Conditions Report

Coastal Resources Limited (CRL) Application for Marine Dumping Consent

November 2018

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List of abbreviations

CRL	The Applicant being Coastal Resources Limited
DMC	Decision-Making Committee
DOC	Department of Conservation
EEZ Act	Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012
EEZ	Exclusive Economic Zone
EPA	Environmental Protection Authority
IA	Impact Assessment dated May 2018
KIR	Key Issues Report dated September 2018
MMR	Marine management regime as defined in Section 7 of the EEZ Act
MPI	The Ministry of Primary Industries
RMA	Resource Management Act 1991

Introduction

1. My name is Catherine Clarke. I was engaged by the Environmental Protection Agency (EPA) in October 2018 to prepare this Analysis of Conditions Report (Conditions Report).

2. I hold a Bachelor of Regional Planning with First Class Honours and am a full member of the New Zealand Planning Institute. I am a partner in the consulting firm, Boffa Miskell Limited, and am employed as a consultant planner in the Auckland office. Since 2000, I have worked as a consultant planner throughout New Zealand in both the public and private sector. Prior to becoming a consultant planner, I was employed at the Auckland Regional Council in various roles including as a coastal planner. Since moving to the private sector, I have had significant experience in the preparation and acquisition of resource consents and other statutory approvals for a diverse range of activities including in the coastal environment. I have been the planning lead on a range of complex consenting applications in relation to large scale infrastructure, industry, and natural resource and energy developments under the Resource Management Act (RMA) and Exclusive Economic Zone and Continental Shelf Act 2012 (EEZ Act). Most recently, I assisted Shell Taranaki Limited in obtaining marine consents and marine discharge consents for activities under the EZZ Act (EEZ100014). I have been engaged by local authorities to assess and process complex applications for resource consent including Direct Referrals to the Environment Court. I hold accreditation as a Hearings Commissioner under the Making Good Decisions programme.

3. I confirm that I have read the Expert Witness Code of Conduct as set out in the Environment Court's Practise Notes 2014. I have complied with this Code of Conduct in the preparation of this Conditions Report. Except where I state that I am relying on the report of another person, this report is within the scope of my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this report.

4. I have read the application lodged by Coastal Resources Limited (CRL), the Impact Assessment (IA) and accompanying appendices and the supplementary information as detailed in Appendix 1.

Background

5. Full details of the background to this application being sought by CRL are set out in the IA. I do not intend to repeat that background in this report.

6. In summary, CRL is currently the holder of a deemed marine dumping consent (EEZ900012)[1]. This existing consent provides for (in summary):

   - The dumping of 50,000 m^3 per annum of dredged material within the Disposal Area (as defined in the consent);

   - The dumping at one location within the defined Disposal Area, (being the centre of the Disposal Area as defined in this existing consent).

[1] Refer Appendix One – Deemed Marine Dumping Consent - EEZ900012, CRL Impact Assessment, May 2018.

This existing consent expires on 31 December 2032, unless surrendered at an earlier date.

7. On 5 June 2018, CRL applied for a replacement consent (EEZ100015). This application seeks (in summary) consent for the following activities:

   - The dumping of up to 250,000m^3 per annum of dredged material within a Dumping Area (being the Northern Dumping Area ('NDA')) as defined the application;
   - To retain the exiting dumping location within the defined NDA, to add a further 12 dumping locations within the NDA, and sequentially move the dumping locations between the 13 identified dumping locations, after every cumulative volume of 250,000 m^3 of dredged material dumped.

   A term of 35 years is sought for this new consent. The existing consent will be surrendered upon the new consent being given effect to.

   The evidence of Mr Hay also states the activities for which consent is sought have been expanded to include 'physical monitoring' required under the conditions of any consent as follows:

   "*To authorise the disposal of up to 250,000 m^3 per annum at the NDA of accumulated sediment by marine dumping and to undertake any associated physical monitoring at the NDA."*

Purpose and scope of this Conditions Report

8. This Conditions Report has been requested by the EPA and provides a detailed analysis of CRL's proffered conditions, contained in Attachment One 'Proposed Conditions of Consent' to Mr Hay's Expert Planning Evidence (dated 25 October 2018). These proposed conditions supersede the list of proposed conditions previously submitted in section 9 of the IA (dated May 2018)

9. This Conditions Report recommends further conditions or amendments to the proffered conditions that I consider are appropriate, should the DMC decide to grant this application for a marine dumping consent. The analysis presented here is my personal assessment however, I have also drawn on commentary and advice provided to me by EPA staff including the EPA Compliance team.

10. It is important to note that the preparation of this Conditions Report should not be interpreted by any party as the author assessing the merits of the application and recommending that the marine dumping consent sought by CRL should be granted. I have not been asked to consider such matters and have not done so.

EEZ100015 – CRL application for Marine Dumping Consent

11. The EPA's Key Issues Report (KIR) provides a high-level description of the proposal by CRL, based on the description in IA and supporting documents. I have not repeated this description in this report.

12. The Application Form in Appendix Two of the IA states:

    "*The application is for a marine dumping consent to dispose of up to 250,000 m^3 per annum of capital and maintenance dredging spoil at the NDA for a 35-year period."*

The IA confirms this application is sought under Section 20G(3) of the EEZ Act which provides for dumping at sea if authorised by a marine consent.

13. As noted above, the evidence of Mr Hay now seeks to expand the activities for which consent is sought to include "*the associated physical monitoring"* required under any conditions of consent. His evidence states as follows:

> *"[146] … the purpose or the scope of the consent could be clarified to read:*
>
> *To authorise the disposal of up to 250,000 m^3 per annum at the NDA of **accumulated sediment** by marine dumping **and to undertake any associated physical monitoring at the NDA**"*[2]
>
> ***bolding added for emphasis***

14. In my planning opinion, the "*physical monitoring"* activities described in the proposed conditions of consent (dated 25 October 2018) may include restricted activities under Sections 20 of the EEZ Act. However, the consideration of activities restricted by section 20 of the Act is outside the scope of this current application before the DMC. The DMC (and the applicant) may wish to consider the amendment to the application to now include any activities '*associated physical monitoring'* at the hearing.

15. The revised application description in Mr Hay's evidence also refers to the dumping of 'accumulated sediment'. The application description in Appendix Two of the IA refers to the dumping of 'capital and maintenance dredging spoil'. The existing consent (EEZ900012) refers to disposal of "accumulated sediment and capital dredging sediment'. Further the proposed conditions in Mr Hay's evidence generally refers to disposal of 'dredged material'. The term describing the material proposed to be dumped, should be consistent in any consent and accompanying conditions imposed by the DMC. I recommend consistently adopting the term 'dredged material' and have amended the conditions in Appendix 3 accordingly.

Statutory considerations and principles in relation to conditions

Statutory Considerations

Marine Dumping Consent

16. Appendix 2 of this report sets out the relevant statutory considerations and principles that are required to be considered in any decision by the DMC to grant consent to the application and the imposition of conditions of consent.

Sections 63 to 67 of the EEZ Act

17. Section 63(1) provides the DMC with a very wide scope to impose conditions on marine dumping consents, including those specified in section 63(2). However, there are two restrictions specified in

[2] Refer paragraph 146 of the evidence of David Hay for CRL, dated 25 October 2018.

Sections 63(3) and 63(4) that the DMC needs to be aware of. Sections 63(3) and 63(4) respectively prohibit:

a. the imposition of conditions which are inconsistent with the EEZ Act or any regulations (S.63(3); or

b. the imposition of a condition to deal with an effect if the condition would conflict with a measure required in relation to the activity by another marine management regime (MMR), or the Health and Safety at Work Act 2015 (S.63(4).

18. Section 63(4) does not prevent the DMC imposing conditions which duplicate requirements or approval processes by another MMR where such a condition relates to a matter (including environmental effects or effects on existing interests) that the DMC must take into account under Section 59. However, I consider imposing conditions that duplicate other MMR requirements, is unnecessary and should generally be avoided, provided the DMC is satisfied the approval processes under other MMRs appropriately deals with the adverse effects of the activity on the environment or on existing interests. Regarding this application by CRL, the matter of other MMR requirements will be particularly relevant to the management of potential biosecurity impacts[3] by the DMC.

19. Sections 63(a)(i) and (ii) allows the DMC to impose a condition requiring the consent holder to provide a bond for the performance of any one or more conditions of the consent, and to obtain and maintain public liability insurance, respectively. The existing consent (EEZ900012) does not impose a bond condition. However condition 15 of the exiting consent imposes a requirement on the consent holder to undertake remedial action under defined circumstances. The applicant has not proposed a bond condition in the proposed conditions (dated 25 October 2018).

20. Sections 63(2)(a)(iii) and (iv) states the DMC may impose conditions that require a consent holder to monitor and report on the effects of the authorised activity. Section 66 provides additional guidance on monitoring conditions. The proposed conditions (dated 25 October 2018) have recommended several conditions requiring monitoring and reporting on the effects of the proposed marine dumping activity including proposed conditions 6, 7, 8 and 14.

21. Section 63(2)(a)(iv) allows the DMC to impose conditions requiring the consent holder to appoint an observer to monitor the activity and the effect on the environment. Section 67 provides additional guidance on imposing conditions requiring an observer. Proposed condition 16 recommends a condition regarding the appointment of an observer in accordance with 63(2)(a)(iv).

