IN THE MATTER of the Resource Management Act 1991

ANDS

IN THE MATTER of an application by Meridian Energy Limited for the resource consents related to the construction of a new channel to enable a permanent diversion of part of the flow of the Waiau Arm and the associated removal of bed material and gravels, together with any maintenance and ancillary activities.

STATEMENT OF EVIDENCE IN CHIEF OF DANIEL JAMES MURRAY

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INTRODUCTION

1. My full name is Daniel James Murray.

2. I have 26 years' experience as a resource management planner. For the last eight years I have been employed as a Technical Director – Planning with Tonkin & Taylor. I have previously been employed by AECOM New Zealand and its predecessor URS New Zealand, and Opus International Consultants (now WSP New Zealand). Before being a consultant I was employed for 2 years as a consents planner at Papakura District Council.

3. I hold a Bachelor of Resource Studies with First Class Honours, majoring in Natural Resources Engineering, obtained from Lincoln University in 1998. I also hold a Certificate of Proficiency in Advanced Planning Theory and Practice, obtained from The University of Auckland in 1999. I am a full member of the New Zealand Planning Institute.

4. As a consultant planner I have worked throughout New Zealand assisting private and public sector clients with obtaining statutory approvals, undertaking environmental effects assessment and policy analysis, and providing expert planning evidence at plan and consent hearings.

5. I have been the lead planner, and managed multi-disciplinary consenting teams, for many large and complex infrastructure projects located within river, lake, and coastal environments. Examples include:

    (a) Cyclone Gabrielle Recovery, New Zealand Transport Agency and KiwiRail Holdings Limited;

    (b) Te Ara Tupua and Tupua Horo Nuku Coastal Pathways, New Zealand Transport Agency and Hutt City Council;

    (c) Kaikōura Earthquake Recovery, New Zealand Transport Agency and KiwiRail Holdings Limited;

    (d) Central Plains Water Enhancement Scheme – Central Plains Water Limited;

    (e) Cleddau River Flood Protection Scheme, Department of Conservation; and

    (f) Lower Mararoa River Restoration Project, Environment Southland.

BACKGROUND

6. On behalf of Meridian Energy Limited (**Meridian**, or the **applicant**) I led the preparation and technical review of the Assessment of Effects on the Environment (**AEE**) for the proposed Manapouri Lake Control Structure Improvement Project (**MLC:IP** or **the Project**). This application was submitted to Environment Southland (**ES**) in December 2023.

7. My role in the Project has included oversight and review of the preparation of technical assessments (Appendices C to I of the AEE), preparation of the statutory assessment (Section 9 of the AEE), preparation of the Objectives and Policies Assessment (Appendix J of the AEE), and review of the volunteered consent conditions (Section 8 of the AEE). I attended both of the recent pre-hearing meetings.

8. Since 2003 I have assisted Meridian with the consenting of multiple projects, including several across the Manapōuri Power Scheme (**MPS**). I was the lead consultant planner for the applications for the Manapōuri Lake Control Structure (**MLC**) maintenance consent (2006) and its replacement consent (2023; in progress). I am familiar with the MLC site having visited it on multiple occasions, most recently in May 2023.

9. I confirm that I have reviewed the following in preparing my evidence:

   (a) The resource consent applications and AEE;

   (b) The submissions made on the application;

   (c) The evidence of all expert witnesses appearing for Meridian; and

   (d) The section 42A report prepared by Ms Bianca Sullivan, and the supporting technical reports (**s42A report**).

SCOPE OF EVIDENCE

10. My evidence will include the following:

    (a) A brief summary of the activity;

(b) A brief summary of the site and environment;

(c) Activities and environmental effects not in scope;

(d) The resource consents required for the Project;

(e) Relevant regional plan rules and activity status;

(f) A description of the planning context;

(g) A summary of the actual and potential effects on the environment;

(h) A response to specific planning issues identified in the submissions (principally consent duration);

(i) Comments on specific planning issues raised in the s42A report;

(j) Proposed consent conditions, as updated following submissions and pre-hearing discussions with submitters; and

(k) A discussion on statutory matters under the RMA.

11. The proposed configuration of the Waiau Arm, the MLC and the Lower Waiau River (**LWR**), as well as the proposed Project are described in sections 4 and 5 of the **AEE** and in Mr Feierabend's evidence and are not repeated in detail in my evidence.

12. Where I specifically refer to an objective or policy from a planning document in my evidence, I have included the full provision in **Attachment A**.

13. I also refer to proposed consent conditions throughout my evidence. The full suite of proposed conditions is included as **Attachment B** to my evidence.

CODE OF CONDUCT

14. Although this is not an Environment Court hearing, I confirm that I have read the 'Code of Conduct for Expert Witnesses' contained in the Environment Court Consolidated Practice Note 2023. I agree to comply with this Code of Conduct. In particular, unless I state otherwise, this evidence is within my sphere of expertise, and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

SUMMARY OF EVIDENCE

15. The overall purpose of the Project is to establish a new channel to improve flow conveyance and reliability through the MLC for the benefit of freshwater values in the LWR. To achieve these benefits the construction works will generate some short-term adverse effects which will need to be appropriately managed.

16. A comprehensive set of proposed consent conditions has been developed, with input from recognised specialists, to ensure these adverse effects are no more than minor. The conditions have been refined as a result of feedback received in submissions and through the pre-hearing process, and through the assessments made in the s42A report. The conditions will ensure that any adverse effects of implementing the Project are no more than minor.

17. Two resource consents have been sought by Meridian: a water permit and a discharge permit, respectively under sections 14 and 15 of the RMA. The overall activity status is non-complying. I have concluded the proposed activities are capable of meeting both gateway tests for non-complying activities under section 104D of the RMA.

18. Land use consents have not been sought as those activities are authorised under section 4 of the Manapouri – Te Anau Development Act 1963 (**MTADA**). Notwithstanding this, any adverse effects arising from land use activities have been comprehensively assessed, and where considered appropriate, conditions have been volunteered to manage those effects.

19. With respect to the discharge permit, in my view there are no matters under section 107 of the RMA that would restrict the consent authority from granting the permit. Although construction and maintenance works may at times result in a conspicuous change in the colour or visual clarity of receiving waters beyond the reasonable mixing zone, the exemptions contained in s107 are available, including that the discharge is of a temporary nature.

20. A 35-year duration under section 123 of the RMA has been sought for both consents. I consider this term appropriate on the basis the proposed diversion (water permit) is intended to be permanent and will have ongoing and long-term positive effects, and that the discharge of suspended sediment from future

maintenance activities (discharge permit) are essential, infrequent and will have limited adverse effects.

21. Overall, I consider the proposal is consistent with the purpose and principles in Part 2 of the RMA.

BRIEF SUMMARY OF THE PROPOSED ACTIVITY

22. The rationale for the Project was set out in Section 1.3 of the AEE and has been further addressed in Mr Feierabend's evidence. Section 3 of the AEE and Dr Clunie's evidence provide details on the robust option selection process carried out by Meridian to determine the form of the Project which is the subject of the current proceedings. Section 5 of the AEE then sets out a full description of the activities proposed, drawing on the construction methodology prepared by Damwatch Limited (attached as Appendix C to the AEE). Dr Clunie has further addressed the construction methodology in his evidence.

23. In my summation, the overall purpose of the Project is to establish a new channel to improve flow conveyance and reliability through the MLC for the benefit of freshwater values in the LWR. This outcome will be achieved within the 'envelope' of flow parameters set under Meridian's resource consents for the MPS (the **MPS consents**)[1]. In other words, the Project does not seek to amend the consented flow regime in the LWR nor are there any energy generation benefits (or disbenefits) from the Project proceeding. At its essence, the proposal is an environmental enhancement project which will have positive long-term effects.

24. To achieve the benefits the construction of the new channel and ancillary works will generate some adverse effects which will need to be appropriately managed. Construction effects will occur over a relatively short timeframe, but once construction is complete, the environmental benefits will be realised for the term of

[1] The MPS operates under a suite of resource consents granted by ES. Of particular relevance to the Project are:

- 96022 (water permit): Dam and divert waters of Lake Manapouri and the Waiau and Mararoa Rivers by means of a control structure (MLC) near the confluence of the Waiau and Mararoa Rivers, and to dam and divert the waters of the Mararoa River to an artificial diversion channel
- 96023: Discharge waters of Lake Manapouri and the Waiau and Mararoa Rivers to the Waiau River below the MLC
- 206156: Dam and divert waters of Lake Manapouri and the Waiau and Mararoa Rivers for the purposes of the take and use of water for hydro-electricity generation in the MPS by means of a control structure (MTAD consent)

the consents subject to any maintenance requirements, which are expected to be infrequent and at a significantly lesser scale than the initial construction works.

BRIEF SUMMARY OF THE SITE AND ENVIRONMENT

25. A description of the site and environmental setting is contained in Section 4 of the AEE. The various experts, in both the technical reports appended to the AEE and in their subsequent evidence, have also described the environment according to their area of expertise.

26. In my summation, the key attributes of the Project site and environment are:

(a) The MLC is an integral component of the MPS, which is nationally significant renewable energy infrastructure;

(b) The MLC has been operating for the last 48 years, with several modifications and interventions made to the infrastructure and surrounding environment during that time;

(c) Moturau (Lake Manapōuri) and Waiau (Waiau River) are of special significance to Ngāi Tahu ki Murihiku and are recognised under the Ngāi Tahu Claims Settlement Act 1998;

(d) The flow regime in the LWR is influenced by the operation of the MPS and MLC (but as noted above, and as will be elaborated on further below, no changes to this regime are sought, and it is not within the scope of current proceedings);

(e) Ecological values at the Project site reflect the long history of modifications and interventions, but habitats and species of ecological importance remain present within the Project footprint; in the LWR downstream of the MLC, the plant community is primarily periphyton, which is dominated by didymo (reducing nuisance levels of periphyton in the LWR through improving the reliability of flushing flows being the primary purpose of this Project);

(f) Amenity values are broadly consistent with a working rural environment, being characterised by open space, buildings and structures, farming activities, and exotic plantings; and

(g) Nearby sensitive receptors are limited; the nearest dwelling is located approximately 430 metres west of the most western extent of the Project footprint, with all other sensitive receptors located at least 1 kilometre from the site.

