ Plan Changes 8 (Electricity Transmission) and 10 (Removal of McArthur Ridge Resource Area).



- The broader catchment, not including the townships, is zoned as a Rural Resource Area (RRA). The water surface of the Manuherikia River and its tributaries are zoned Water Surface and Margin Resource Area¹⁰.
- **Designations** (Schedule 19.2). All state highways, limited access roads and other legal roads in the district are designated. There are a number of designations¹¹ throughout the RRA within the catchment that provide for a range of activities including recreation reserves and domains, substations, landfills, cemeteries, schools, water supply intakes and telecommunications equipment. Recreation reserves are associated with the Idaburn Dam (D217), Lower Manorburn Dam (D224) and the Poolburn Doman (D225).
- **Scheduled Activities** (Schedule 19.3). This schedule identifies specific community facilities and amenities, gravel extraction activities, irrigation dams, travellers' accommodation, power generation and associated facilities and other scheduled activities (i.e., ORC depots, Fulton Hogan yard and research centres). The rules in the District Plan generally provide for these scheduled activities as permitted activities (e.g., Rules 4.7.1(ii) and 5.7.1(ii)). The Otago Central Rail Trail (SA1) is a schedule activity, as are the Falls, Idaburn, Lower and Upper Manorburn Dams as well as the Poolburn Dam (SA94, 95, 97 to 99). Schedule 19.3 notes that the irrigation dams provided for include the *“structures for the taking and carrying of water, including weirs, intake structures, races, pipelines and associated structures and equipment, and, operation, repair, maintenance, replacement, and reconstruction of structures”*.
- **Heritage Buildings, Places, Sites & Objects and Notable Trees** (Schedule 19.4) and **Historic Reserves & Protected Private Land for Historic Purposes** (Schedule 19.10). There are a number of these values located within the Manuherikia catchment as identified on the planning maps.
- **Areas of Significant Indigenous Vegetation, Habitats of Indigenous Fauna and Wetlands** (Schedule 19.6.1). Areas generally associated with the broader Manuherikia catchment include Lauder Basin (SA3), Hawkdun (SA7), Hawkdun Conservation Area (SA8), Allens Peak Conservation Area (SA9), Blackstone Hill (SA24), Ardgour (SA33), Dunard Saline Area (SA39), Galloway No. 1 and No. 2 Saline Area (SA41 and 42), Kirkwood Creek Wetland (SA43), Moa Creek Saline Area (SA44) and Rockdale Saline Area (SA44). Some of these areas are also classified as Regionally Significant Wetlands under the Water Plan (refer to Section 5.3.2 of this report).
- **Additional Wetlands** (Schedule 19.6A). This schedule identifies a number of wetlands that were previously identified in the Water Plan before Plan Change 2 (Regionally Significant Wetlands) became operative. The additional wetlands within the Manuherikia catchment include the Lower Manorburn Dam margins (W15) and a number of wetlands in the vicinity of Falls Dam, namely the Gate Creek Swamp (W7), Hawkdun Runs Road Swamp Complex (W11) and the Hut Creek Swamp Complex (W12).
- **Outstanding Natural Features (ONF) and Outstanding Natural Landscapes (ONL)** (Schedule 19.6.2) **and Significant Amenity Landscapes (SAL)**. Proposed Plan Change 5, which is now operative (and incorporated into the District Plan), established new landscape classifications within the District Plan whereby ONF and ONL are landscapes of national importance (section 6(b) of the RMA) and SAL are landscapes which are considered to promote amenity values in accordance with section 7(c) of the RMA. Within the broader Manuherikia catchment, there are landscapes classified as ONF, ONL and SAL, with the reasons for ONF and ONL classifications provided in Schedule 19.6.2.

¹⁰ The Introduction to Section 5 (Water Surface and Margin Resource Area) identifies that - *“This section applies to all those areas identified as “Water Surface and Margin Resource Area” on the planning maps and all other areas of water surface in the district”*. (p. 5:1 of the District Plan).

¹¹ Designations within the RRA and Manuherikia catchment includes – D126, D133, D180, D210, D212 to D217, D224 to D227, D237A and D237B.