22. Section 64 (1AA) states an adaptive management approach (in summary, where a consent authority may impose conditions that authorise an activity to be undertaken in stages with a requirement for monitoring to be undertaken before the next stage of the activity) cannot be applied to a marine dumping consent. In assessing the proposed conditions (dated 25 October 2018), I have considered the

[3] Refer Biosecurity Act 1993

requirements of Section 64 (1AA) and am satisfied from my planning review, that none of these proposed conditions have adopted an adaptive management approach.

Principles relating to conditions

23. There are a number of important principles relevant to drafting conditions. While there is an absence of case law in relation to conditions imposed under the EEZ Act, there is extensive case law established under the RMA, both in respect of legal principles and best practice guidelines that provide a helpful context.

24. In terms of best practise guidance, I have drawn on the 'Conditions of Consent' guidance provided in "Quality Planning, The RMA Planning Resource" (www.qualityplanning.org.nz) prepared by the Ministry for the Environment (2017) in preparing this report.

25. In my opinion, a number of key principles apply when developing consent conditions, including that conditions must:

    a. Be within the EPA's powers under the EEZ Act;

    b. Be for an EEZ Act purpose, particularly to promote sustainable management of the natural resources of the EEZ or protection of the environment from pollution;

    c. Be certain so the consent holder, the EPA, and any layperson viewing the consent can be clear about what is required by the conditions and the obligations the consent holder has. It is important conditions are drafted in plain English and can be readily interpreted and understood by EPA officers monitoring the consents, and the consent holder;

    d. Fairly and reasonably relate to the subject matter of the consent;

    e. Be fair, reasonable, and practical;

    f. Be exclusively between the consent holder and the EPA, in that they are capable of compliance by the consent holder without relying on actions of third parties; and

    g. Not result in the future reservation of power to the EPA to later approve conditions (secondary approval). Any condition which requires something (e.g. a management plan) to be submitted to the EPA for certification should not result in the EPA fulfilling the role of an arbitrator on any matter.

Information Principles – Section 61

26. Section 61 of the EEZ Act addresses the information principles for marine consents (including marine dumping consents) and states the DMC must base its decision on the 'best available information' (S.61(1)(b)) and 'take into account any uncertainty or inadequacy in the information available' (S.61(1)(c)). Further Section 61(2) states if the information available is uncertain or inadequate, the consent authority must favour caution and environmental protection. Importantly, Section 61(5) states

'best available information' means the best information, that in the particular circumstances is available without unreasonable cost, effort or time.

27. The evidence of Mr Hay (dated 25 October 2018) states;

> *"[44] In terms of section 61(5), I consider that given the scale of the proposal and the potential effects the best available information has been provided. The information provided has identified the known and potential effects on the environment. To provide further analysis on, for example, the potential effects on marine mammals would take significant more monitoring and investigation (with a corresponding cost) when the actual risk has been determined as very low or low. No significant effects beyond the NDA boundary have been identified which in my opinion warrant further detailed investigation.*
>
> *[45] I consider the information available to the Committee is both adequate and sufficiently certain, so that the Committee is not required to favour caution and environmental protection."*

28. Monitoring of the effects of the existing marine dumping activity has been undertaken in accordance with the conditions of the existing marine consent (EEZ900012). These monitoring results have informed the Beca Report (Appendix Four) and the Bioreasearches Report (Appendix Five) of the IA. CRL proposes to continue these monitoring activities, as described in the proposed conditions (dated 25 October 2018), however some changes to the existing monitoring programme have been proposed. I have highlighted some of these changes in my analysis of the proffered conditions.

29. In making a decision on this application, including any conditions of consent that may be imposed, the DMC will need to be satisfied, based on the information available, that the purpose of the EEZ Act can be achieved.

30. An assessment of the adequacy of the information provided in the application in accordance with the Information principles under the Act, is beyond the scope of this report. I have relied on the information provided to me, (detailed in Appendix 2) to understand the scale and scope of the proposed activity and the adverse effects of the activity on the environment and on existing interests that may result. This has informed my analysis of the proposed conditions of consent proffered in Mr Hay's evidence (dated 25 October 2018).

Analysis of Conditions

Introduction and General Comments

31. Five key issues associated with the proposed activity were identified in the KIR as follows:

- Degree to which dumped dredge material including any contaminants may move beyond the NDA boundary;
- Additional effects on the environment resulting from the proposed activity, as compared to the continued activity authorised under EEZ900012;
- Effect of the activity on existing interests;

- Environmental management and monitoring; and
- Alternatives to marine dumping.

32. The actual and potential adverse effects of the proposed activity have been discussed in the IA, the KIR, CRL's response to further information (dated 25 October 2018), the evidence submitted by CRL and the evidence of submitters These are not repeated here. However as discussed above, in relation to the information principles, the DMC will need to be satisfied that sufficient detail has been provided in the application to enable the effects to be identified and in turn addressed appropriately.

33. My opinions and recommendations on the proposed conditions (dated 25 October 2018) have been guided by discussions and feedback with EPA staff including with the EPA Compliance Team. It is noted at the time of preparing this Conditions Report, the technical peer reviews commissioned by the DMC were still being prepared and any findings in these reviews have not been considered in this report.

Detailed Analysis of Conditions

34. This section considers the conditions proffered in the evidence of Mr Hay (dated 25 October 2018). Appendix Three of this report sets out recommended amendments to these conditions, that are within the scope of my expertise and based on my analysis below. The condition numbering in this detailed analysis refers to the numbering of the conditions in Appendix 3 of this report. Where appropriate I have considered the conditions in the existing deemed marine dumping consent (EEZ900012) in this analysis.

Schedules One to Four of proposed conditions

35. The proposed conditions (dated 25 October 2018) include the following schedules as part of the conditions of consent.

Schedule One: Northern Disposal Area Monitoring Sites;

Schedule Two: Metals, metalloids, organometallic and organic compounds to be tested;

Schedule Three: Chemical Characterisation Methodology;

Schedule Four: Biosecurity Characterisation Methodology.

36. I have not commented on the specific content of these schedules which is beyond the scope of my expertise. However, I do comment on the approach of attaching schedules to a consent and the interaction of these schedules with the proposed conditions.

37. Schedule One sets out the monitoring sites within the NDA. Schedule Two sets out the substances to be tested (the Primary Contaminants) as part of the environmental standards and monitoring requirements in proposed conditions 5 and 8.

38. Schedule Three details the methodology to be undertaken to characterise the concentration of the substances (as specified in Schedule Two (the 'Primary Contaminants')) in any dredged material proposed to be dumped at the NDA. Schedule Three also requires characterisation of the concentration

of other substances ('Other Contaminants') in accordance with International Best Practise. Proposed condition 5(a) states all activities authorised by this consent shall not result in any exceedance of the 'ISQG-L'[4] values by any of the Primary Contaminants specified in Schedule Two.

39. Schedule Three also states "*Dredged material will only be acceptable for disposal at the NDA if the average concentration of each of the Primary Contaminants is below the ISQG-L Value."* I note, none of the proffered conditions (including proposed conditions 5 to 7) specifically impose this performance standard on dredged material to be dumped at the dumping site (i.e. the average concentration of each of the Primary Contaminants[5] in dredged material for disposal at the NDA, shall be below the ISQG-L Value). This restriction is only imposed by proposed condition 5(a) which states all activities authorised by this consent shall not result in any exceedance of the ISQG-L values by any of the Primary Contaminants specified in Schedule Two, at any of the Sampling Sites within the NDA, as specified in Schedule 1.

40. Schedule Four set out the biosecurity characterisation of each source site, as proposed condition 7.

41. This approach of attaching schedules to a consent differs from the common approach adopted in marine consents, requiring a consent holder to submit management plans for certification by EPA following the granting of consent. Currently. the management plan approach is adopted in the existing consent (EEZ900012), where a 'Disposal Site Management and Monitoring Plan' (DSMM) is required to be submitted to, and approved by the EPA.[6] A similar approach was proffered in the proposed conditions in the IA[7] (dated May 2018) whereby Condition 1(a)(i) required a Sampling Plan to be submitted and approved by the EPA.

42. I recognise attaching schedules to any consent granted provides certainty and removes the requirement for the consent holder to seek certification of a management plan from the EPA, at a later date. However, in my opinion, as these schedules will form part of the conditions of any consent granted, any alteration or change to these schedules (including the Sampling Sites in Schedule One, the list of Contaminants listed in Schedule Two, the sediment characterisation methodology in Schedule Three and the biosecurity characterisation methodology in Schedule Four) over the duration of the consent will require a review under Section 76 to 83 of the EEZ Act (noting Section 83, which provides a 'Process for minor changes to consent conditions'). I have recommended a new review Condition 25A in Appendix 3. The DMC (and the applicant) may wish to consider the process by which any alteration or change to these schedules will be provided for, over the duration of any consent.

Definitions

43. I provide the following comments on the Definitions in the proposed conditions (dated 25 October 2018).

[4] The proposed definition of ISQG-L is contained in the Definitions of the Proposed Conditions in the evidence of Mr David Hay (dated 25 October 2018).
[5] As specified in Schedule 2 of the proffered conditions (dated 25 October 2018)
[6] Refer conditions 3 and 4 of Deemed Marine Dumping Consent (EEZ900012).
[7] Refer section 9, Proposed Consent Conditions in the Impact Assessment (dated May 2018).