27. In the s42A report, Ms Sullivan has concluded that "…*the receiving environment has moderate to low sensitivity to the proposed activities, primarily due to the highly modified nature of the site as part of the MPS".* I agree with that summary.

ACTIVITIES AND ENVIRONMENTAL EFFECTS NOT IN SCOPE

28. There are a number of activities (and related environmental effects) associated with the Project which, in my view, do not fall within the scope of the consent authority's consideration of the current resource consent applications. These matters, which I address in this section, are:

(a) Activities authorised by MTADA;

(b) Lower Waiau River flow regime;

(c) MPS Waiau Arm water quality monitoring programme;

(d) Future extraction from the gravel stockpile; and

(e) RealNZ slipway.

Activities authorised by MTADA

29. As noted in the evidence of Mr Feierabend, the Project involves a number of land use activities, including on the margins and within the bed of a lake (the Waiau Arm), which ordinarily would be subject to sections 9 and 13 of the RMA. However, under section 4 of MTADA, Meridian is authorised to undertake certain activities which are necessary or requisite to the operation of the MPS or ancillary works.

30. Under that authority and following a High Court ruling and subsequent agreement between Meridian and Environment Southland as to the scope and effect of MTADA, Meridian has not sought land use resource consents for the Project. As I discuss later in my evidence, only a water permit (section 14 of the RMA) and discharge permit (section 15(1)(a) and (b) of the RMA) have been sought.

31. A full assessment of the proposed activities against MTADA was provided in Table 6.2 of the AEE and subsequently updated in the "Response to post-lodgement queries" material provided to Environment Southland on 15 March 2024. By way of summary, activities (and related environmental effects) which I consider are not within the scope of present proceedings are:

(a) All activities under the jurisdiction of Southland District Council, including those relating to construction noise and lighting (section 9(3) of the RMA);

(b) Disturbance and excavation of land not located in a lake or river bed, including riparian margins and wetlands (section 9(2) of the RMA);

(c) Disturbance and excavation of land in a river or lake bed (section 13 of the RMA); and

(d) Incidental discharges of dust and other contaminants to air (section 15(2A) of the RMA).

32. For proposed activities affecting wetlands, and the riparian margins and beds of rivers and lakes, to the extent those activities are regulated by sections 14 and 15 of the RMA, those matters remain with the scope of the applications made.

33. As a general principle it would not be appropriate, in my view, for conditions to be imposed on the consents sought which seek to manage effects arising from the out-of-scope activities (unless volunteered by Meridian). Notwithstanding this, the MTADA authority does not absolve Meridian from its duty to avoid, remedy or mitigate adverse effects (section 17 of the RMA). In that regard the relevant effects were carefully considered in the AEE and will be appropriately managed.

34. I also acknowledge that in some instances it can be artificial to separate land use activities from the effects generated. For example, disturbing the bed of a lake (section 13; out of scope) can generate discharge effects (section 15; in scope). To that extent, a precautionary approach has been taken with development of the proposed condition suite to ensure relevant effects are appropriately managed.

Lower Waiau River flow regime

35. The magnitude and frequency of flows released from the MLC to the LWR, insofar as those flows are influenced by the operation of the MPS, are regulated by the existing MPS consents held by Meridian. As Mr Feierabend has explained in his evidence, that authorised flow regime includes the release of periodic flushing flows in accordance with a Protocol[2]. Any environmental effects of this flow regime are therefore also authorised and regulated by the MPS consents.

36. As I have already mentioned, the current applications only seek to improve the ***reliability*** of flushing flows (and other environmental flows) within the envelope of flows already authorised by the MPS consents. For that reason, issues or concerns raised by submitters which relate to the flow regime of the LWR are, in my opinion, outside the scope of the present applications.

37. For example, the Waiau Rivercare Group and Waiau Fisheries and Wildlife Habitat Enhancement Trust, have requested that Meridian: (a) expands the flushing flow regime, and (b) pays a financial contribution in the event a flushing flow is not provided. Putting aside that flushing flow magnitude and frequency are subject to the Protocol rather than being prescribed under conditions of the MPS consents, the flow regime is a matter for the MPS consents (and any future renewal process thereof) and not present proceedings.

38. Several submitters who reside at Bluecliffs, located at the mouth of the Waiau River, have raised concerns that coastal erosion effects presently being experienced relate to the operation of the MPS and may be exacerbated by the Project. Dr Single has considered these matters in his evidence and explained that the MPS has been demonstrated, in prior consenting processes, to have no effect on shoreline behaviour at the coast which is distinguishable from what occurs naturally. Dr Single also considers similar shore type and hāpua river mouth forms, and notes that Waiau River hāpua lagoon system behaviour is consistent with hāpua dynamics at other South Island river mouths. Dr Single also notes that the construction of the MLC:IP will not change that situation at the coast in any way. In any event,

[2] Protocol for the Controlled Releases of Voluntary Supplementary Flows from the Manapouri Lake Control Structure (MLC) to the Lower Waiau River, Final 9 April 2013, Amended 7 November 2014, 12 February 2016, and 16 November 2018.

respectfully, I consider any effects arising from MPS operations are not within the scope of present proceedings.

MPS Waiau Arm water quality monitoring programme

39. Some submitters, including the Guardians of Lakes Manapōuri, Monowai and Te Anau[3], have requested that the water quality programme pertaining to the operation of the MPS and flushing flow regime be expanded. In the same vein as I have just noted, the Project does not seek to amend the activities or effects authorised by the MPS, so in my view such requests are out of scope.

40. For the specific water quality effects arising from the Project, conditions have been proposed on the consents sought to manage those effects. This includes the sediment management regime and phytoplankton monitoring programme, respectively addressed in the evidence of Drs Hoyle and Hogsden.

Future extraction from the gravel stockpile

41. Material removed during construction of the new channel may be valuable as a local aggregate source for other future uses (for example, roading). While a cell has been set aside within the spoil disposal area for this purpose, any future removal or processing of that material does not form part of the current applications. Such activities would either need to be undertaken in accordance with any permitted activity standards in regional and district plans or with any further resource consents which might be required, and which would be obtained by the contractor in advance.

42. Notwithstanding this, consent conditions have been proposed in the general schedule to ensure the gravel stockpile cell remains appropriately rehabilitated in the event gravel is removed.

[3] I note that the legal standing of the Guardians of Lakes Manapōuri, Monowai & Te Anau to participate in these processes is disputed. This submission point has therefore been addressed in my evidence for completeness while this issue is outstanding.

RealNZ slipway

43. Real Journeys Limited (**RealNZ**) holds resource consents for the use of a boat launching slipway which is located within the Project footprint. RealNZ also holds an access agreement with Meridian to use Meridian-owned land to access and use the slipway.

44. During development of the Project, Meridian has consulted with RealNZ regarding the need to change the location of RealNZ's slipway. As noted in the evidence of Dr Clunie, the Project design has made provision for a new slipway location. However, the final formation of the new slipway, and its subsequent use, does not fall within the scope of the present applications. In due course RealNZ will need to confirm with Environment Southland (**ES**) whether the change in slipway location necessitates an amendment to their current resource consents or requires new consents.

RESOURCE CONSENTS REQUIRED

45. Meridian has sought two resource consents:

(a) A water permit under section 14 of the RMA to:

(i) Temporarily take, divert, and use water for the purposes of facilitating construction and maintenance activities, including within and in proximity to wetlands and for dewatering, dust suppression, and erosion and sediment control activities; and

(ii) Permanently divert some of the surface water in the Waiau Arm into the parallel channel;

(b) A discharge permit under section 15 of the RMA to:

(i) Temporarily discharge water and suspended sediment to land and water (the Waiau Arm and LWR) for the purposes of facilitating construction and maintenance activities, including within and in proximity to wetlands and for dewatering, dust suppression, and erosion and sediment control activities.

46. Although the overall construction period is expected to take up to approximately 4–5 months, the resource consents are sought for a 35-year term. This term will provide for any ongoing maintenance activities associated with the parallel channel and the Waiau Arm channels above and around MLC. The 35-year term also provides for the ongoing partial diversion of water into the parallel channel. I return to consent duration later in my evidence.

RULE ASSESSMENT AND ACTIVITY STATUS

47. The planning documents I consider are relevant to the resource consents sought and a determination of activity status are:

    (a) Proposed Southland Water and Land Plan, Part A – Court Version (May 2024 (**pSWLP**); and

    (b) Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (**NES-F**).

48. I have not considered the Regional Water Plan for Southland in my evidence, as any appeals against the rules of the pSWLP, as relevant to the Project, have since been resolved. However, I note the earlier plan was assessed in the AEE.

49. A detailed rule assessment was carried out in Section 6 of the AEE. I continue to support that assessment, which I summarise here while also covering some matters raised in submissions. I also note that Ms Sullivan (in her s42A report) and I agree on key rules and overall activity status.

Water permit (section 14 of the RMA)

50. The proposal involves temporary takes and diversions of water to support construction works, and towards the completion of those works, a permanent partial diversion of water in the Waiau Arm into the new parallel channel.

51. In my view, in large part the relevant pSWLP rules seek to manage the environmental effects of consumptive takes, diversions, and uses which abstract water ‘out of lake/river’. This results in a situation where the Project activities, which are essentially non-consumptive and ‘in lake/river’, are perhaps inadvertently

captured by rules which do not strictly address the activities and environmental effects under consideration.

52. The temporary takes associated with the Project cannot comply with the permitted activity rule for infrastructure construction, maintenance and repair (Rule 49(ab)), the standards of which are very limited in their scope (for example, takes cannot occur for more than 45 consecutive minutes). The take can also not meet the standards for restricted discretionary activities (Rule 49(b)), which limits the total take to 70 cubic metres per day. The discretionary activity rule (Rule 49(c)) requires the total take to not exceed the primary allocation for that catchment, however, the primary allocation for the Waiau catchment is that authorised through resource consents[4], which any new take (even temporary) would exceed. The activity then falls to a non-complying activity under Rule 49(d).

53. In the pSWLP "diversion" is defined as "*The redirecting of water flow from its existing direction of flow*". Following construction of the parallel channel, the initial redirection of water meets this definition. Any ongoing or permanent redirection of water into the channel also appears to fall under the definition.