- The ONF areas include: the Poolburn Gorge (the gorge linking the Manuherikia and Ida valleys); Tiger Hill; and, the Ophir Gorge (the gorge containing the Manuherikia River downstream of Ophir).
 - The ONL areas include: Blue Lake / St Bathans backdrop; Upper Manorburn / Poolburn / Serpentine; Dunstan Mountains; Hawkdun / St Bathans and Ida Ranges; Rough Ridge and North Rough Ridge (elevated areas between the Maniototo Plain and Ida Valley); and, the Upper Manuherikia and Dunstan Creek. In addition, the Upper Manorburn / Lake Onslow Landscape Management Area is also a landscape of national importance under section 6(b) of the RMA.
 - The SAL areas include: the terrace between the Dunstan Mountains and Waikerikeri Valley; Raggedy Range; and, Blackstone Hills.
- **Water bodies subject to esplanade provisions** (Schedule 19.9). The Manuherikia River, Manorburn (including the two reservoirs and Greenland reservoir), Poolburn (including the reservoir), Falls Dam, Blue Lake and Idaburn Dam are all subject to the esplanade provisions of the District Plan.

In addition to the above matters, the planning maps also identify flood prone land, which is described in Schedule 19.11. The Manuherikia River and many of its tributaries, as well as the land adjoining these areas, are identified as being flood prone.

6.3 Relevant Objectives and Policies

The District Plan also contains objectives and policies that establish the management framework for activities that have the potential to affect the district's land resources. For this reason, the policy direction outlined in the relevant objectives and policies of the District Plan are relevant to the land use activities that will be associated with the preferred irrigation option/s.

Under the District Plan, utility has the same meaning as 'network utility' which is defined as having the same meaning as that of 'network utility operation' under section 166 of the RMA, and under the District Plan also includes, amongst other things, irrigation works. Section 13 (Infrastructure, Energy and Utilities) are therefore relevant to this project. As Section 13 of the District Plan is a 'complete code' for activities covered by Section 13, the provisions of other sections of the District Plan are not relevant unless specifically referred to in Section 13.

Similar to the approach adopted in overviewing the relevant objectives and policies from the Water Plan, an overview summary of the relevant objectives and policies from Section 13 of the District Plan (and any other objectives and policies referred to) is provided below. This approach reflects the fact that the District Plan is required to give effect to higher level statutory planning documents which have already been identified within this report.

The relevant objectives and policies are:

- **Utilities.** To enable the efficient operation and development of utilities while avoiding significant adverse effects on amenity, heritage, landscape values and public safety (Objective 13.3.2 and Policy 13.4.3). Ensure that the design and location of utilities consider location and operational efficiency needs (including considering the use of utility corridors and co-siting) while: protecting areas of significant indigenous vegetation and habitats for indigenous fauna as well as sports fish and game, significant heritage values and sites of significance to Kai Tahu; and, that adverse effects on amenity (light, noise, vibration, glare) and landscape values are avoided, remedied or mitigated (Policies 13.4.4 and 13.4.5).
- **Energy Resources.** In developing energy resources, ensure significant adverse effects on natural and physical resources are avoided, remedied or mitigated (Objective 13.3.3 and Policy 13.4.7). In addition, the continued operation, maintenance, refurbishment and enhancement of existing generation facilities is to be provided for, including that other activities do not affect generation efficiency (Objective 5.3.6 and Policy 5.4.4).



- **Landscapes of national importance, namely ONF, ONL and the Upper Manorburn/Lake Onslow Management Area.** The significance of these landscapes are recognised and they are to be protected from inappropriate use and development, including development associated with utilities and energy generation (Objective 4.3.2 and Policy 4.4.1).
- **Other landscapes and amenity values.** Rural amenity values associated are to be maintained and where practicable enhanced, while the open natural character of hills and ranges is to be maintained (Objective 4.3.3). This is to be achieved by ensuring that adverse effects on open space, landscape, natural character and amenity values are avoided, remedied or mitigated through a range of approaches, including ensuring structures and works are not in prominent locations (Policy 4.4.2).
- **Public access.** Provision for public access along water bodies is to be provided unless restrictions are required to protect specific values in the area for safety or security reasons or other exceptional circumstances (Policy 5.4.6).
- **Contribution of infrastructure.** The essential and positive contribution that infrastructure plays in providing for people and communities' social, economic and cultural well-being and health and safety needs to be recognised (Policy 13.4.1).