'Disposal Point'

44. The definition of term 'Disposal Point' in the proposed conditions refers to the point where 'spoil' is 'disposed'. As discussed above, I consider the term 'dredged material' should be adopted for the proposed material to be dumped at the NDA, in any conditions of consent.

45. I also recommend the term 'dumped' (rather than disposed) be adopted and used consistently in any conditions of consent, as this is the term used to describe the activity in the EEZ Act.

'ISQG'

46. The definition of the abbreviation 'ISQG' in proposed conditions refers to "the Interim Sediment Quality Guidelines in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) or any subsequent variation thereof and referenced to L-value and H-Value means, respectively, the low or high values referred to in those Guidelines." The ISQG-L values are referred to, as environmental performance standards specified in conditions 5 and 8.[8]

47. The guidance on the 'Content of Conditions of Consent' in the Quality Planning website [9] states as follows:

> *"Any references to external specifications or methods must only refer to readily available technical publications that meet normal consent condition requirements. … Ideally conditions should refer to specific plans and specifications, and have those documents physically attached to the consent. However, if the amount of technical information is too extensive or physically too big to attach to the consent document, then it should be labelled and physically filed with the consent and referred to in a consent condition."*

48. I am also advised by EPA staff that the Australian and New Zealand Guidelines for Fresh and Marine Water Quality ('ANZECC Guidelines') have recently been updated (2018 Version), where a web-based on-line platform has been adopted to improve usability and facilitate updates as new information becomes available[10]. I am advised this 2018 update for New Zealand, includes new or updated guidance values for a range of contaminants.

49. Based on the best practise guidance provided by the Ministry for the Environment and the advice received on the recently updated 2018 version of the Guidelines for Fresh and Marine Water Quality, I consider the specific contaminants and associated threshold levels referred to in the proposed definition of '*ISQG'* and as environmental performance standards *('ISQG-L')* in proposed conditions 5 and 8, should be specified and clearly detailed in the conditions imposed with any consent granted. I consider this is required to provide certainty and clarity about the performance standards being required by the conditions.

[8] The proffered conditions (dated 25 October 2018) states 'NDA' means the Northern ~~Disposal~~ Dumping Area which is a 1500 metre radius centre centred on 36^0 12.3403'S and 175^0 48.002'E.
[9] Refer Content, Conditions of Consent, Quality Planning, The RMA Planning Resource, Ministry for the Environment 2017.
[10] Refer http://www.waterquality.gov.au/anz-guidelin

50. The proposed definition of ISQG also seeks the inclusion of "*or any subsequent variation thereof".* I assume this wording seeks to provide for any future updates to these guidelines over the duration of the consent. I appreciate the opportunity to adopt updated versions of these guidelines in the proposed conditions through the inclusion of the proposed wording "*or any subsequent variation thereof"* is attractive from an administrative perspective. However, in my opinion, in drafting conditions to meet the test of 'certainty', it is not appropriate for consent conditions to refer to documents, including specifications or technical publications that may change over the duration of the consent.

51. I consider the wording "*or any subsequent variation thereof"* should be deleted from the definition of '*ISQG'*.

Administrative conditions, proposed conditions 1, 1A, 2, 3, 4, and new condition 4A

52. I consider proposed condition 1 needs to be amended to specifically include reference to the information (including the application and IA, and any further information) submitted by the applicant that describes the proposal, in order to clearly define the proposed activity and scope of the consent.

53. I also agree with the evidence of Mr Riddell for DOC, that the word 'general' should be deleted from Proposed Condition 1[11] . I agree with Mr Riddell that the requirement for the activity to occur in "general" accordance with the application and supporting material is not wording that is certain in its effect.

54. I have recommended a new Condition 1A, specifying the maximum amount of dredged material to be dumped at the NDA, should be included as a condition of consent to provide certainty in the interpretation of the conditions of consent.

55. Drawing on the advice of the EPA staff and previous marine consents issued under the EEZ Act, I also recommend that a new Condition 2A (i) and (ii) be included, requiring a copy of the consent to be held on the operating vessel and that personnel involved in exercising this consent are aware of their obligations under the consent.

56. Proposed condition 3 refers to the lapse date of the consent. I note the applicant has sought to double the lapse date to 10 years, (noting Section 85 of the EEZ Act provides a 5-year lapse date unless another date is specified). No reason for seeking this extended lapse date have been provided in the IA or in the evidence of the applicant. The DMC may wish to query the applicant, on their reason for seeking an extended lapse date of 10 years. I have recommended reducing the lapse date to the 5-year date specified in the Act in Appendix 3.

Performance standards for dumping activities, proposed condition 5

57. Proposed condition 5 specifies environmental performance standards which the activities associated with the proposed dumping of dredged material at the NDA are required to meet. I have not commented on the appropriateness of the actual performance standards specified in proposed

[11] Refer paragraph 93 of the evidence of John Andrew Riddell, dated 1 November 2018.

condition 5, as this is beyond the scope of my expertise. The content of proposed condition 5 draws on conditions 6 and 11 of the existing consent (EEZ90012).

58. Proposed condition 5 relates solely to activities proposed to occur in the EEZ. This condition does not impose any performance standards on activities at any source site with the CMA or the dredged material to be disposed at the NDA.

59. I recommend proposed condition 5, clause (a) specifically refer to the specific contaminants and threshold levels in the Australian and New Zealand Environment and Conservation Council Guidelines for Fresh and Marine Water Quality and not “any subsequent variations thereof” for the reasons in paragraphs 49 to 51 above.

60. During my discussions with EPA staff, concerns were raised regarding the potential for the sediment characterisation of a source site (as required by proposed condition 6 and undertaken in accordance with Schedule Three) to identify Other Contaminants, not listed in Schedule Two. Further EPA staff considered, if the levels of these Other Contaminants present at the source site were of concern, then dredged material from the source site should not be approved for dumping. EPA staff also considered Schedule Two (and the performance standards in proposed condition 5, clause (a)) should be able to be amended over the duration of the consent, to restrict the dumping of dredged material containing elevated levels of Other Contaminants not listed in Schedule Two. I appreciate these concerns of the EPA staff. However, given the approach now proposed by the applicant, (including conditions with attached schedules), I consider any change to the list of Primary Contaminants to be tested in Schedule Two, and the associated performance standards in proposed condition 5, clause (a) over the duration of the consent, could only occur through a variation to the consent under sections 76 to 83 of the EEZ Act. The DMC may wish to consider these issues in the determination of this consent.

61. I have also recommended a new review condition 25A in Appendix 3. This new condition provides for a review of the conditions for the purpose of imposing additional performance standards and associated monitoring requirements, if the range of contaminants or levels of the contaminants in the sediments, or the biosecurity risks of, either the dredged material or at the dumping site (the NDA) are shown to be greater than anticipated in the determination of the consent.

62. Proposed condition 5, clause (c) imposes performance standards on the overall abundance and number of macrofaunal species along the boundary of the NDA. These performance standards are based on a ‘long-term’ average, where the ‘long term’ average is compiled from all prior monitoring results obtained under this proposed new consent, and the existing consent (EEZ900012). EPA staff have raised concerns with the definition of the ‘long term’ average to include the monitoring results obtained under this proposed consent. This is because any gradual reduction in the abundance and number of macrofaunal species at site that may occur, following the granting of this consent, would be reflected in the ‘long term’ average in condition 5, clause (c) as defined. The DMC may wish to consider restricting the ‘long term average’ to the compilation of monitoring results from the existing consent (EEZ900012) at each of the relevant sampling sites.

63. The evidence of Mr Riddell for DOC[12] seeks a new condition requiring the performance standards in condition 5(a), be applied to each barge load of dredged material. The appropriateness of imposing such a condition (including any operational issues) is beyond my scope of expertise. However, I note that the proposed conditions (dated 25 October 2018) including proposed conditions 6 and 7 regarding characterisation of a source site (within the CMA) do not set out any performance standards for the dredged material[13], nor do these conditions impose any requirement for the EPA to certify the sediment or biosecurity characterisation of a source site prior to the dumping of dredged material. I discuss this issue further below in relation to proposed conditions 6 and 7.

64. I note Mr Riddell for DOC has also suggested including a new condition that sets a suspended sediment concentration limit at the NDA boundary (refer new condition (ab) in evidence of Mr Riddell[14]). I note condition 11(e) of the existing consent (EEZ120009) requires the consent holder to notify the EPA if the consent holder becomes aware of the sediment plume drifting beyond the boundary of the NDA. The DMC may wish to consider the appropriateness of imposing a similar performance standard restricting the sediment plume occurring beyond the NDA boundary in the conditions of consent to address the concern expressed by Mr Riddell. I consider that should such a condition be imposed, that it would need to be time-bound to be meaningful (i.e. specify a time following the dumping of dredged material which the suspended sediment concentration at the NDA boundary is to be measured).

65. Mr Riddell for DOC seeks an additional performance standard should be added to proposed condition 5, being "*Any live unwanted organism."*[15] I consider the wording proposed by Mr Riddell is too generic and would reserve the decision on an 'unwanted' organism on the EPA at a later date. However, the DMC may wish to consider imposing a performance standard to manage potential biosecurity effects in condition 5(c).

Conditions assessing characteristics of source material for dumping at NDA, proposed conditions 6, 7 and new condition 7A

66. Proposed condition 6 (dated 25 October 2018) requires the consent holder to provide to the EPA, sediment characterisation for each Source Site, undertaken in accordance with Schedule 3. Proposed condition 7 (dated 25 October 2018) requires the consent holder to provide to the EPA (and MPI), the biosecurity characterisation for each source site undertaken in accordance with Schedule 4.