54. Where "diversion" is subsequently used in rules it largely correlates with "take and use" of water for consumptive or 'out-of-river' uses. While there is a permitted activity rule dealing with in-river/lake "minor diversions" (Rule 51), it restricts diversions to temporary activities ("*the water is returned to its original course after completion of the activity, no later than one month after the diversion occurs*" (standard (a)(iii)). The proposal involves a permanent diversion so cannot meet this standard.

55. On that basis, the diversion associated with the Project falls under Rule 52, which manages water abstraction and diversion activities in the Waiau catchment. The Project does not meet the limited circumstances in which a discretionary activity status would apply, so falls to a non-complying activity under Rule 52(b).

56. With respect to the NES-F and natural inland wetlands, regulations 46 and 47 pertaining to maintenance and operation of specified infrastructure and other infrastructure apply. The Project involves the creation of a haul road which will result in the irreversible loss of a natural inland wetland (Wetland 1) and the partial loss of

[4] As stated in Appendix K of the pSWLP

natural inland wetlands in the lacustrine channels. To the extent relevant to section 14 matters, these are a restricted discretionary activity under the NES-F.

Discharge permit (Section 15 of the RMA)

57. The Project involves the temporary discharge of sediment, arising from bed disturbance and excavation activities, during the construction works and future maintenance activities.

58. Similarly to the preceding water permit discussion, rules in the pSWLP do not, in my view, particularly well contemplate the discharges associated with the Project. Rules 55A to 77 deal with structures and other activities within lake and river beds, and although land use focussed, some (but not all) provide for "*any associated bed disturbance and discharge resulting from carrying out of the activity*". However, the rules which most closely match the proposal do not purport to authorise associated discharges; these rules are:

    (a) Rule 71(a) – Channel realignment, widening or deepening (discretionary activity);

    (b) Rule 72(b) – Dry cuts (discretionary activity); and

    (c) Rule 73(c) – Gravel extraction (discretionary activity).

59. This then leads to an examination of Rule 5 (discretionary activity), which manages any discharge of contaminants into water not otherwise provided for in the pSWLP. At its essence, Rule 5 requires that any discharge, beyond a reasonable mixing zone, meets the water quality standards specified in Appendix E of the pSWLP. From reading this rule in conjunction with the overarching objectives and policies, particularly Policies 15A and 15B, it appears the overall intent of setting water quality standards is to manage long-term outcomes for freshwater environments. In my opinion these rules and standards have not been set with a view to managing short-lived and temporary effects of the nature subject to the current applications.

60. Nevertheless, the proposed discharge must be assessed against the water quality standards of Appendix E, of which the 'Lake Fed' classification is relevant to the Waiau Arm and LWR. It is possible that at times the Project's construction and maintenance activities may not meet all the water quality standards after reasonable

mixing, particularly in relation to visual clarity[5]. Where standards are not met, a non-complying activity status would apply under Rule 6.

61. Notwithstanding this, the preamble for Appendix E states "*the standard for a given parameter will not apply*" in a lake or river where:

"(b) an ancillary activity associated with the maintenance of the Manapōuri hydro-electric generation scheme is proposed. This exception only applies where the activity requires a resource consent pursuant to a rule in this plan and will only result in a temporary change in the state of the water.
Nothing in this exception precludes consideration of the effects of the proposed activity on water quality through a resource consent process."

62. Mr Feierabend has noted in his evidence that this Project was used to justify the above exception when the matter was before the Environment Court resolving appeals to the pSWLP.

63. On the basis that the visual clarity standard does not apply, the proposed discharge falls back to a discretionary activity status under Rule 5.

64. With respect to the NES-F, the activities affecting natural inland wetlands noted above, to the extent that Section 15 applies, are a restricted discretionary activity.

Overall summary of activity status

65. For the reasons stated above, and taking a bundling approach, I have assessed the overall proposal as a non-complying activity.

PLANNING CONTEXT

66. The planning documents I consider most relevant to the site and proposed activities are:

(a) National Policy Statement for Freshwater Management 2020 (**NPS-FM**);

[5] The visual clarity standard for 'Lake fed' waterbodies states: "*There shall be no more than a 20% change in clarity or colour at the edge of the reasonable mixing zone, relative to the clarity or colour upstream of the discharge point".*

(b) National Policy Statement for Renewable Electricity Generation 2011 (**NPS-REG**);

(c) Regional planning documents, being the Southland Regional Policy Statement (**SRPS**) and pSWLP; and

(d) Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008 (**IMP**).

67. These documents have been comprehensively assessed in Section 9 and Appendix J of the AEE, which I support. In this section I highlight provisions of the documents I consider particularly relevant and pertinent to consideration of the applications.

68. I also note that Ms Sullivan (in her s42A report) and I are aligned on the key planning documents and reach very similar conclusions in our assessment of the consistency of the proposal with the relevant provisions.

NPS-FM

69. A fulsome assessment of the proposed activities against the NPS-FM was made in Section 9.3.1 of the AEE, which I support and will not repeat in detail here.

70. By way of summary, some of the construction activities cannot in the short-term achieve all of the direction set out in the NPS-FM (in particular Policies 6, 9 and 10). In my view this highlights one of the inherent challenges of assessing individual one-off projects with short-term adverse effects, in a consenting context, against a planning document which provides direction for plan making processes and longer-term outcomes in catchments.

71. In part I consider that explains the development of the Resource Management (Freshwater and Other Matters) Amendment Bill, which was introduced to Parliament in May 2024. Among other things, changes proposed in the bill include specifically excluding consideration of individual consent applications against the NPS-FM, including the hierarchy of obligations in Te Mana o te Wai. At the time of preparing this evidence this bill has not been enacted, so consideration still must be given to the hierarchy in considering this proposal.

72. In that regard, beyond the short-term effects, the improvements sought to the conveyance and reliability of flows from the MLC, particularly flushing flows, will deliver an overall benefit for the health and wellbeing of the LWR and its freshwater ecosystems. This achieves the first priority in the hierarchy of obligations. Overall, I consider the Project is consistent with the outcomes sought by the NPS-FM.

NPS-REG

73. The objective of the NPS-REG is to recognise the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government's national target for renewable electricity generation.

74. As I have noted earlier, the Project does not amend the way in which the MPS operates under and complies with its existing resource consents or other regulations. Nor does the proposal have any renewable energy benefits (or disbenefits), being for environmental enhancement purposes only. Notwithstanding this, the Project does support the operation and enhanced performance of the MPS, which is nationally significant renewable energy infrastructure.

75. On that basis, the Project does not comprise the achievement of the objectives and policies of the NPS-REG.

Regional planning documents

76. A comprehensive assessment of the proposal against the SRPS and pSWLP has been made in Appendix J of the AEE, which I support and will not repeat in detail here. Particular matters I wish to draw the decision maker's attention to are discussed here.

77. With respect to the water permit sought, much like I have already covered with the relevant rules, the objectives and policies have a particular focus on water quantity and allocation (for example, pSWLP Objective 9 / 9A and Policy 20(1A)–(1)). In that regard they do not especially well address the temporary take and permanent diversion activities associated with the Project. Nevertheless, on the basis the proposal does not involve any consumptive or 'out of river' uses of water and has

the purpose of improving the reliability of flows to the LWR for the benefit of the life-supporting capacity of water and aquatic ecosystem health, I conclude the proposal is not contrary to the relevant objectives and policies.

78. With respect to the discharge permit sought, the objectives support either the maintenance or enhancement of water quality (depending on the state of existing water quality) to safeguard the life supporting capacity of water and related ecosystems and for the health and wellbeing of people (RPS Objective WQUAL.1; pSWLP Objective 6). Where a discharge occurs, related policies seek to maintain water quality beyond the reasonable mixing zone (pSWLP Policies 15A and 15B). As I have already noted, the policies have a long-term focus and so do not especially well address the temporary and short-term effects of the proposed activities.

79. Notwithstanding this, the potential adverse effects of the Project on the freshwater environment, including on water quality, have been comprehensively addressed by NIWA in Appendix D of the AEE and further addressed in the evidence of Drs Hoyle, Hogsden, Hickford, and Bull. Turbidity and deposited fine sediment thresholds have been developed for the Project which need to be achieved at the downstream end of the reasonable mixing zone, which for the purpose of this Project has been determined as the LWR just above the confluence of Excelsior Creek. Adherence to the thresholds, as measured at that point in the river, will ensure that the effects will be within the range of the temporary and minor effects already experienced naturally by biota during flood events.

80. In addition, more reliable flushing flows as a result of the Project can be expected to improve metrics of river health in the LWR, particularly those associated with managing nuisance periphyton.

81. On the foregoing basis, while some of the objectives and policies concerning water quality are not considered highly relevant in this instance, the Project will not be contrary to them.

Iwi management plan

82. An assessment of the proposal against the Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008 (IMP) is made in Section 9.8 of the

AEE. This document addresses Ngāi Tahu ki Murihiku values, knowledge and perspectives on natural resource and environmental management issues.

83. Many of the relevant provisions in the IMP are well aligned with the SRPS and pSWLP. That is, they seek to safeguard freshwater environments and ecosystems and to protect the mauri and wairua of waterbodies (for example Policies 3.5.10.3 and 3.5.10.4). As I have outlined above, the Proposal has long-term benefits for the LWR and the short-term adverse effects will be appropriately managed.

ASSESSMENT OF EFFECTS

84. The actual and potential effects of the proposal have been assessed comprehensively in the submitted application and further information response of 4 June 2024. I do not intend to revisit those assessments here, but instead summarise and focus on matters which have been updated by way of expert evidence, raised in submissions, or addressed in the revised conditions set.

85. As noted earlier in my evidence, there are several activities, with related effects, which are in my view not within the scope of the current applications. No other evidence is being presented on these activities, but for completeness my evidence traverse such effects below.

Positive effects (benefits of the Project)

86. The primary driver for the Project is to improve flow conveyance and reliability through the MLC to better achieve the Protocol for releasing flushing flows to the LWR. Delivery of other types of flows (for example, minimum flows) will also benefit from improved conveyance and reliability.

87. Dr Hogsden concludes in her evidence that an improved reliability of flushing flows should help nuisance periphyton and improve macroinvertebrate habitat downstream of the MLC. As I have already noted, such an outcome is consistent with the direction of key planning documents, including the NPS-FM and pSWLP.