6.4 Applicable Rules

The land use activities that may trigger the need to seek a land use consent, or which a designation may provide for, include, but are not limited to, construction activities (i.e., earthworks and vegetation disturbance) and the establishment and possible maintenance of land-based irrigation infrastructure such as pipes and buildings.

The rules in Section 13 (Infrastructure, Energy and Utilities) are a 'complete code' such that rules in other sections of the District Plan do not apply. However, as noted in Section 13.7.1, the rules in Section 15 (Financial Contributions) and Section 16 (Subdivision) may apply to activities provided for by Section 13, although it is considered that they are unlikely to apply to the preferred irrigation option/s.

As previously noted within this report, Table 1 in Section 4 of Opus 2012b provides an overview of the District Plan rules that are likely to apply to the preferred irrigation option. However, given that the rules in Section 13 are a complete code, Rule 5.7.4A(viii) and 5.7.3(a) do not apply to structures in the Water Surface and Margin Area (as noted in Opus 2012b).

In summary, if it is decided to not seek to designate the land associated with any such scheme, then it is possible that a land use consent in accordance with Rule 13.7.16 (discretionary activity) may be required for aspects of the scheme not covered by various permitted activity rules in Section 13.

7.0 OTHER CONSIDERATIONS

In addition to approvals required under the RMA, the construction and operation of the preferred irrigation option/s may need a number of other approvals. These additional considerations are discussed in Section 3.5 of Opus 2012b. As a summary, they include:

- **Activities on Crown land.** Dependent on the status and location of land (e.g., conservation estate, reserve land, riverbed, pastoral lease etc.) and the Crown agency responsible for managing the land (i.e., DOC or LINZ) approvals of various forms will be required to undertake activities on Crown land.
- **Archaeological and heritage sites.** If any archaeological sites or other areas protected under the Historic Places Act 1994 are disturbed or destroyed as a result of construction activities then an approval under this Act will be required.



- Fish passage. Part 6 of the Freshwater Fisheries Regulations 1983, which is administered by DOC, requires fish passage to be provided past structures placed within water bodies. Although providing for fish passage will be a potential effect assessed under the RMA in relation to such structures, approval may also be required from DOC under these regulations.
- Work within the road reserve. Any activities undertaken within road reserves, whether state highways managed by the New Zealand Transport Agency or local roads managed by CODC, will require various approvals and / or information to be supplied and approved by the relevant agency.

As noted in Opus 2012b, dam structures will need to comply with the dam safety provisions of the Building Act 2004. In fact, all structures and buildings associated with the preferred irrigation option will need to comply with the requirements of the Building Act 2004, including seeking building consents where required.

8.0 SUMMARY

This report identifies the RMA and associated statutory planning document provisions that have the potential to influence the assessment, from both a technical and environmental perspective, of the Manuherikia catchment irrigation options being considered as part of the Feasibility Study.

The existing irrigation schemes, and any amended or new irrigation scheme, utilises the water, river and land resources within the catchment. Given this resource use, the fact that the catchment's mining privileges expire in 2021 and that MCSWG aim to implement a cost effective, efficient and sustainable irrigation option, approvals under the RMA will need to be sought for both the construction and operation of the irrigation scheme.

The RMA, and associated statutory planning documents, establish the thresholds within which resource utilisation activities must be undertaken and, subject to threshold requirements, the circumstances where approvals under the RMA are required. In the context of this project, the approvals include resource consents and / or a designation. A designation would be replace the need to seek land use consents from the CODC (i.e., for construction activities and for land-based irrigation infrastructure).

Part 2 of the RMA sets out the purpose and principles of the Act. The preferred option/s for irrigation within the catchment will need to ensure that the purpose and principles of the RMA are achieved as outlined in sections 5 to 8. This includes ensuring that the project promotes "*the sustainable management of natural and physical resources*" which means enabling resources to be used provided they are sustained for future generations, their life-supporting capacity is safe-guarded and any adverse effects of an activity are avoided, remedied or mitigated (section 5). Matters of national importance (section 6) that will need to be accommodated by the project, provided these values are present, include, preserving natural character of water bodies and protecting ONF and ONL and historic heritage from inappropriate development, protecting areas of significant indigenous vegetation and habitats of indigenous fauna, maintaining and enhancing public access along water bodies and recognising Maori connection to resources. Section 7 of the RMA identifies a range of other matters to which regard will also need to be given. In addition, the principles of Treaty of Waitangi need to be taken into account (section 8).