67. As discussed above, during my discussions with EPA staff, concern was raised that there is no requirement for the consent holder to provide assurance to the EPA that only 'clean' material will be dumped at the NDA. Concern was also raised that approach in proposed conditions 6 and 7 could enable contaminated sediment to be dumped at the NDA. For example, dredged materials from a contaminated part of a marina could be dumped at the NDA as by averaging with less contaminated

[12] Refer paragraph 111, Evidence of John Andrew Riddell, dated 1 November 2018.
[13] Condition 1(b) of the deemed marine dumping consent (EEZ900012) requires the results to conform with the limits in the 'New Zealand Action List' (as defined in the conditions of consent).
[14] Refer paragraph 111, Evidence of John Andrew Riddell, dated 1 November 2018.
[15] Condition 11(f) of the existing consent (EEZ120009) requires the consent holder to notify the EPA, should they become aware of any risk of the spread of an exotic organism.

dredged material, the overall average may be under the contaminant thresholds specified in proposed condition 5(a).

68. As noted in paragraph 63 above, proposed conditions 6 and 7 do not impose any performance standards or limits on the dredged material to be disposed at the NDA. Further the proposed conditions 6 and 7 also do not provide the opportunity for the EPA to certify the sampling results. As proposed these conditions only require the consent holder to provide the sampling information to the EPA, for their information.

69. I note condition 1 of the existing consent (EEZ 900012) requires dredged material from a source site for dumping at the NDA to conform with the limits in condition 1(b) and be approved by the EPA (refer condition 1(a) of the existing consent). Further proposed conditions 6 and 7 include reference to this previous 'approval' of the sampling results for source sites in the existing consent as follows;

"*Any **Sampling Results previously approved by the EPA** in relation to a Source Site under deemed Marine Dumping Consent (EEZ900012) …".* (bolding added for emphasis).

70. I do not consider that it may be appropriate to impose a requirement in proposed conditions 6 and 7 allowing the EPA to approve or refuse approval for dredged material from a source site to be dumped at the NDA, as this approach would result in a future reservation of power to the EPA (secondary approval). However, I consider that may be appropriate to impose conditions setting performance standards for dredged material from a source site to be dumped at the NDA (i.e. standards defining what is considered 'clean' dredged material). The DMC (and the applicant) may wish to consider this matter at the hearing.

71. The evidence of Mr Riddell for DOC[16] recommends the inclusion of a new condition 7A, requiring that no dumping of dredged material from a source site shall occur until the EPA has approved (certified) the sediment and biosecurity characterisation for that Source Site is accurate and complete in accordance with conditions 6 and 7. I generally agree with the intent of Mr Riddell's recommendation and suggest a new condition 7A to similar effect, in Appendix 3.

72. Proposed conditions 6 and 7 state previously approved sampling results under the existing consent (EEZ900012) shall be deemed to satisfy conditions 6 and 7 until 3 years have passed since that approval. This transitional provision would allow the consent holder to carry on sourcing dredged material from already sampled and approved source sites, after the existing consent is surrendered. From my discussions with EPA staff, concern was raised about the potential for an event to occur at the source site (i.e. a hydrocarbon spill) that may change the sediment characterisation over this 3-year transitional period or at some time in the future. The DMC (and the applicant) may wish to consider this matter at the hearing.

73. Condition 9 of the existing consent (EEZ 900012) imposes a requirement on the consent holder, to undertake a number of actions including suspending dumping operations, if they become aware of a

[16] Refer paragraph 121 of the evidence of John Andrew Riddell, dated 1 November 2018.

likely change in the characteristics of the sediment collected for disposal from a source site that could increase the level of contamination or the biosecurity risk. In my opinion this could address the concerns expressed by the EPA staff discussed in paragraph 72 above. The DMC may wish to consider imposing a modified version of condition 9 of the existing consent (EEZ900012) as part of the granting of this consent.

74. Proposed condition 7 requires the consent holder to provide the biosecurity characterisation of each source site to MPI, as well as the EPA. In my opinion, MPI do not have an 'existing interest' under the Act [17] and it is not appropriate to impose a condition requiring this information to be served on them. I have recommended proposed condition 7 be amended accordingly.

Conditions imposing monitoring at the dumping site, proposed conditions 8 and 9

75. Proposed condition 8 sets out the monitoring requirements to be undertaken by the consent holder at the dumping site. An assessment of the appropriateness of the monitoring requirements in proposed condition 8 is beyond the scope of this report. Therefore, I have not recommended any significant amendments to proposed condition 8 in Appendix 3 of this report.

76. Proposed condition 8 (dated 25 October 2018) draws on condition 6(d) of the existing consent (EEZ900012), however there are several differences between existing condition 6(d) and proposed condition 8. To assist the DMC, I have outlined the key differences between condition 6(d) of the existing consent and proposed condition 8.

Differences in timing of monitoring of dump site.

77. Condition 6 of the existing consent requires (in summary), benthic faunal monitoring (Condition 6 (a)), contaminant analysis of sediments (Condition 6 (b)) and sediment grain size analysis (Condition 6 (c)).

Condition 6 (d) of the existing consent states the sampling required in Conditions 6 (a), (b) and (c) shall occur:

(i) when a cumulative total of 10,000 cubic metres of dredge material has been dumped OR on the two-year anniversary of the first disposal; and

(ii) when a cumulative total of 50,000 cubic metres of dredge material has been dumped OR on the five-year anniversary of the first disposal; and

(iii) every 50,000 cubic metres thereafter.

Condition 6 of the existing consent also requires (in summary) monitoring for bathymetric changes to the seafloor (Condition 6 (e).

Condition 6 (d) states monitoring for bathymetric changes (Condition 6 (e) shall occur:

(ii) when a cumulative total of 50,000 cubic metres of dredge material has been dumped OR on the five-year anniversary of the first disposal; and

[17] Refer 'existing interest' as defined by Part 4, Interpretation of the EEZ Act.

(iii) every 50,000 cubic metres thereafter.

78. Proposed condition 8 (dated 25 October 2018) requires (in summary), core sample monitoring (condition 8 (a)), benthic faunal monitoring (condition 8 (d)), contaminant analysis of sediments (condition 8 (b)) and sediment grain size analysis (condition 8 (c)).

Proposed Condition 8 states the sampling required by conditions 8 (a), (b) (c) and (d) shall occur:

- In the first spring (Sept, Oct, Nov) after the cumulative total disposed of 125,000 cubic metres of dredged material under this consent and in each spring after every cumulative total disposal of a further 125,000 cubic metres of dredged material under this consent.

79. The timing of the monitoring in proposed condition 8 is tied solely to a volume trigger (after every cumulative total of 125,000 cubic metres). I note Mr Riddell for DOC recommends more frequent monitoring requirements.[18].

80. Given the uncertainty of the time-period that could elapse between reaching the successive cumulative total of 125,000 cubic metres of dredged material, that would trigger the monitoring requirements in condition 8, I consider the DMC may wish to consider imposing a minimum monitoring requirement that is time bound (every [x] months / years) in proposed condition 8. I have recommended amendments to proposed condition 8 to this effect.

Differences in bathymetric monitoring requirements

81. As noted above, condition 6 of the existing consent (and proposed condition 2, in section 9 of the IA) requires bathymetric monitoring to be undertaken at the dump site. Proposed condition 8 has removed any requirement for the bathymetric monitoring of the dumping site. From reviewing the IA, I understand there are issues with the methodology and accuracy (achieving the required MB-2 accuracy or better) required by condition 6(e) of the existing consent. However, no clear reason appears to be provided in the applicant's evidence, for the removal of any requirement for bathymetric monitoring in the consent conditions now proposed (dated 25 October 2018).

82. The DMC may wish to consider whether bathymetric monitoring should be required at the dump site including the frequency and level of accuracy of any bathymetric monitoring in the granting of any consent.

Differences in details of sampling methodologies

83. I consider the sampling methodology in proposed condition 8 should be clear and be detailed to the extent that it provides the DMC with the confidence, that the methodology will be appropriate to monitor the performance standards set out in proposed condition 5. While some details of the sampling methodology to be undertaken at the dump site is contained in proposed condition 8, the specific details (such as proposed in Schedules 3 and 4 for the source site) are not provided. For example, the contaminant analysis of sediments and sediment grain size analysis in proposed condition 8 refers to

[18] Refer paragraphs 130-132, Evidence of John Andrew Riddell, Department of Conservation, dated 1 November 2018.

using "*accepted standardised methods"* and being conducted by a "*suitably accredited laboratory."* I consider these terms either need to be defined or described to a greater degree of specificity if they are to be retained in proposed condition 8.

84. The applicant may wish to consider providing schedules detailing the sampling methodology and analysis for proposed condition 8 (similar to that proposed in conditions 6 and 7) in Appendix Three. This could also include providing greater clarity of the meaning of the terms, "*accepted standardised methods"* and a "*suitably accredited laboratory."*

85. An alternative approach would be for the DMC to impose a condition of consent requiring the consent holder to develop a management plan. For example, a sediment and benthic monitoring management plan could be developed for the purpose of confirming the impacts of the activities authorised by this consent on the marine environment and determining compliance with the performance standards in condition 5. I also consider such conditions should require the sediment and benthic monitoring management plan to be prepared by a suitably qualified and experienced person(s) and be submitted to the EPA for certification. The management plan approach would also provide flexibility in allowing the sampling methodology to be amended over the life of the consent.