Water quality effects from sediment generation

88. Dr Clunie has explained in his evidence that the primary approach to managing the potential effects of the Project on water quality, from the generation of sediment, is

through the ‘off-line’ design of the Project itself. In other words, the methodology has been specifically selected to limit interactions within the wetted bed of the Waiau Arm. Other alternatives would very likely lead to greater sedimentation effects which would not be as easily managed.

89. As traversed by Dr Hoyle in her evidence, levels of suspended sediment and deposited fine sediment generated from construction of the Project are expected to be within the range that could occur naturally from the Mararoa River during flooding. Comprehensive conditions have been proffered on the discharge permit to monitor the levels of sediment generated, and in the event those natural ranges are exceeded, they would be managed by releasing flushing flows or pausing excavation.

90. Due to the much smaller scale of future activities required to maintain the parallel channel, and the existing channels of the Waiau Arm upstream of and around the confluence with the Mararoa River, a separate condition is proposed for maintenance which allows for short-term increases in turbidity, which is consistent with effects management for construction of the parallel channel.

91. Subject to compliance with the proposed conditions, the sedimentation effects arising from the Project have been assessed as no more than minor.

Hydrological effects

92. As I have mentioned previously, the proposal does not amend the existing consented flow or hydrological regime.

93. During excavation activities, all flow from the Mararoa River will be directed down the LWR and there will be no upstream flows (flows towards Lake Manapōuri) in the Waiau Arm. This is to prevent suspended sediment being transported towards Lake Manapōuri. Downstream flows (from Lake Manapōuri) will occur in particular circumstances, primarily to meet obligations under the existing MPS consents. Flushing flows may also be initiated to manage sedimentation effects (as described above).

94. Overall, the Project is not expected to have any adverse effects on surface flows in the Mararoa River, Waiau Arm, and LWR which fall outside those effects authorised by the MPS consents.

Freshwater plants, macroinvertebrates and phytoplankton effects

95. Dr Hogsden has addressed the actual and potential effects of the Project on freshwater plants and macroinvertebrates as a result of disturbance of the Waiau Arm and in terms of the generation of suspended sediment and deposited fine sediment. Dr Hogsden has concluded the value of the communities to be low and any effects to be minor and temporary, with recovery of those communities expected in time. The exception to this is with respect to kākahi, where specific conditions are proposed to require salvage and relocation of kakahi prior to particular works at particular times. Overall, subject to these conditions, adverse effects on freshwater plants and macroinvertebrates have been assessed as no more than minor.

96. An increased risk of phytoplankton blooms in the Waiau Arm, following completion of the Project, has been identified by Dr Hogsden . However, as noted in her evidence, the overall likelihood of blooms remains low, and in the event they occur, would be managed by the increased reliability of flushing flows afforded by the Project. A specific condition for a water quality monitoring programme has been developed to monitor the effects of the Project (over and above the existing monitoring programme under the MPS consents). The condition requires that if the increased risk materialises into an actual effect, then a written report will be prepared identifying any further monitoring required and any change Meridian may need to make to the flow management response.

Terrestrial ecology effects

97. Mr Hooson has assessed the potential effects of the Project on wetlands (including downstream riparian wetlands) and terrestrial and lacustrine vegetation and habitats. In his original assessment, and updated in his written evidence, he has suggested a number of measures to avoid, remedy and mitigate the adverse effects identified. These measures have been adopted into the revised condition set. In particular I draw the commissioners' attention to the conditions requiring no net loss of Buchanan's sedge and indigenous Juncus rushland marsh within the Project site.

98. Subject to these measures, Mr Hooson concludes that any adverse effects will be Very Low to Low as per the Ecological Impact Assessment (EcIA) Guidelines. In planning parlance, this translates to no more than minor.

Fish effects

99. Dr Hickford has noted in his evidence that the greatest effects of the Project with respect to fish are likely to be from sedimentation effects on salmonids (brown and rainbow trout) and longfin eel. To manage the key times when these species might be affected by construction works, a salvage and relocation programme has been developed as proposed conditions of consent. These times are prior to:

    (a) Any disturbance work or temporary closure of the lacustrine channels of the Waiau Arm;

    (b) Establishing the Stage 3 breakouts during parallel channel excavation; and

    (c) Excavation or bunding work in the lagoon area.

100. With the salvage and relocation programme in effect, and subject to adherence to the sediment management conditions and the development of a Freshwater Fauna Management Plan (FFMP), Dr Hickford has concluded that the effects of the Project on lamprey will be less than minor, and minor for other species near the Project.

Avifauna effects

101. While the freshwater bird assemblage at the Project site includes several At Risk or Threatened species, Dr Bull has noted that any direct effects of the Project on these species are mitigated by their mobility, and/or by their preference for locations (e.g., tributaries) not affected by the Project, and by timing the Project to avoid critical times (e.g., bird breeding season).

102. As a result of submissions, Dr Bull has helped develop a proposed condition of consent requiring that within 10 days prior to commencement of construction works, a survey is undertaken to determine if At Risk or Threatened species are present. Where they are, no works shall occur within 50m of a nesting bird until that nesting has been completed.

103. Subject to this condition, Dr Bull has concluded any adverse effects to be Low to Very Low. She further notes this level of effect does not require any mitigation or offsetting.

Landscape and visual effects

104. While I consider effects arising from land use activities are not in scope (under the MTADA authority), those effects were comprehensively considered in the AEE, and conditions have been volunteered in the general schedule. Among other things, these conditions include shaping and profiling of construction areas and the gravel stockpile at completion of construction works and leaving the site in a tidy state.

Amenity effects

105. Similarly, amenity effects from construction activities (principally noise and dust) are not in scope but nevertheless were comprehensively assessed in the AEE. Meridian continues to engage with the nearest landowner (the closest sensitive receptor at 430 m distance from the Project site) to agree on any mitigation required throughout construction works.

106. While a noise and vibration management plan condition was originally volunteered in the AEE, this has now been superseded by the landowner agreement process and is proposed to be deleted from the condition suite.

Groundwater effects

107. I note no matters were raised in submissions with respect to groundwater effects. In any event, based on available information, Dr Bryden has concluded that the potential dewatering of the parallel channel excavation (should the selected contractor elect to carry out that activity) will result in less than minor effects on water quantity, water quality and natural hydrological variation in wetland areas identified on the Project site.

Coastal effects

108. As I have outlined earlier, any effects at the coastline arising from the existing operation of the MPS are not within the scope of present proceedings. The Project does not amend the activities and effects authorised by the MPS consents.

109. Notwithstanding this, Dr Single in his evidence has provided an assessment of coastal erosion effects and concluded the MPS has previously been shown to have no detectable effect on shoreline behaviour at the coast. He also concludes that an

improved reliability in flows resulting from this Project will not result in any additional detectable effects at the coast.

Cultural effects

110. I acknowledge the significance that the Manapōuri area and Waiau holds for Ngāi Tahu ki Murihiku. Furthermore, I recognise that only Ngāi Tahu ki Murihiku mana whenua can express whether or not a proposal gives rise to cultural effects. On this basis I will not attempt to do so here.

111. I do note Meridian has been engaging with Te Ao Mārama Incorporated (TAMI) on this Project since 2022, a summary of which was given in Section 10.3 of the AEE. Further ongoing liaison has occurred since that time. I understand that TAMI intend on attending the hearing and tabling further evidence on cultural matters.

112. Earlier in my evidence I also concluded that the provisions of the IMP are generally well aligned with the regional planning documents, and in that regard, the Project is consistent with the outcomes sought.

RESPONSE TO PLANNING ISSUES RAISED IN SUBMISSIONS

113. Throughout my evidence I have already addressed a number of issues raised by submitters. The one key issue I have not yet discussed is consent duration under section 123 of the RMA, which I address here.

114. A number of submitters do not agree with the 35-year duration sought by Meridian. Some submissions, and via subsequent discussion at the pre-hearings, indicate the consent term should be tied to the operational consents for the MPS, which expire in 2031. The rationale appears to be founded on a desire to take a holistic approach to assessing all activities associated with the operation of the MPS.

115. Respectfully, I disagree with the short-term duration construct put forward. Putting aside the specific duration for a moment, the need for long-term consents for this Project is driven by two factors: (1) to address a ‘quirk’ in how diversions are dealt with under section 14 of the RMA and subsequently the regional plans, and (b) to allow the infrequent maintenance of the newly constructed channel and the existing channels to ensure the Project benefits can continue to be realised. I address these in turn below.

116. Under section 14(3) of the RMA there is a presumption that any diversion of water needs to be expressly allowed by way of a national environmental standard, a rule in a regional plan as well as a rule in a proposed regional plan for the same region (if there is one), or a resource consent. As I have noted earlier, there are no rules in the pSWLP which permit the partial long-term diversion of water into the parallel channel, therefore a resource consent is needed. Section 123(d) of the RMA then states that the maximum period for which any resource consent of this kind is granted must be 35 years.

117. In my view this results in a planning 'quirk' whereby the proposed partial diversion into the parallel channel requires a time-bound limit to be set. This is despite the channel intending to be a permanent feature of the lake bed, that the diversion does not 'use' or lose water from the Waiau Arm, and there is no proposal being put forward to prescribe or regulate the magnitude and frequency of water being diverted.

118. Once construction of the parallel channel is complete and the intended benefits are being achieved, Meridian does not propose to abandon the channel or redivert water back to the existing channels. In fact to do so would require additional resource consents which have not been sought. In any event, in my view there is no evidence in front of the consent authority that suggests the act of diverting the water could give rise to future adverse effects of such significance that the partial diversion would have to be amended or reversed.

119. On that basis, the submitters' proposition that the diversion should be renewed or reviewed (under section 128 of the RMA) as early as 2031– and ostensibly potentially amended or ceased at that time – is, in my view, unwarranted. If the concerns ultimately relate to the flow regime of the LWR as it pertains to the operation of the MPS, as it appears they are, then in my view that is a matter which is rightly addressed within the 2031 process to renew the MPS consents.

120. I then find it very difficult to draw any direct connection between potential outcomes of the 2031 process and the diversion of water through the parallel channel. In the scenario that the 2031 process led to no amendment to the flow regime, then the parallel channel (and diversion) would also remain unamended. In the scenario where Meridian needed to give effect to a different flow regime to the LWR, which required some form of change to the parallel channel and the water diverted, then

that would be considered and authorised in that process and supersede the activities authorised by the consents currently being sought.