The statutory planning documents which are relevant to any proposed irrigation scheme include national, regional and district level provisions as well as other matters, namely the KTKO Plan, under section 104(1)(c) of the RMA. The national statutory planning documents include the Water Take Regs, the Electricity NPS and Freshwater NPS as well as specific national environmental standards. The key regional planning documents are the RPS and the Water Plan, including Proposed PC6A, while the District Plan is the relevant district level statutory planning document. These statutory planning documents have been developed to give effect to the RMA, and also to higher level planning documents.



There are a number of key implications for the proposed irrigation option/s from the national statutory plan provisions. They are:

- Under the Water Take Regs, all water takes associated with the scheme will need to be accurately measured, recorded and the amount of water taken throughout the system documented.
- Under the Freshwater NPS:
 - the need to utilise water is recognised and provided for, but any such use must ensure that outstanding values of water are protected, the life-supporting capacity of freshwater is safe-guarded and water quality is at least maintained (or improved, if considered degraded)
 - as an over-allocated catchment, the over-allocation of water is to be phased out, while also ensuring that water is used and allocated efficiently.
- Under the Electricity NPS, there is an aim to increase renewable electricity generation.

The RPS contains objectives and policies in relation to manawhenua perspective, land, water, air, the built environment, biota and energy that will be relevant to assessing the irrigation option/s and any future application for approvals under the RMA. These objectives and policies reflect the sustainable resource management approach outlined in Part 2 of the RMA.

The Water Plan, and Proposed PC6A, identifies a range of values associated with the region's water bodies, including the Manuherikia catchment. Values of relevance to this project include natural values, resident native freshwater fish, water supply values, registered historic values, values of significance to Kai Tahu and Regionally Significant Wetlands and Wetland Management Areas. The objectives and policies that relate to these values generally reflect the resource management approach outlined in Part 2 of the RMA, that is outstanding or significant values are to be protected from inappropriate development while other values are to be maintained or enhanced. This often means that avoiding adverse effects from activities is preferred over remedying or mitigating adverse effects.

The Water Plan schedules and maps also identify limits or criteria that apply to the Manuherikia catchment. These include a primary allocation minimum flow at Ophir of 820 L/s and a primary allocation limit for the whole catchment of 3,200 L/s (Schedule 2). Also, good quality water characteristics and numerical standards (Schedule 15 of Proposed PC6A), that are in effect receiving water standards, have potential implications in relation to the potential intensification of farming activities that may occur as a result of the use of any irrigation water.

Key considerations for any proposed irrigation option/s arising out of the Water Plan's objectives and policies principally relate to water quantity management. The mining privileges and the majority of other water takes in the catchment are considered to be primary allocation (Policy 6.4.2), and this water can potentially continue to be taken when new resource consents are issued. As an already over-allocated catchment, there is a strong driver to reduce the amount of water taken. New primary allocation water takes will therefore only be granted for the volume of water that has actually been taken, over the past five years, under the existing approval (Policy 6.4.2A). Given the current lack of measurement of the water takes, this could be matter for discussion. In addition, the quantity of water taken cannot exceed the amount required for the purpose while also ensuring that water is taken and used in an efficient manner (Policies 6.4.0A and 6.6.1). Also, under the Water Plan rules, in effect resource consents for primary allocation water can only be granted to the people who hold the existing resource consent (Rule 12.0.1.1). Policy 6.4.17 (and section 136 of the RMA) enables a consent holder's interest in water take to be transferred to a new location while retaining primary allocation status, provided the matters identified above are met, and adverse effects on other takes or natural and human use values are no more than minor.