86. Currently conditions 3 to 5 of the existing consent (EEZ 900012) requires the consent holder to prepare a Disposal Site Management and Monitoring Plan for post disposal monitoring for the approval of EPA.

87. The DMC may wish to consider imposing a consent condition requiring the consent holder to develop a sediment and benthic monitoring management plan (or similar) for certification by the EPA. This management plan would include specific details of the sampling methodology and analysis (with linkages to the performance standards in proposed condition 5) as part of the monitoring requirements in proposed condition 8.

Differences in sampling sites identified

88. As above, the sampling sites identified for the sediment and benthic monitoring in condition 6 of the existing consent (EEZ 900012) differ from sites identified in proposed condition 8. These differences include control sites and additional monitoring sites required in condition 6 of the existing consent, not being included in proposed condition 8. I note these differences and the degree of uncertainty in the definition of the sampling sites described along the proposed monitoring axes in proposed condition 8, is also raised in the evidence of Mr Riddell for DOC[19]. Mr Riddell considers best practise would be to adopt a consistent approach and to accurately define the sampling sites in proposed Schedule 1, including adding control sites and the additional monitoring sites required in condition 6 of the existing consent. I agree with this recommendation of Mr Riddell.

89. The DMC may wish to consider imposing a consent condition requiring the consent holder to adopt sampling sites for the sediment and benthic monitoring in proposed condition 8, that are consistent with

[19] Refer paragraphs 141 to 146, Evidence of John Andrew Riddell, Department of Conservation, dated 1 November 2018

existing consent (EEZ 900012) and to accurately define the sampling sites, such as in proposed Schedule 1.

Providing monitoring results to the EPA

90. Proposed condition 9 requires the consent holder to provide all monitoring results required under proposed condition 8 to the EPA, within four months of completion of the monitoring. Proposed condition 9 is generally consistent with condition 7 in the existing consent (EEZ900012), except the existing consent requires that dumping of dredged material in the four-month period after the event that triggered the monitoring shall not exceed 50,000 m^3. I note proposed condition 4 in the IA[20] (dated May 2018) recommended the inclusion of a similar condition (with the dumping of dredged material during the period between completion of the monitoring and the provisions of the results to the EPA, being restricted to 80,000 m^3). This requirement would minimise the potential environmental effects that may arise should the monitoring results show non-compliance with the performance standards in condition 5, including potentially elevated concentrations of contaminants. The evidence of the applicant does not clearly outline why this proposed condition has now been withdrawn for the proposed conditions (dated 25 October 2018). I recommend proposed condition 4 in the IA (dated May 2018), be included as proposed condition 9A in the Appendix Three.

91. In summary, the DMC may wish to address the matters I have raised in relation to proposed condition 8 in determining this application. I have recommended only minor amendments to proposed condition 8 and the inclusion of new condition 9A at this time. The decision of the DMC on the monitoring requirements for the dumping site may involve further substantive changes to proposed condition 8.

Dredged material only to be removed by excavation, proposed condition 10

92. Condition 12 of the existing consent (EEZ900012) states:

> "*The Permit Holder shall not source material from a Source Site, or dispose into the Disposal Area"*
>
> *a) Any material which cannot be moved by mechanical means,*
>
> *b) Any material 'pumped' or mixed with water to produce a slurry.*

I consider proposed condition 10 generally reflects the intent of existing condition 12 (above), however I have recommended some amendments as I consider the terms, '*excavation',* and *'mechanical excavation'* (as proposed in the evidence of Mr Riddell for DOC [21]), are very broad and open to interpretation. I recommend amendments to proposed condition 10 to reflect the intent of the condition, which I understand to be that material removed by suction dredging or material mixed with water to produce a slurry, shall not be dumped at the NDA.

Condition restricting disposal by a 'bottom dump' barge at the NDA, proposed condition 11

93. Proposed condition 11 repeats condition 13 of the existing consent (EEZ900012). From the IA, I understand that a 'bottom dump barge' could be described as a barge (either self-propelled or towed by

[20] Refer Section 9, Proposed Conditions of Consent, IA, dated May 2018.
[21] Refer paragraph 172 of the evidence of John Andrew Riddell for Department of Conservation, dated 1 November 2018.

tugs) with an opening barge floor in the hull for the dumping of dredged material. I have recommended that a definition of 'bottom dump barge' be included in the Definitions in Appendix Three.

Condition restricting number of disposals over a 24-hour period, proposed condition 12

94. The DMC will need to determine the appropriate number and frequency of dumping events of dredged material at the NDA, as detailed in proposed condition 12. I have recommended minor amendments to the wording of proposed condition 12.

Condition on varying location of the disposal point, proposed condition 13

95. Proposed condition 13 requires the dumping point to vary following the dumping of up to 25,000 +/- 1,000 cubic metres following a sequence of dumping points described in the condition. I note proposed condition 19 would require the consent holder to provide a written record of the exact location of a dumping event determined by GPS, to the EPA each month. I recommend that condition 19 be amended to also include reporting on the location of any dumping event in relation to the sequence of dumping points in condition 13. I have recommended minor amendments to the wording of proposed condition 13.

Marine mammal management and monitoring conditions, proposed conditions 14 and 15

96. Proposed condition 14 states "*visual and acoustic detection [observation] for marine mammals is to be undertaken"* at least 30 minutes immediately prior to any dumping activity. I recognise that issues have been raised in the evidence of Dr Childerhouse for the applicant and by submitters regarding conducting visual observations of marine mammals at night and the limitations of acoustic monitoring techniques. The DMC may wish to seek further information on the methodology for observing marine mammals (including requiring a management plan, in a manner similar to the existing consent (EEZ900012)[22]), or impose additional performance standards on marine mammal monitoring as part of any consent granted, wherein proposed condition 14 could be amended to incorporate such mitigation methods.

97. Proposed condition 14 also states the monitoring shall be carried out by *"an appropriately trained crew-member".* I consider this wording is too broad and would reserve the decision on what is *'appropriately trained"* to the EPA following the granting of any consent. A description of the training to be undertaken by crew members should be included in any management plan prepared. In addition, I have recommended a new condition 14A in Appendix Three be included to address, in part, this issue.

98. Proposed condition 14 states when a marine mammal is detected, the following information shall be provided to the EPA on request.

    - A description of the marine mammal detected;
    - The method of detection;

[22] Refer Disposal Site Management and Monitoring Plan (DSMM Plan) Conditions 3 and 17 of the Existing Consent (900012).

- The personnel undertaking the detection;
- Confirmation the personnel have the required training and;
- The weather conditions.

99. Proposed condition 14 proposes this information be summarised and provided in the monitoring report required in proposed condition 9. I recommend this information should also be provided in the monthly report required by proposed condition 19(e). I also note the evidence of Mr Riddell for DOC seeks any information on the detection of marine mammals also to be made available to DOC, on request. For the same reasons discussed in paragraph 74 above, I consider DOC do not have an 'existing interest' under the Act [23].

100. Proposed condition 15 directs that no dumping activity can occur if a marine mammal is detected in the NDA in the preceding 30-minute detection period. I have recommended amendments to proposed condition 15 to clarify the intent of the conditions and to include provisions directing when dumping can recommence following the detection of a marine mammal.

Observer condition, proposed condition 16

101. Proposed condition 16 repeats condition 8 of the existing consent (EEZ900012) and provides for an observer in accordance with section 67 of the EEZ Act. I recommend this condition be expanded to provide for the presence of an observer during both dumping activities and monitoring activities. I have recommended this amendment to allow the observer to monitor both the activity and the effects of the activity on the environment in accordance with section 63(2)(a)(iv) of the Act.

Notification of the New Zealand Defence Force (NZDF), proposed conditions 17 and 18

102. Proposed condition 17 requires the consent holder to notify NZDF, at least 10 days prior to any scheduled dumping activity, and if the NZDF advises of any current or intended military use no dumping of dredged material may occur. Proposed condition 18 requires the consent holder to supply to the EPA, on request, proof in writing that the requirements of proposed condition 17 have been met.

103. I recognise the EPA Report 'Workability of Conditions of Consent as Imposed on EEZ900012' questioned the appropriateness of imposing this condition and recommended the condition be deleted. I agree with the evidence of Mr Hay, that proposed conditions 17 and 18 are within scope as they are addressing potential effects on existing interests of the NZDF arising from the existence of the existing submarine exercise area within the NDA. Further, I also recommend for consistency that this condition be extended to recognise the existing interests of Sanford Limited as a 'quota owner of fish stocks in Fish Management Area 1 (FMA1)' and a 'wild harvester of fish stocks in FMA1" within the NDA. I recommended amendments to proposed conditions 17 and 18 for the consideration of the DMC.

[23] Refer 'existing interest' as defined by Part 4, Interpretation of the EEZ Act.

Monthly reporting on monitoring, proposed conditions 19, 20, 21 and 22

104. Proposed conditions 19 to 22 essentially repeat conditions 23, 24. 25 and 26 of the existing consent (EEZ900012) with some modifications including removal of the requirement to report on the date, time and duration of all monitoring (including any monitoring of marine mammals). I recommend amending conditions 19 to 22 to remove reference to the term, '*Form of Acknowledgement'* and replace with the term *'written record'.* I have also recommended the inclusion of cross references to conditions 13 and 14 in proposed condition 19, and the correction of an error in proposed condition 20.