121. Therefore, in my view, setting a short duration on the consents currently sought is unnecessary to achieve the submitters' objectives. I also note a review under section 128 could not be used for the purposes of cancelling the consent (i.e., preventing the diversion).

122. With respect to maintenance activities, as noted in the evidence of Dr Clunie, it is anticipated that the new parallel channel, and the existing channels of the Waiau Arm upstream of and around the confluence with the Mararoa River, will need periodic maintenance to remove any build-up of material that may be inhibiting the flow conveyance and reliability benefits sought by this Project. Such activities are only likely to be required every 5–10 years (i.e., maintenance may not be required in the first instance until after 2031) and will be at a much smaller scale than the initial construction of the Project. In my experience, it is very common for projects involving a significant capital investment to obtain consents with long durations to provide certainty and security that the investment can be appropriately maintained.

123. Overall, I consider a long duration on the consents sought is warranted. On the basis the diversion is intended to be permanent and will have positive effects, and that ongoing maintenance activities are essential, infrequent and have limited adverse effects, I support the 35-year term sought. I note this is further addressed in the legal submissions on behalf of the applicant.

124. I also note there is precedent at the Project site for granting a 35-year term for a very similar set of circumstances. The Mararoa Diversion Cut is an 800-metre long artificial channel constructed to direct the Mararoa River towards the MLC. The relevant water permit (MPS consent 96022), which authorises the diversion of all flows in the Mararoa River through the cut, was granted in 1996 for a 35-year term.

RESPONSE TO SECTION 42A REPORT

125. I have reviewed the section 42A Officer's Report prepared by Bianca Sullivan, resource management consultant with Environment Matters Limited, on behalf of Environment Southland.

126. To a large degree it appears Ms Sullivan and I agree on nearly all planning related matters; I have already highlighted key matters throughout my evidence.

127. Our most significant departure is on consent duration. While Ms Sullivan supports a long term, she has reached a conclusion that a 25-year duration is appropriate. Her analysis includes as assessment of Policy 40 in the pSLWP with her overall determination made at paragraph 4.2.4:

"Considering the above, I consider that a consent duration of 25 years is appropriate. This would likely provide Meridian the certainty to proceed with the investment while allowing for any changes to the environment over time to be accounted for via a replacement consent application. These could include the impacts of climate change or the further accumulation of gravel and sediment in the Waiau Arm."

128. As noted in the preceding section of my evidence, I am not aware of any expert evidence before the decision maker that suggests the environment following construction of the parallel channel would be expected to change – in 25 years or indeed in 35 years – to such an extent that the parallel channel (and related diversion) would conceivably need to be amended or abandoned. Certainly no evidence has been put forward which supports the climate change impact reasoning. On the matter of further accumulation of gravel and sediment in the Waiau Arm, the evidence of Dr Clunie is that this is expected to be minimal, and if and when it occurred, would be addressed by the maintenance activities sought under the consents. If anything a 35-year duration supports a longer period of addressing any material accumulation. The proffered review condition (under s128 of the RMA) remains available to address any unforeseen effects.

PROPOSED CONSENT CONDITIONS

129. Section 9 of the AEE contained a set of proffered conditions of consent. These were subsequently updated following feedback in submissions and the pre-hearing process. A further update is now included as **Attachment B** to my evidence, which addresses matters since the second pre-hearing and receipt of the s42A report. Attachment B includes a column which provides an explanation for each of the changes made since the second pre-hearing.

130. I have already covered several of these revisions in preceding evidence, but by way of summary, new (or substantively updated) conditions have been proposed since lodgement of the AEE to require (where relevant, expert evidence noted in brackets):

(a) That the parallel channel will be maintained in general accordance with its as-built dimensions maintenance and therefore continue to achieve its intended benefits (Dr Clunie);

(b) A survey, and provide additional protections, for Threatened bird species nesting in the Project footprint during construction works (Dr Bull);

(c) The translocation and planting of Buchanan's sedge to achieve no net loss of these plants (Dr Hooson);

(d) Remediation for the loss of Wetland 1 by achieving no net loss of Juncus rushland marsh within the Project site (Dr Hooson);

(e) A freshwater fauna salvage and relocation programme at key times and locations during construction works, implemented by way of a FFMP (Dr Hickford); these conditions were developed with the input of the Department of Conservation, who subsequently withdrew their right to be heard at the hearing;

(f) Permanent culverts installed under the haul road in the lacustrine channels of the Waiau Arm will be designed to be generally consistent with the principles of good fish passage design in the New Zealand Fish Passage Guidelines (Dr Hickford);

(g) A water quality monitoring programme for the detection of phytoplankton blooms in the parallel channel and existing channels (adjacent to the parallel channel) with further actions in the event of certain thresholds of detection (Dr Hogsden);

(h) A detailed erosion and sediment control plan (ESCP) to be developed and implemented during construction works;

(i) The proposed FFMP and ESCP will be independently reviewed and supplied to ES and various submitters for their information prior to implementation.

131. Several other amendments have been made for clarity and certainty and to better align with the evidence tabled by other experts appearing for Meridian.

132. Overall, I consider the condition suite will ensure the adverse effects of the Project are managed to the extent they will be no more than minor.

RMA STATUTORY MATTERS

Section 104D

133. Earlier in my evidence I concluded the proposal should be assessed as a non-complying activity. Before the consent authority can reach a decision on an application for a non-complying activity under the provisions of section 104, it must first address whether one of the two “gateway" tests under section 104D of the RMA can be met. These tests (in summary) are:

(a) that the adverse effects of the activities on the environment will be minor; or

(b) that the activities will not be contrary to the objectives and policies of the relevant plans.

134. If one or both limbs of the threshold test are met, a consent authority can exercise full discretion as to whether or not to grant consent and as to what conditions to impose on the consent if granted[6].

135. Based on the discussion in my preceding evidence, I am satisfied those effects will be no more than minor. With regards to the objectives and policies test, I conclude that while the construction works may result in some temporary and short-term inconsistencies, on the whole the overall proposal and certainly the long-term benefits of the activities are consistent with and certainly not contrary to the objectives and policies.

136. On the foregoing basis, this application meets both limbs of the test in section 104D(1) of the RMA (even though only one needs to be satisfied).

[6] 87D of the RMA.

Section 104

137. A fulsome assessment of the Project against s104 was made in Section 9 of the AEE, which I support and will not repeat here. I have also addressed s104 matters throughout my evidence.

Section 105

138. Section 105 requires the consent authority to have regard to the nature of a discharge and the sensitivity of the receiving environment to adverse effects, the applicant's reasons for the proposed choice, and possible alternative methods of discharge (including into any other receiving environment).

139. The nature of the discharge and the sensitivity of the receiving environment was considered throughout the AEE, in particular in NIWA's report in Appendix D, and subsequently addressed as part of Dr Hoyle's written evidence. Appropriate consent conditions have been proffered in consideration of these matters and to ensure adverse effects remain acceptable.

140. The reasons for selecting the parallel channel option, relative to other instream methods considered, is addressed in the Damwatch report included as Appendix C of the AEE, and subsequently addressed as part of Dr Clunie's written evidence. In summary, the parallel channel was chosen because it provides the best solution for limiting and managing the primary adverse effects of the Project, being sediment generation during construction. There are no alternative receiving environments available.

Section 107

141. Section 107(1) restricts the granting of discharge permits if, after reasonable mixing, the contaminant or water discharged (either by itself or in combination with the same, similar, or other contaminants or water) is likely to give rise, in the receiving water, to all or any of the effects identified in subsequent clauses. Of those clauses, I acknowledge the construction and maintenance activities of the Project are likely to have a "*conspicuous change in the colour or visual clarity of those receiving waters beyond the reasonable mixing zone*".

142. However, Section 107(2) then states a consent authority may grant a discharge permit, and allow the identified effects in s107(1), where they are satisfied of one or more the following:

"(a) that exceptional circumstances justify the granting of the permit; or

(b) that the discharge is of a temporary nature; or

(c) that the discharge is associated with necessary maintenance work—

and that it is consistent with the purpose of this Act to do so."

143. In my opinion both clauses (a) and (b) apply to the construction of the parallel channel. Exceptional circumstances exist because it is a one-time short-term activity with the sole purpose of achieving long-term positive environmental outcomes and supports the operation of renewable energy infrastructure of national significance. The discharge of suspended sediment and deposited fine sediment is of a temporary nature as it is limited to approximately 4–5 months (the total construction period), with any conspicuous changes likely limited to approximately 5 weeks (the breakout period).

144. Maintenance activities will be at a much smaller scale than the initial construction activity, will occur infrequently, and will be of short duration. It is therefore possible maintenance activities will not cause any conspicuous change in the colour or visual clarity of receiving water after reasonable mixing. In the event a conspicuous change were to occur, I am satisfied s107(2)(b) and (c) would apply.

145. For the foregoing reasons, and because the benefits that the improvement in flow conveyance and reliability the Project will enable are consistent with the sustainable management purpose of the Act, in my view section 107 of the RMA does not restrict the grant of discharge permits required for the Project.

Part 2

146. I am of the view that an evaluation of Part 2 does not add anything to the assessment already undertaken. However, for completeness, I do consider the proposal achieves the purpose of the RMA. The Project is for the purpose of improving freshwater outcomes in the LWR, which will enable people and communities to provide for their social, economic, and cultural well-being, and particularly their health and safety. Importantly, subject to consent conditions, it achieves this while safeguarding the life-supporting capacity of water and associated ecosystems, and avoiding, remedying, or mitigating adverse effects on the environment.

OVERALL CONCLUSIONS

147. In summary I make the following planning-related conclusions:

(a) A water permit and discharge permit have been sought by Meridian;

(b) Land use consents have not been sought as those activities are authorised by MTADA;

(c) The overall activity status (bundled approach) of the proposal, when considered against the rules and regulations of the pSWLP and NES-F, is a non-complying activity;

(d) The proposal is capable of passing both gateway tests for non-complying activities under section 104D of the RMA;

(e) There are no matters within section 107 of the RMA restricting the grant of the discharge permit;

(f) A comprehensive set of proposed consent conditions (Appendix B of my evidence) has been proffered to ensure these adverse effects are no more than minor;

(g) A 35-year duration for both permits is appropriate on the basis the proposed diversion (water permit) is intended to be permanent and will have ongoing and long-term positive effects, and that the discharge of suspended sediment from future maintenance activities (discharge permit) are essential, infrequent and will have limited adverse effects.