The KTKO Plan objectives and policies of relevance to this project cover matters such as wai Maori (across the region and within the Clutha / Mata-au catchments), wahi tapu, mahika kai and biodiversity. Many of the principles reflected in the RMA and statutory planning documents are contained within these objectives and



policies. Specific additional matters relevant to assessing the proposed irrigation options include: cross-mixing of water will be opposed; generally 35 year resource consent terms will be opposed; efficient irrigation systems are encouraged; where appropriate dry land farming practices are also encouraged; fish passage past structures is to be provided; fish screens are to be fitted to pumps and intakes; and, in the Clutha / Mata-au catchment the creation of new dams will be opposed. Policy 5.3.4.19 identifies that Kai Tahu will require a Cultural Impact Assessment to be completed for any aspects of the proposal that requires damming and diversion of water. This requirement, and the proposal as a whole, should be discussed with Kai Tahu.

The District Plan's schedules and planning maps also identifies a range of values of land uses associated with the catchment. These include designations, scheduled activities, various heritage sites, notable trees, areas of significant indigenous vegetation and habitats of indigenous fauna, wetlands, areas with outstanding and significant landscape values, and flood prone land. As with the Water Plan, the objectives and policies generally reflect the resource management approach outlined in Part 2 of the RMA. Of specific relevance to this project is the objectives and policies in Section 13 (Infrastructure, Energy and Utilities), which except for specific landscape and public access objectives and policies from other sections of the District Plan, are a 'complete code' for such activities (i.e., other provisions of the plan do not apply). The Section 13 objectives and policies aim to provide for and support existing and new utilities and energy resource generation activities, given that they are essential, and contribute positively to the well-being of society.

Finally, the construction and operation of the irrigation option/s will require a number of resource consents principally in accordance the rules in the Water Plan and District Plan. If MCWSG decide to become a requiring authority, a designation will need to be sought for district level land use activities, namely construction activities and establishment of land-based irrigation infrastructure. Other RMA statutory planning documents may also trigger the need to seek additional resource consents. In addition to approvals under the RMA, the construction and operation of the preferred irrigation option/s is likely to require a range of other approvals either under other legislation and associated regulations, and /or from the manager of Crown or Council land.

9.0 REFERENCES

Building Act 2004.

CODC 2013. Central Otago District Plan. A district plan, incorporating plan changes, initially published by the Central Otago District Council in April 2008, and updated as a result of plan changes up to January 2014.

Conservation Act 1987.

Freshwater Fisheries Regulations 1983.

Historic Places Act 1993.

KTKO 2005. Natural Resources Management Plan 2005. Prepared by Kai Tahu ki Otago, June 2005.

MCWSG 2013. Feasibility Study of the Manuherikia Catchment to Provide Water Storage and Distribution for Irrigation in the Manuherikia Catchment – Request for Proposal. Prepared by the Manuherikia Catchment Water Strategy Group, May 2013.

MfE 2013. Proposed amendments to the National Policy Statement for Freshwater Management 2011 – A discussion document. A document published by the Ministry for the Environment, November 2011.

National Policy Statement for Renewable Electricity Generation 2011. A national policy statement issued pursuant to the Resource Management Act 1991, May 2011.



National Policy Statement for Freshwater Management 2011. A national policy statement issued pursuant to the Resource Management Act 1991, 1 July 2011.

Opus 2012a. Manuherikia Catchment Study: Stage 3 – Implications of a “Do Minimum” Option. A report prepared by Opus International Consultants Limited for the Manuherikia Catchment Water Strategy Group, September 2012.

Opus 2012b. Manuherikia Catchment Study Stage 3 – Planning Issues. A report prepared by Opus International Consultants Limited for the Manuherikia Catchment Water Strategy Group, November 2012.

ORC 1997. Regional Plan: Waste for Otago. A regional plan prepared by Otago Regional Council, April 1997.

ORC 1998. Regional Policy Statement for Otago. A regional policy statement prepared by Otago Regional Council, October 1998.

ORC 2009. Regional Plan: Air for Otago. A regional plan, incorporating plan changes, initially published by the Otago Regional Council in January 2003, and updated in January 2009.

ORC 2013a. Regional Plan: Water for Otago. A regional plan, incorporating plan changes, initially published by the Otago Regional Council in January 2004, and updated in October 2013.

ORC 2013b. Proposed Plan Change 6A – Regional Plan: Water for Otago – Incorporating Council Decisions. The hearing panel’s decisions on a proposed plan change to a regional plan, April 2013.

Resource Management Act 1991.

Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009.

Resource Management (Measurement and Reporting of Water Takes) Regulations 2010.

Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.



APPENDIX A

Report Limitations.



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Report Limitations

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