Disposal including emergency disposal outside the NDA, proposed condition 23

105. Proposed condition 23 is essentially a repeat of condition 27 of the deemed marine dumping consent (EEZ900012). I support the retention of proposed condition 23.

Conditions on vessels regarding light spill and biofouling, proposed condition 24

106. Proposed condition 24(i) addresses minimising the adverse effects of light spill from the dumping vessels including barges on bird strike. I support this condition with minor amendments, drawing on the recommendations in the evidence of Mr Riddell of DOC[24].

107. Proposed condition 24(ii) addresses the risk posed by the biofouling of the hulls of vessels support this condition, noting that this condition refers to 'Craft Risk Management Standard; Biofouling on Vessels Arriving to New Zealand (MPI 15 May 2014) however I recommend deleting "*or any subsequent variation thereof after*" for reasons already outlined in paragraph 50 of sthis report.

Establishment of Liaison Group, proposed condition 25

108. I support proposed condition 25 which requires the consent holder to establish an industry liaison group ('NDA Liaison Group') with invitees from Sanford Limited, Cedenco Limited and Fisheries Inshore New Zealand. I understand from the evidence of Mr Hay that proposed condition 25 is being proffered by the applicant, following consultation between the applicant and fishing industry representatives. I note while Sanford Limited appears to have an 'existing interest'[25] as defined in the EEZ Act being the holder of fishing quota for FMA1, that Cedenco Limited and Fisheries Inshore New Zealand do appear not have an 'existing interest' as defined in the Act.

109. The DMC may wish to consider expanding the list of invitees in proposed condition 25, provided the inclusion of any additional invitees is considered appropriate to deal with adverse effects of the proposed marine dumping activity, on the environment or on existing interests, in accordance with Section 63 of the Act.

Review Condition, new condition 25A

110. As noted above, Sections 76 to 83 of the EEZ Act provides for the review of the duration and conditions of marine consents. Section 76 of the EEZ Act provides for the EPA to serve notice on a consent

[24] Refer paragraph 189 in the evidence of John Andrew Riddell for Department of Conservation, dated 1 November 2018.
[25] 'Existing Interest' is defined in Section 4 – interpretation of the EEZ Act.

holder of its intention to review the duration of a marine consent (including a marine dumping consent) or the conditions of a consent, for the reasons in Sections 76(1)(a) to (e) of the EEZ Act. In particular Section 76(1)(a), states at times which must be specified in a consent, EPA may undertake a review for the following reasons

"*Section 76(1)(a)*

(i) to deal with any adverse effects on the environment that may arise from the exercise of the consent and with which it is appropriate to deal after the consent has been granted;

(ii) any other purpose specified in the consent"

111. As I discussed above, I consider any variations to conditions imposed including updates of specifications in documents referred to in conditions (such as the 'ANZECC Guidelines' and 'ISQG-L', and any changes to Schedules One to Four of the consent) for the duration of the consent should be addressed by way of reviews to the conditions under Sections 76 to 83 of the Act. I note Section 83 of the Act provides for circumstances where the EPA considers a review is likely to be limited to minor changes to consent conditions. A review condition is as proposed condition 25A, in Appendix Three.

Iwi engagement

112. Section 10.3 – Consultation Outcomes under s39(1)(G) of the IA, states:

"An issue which has been raised during consultation is the possible process to involve iwi in the assessment of on-going monitoring results. This would provide the opportunity for on-going effects arising from the proposal to be considered by iwi and an opportunity to provide feedback and recommendations back to the permit holder and the EPA."

113. The applicant has not proffered any conditions that involve iwi engagement including in assessing on-going monitoring results. However, I note in paragraphs 7 to 10, Page 51, Section 10.3 the IA, the applicant details a series of proposed approaches to involving iwi in the assessment of on-going monitoring results, that could be adopted in consent conditions. The DMC may wish to consider querying the applicant on the inclusion on these proposed means of involving iwi, being offered as conditions of consent.

Additional Conditions

EPA Technical Advisors

114. At the time of preparing this report, no reviews by EPA's Technical Advisors had been received. However, I am advised by the EPA, that the DMC has commissioned peer review reports on the following matters: Ocean currents, Sediment sampling, Benthic ecology, Sediment plume modelling, Proposed Monitoring and Economics. The DMC may also wish to consider any findings and additional conditions recommended in these peer reviews in determining this application and the imposition of conditions.

Conclusions

115. CRL has proffered a set of proposed conditions in the evidence of Mr Hay. These proposed conditions draw on the existing conditions in the deemed marine consent (EZ100012) currently held by the CRL with notable differences. These conditions include the provision of Schedules which form part of the conditions of consent which identify the Northern Disposal Area Monitoring Sites (Schedule One), Compounds to be tested at the Source Site (Schedule Two), Methodology for Chemical Characterisation at the Source Site (Schedule Three) and Methodology for Biosecurity Characterisation at the Source Site (Schedule Four).

116. While I consider that the conditions proposed by CRL are generally appropriate, there are a number of matters which I have drawn to the attention of the DMC, which they may wish to consider in imposing any conditions of consent, as part of the determination of this application for a marine dumping consent. These matters are briefly summarised as follows:

- Confirmation of all activities under Sections 20, 20B and 20G of the EEZ Act and for which consent is being sought, including for activities arising from sampling and monitoring of this consent.
- Ensuring all obligations / performance standards are clearly set out in standalone conditions;
- Ensuring conditions do not refer to some future documents, specifications or performance standards (or variations of these) to be determined, at a later date.

Catherine Clarke	**Consultant Planner**	**Date:**	**16/11/2018**

Appendix 1 – Information Reviewed in Preparing the Conditions Report

Date	Author	Document Title
May 2018	Osbornehay for CRL	Coastal Resources Limited, Northern Disposal Area, Marine Consent to Dump Application and Supporting Impact Assessment.
3 July 2018	EPA	Memorandum on Coastal Resources Limited's applications for marine dumping consent – decision on completeness under section 40 of the EEZ Act.
24 July 2018	Dr Daniel Kluza, Ministry of Primary Industries	Response (1) to: Request for advice under section 56 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 regarding the Coastal Resources Application – EEZ100015. (Response 1).
6 August 2018	Dr Daniel Kluza, Ministry of Primary Industries	Response (2) to: Request for advice under section 56 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 regarding the Coastal Resources Application – EEZ100015.
24 September 2018	John Meeuwsen Chair of Hauraki Gulf Forum.	Response to: Request for advice under section 56 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 regarding the Coastal Resources Application – EEZ100015. (by email).
27 September 2018	Sarah McLeary, Waikato Regional Council	Response to: Request for advice under section 56 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 regarding the Coastal Resources Application – EEZ100015.

28 September 2018	Kath Coombes, Auckland Council.	Response to: Request for advice under section 56 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 regarding the Coastal Resources Application – EEZ100015.
28 September 2018	Angus Grey, Department of Conservation (Hamilton).	Response to: Request for advice under section 56 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 regarding the Coastal Resources Application – EEZ100015
3 October 2018	Stuart Anderson, Director, Fisheries Management, Fisheries New Zealand.	Response to: Request for advice under section 56 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 regarding the Coastal Resources Application – EEZ100015.
9 October 2018	Mike Hudson, Maritime New Zealand	Request for advice under section 56 of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 regarding the Coastal Resources Application – EEZ100015. (Response).
September 2018	EPA	Key Issues Report, Coastal Resources Limited, EEZ100015.
September 2018	EPA	Analysis of Submissions, Coastal Resources Limited, EEZ100015.
October 2018	EPA	Workability of Conditions of Consent as Imposed on EEZ900012, Coastal Resources Limited, EEZ100015.

1 October 2018	EPA	Request for Further Information from Coastal Resources Limited under s.54(1) of the EEZ Act.
25 October 2018	Osbornehay for CRL	Response to Request for Information under Section 54(1).
25 October 2018	David Hay for CRL	Statement of expert evidence of David Neilson Hay for Coastal Resources Limited.
25 October 2018	Simon Male for CRL.	Statement of evidence of Simon Male for Coastal Resources Limited.
25 October 2018	Simon West for CRL	Statement of expert evidence of Simon West on Marine Ecology on behalf of Coastal Resources Limited.
25 October 2018	Simon Childerhouse for CRL	Statement of expert evidence of Simon John Childerhouse for Coastal Resources Limited.
25 October 2018	Connon Andrews for CRL	Statement of expert evidence of Connon John Andrews for Coastal Resources Limited.
1 November 2018		Submitter evidence received from the following parties: - Director General of Conservation - Hobsonville Marina - Pine Harbour Marina - Dredging NZ Limited - Empire Capital Limited

Appendix 2 - Statutory provisions

63 Conditions of Marine Consents

1) *The Environmental Protection Authority may grant a Marine Consent on any condition that it considers appropriate to deal with adverse effects of the activity authorised by the consent on the environment or existing interests.*

2) *The conditions that the EPA may impose include, but are not limited to, conditions—*

    a. *requiring the consent holder to—*

        i. *provide a bond for the performance of any 1 or more conditions of the consent:*

        ii. *obtain and maintain public liability insurance of a specified value:*

        iii. *monitor, and report on, the exercise of the consent and the effects of the activity it authorises:*

        iv. *appoint an observer to monitor the activity authorised by the consent and its effects on the environment:*

        v. *make records related to the activity authorised by the consent available for audit:*

    b. *that together amount or contribute to an adaptive management approach.*

3) *However, the EPA must not impose a condition on a consent if the condition would be inconsistent with this Act or any regulations.*

4) *To avoid doubt, the EPA may not impose a condition to deal with an effect if the condition would conflict with a measure required in relation to the activity by another marine management regime or the Health and Safety at Work Act 2015.*

64 Adaptive management approach

(1AA) This section does not apply to –

(a) a marine dumping consent; or
(b) a marine discharge consent; or
(c) a marine consent in relation to an activity referred to in section 20(2)(ba).