Daniel James Murray

3 September 2024

ATTACHMENT A – OBJECTIVES AND POLICIES REFERRED TO IN EVIDENCE

Attachment A – Objectives and Policies Referred to in Evidence

National Policy Statement for Freshwater Management 2020

2.1 Objective

(1) The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that prioritises:

(a) first, the health and well-being of water bodies and freshwater ecosystems

(b) second, the health needs of people (such as drinking water)

(c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

Policy 6: There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.

Policy 9: The habitats of indigenous freshwater species are protected.

Policy 10: The habitat of trout and salmon is protected, insofar as this is consistent with Policy 9.

National Policy Statement for Renewable Electricity Generation 2011

Objective

To recognise the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government's national target for renewable electricity generation.

Southland Regional Policy Statement 2017

Objective WQUAL.1 – Water quality goals

Water quality in the region:

(a) safeguards the life-supporting capacity of water and related ecosystems;

(b) safeguards the health of people and communities;

(c) is maintained, or improved in accordance with freshwater objectives formulated under the National Policy Statement for Freshwater Management 2014;

(d) is managed to meet the reasonably foreseeable social, economic and cultural needs of future generations.

Proposed Southland Land and Water Regional Plan (Court Version May 2024)

Objective 6

Water quality in each freshwater body, coastal lagoon and estuary will be:

(a) maintained where the water quality is not degraded; and

(b) improved where the water quality is degraded by human activities.

Objective 9/9A

The quantity of water in surface water bodies is managed so that:

(a) the life-supporting capacity and aquatic ecosystem health, the values of outstanding natural features and landscapes, the natural character and the historic heritage values of waterbodies and their margins are safeguarded.

(b) there is integration with the freshwater quality objectives (including the safeguarding of human health for recreation); and

(c) provided that (a) and (b) are met, surface water is sustainably managed in accordance with Appendix K to support the reasonable needs of people and communities to provide for their economic, social and cultural wellbeing.

Policy 15A – Approach where Appendix E or Appendix C standards are met

Where existing water quality meets the Appendix E Water Quality Standards or bed sediments meet the Appendix C ANZECC sediment guidelines, maintain water quality by:

- Avoiding where reasonably practicable or otherwise minimising any adverse effects, including residual adverse effects, of discharges, so that those standards or sediment guidelines will continue to be met (beyond the zone of reasonable mixing for point source discharges)

Policy 15B – Approach where Appendix E or Appendix C standards are not met

Where existing water quality does not meet the Appendix E Water Quality Standards or bed sediments do not meet the Appendix C ANZECC sediment guidelines, water quality will be:

1. maintained by avoiding any adverse effects of new point source discharges to surface water on water quality or sediment quality so that the exceedance of those standards or sediment guidelines is, as a minimum, not exacerbated beyond the zone of reasonable mixing; and

1a. maintained by avoiding, where reasonably practicable, or otherwise minimising any adverse effects, including residual adverse effects, on water quality or sediment quality from new discharges to land, new discharges to groundwater or new diffuse discharges to water so that the exceedance of those standards or sediment guidelines is, as a minimum, not exacerbated; and

2. improved by requiring any application for the replacement of an expiring discharge permit, seeking a discharge permit for an existing but previously unconsented discharge, or seeking a different discharge permit for an existing activity, including a variation under ss 127-129 RMA which do not involve a new discharge, to demonstrate how adverse effects will be avoided where reasonably practicable and otherwise remedied or mitigated so that water quality will be improved to assist with meeting those standards or sediment guidelines (beyond the zone of reasonable mixing for point source discharges).

Policy 20 – Management of water resources

Manage the taking, abstraction, use, damming or diversion of surface water and groundwater so as to:

1A. recognise that the use and development (such as primary production) of Southland's land and water resources can have positive effects including enabling people and communities to provide for their social, economic and cultural wellbeing;

1. avoid where reasonably practicable, or otherwise remedy or mitigate, adverse effects from the use and development of surface water resources on:

   (a) the quality and quantity of aquatic habitat, including the life supporting capacity and ecosystem health and processes of water bodies;

   (b) natural character values, natural features, and amenity, aesthetic and landscape values;

   (c) areas of significant indigenous vegetation and significant habitats of indigenous fauna;

   (d) recreational values;

   (e) the spiritual and cultural values and beliefs of tangata whenua;

   (f) water quality, including temperature and oxygen content;

   (g) the reliability of supply for lawful existing surface water users, including those with existing, but not yet implemented, resource consents;

   (h) groundwater quality and quantity;

   (i) mātaitai, taiāpure and nohoanga; and

   (j) historic heritage values.

   […]

Policy 40 – Determining the term of resource consents

When determining the term of a resource consent consideration will be given, but not limited, to:

1. granting a shorter duration than that sought by the applicant when there is uncertainty regarding the nature, scale, duration and frequency of adverse effects from the activity or the capacity of the resource;
2. relevant tangata whenua values and Ngāi Tahu indicators of health;
3. the duration sought by the applicant and reasons for the duration sought;
4. the permanence and economic life of any capital investment;
5. the desirability of applying a common expiry date for water permits that allocate water from the same resource or land use and discharges that may affect the quality of the same resource;
6. the applicant's compliance with the conditions of any previous resource consent, and the applicant's adoption, particularly voluntarily, of good management practices; and
7. the timing of development of FMU sections of this Plan, and whether granting a shorter or longer duration will better enable implementation of the revised frameworks established in those sections.

Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008

Policy 3.5.10.3

Protect and enhance the mauri, or life supporting capacity, of freshwater resources throughout Murihiku.

Policy 3.5.10.4

Manage our freshwater resources wisely, mō tātou, ā, mō ngā uri ā muri ake nei, for all of us and the generations that follow.

ATTACHMENT B – PROPOSED CONSENT CONDITIONS

Attachment B – Proposed Consent Conditions

Note: The base set of conditions presented in this attachment are as per the suite prepared by Meridian Energy and subsequently discussed with various submitters at the second pre-hearing on 24 July 2024. Further updates made to the conditions since this time are shown as tracked changes (additions and ~~deletions~~). Highlights indicate cross-referencing which will need to be finalised by Environment Southland.

Water permit (Section 14 RMA)

Purpose: To take, use, and divert water **Duration: 35 years**		**Explanation for proposed revisions made since pre-hearing #2**
General		
1.	a. Except as provided for in the conditions below and subject to any final design, the Manapōuri Lake Control Improvement Project (MLCIP) shall be constructed, operated and maintained in general accordance with: i) Tthe Assessment of Effects on the Environment prepared by Tonkin + Taylor Limited dated December 2023 including all reports and drawings contained therein and the methodology detailed in "Construction Planning – Proposed Methodology" prepared by Damwatch Engineering Limited dated December 2023, and ii) The further information response under Meridian Energy Limited letterhead dated 4 June 2024 and appendices contained therein. b. Where there may be an inconsistency between the documents referred to in clause (a) above and the requirements of these conditions, these conditions shall prevail.	Minor formatting update.
2.	This resource consent authorises the take, use, and diversion of water as required to construct, operate and maintain the MLCIP, including for the purposes of: a. On a temporary basis, facilitating construction and maintenance activities, including within and in proximity to wetlands and for dewatering, dust suppression, and erosion and sediment control activities, and b. On a permanent basis, diverting some of the surface water in the Waiau Arm into the parallel channel.	
3.	This resource consent shall be exercised in conjunction with Discharge Permit [consent reference] (or any subsequent variation versions).	

Purpose: To take, use, and divert water Duration: 35 years		Explanation for proposed revisions made since pre-hearing #2
4.	The Consent Holder shall comply with Schedule 1: General Conditions attached to and forming part of this consent.	

Discharge permit (Section 15 RMA)

Purpose: To discharge contaminants to water and to land in circumstances where contaminants may enter water. Duration: 35 years		Explanation for proposed revisions made since pre-hearing #2
General		
1.	a. Except as provided for in the conditions below and subject to any final design, the Manapōuri Lake Control Improvement Project (MLCIP) shall be constructed, operated and maintained in general accordance with: i) tThe Assessment of Effects on the Environment prepared by Tonkin + Taylor Limited dated December 2023 including all reports and drawings contained therein, and the methodology detailed in "Construction Planning – Proposed Methodology" prepared by Damwatch Engineering Limited dated December 2023, and ii) The further information response under Meridian Energy Limited letterhead dated 4 June 2024 and appendices contained therein. b. Where there may be an inconsistency between the documents referred to in clause (a) above and the requirements of these conditions, these conditions shall prevail.	Minor formatting update.
2.	This resource consent authorises the discharge of water, suspended sediment, and deposited fine sediment to land and water as required to construct, operate and maintain the MLCIP.	
3.	This resource consent shall be exercised in conjunction with Water Permit [consent reference] (or any subsequent variation versions).	
4.	The Consent Holder shall comply with Schedule 1: General Conditions attached to and forming part of this consent.	
Definitions used in this resource consent		
5.	In the conditions of this resource consent: a. "Parallel channel excavation works" means the construction of the parallel channel.	