(1) A marine consent authority may incorporate an adaptive management approach into a marine consent granted for an activity.

(2) An adaptive management approach includes—

(a) allowing an activity to commence on a small scale or for a short period so that its effects on the environment and existing interests can be monitored:

(b) any other approach that allows an activity to be undertaken so that its effects can be assessed and the activity discontinued, or continued with or without amendment, on the basis of those effects.

(3) In order to incorporate an adaptive management approach into a marine consent, a marine consent authority may impose conditions under section 63 that authorise the activity to be undertaken in stages, with a requirement for regular monitoring and reporting before the next stage of the activity may be undertaken or the activity continued for the next period.

(4) A stage may relate to the duration of the consent, the area over which the consent is granted, the scale or intensity of the activity, or the nature of the activity.

65. Bonds

(1) A bond required under section 63(2)(a)(i) may be given for the performance of any 1 or more conditions of a marine consent that a marine consent authority considers appropriate and may continue after the expiry of the consent to secure the ongoing performance of conditions relating to long-term effects, including—

(a) a condition relating to the alteration, demolition, or removal of structures:

(b) a condition relating to remedial, restoration, or maintenance work:

(c) a condition providing for ongoing monitoring of long-term effects.

(2) A condition of a consent that describes the terms of the bond may—

(a) require that the bond be given before the consent is exercised or at any other time:

(b) provide that the liability of the holder of the consent be not limited to the amount of the bond:

(c) require the bond to be given to secure performance of conditions of the consent, including conditions relating to any adverse effects on the environment or existing interests that become apparent during or after the expiry of the consent:

(d) require the holder of the consent to provide such security as the marine consent authority thinks fit for the performance of any condition of the bond:

(e) require the holder of the consent to provide a guarantor (acceptable to the marine consent authority) to bind itself to pay for the carrying out of a condition in the event of a default by the holder or the occurrence of an adverse environmental effect requiring remedy:

(f) provide that the bond may be varied, cancelled, or renewed at any time by agreement between the holder and the marine consent authority.

(3) If the marine consent authority considers that an adverse effect may continue or arise at any time after the expiration of a marine consent, the marine consent authority may require that a bond continue for a specified period that the marine consent authority thinks fit.

66. Monitoring Conditions

(1) A condition imposed under section 63(2)(a)(iii) may require the consent holder to do 1 or more of the following:

(a) make and record measurements:
(b) take and supply samples:
(c) carry out analyses, surveys, investigations, inspections, or other specified tests.
(d) carry out the procedures in paragraphs (a) to (c) in a specified manner:
(e) provide information to the EPA or a person specified by the EPA at a specified time or times:
(f) provide information to the EPA or a person specified by the EPA in a specified manner:
(g) comply with the condition at the consent holder's expense

(2) This section does not limit section 63(2)(a)(iii).

67 Observers

1) A condition imposed under section 63(2)(a)(iv) that requires the holder of a consent to appoint an observer must specify in detail the observer's duties in relation to the activity.

2) The consent holder may appoint a person to be an observer only if the person is approved by the EPA for that purpose.

3) The EPA must approve a person to be an observer in relation to a consent if—

a. the person has the appropriate training, skill, and experience to perform the duties; and

b. the EPA is satisfied that the person is able to perform the duties independently of the consent holder.

71 When Marine Consent commences

1) A Marine Consent that has been granted commences—

a. when the time for lodging an appeal against the grant of the consent expires and no appeal has been lodged; or

b. when the High Court determines the appeal or all persons who lodged appeals withdraw their appeals.

2) Subsection (1) does not apply if the Marine Consent specifies that the consent commences on a later date.

73 Duration of Marine Consent

1) The duration of a Marine Consent is—

a. 35 years after the date of the granting of the consent; or

b. a period less than 35 years that is specified in the consent.

2) When determining the duration of the consent, the Environmental Protection Authority must—

a. comply with sections 59 and 61; and

b. take into account the duration sought by the applicant; and

c. take into account the duration of any other legislative authorisations granted or required for the activity that is the subject of the application for consent.

76 Environmental Protection Authority may review duration and conditions

1) The Environmental Protection Authority may serve notice on a consent holder of its intention to review the duration of a Marine Consent or the conditions of the consent—

a. at any time or times specified for that purpose in the consent for any of the following purposes:

i. to deal with any adverse effect on the environment that may arise from the exercise of the consent and with which it is appropriate to deal after the consent has been granted:

ii. any other purpose specified in the consent:

b. if regulations take effect that prescribe standards, to ensure that the conditions are consistent with the standards, methods, or requirements:

c. to deal with any adverse effects on the environment or existing interests that arise and that—

i. were not anticipated when the consent was granted; or
ii. are of a scale or intensity that was not anticipated when the consent was granted:

d. if the information made available to the EPA by the applicant for the consent for the purposes of the application contained inaccuracies that materially influenced the decision made on the application and the effects of the exercise of the consent are such that it is necessary to apply more appropriate conditions:

e. if information becomes available to the EPA that was not available to the EPA when the consent was granted and the information shows that more appropriate conditions are necessary to deal with the effects of the exercise of the consent.

2) The EPA must serve notice on a consent holder of its intention to review the conditions of a Marine Consent if required by an order made under section 133(5)(b).

3) A notice of review must comply with section 77.

77 Contents of notice of review

1) A notice of review must—

a. specify that the duration of the consent is to be reviewed, if that is the case; and

b. identify the conditions to be reviewed; and

c. give reasons for the review; and

d. specify the information that the Environmental Protection Authority took into account in deciding to review the conditions, if the review is under section 76(1)(d) or (e); and

e. tell the consent holder whether a charge is payable and, if so, the estimated amount of the charge.

2) A notice of review may—

a. propose new consent conditions; or

b. propose a change in the duration of a consent; or

c. invite the consent holder to propose new consent conditions within 20 working days after service of the notice.

85 Lapsing of consent if not exercised

1) A Marine Consent lapses on the date specified in the consent or, if no date is specified, 5 years after the date of commencement of the consent unless, before the consent lapses,—

a. the consent is given effect to; or

b. an application is made to the Environmental Protection Authority to extend the period after which the consent lapses, and the EPA decides to grant an extension after taking into account—

i. whether substantial progress or effort has been, and continues to be, made towards giving effect to the consent; and

ii. whether the applicant has obtained approval from persons who may be adversely affected by the granting of an extension; and

iii. relevant enactments.

2) The consent holder may object, under section 101, to a decision of the EPA under subsection (1)(b) not to extend the period after which the consent lapses.

Appendix 3 – Amendments to Proposed Conditions of Consent

This table below contains the Proposed Conditions of Consent for the Marine Dumping Consent provided as Attachment One in the evidence of Mr David Hay (dated 25 October 2018).

Where I have suggested amendments to the conditions, I include them using ~~strikethrough~~ to show recommended deletions and underlines to show recommended insertions. Where I consider additional conditions should be included, I have inserted them where I think they best fit and have given the new conditions suffixes (e.g. 8A) rather than renumbering the entire set of proposed conditions. If consent is granted, then the DMC may wish to change the numbering of the consents to provide continuous numbering.

Table 1 – Marine Dumping Consent Conditions

DRAFT EEZ100015 Conditions - Marine Dumping Consent	
CRL Number	**Recommended Amendments**
Definitions	**Bottom Dump Barge** means a barge (either self-propelled or towed by tugs) with an opening barge floor in the hull for the dumping of dredged material. *[Applicant to confirm].* **Consent Holder** has the meaning given in section 4 of the EEZ Act ~~means Coastal Resources Limited.~~ **Dumping** ~~**Disposal**~~ **Point** means the point where the dredged material ~~spoil~~ is dumped ~~disposed~~ within the NDA ~~at~~. **EEZ Act** means the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012. **EPA** means the Environmental Protection Authority ~~Agency~~ or any equivalent Authority having as equivalent role under the EEZ Act. **ISQG** means *[Applicant to confirm the specific contaminants and associated threshold levels referred to in the proposed definition of 'ISQG' and as environmental performance standards in proposed conditions 5 and 8, in the Australian and New Zealand*

	Guidelines for Fresh and Marine Water Quality] ~~the Interim Sediment Quality Guidelines in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) or any subsequent variation thereof and referenced to **L-Value** and **H-Value** mean, respectively, the low or high values referred to in those Guidelines~~ **MPI** means the Ministry of Primary Industries. **NDA** means the Northern Dumping ~~Disposal~~ Area which is a 1500 metre radius circle centred on the coordinates 36^0 12.340'S and 175^0 48.002'E. **NDA Centre** means 36^0 12.3403'S and 175^0 48.002'E. **Sampling Site** means any location from which samples are collected for the purposes of the consent conditions. **Source Site** means a site from which dredged material is intended to be sourced for dumping ~~disposal~~. **Submarine Exercise Area** means that area by the same name identified on chart NZ531 and the associated New Zealand Notice to Mariners. **Working day** has the same meaning as defined in section 4 of the EEZ Act.
1.	Subject to compliance with these consent conditions, the activities authorised by this consent shall be undertaken in ~~general~~ accordance with the information contained in the documents detailed below: [*details to be completed*] - Report entitled "Marine Consent to Dump Application and Supporting Impact Assessment, Applicant: Coastal Resources Limited, Site: Northern Area including Appendices One to Ten (inclusive)", Authored by Osbornehay, Dated May 2018; - Correspondence entitled "Response to Request for Information under Section 54(1)", Authored by Osbornehay, Dated October 25, 2018; - Report entitled "Dredged Material Disposal Study", Authored by Beca Limited, Dated 25 October 2018.