Purpose: To discharge contaminants to water and to land in circumstances where contaminants may enter water. Duration: 35 years		Explanation for proposed revisions made since pre-hearing #2
	b. "Maintenance activities" means those activities, including removal of gravel and bed material, as necessary to maintain the parallel channel, and the existing channels of the Waiau Arm upstream of and around the confluence with the Mararoa River at MLC, in general accordance with their constructed dimensions. c. "Duration of the parallel channel excavation works" means from the commencement of excavation works in the parallel channel to the conclusion of excavation works on the parallel channel including a period ending 5 days (120 hours) after the parallel channel is made fully open to the Waiau Arm. d. The "upstream monitoring site" (UMS) means the existing site monitored by Meridian Energy Limited in the Maraora River at the Cliffs [map reference TBC – as per Figure 5.5 of this AEE], e. The "downstream monitoring site" (DMS) means the existing site monitored by the Southland Regional Council upstream of the confluence of the Excelsior Stream with the Lower Waiau River [map reference TBC – as per Figure 5.5 of this AEE], f. "Total turbidity" shall be calculated by subtracting the mean hourly turbidity reading at the UMS from the same mean hourly turbidity reading at the DMS, g. "Deposited fine sediment" (DFS) means sediment less than 2 mm in diameter, and h. "Baseline DFS" is to be determined in accordance with condition [10].	
Parallel channel excavation works: Turbidity thresholds for the Lower Waiau River		
6.	Total turbidity generated for the duration of the parallel channel excavation works, as attributable to the works, shall not exceed the maximum total hours for any of the following Formazin Nephelometric Units (FNU) thresholds: **FNU threshold** — **Maximum total hours** >330 — 36 >160 to ≤330 — 95 >30 to ≤160 — 504 >12.4 to ≤30 — 945	
7.	a. To the extent reasonably practicable, total turbidity for the duration of the parallel channel excavation works, as attributable to the works, shall not exceed the maximum consecutive hours for any of the following Formazin Nephelometric Units (FNU) thresholds: **FNU threshold** — **Maximum consecutive hours** >330 — 12 >160 to ≤330 — 32 >30 to ≤160 — 168	

Purpose: To discharge contaminants to water and to land in circumstances where contaminants may enter water. Duration: 35 years		Explanation for proposed revisions made since pre-hearing #2
	>12.4 to ≤30 315 b. In clause (a), measures which are reasonably practicable may include but are not limited to: i. Temporarily suspending work on the parallel channel excavation works, and ii. Increasing the duration of the initial first flush discharge from the parallel channel as it is opened to the Waiau Arm.	
8.	In condition [6], an FNU threshold may be exceeded for more than the total maximum hours stated, provided that there is a concomitant reduction in the total maximum hours provided for in the next highest FNU threshold.	
9.	In the event that total turbidity does not exceed 160 FNU for a period of at least 180 consecutive days, the turbidity thresholds set out in Condition [6] will be reset to their original maximum total hours.	
Parallel channel excavation works: Deposited fine sediment (DFS)		
10.	The Consent Holder shall measure DFS at the DMS weekly for a period of at least six weeks prior to commencing the parallel channel excavation works. The mean average DFS recorded during this period will be the "baseline DFS".	
11.	The Consent Holder shall measure DFS weekly at the DMS for the duration of the parallel channel excavation works and eight weeks thereafter, and document any changes to DFS relative to the baseline DFS. These changes shall be determined by using a rolling average of DFS measurements at the DMS over a four week period.	
	~~Any changes to the baseline DFS at the DMS shall be assessed proportionately between those changes occurring from turbidity generated from flows in the Mararoa River and those occurring from turbidity generated by parallel channel excavation works. This proportionality shall be calculated by subtracting the mean hourly turbidity at the UMS from the same mean hourly turbidity at the DMS, and then collating all those records together into rolling periods of four weeks in accordance with Condition [11].~~	Condition deleted and updated with new condition (13) below.
12.	If an additive increase of more than 20% cover in DFS above the baseline DFS at the DMS is observed which is attributable to fine sediment generated by parallel channel excavation works (attribution to be determined in accordance with condition [13] ~~,~~ the Consent Holder shall adopt reasonably practicable measures to avoid, remedy or mitigate this effect. This includes but is not limited to:	Updated to cross-reference to the attribution test in new condition (13).

Purpose: To discharge contaminants to water and to land in circumstances where contaminants may enter water. Duration: 35 years		Explanation for proposed revisions made since pre-hearing #2
	a. Releasing sufficient flow through the Manapōuri Lake Control Structure to mobilise DFS at the downstream monitoring site; b. Temporarily suspending work on the parallel channel excavation works; and c. Increasing the duration of the initial first flush discharge from the parallel channel as it is opened to the Waiau Arm.	
13.	An increase of 20% cover in DFS at the DMS will be considered attributable to the parallel channel excavation works if turbidity measured at the DMS minus turbidity measured at the UMS has exceeded 30 FNU for more than 37 hours consecutively during the preceding week.	Updated attribution test in response to feedback in the s42A report and discussed in the evidence of Dr Jo Hoyle.
Maintenance activities		
14.	Throughout the term of this consent, the Consent Holder shall ensure the parallel channel is maintained in general accordance with its as-built dimensions by periodically removing any build-up of gravel or other material within the parallel channel.	
15.	When undertaking maintenance activities, the Consent Holder shall: a. Adopt all practicable measures to minimise the use of any machinery in flowing water and minimise generation of suspended sediment; and b. Deposit any excavated material in the existing spoil stockpile area.	
16.	Any increase in turbidity in the Lower Waiau River, as measured at the DMS, as a result of maintenance activities shall not exceed 160 FNU for more than 12 consecutive hours, and must not exceed 330 FNU at any time.	

Schedule 1: General Conditions

General		Explanation for proposed revisions made since pre-hearing #2
1.	~~All monitoring, management plan, and reporting actions required by~~In the conditions of Water Permit [consent reference], Discharge Permit [consent reference], and ~~the general conditions in~~ Schedule 1: General Conditions, ~~shall be undertaken by a Suitably Qualified Person. A~~a Suitably Qualified Person means a person (or persons) who can provide sufficient evidence to demonstrate their suitability, ~~and~~ competence, and experience in the relevant field of expertise.	Wording updated for clarity and certainty.
2.	For the management plans referred to in conditions 11 and 16:	This condition was introduced following submissions and presented at the second pre-

General		Explanation for proposed revisions made since pre-hearing #2
	a. At least 15 working days prior to implementation of the management plans, a copy shall be provided to the following parties for their information: • Southland Regional Council Compliance Manager, • Department of Conservation, • Guardians of Lakes Manapōouri, Monowai and Te Anau, • Te Ao Marama Inc, • Waiau Fisheries and Wildlife Habitat Enhancement Trust, • Waiau Rivercare Group, and • Waiau Working Party. b. The management plans shall be independently reviewed by a Suitably Qualified Person(s), with evidence of that review being provided in the management plan provided to the parties in condition (B)(a). ~~At least 10 working days before implementation of the management plans referred to in conditions 8 and 12, a copy shall be provided to the following parties for their information:~~ ~~Southland Regional Council Compliance Manager,~~ ~~Department of Conservation,~~ ~~Guardians of Lakes Manapōuri, Monowai and Te Anau,~~ ~~Te Ao Marama Inc,~~ ~~Waiau Fisheries and Wildlife Habitat Enhancement Trust,~~ ~~Waiau Rivercare Group, and~~ ~~Waiau Working Party.~~	hearing. It has since been updated, as a result of feedback in the s42A report, to include an independent review of the management plans by a Suitably Qualified Person. The timeframe for submitting the plans to the parties has also been extended from 10 to 15 working days.
Ecology (general)		
3.	Except where authorised by Water Permit [consent reference] and Discharge Permit [consent reference], activities within flowing water are to be minimised as far as reasonably practicable.	
4.	a. All fuel storage or machinery refuelling shall occur outside the bed of the lake or river, b. All equipment, machinery, or operating plant shall be cleaned before entering, and leaving the site, in accordance with Biosecurity New Zealand's "Clean, check, dry" hygiene procedures for machinery, and c. All equipment, machinery, operating plant and debris associated with the structure or bed disturbance activity shall be removed from the site following completion of the parallel channel excavation works.	

General		Explanation for proposed revisions made since pre-hearing #2
	Advice Note: Biosecurity New Zealand's hygiene procedures are available at www.biosecurity.co.nz and are intended to prevent the spread of pests and unwanted organisms as defined in the Biosecurity Act 1993, including didymosphemia geminate.	
Avifauna		
5.	a. Within 10 days prior to the commencement of construction works (including establishment works) occurring during the period commencing 15th September and ending 31st January (inclusive), a survey shall be undertaken by a Suitably Qualified Person to determine if any black fronted tern, black billed gull, banded dotterel, black fronted dotterel, or New Zealand pipit are nesting within the footprint to be disturbed by the works during that period. b. No works shall occur within 50 m of a nesting bird identified in the survey in clause (a). Once nesting is complete, the 50 m exclusion zone at that nest no longer applies.	
Buchanan's sedge		
6.	The Consent Holder shall undertake translocation and planting of Buchanan's sedge plants located within the Project Site, in accordance with clauses (a) to (e) below, to achieve no net loss of Buchanan's sedge plants within the Project site. a. Prior to the commencement of parallel channel excavation works, Buchanan's sedge plants within the construction footprint shall be transplanted into suitable habitat within the Project site but outside the construction footprint. Translocation shall follow best practice methods for transplanting sedges. b. Seed shall be collected from Buchanan's sedge plants within the Project site, if practicable, (or else within the Upukeroroa Ecological District) and provided to a commercial nursery to raise a minimum of 100 plants. c. Within 12 months of the completion of parallel channel excavation works, a minimum of 100 nursery-raised plants shall be planted into suitable habitats within the Project site. The number of translocated and nursery-raised Buchanan's sedge plants shall be recorded and their locations marked using a handheld GPS. d. The Consent Holder shall monitor the survival of translocated and nursery-raised Buchanan's sedge plants for 12 months after the nursery-raised plants have been planted. e. Within 10 working days of completion of the monitoring in clause (d), a brief report shall be prepared by a Suitably Qualified Person and provided to the Consent Authority. The monitoring report will include: i. The number of surviving translocated and nursery raised Buchanan's sedge plants. ii. A map of the locations of the translocated and nursery raised Buchanan's sedge plants. iii. An overall statement on compliance with this condition (condition 6).	

General		Explanation for proposed revisions made since pre-hearing #2
Freshwater Fauna		
7.	At the following times and locations, and subject to condition (8), fish and kākahi potentially affected by the parallel channel excavation works shall be recovered and relocated, by a Suitably Qualified Person(s), to identified suitable donor and receiving habitat: a. A maximum of three (3) days prior to any disturbance work or temporary closure of the lacustrine channels of the Waiau Arm; b. A maximum of three (3) days prior to establishing the Stage 3 breakouts during parallel channel excavation; and c. A maximum of three (3) working days prior to excavation or bunding work in the lagoon area. ~~Prior to commencement of parallel channel excavation works, a Freshwater Fauna Management Plan (FFMP) shall be prepared, and subsequently implemented, by a Suitably Qualified Person. The FFMP shall identify industry best practice methods for surveying, and where subsequently recommended by the Suitably Qualified Person, relocating freshwater fauna (including kākahi) which may be affected by construction works (including by bed disturbance works and lighting) to suitable equivalent habitat which is not affected by construction works. A survey, and any subsequent relocation, shall occur at the following times during the construction works:~~ ~~Immediately prior to any disturbance work in the lacustrine channels of the Waiau Arm, and~~ ~~Immediately prior to establishing the Stage 3 breakouts during parallel channel excavation works.~~	The conditions for freshwater fauna have been substantially updated and enhanced following discussions with the Department of Conservation after the second pre-hearing. Subsequently, the Department has withdrawn their right to be heard at the hearing.
8.	Except where condition (9) applies, the recovery required by condition (7) must continue until: a. A catch rate of less than 10% of the first or second (whichever is the greater) recovery event is achieved; and b. No brown trout, rainbow trout, or 'Threatened or At-risk' species are captured.	
9.	Where fish numbers are low, such that compliance with condition (8)(a) cannot be achieved, the recovery must be completed as directed by a Suitably Qualified Person(s).	
10.	Where pest fish species and exotic fish (with the exception of sports fish) are captured, they must be humanely euthanised and not relocated.	
11.	A Freshwater Fauna and Management Plan (FFMP) must be prepared and implemented by a Suitably Qualified Person(s). The purpose of the FFMP is to demonstrate how effects on fish and kākahi will be minimised during the parallel channel excavation works and future maintenance activities. The FFMP must include at least, but not limited to, the following: a. Identification of key personnel undertaking the implementation of the FFMP, including their roles and responsibilities; b. For parallel channel excavation works: i. Identification of suitable donor and receiving habitat for fish and kākahi that is not affected by the parallel channel excavation works;	

General		Explanation for proposed revisions made since pre-hearing #2
	ii. Industry best practice methodologies, protocols and timing for recovery and relocation, which may include (but are not limited to) electro-fishing (including targeted larval lamprey electric fishing methods), trapping, spotlighting and netting, and dewatering and muck out; iii. Storage and transport measures including minimisation of predation and death during salvage; and iv. Euthanasia methods for diseased or pest species. c. For maintenance activities, a specific section outlining the measures to minimise effects on fish and kākahi in areas where surface water is present at the time of maintenance activities. d. For all works: i. Guidance on fish migration and spawning times; ii. Placement of appropriate fish screens on the inlets of any pumps used; and iii. Measures to minimise effects on fish and kākahi from construction activities, including with respect to construction lighting.	
12.	The FFMP under condition (11) shall be adhered to throughout the parallel channel excavation works and maintenance activities.	
~~8.~~13.	The Consent Holder shall provide written confirmation to the Consent Authority from a Suitably Qualified Person: a. At least 10 working days prior to the commencement of parallel channel excavation works, that the design of any permanent culverts within the lacustrine channels of the Waiau Arm is generally consistent with the principles of good fish passage design in Section 3.4 of the 'New Zealand Fish Passage Guidelines: For structures up to 4 metres, 2018'; and b. Within 6 months of the completion of the parallel channel excavation works, that the culverts have been installed accordance with the designs referred to in condition [~~9~~13](a).	
Wetland remediation		
~~9.~~14.	To remediate the removal of Wetland 1, within 12 months of the completion date of the parallel channel excavation works, the Consent Holder shall implement wetland remediation, in accordance with clauses (a) to (c) below, to achieve no net loss of indigenous Juncus rushland marsh within the Project site. a. Juncus sarophorus, Juncus edgariae and Carex virgata shall be planted over a minimum area of 200m^2, with that area meeting the following further criteria: i. Located within the area mapped as Wetland 3 (shown on Attachment XXX). ii. Have hydrological conditions appropriate for the long-term survival of the three plant species.	

General		Explanation for proposed revisions made since pre-hearing #2
	iii. Be generally comprised of exotic grasses or herbs. b. Plants shall be planted at spacings that, when mature, will achieve an overall cover of indigenous wetland plants that exceeds 65 percent vegetation cover across the wetland remediation site. c. At a period not exceeding three years following the completion date of the parallel channel excavation works, the Consent Holder shall provide to the Consent Authority a report from a Suitably Qualified Person setting out the extent to which the wetland remediation is achieving compliance with this condition, including confirmation that the overall percentage cover of indigenous wetland plant species within the wetland remediation site exceeds 65 percent.	
Water quality monitoring programme (WQMP)		
~~10.~~15.	a. In the first summer period (1 January to 31 March) following the completion of the parallel channel excavation works, the Consent Holder will prepare and implement a water quality monitoring programme (WQMP) for the detection of phytoplankton blooms in the parallel channel and existing channels (adjacent to the parallel channel). b. The protocol for the WQMP shall be prepared by a Suitably Qualified Person and provided to the Consent Authority for its records prior to the implementation of the WQMP. c. The WQMP will consist of fortnightly measurements of water temperature, dissolved oxygen, water clarity, pH and chlorophyll *a* at two Representative Sites over three consecutive summer periods (the 'Overall Monitoring Period'). In the event fewer than five fortnightly measurements are taken in any given summer period, the Overall Monitoring Period shall be extended for one further summer period. d. For the purposes of clause (c), 'Representative Sites' means one site in the parallel channel and one site in the existing channel. The location of the Representative Sites shall be agreed in writing with the Consent Authority prior to the implementation of the WQMP. e. Within three working days of receiving notice that chlorophyll *a* has been detected in a sample at or above 5 mg/m3, the Consent Holder will release a flow of 35–45 cumecs for 24 hours across the Manapōuri Lake Control Structure into the Lower Waiau River. f. If two or more chlorophyll *a* readings are detected at levels at or above 5 mg/m3 across the Overall Monitoring Period, a review (in the form of a written report) will be undertaken by a Suitably Qualified Person to consider whether further monitoring is required, and whether the flow release management response specified in clause [e] needs to be amended. The Consent Holder will provide the report to the Consent Authority within 6 months of the last fortnightly measurement in the WQMP being taken.	

General		Explanation for proposed revisions made since pre-hearing #2
	Advice Note: For the avoidance of doubt, if fewer than two chlorophyll a readings are detected at levels at or above 5 mg/m3 across the Overall Monitoring Period, the WQMP under this condition shall cease.	
Erosion and sediment control		
~~11.~~16.	Land-based activities associated with these consents shall be undertaken in accordance with an Erosion and Sediment Control Plan (ESCP). The ESCP shall be prepared by a Suitably Qualified Person and at minimum include details of: a. Appropriate structural and non-structural erosion and sediment control measures to be installed before and during all construction works to minimise the potential for sediment to enter surface water: b. Key environmental risks, particularly in relation to topography, soil type and form, and the receiving environment, including proximity to any sensitive receivers: c. The approach and procedures for ensuring advance warning of a rainfall event: d. Procedures for decommissioning the erosion and sediment control measures: e. Procedures for determining the staging and sequencing of earthworks: f. Methods for amending and updating the ESCP as required.	
Landscape and rehabilitation		
~~12.~~17.	During parallel channel excavation works, all work areas shall be maintained in a tidy state. Following the completion of the parallel channel excavation works, all temporary buildings and structures, plant, machinery and equipment shall be removed (except machinery required for the works in conditions ~~14~~ (18) and ~~15~~ (19) below) and the site left in a tidy state.	
~~13.~~18.	Following the completion of parallel channel excavation works, the spoil disposal area, contractors establishment area, and any construction area in the Waiau Arm no longer required for permanent structures, shall be shaped and profiled to be sympathetic to the contours of the surrounding landscape and piles or humps shall be avoided.	
~~14.~~19.	The spoil disposal area and contractors' establishment area shall be rehabilitated within the next available planting season following the completion of the parallel channel excavation works. This rehabilitation shall achieve a final cover of pasture or similar vegetation.	
Future gravel extraction from gravel stockpile cell		

General		Explanation for proposed revisions made since pre-hearing #2
~~15.~~20.	Any future removal of gravel from the spoil disposal area shall be limited to within the defined 'gravel stockpile cell' as shown on map X in Appendix X and shall be completed in sequential stages moving from south to north to facilitate progressive rehabilitation.	
~~16.~~21.	Once any future gravel removal from within the 'gravel stockpile cell' is complete, the resultant surface shall be scarified to promote plant growth and rehabilitated within the next available planting season. This rehabilitation shall achieve a final cover of pasture or similar vegetation.	
Advice note for Conditions ~~16~~ 20 and ~~17~~21: Any future gravel removal and processing from the gravel stockpile cell may be subject to requirements of additional resource consents.		
Notifications, records and reporting		
~~17.~~22.	The Consent Holder shall notify the Consent Authority in writing: a. No less than ten working days prior to commencing any works under these resource consents; and b. No less than ten working days after completion of the works under these resource consents.	
~~18.~~23.	The Consent Holder shall maintain a record of the following activities, and shall supply this record to the Consent Authority upon request: a. Turbidity and deposited fine sediment monitoring during the parallel channel excavation works under Discharge Permit [consent reference]; and b. A record of any incidents or complaints.	
Accidental discovery protocol		
~~19.~~24.	In the event of a discovery, or suspected discovery, of a site of cultural importance (Waahi Taonga/Tapu) during the exercise of this consent, the Consent Holder shall immediately cease operations in that location and inform the local iwi authority (Te Ao Marama Inc, office@tami.maori.nz). Operations may recommence at a time as agreed upon in writing with the Consent Authority. The discovery of Koiwi (human skeletal remains) or Taonga or artefact material (e.g. pounamu/greenstone) would indicate a site of cultural importance. [Appendix 1] outlines the process that is to be followed in the event of such a discovery.	
Review		
~~20.~~25.	The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of these resource consents at five year intervals , or within two months of any enforcement action being taken by the Consent Authority in relation to the exercise of this consent, for the purposes of:	

General		Explanation for proposed revisions made since pre-hearing #2
	a. Determining whether the conditions of these resource consents are adequate to deal with any adverse effect on the environment, including cumulative effects, which may arise from the exercise of the resource consents, and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of these resource consents; b. Ensuring the conditions of these resource consents are consistent with any National Environmental Standards Regulations, relevant plans and/or the Environment Southland Regional Policy Statement; c. Requiring the Consent Holder to adopt the best practicable option to remove or reduce any adverse effect on the environment arising as a result of the exercise of these resource consents.	