	~~application and supporting documents, the further information provided by the Consent Holder to the EPA and the evidence given for the Consent Holder at the hearing.~~ Where information contained in these documents is contrary to the conditions of this consent then the conditions will prevail.
1A.	The Consent Holder shall not dump more than 250,000 cubic metres of dredged material at the NDA per annum.
2.	~~This consent is for a term of thirty-five (35) years.~~ This consent expires on [date] [month] [year].
2A.	(i) The Consent Holder shall ensure that a copy of this consent and any variations to it, are held at all times, on any vessel dumping dredged material in the NDA, as authorised by this consent. (ii) The Consent Holder shall ensure that personnel directly involved in the exercise of this consent are informed of their obligations and responsibilities in exercising this consent.
3.	The lapse date for this consent ~~for the purpose of section 85 of the EEZ Act,~~ shall be five (5) (~~ten (10)~~ years after the date of commencement of this consent unless it has been given effect to prior to that date.
4.	Immediately upon giving effect to this consent the Consent Holder shall surrender the existing Deemed Marine Dumping Consent (EEZ900012).
5.	The activities authorised by this consent shall not result in: a) Exceedance of any ISQG-L values for any of the metals or compounds specified in Schedule 2 of any of the Sampling Sites specified in Schedule 1. b) Sediment size class at any of the Sampling Sites specified in Schedule 1 changing by more than 50% by volume between consecutive monitoring events. c) A change, at any of the sampling sites on the NDA boundary, in: i) Overall abundance of macrofauna by more than 50% of the long-term average; or

	ii) Overall abundance in number of taxa of macrofaunal by more than 50% of the long-term average. Where the long-term average is compiled from all prior monitoring results obtained under ~~this consent and~~ the former deemed Marine Dumping Consent EEZ900012 at each of the relevant Sampling Sites. d) The disposal mound footprint traversing the NDA site boundary. The extent of the disposal mound footprint will be determined by the monitoring results in Condition 8(a).
6.	In order to determine the sediment size classes and contaminant concentrations in the dredged material to be dumped at the NDA, t~~T~~he Consent Holder shall provide to the EPA sediment characterisation of each Source Site, undertaken in accordance with Schedule 3, prior to the disposal of dredged material from that Site. Any Sampling Results previously approved by the EPA in relation to a Source Site under deemed Marine Dumping Consent EEZ900012 shall be deemed to satisfy this condition until 3 years have passed since that approval.
7.	The Consent Holder shall provide to the EPA ~~and MPI~~ biosecurity characterisation of each Source Site, undertaken in accordance with Schedule 4, prior to the disposal of dredged material from that Site. Any Sampling Results previously approved by the EPA in relation to a Source Site under deemed Marine Dumping Consent EEZ900012 shall be deemed to satisfy this condition until 3 years have passed since that approval.
7A.	No dumping of dredged material from a Source Site shall occur at the NDA, until the EPA has certified that the sediment and biosecurity characterisation for that Source Site has been carried out, in accordance with Conditions 6 and 7 of this consent.
8.	The Consent Holder shall undertake the following monitoring either in the first spring (September, October or November) after the cumulative total disposal of 125,000 cubic metres of dredged material under this consent, and in each spring after every cumulative total disposal of a further 125,000 cubic metres of dredged material under this consent or (x) years following the provision of the previous monitoring results to the EPA as required by condition 9, whatever occurs the sooner: a) Core sample monitoring to determine the disposal mound foot print. A single core sample from each site described below will be collected, photographed and measured, including the depth of any ~~disposal~~ dumped material visible in the sample.

	i. Samples will be collected at 100m intervals along axes from the NDA Centre. ii. Axes will be aligned in onshore (W) offshore (E) and along shore (N, S) directions. iii Beyond 500m from the NDA Centre an additional axis will be added midway between the axes described above (i.e. NE, SE, SW and NW directions). iv Once no ~~disposal~~ sediment of <u>dumped material</u> is observed along an axis, core sample monitoring will be conducted at intervals of 500m from the NDA Centre, at sites listed in Schedule 1. b) Contaminant analysis of sediments from at least the 17 Sampling Sites listed in Schedule 1. Such analysis will: i Be undertaken on the top five centimetres of sediment in each core using standardised methods and compared to the ISQG-L values. ii Be conducted by a suitably accredited laboratory. c) Sediment grain size analysis from at least the 17 sampling sites listed in Schedule 1, using accepted standardised methods to establish proportion by volume. d) Benthic faunal monitoring from at least the 8 NDA boundary monitoring sites, using from each of those sites. (i) a minimum of three replicates consisting of at least two 100mm diameter cores, and (ii) a photographic record of the seabed macrofauna. *Advice Notes:* *(1) For the purposes of these conditions and their schedules, N, S, E and W do not represent true bearings, but are a simplification in which the N-S axis is generally parallel to the shoreline of Great Barrier Island (i.e. the alongshore axis), and the E-W axis is perpendicular (i.e. the onshore-offshore axis).* *(2) ~~Disposal~~ <u>Dumping</u> at the NDA can continue during the period when monitoring is required then undertaken <u>subject to condition 9A</u>.*

9.	The Consent Holder shall provide all monitoring results to the EPA within four months of the completion of monitoring. Results for monitoring under Conditions 8(b), (c) and (d) shall include statistical analysis and / or a comparison of the results ~~to relevant to ISQG-L~~ that assess and report on compliance with the condition 5.
9A.	Disposal in the four-month period after the event that triggered the monitoring (or to the date the monitoring report is submitted and accepted by the EPA if this is prior to the end of this four-month period) shall not exceed 80,000 cubic metres until such time that the monitoring report is accepted by the EPA.
10.	~~The Consent Holder shall only dispose of dredged marine sediment which has been dredged by excavation only (excluding suction dredging).~~ No dredged material that has been (i) removed from the Source Site by the method of suction dredging or (ii) mixed with water to produce a slurry shall be dumped within the boundaries of the NDA,
11.	The Consent Holder shall only dump ~~dispose~~ dredged ~~of~~ material by ~~bottom dump' barge~~ a Bottom Dump Barge within the NDA.
12.	The Consent Holder shall not exceed ~~There is to be~~ a maximum of two dumpings of dredged material ~~disposals~~ over a 24-hour period with a minimum of 1 hour between each dumping ~~disposal~~ event~~s~~.
13.	The location of the dumping ~~disposal~~ point will vary following dumping ~~disposal~~ of up to 250,000 ± 1,000 cubic metres. The Consent Holder must ensure ~~that the barge operator releases~~ all ~~loads of~~ dredged material is dumped ~~sediment are~~ within 100 metres of the ~~operational disposal~~ dumping points as follows (with dumping ~~disposal~~ commencing again at (a), once dumping ~~disposal~~ is completed at (m)):

	a) 0–250,000 ± 1,000 cubic metres, ~~operational disposal~~ dumping point (DS), being 36° 12.3403' S, 175° 48.002' E (WGS 84) b) 250,000 – 500,000 ± 1,000 cubic metres, ~~operational disposal~~ dumping point (W200), being 36° 12.388' S, 175° 47.880' E (WGS 84) c) 500,000 – 750,000 ± 1,000 cubic metres, ~~operational disposal~~ dumping point (N200), being 36° 12.244' S, 175° 47.945' E (WGS 84) d) 750,000 – 1,000,000 ± 1,000 cubic metres, ~~operational disposal~~ dumping point (E200), being 36° 12.299' S, 175° 48.123' E (WGS 84) e) 1,000,000 – 1,250,000 ± 1,000 cubic metres, ~~operational disposal~~ dumping point (S200), being 36° 12.441' S, 175° 48.055' E (WGS 84) f) 1,250,000 – 1,500,000 ± 1,000 cubic metres, ~~operational disposal~~ dumping point (W400), being 36° 12.432' S, 175° 47.759' E (WGS 84) g) 1,500,000–1,750,000 ± 1,000 cubic metres, ~~operational disposal~~ dumping point (NW400), being 36° 12.271' S, 175° 47.750' E (WGS 84) h) 1,750,000 – 2,000,000 ± 1,000 cubic metres, ~~operational disposal~~ dumping point (N400), being 36° 12.146' S, 175° 47.890' E (WGS 84) i) 2,000,000 – 2,250,000 ± 1,000 cubic metres, ~~operational disposal~~ dumping point (NE400), being 36° 12.148' S, 175° 48.091' E (WGS 84) j) 2,250,000 – 2,500,000 ± 1,000 cubic metres, ~~operational disposal~~ dumping point (E400), being 36° 12.253' S, 175° 48.246' E (WGS 84) k) 2,500,000 – 2,750,000 ± 1,000 cubic metres, ~~operational disposal~~ dumping point (SE400), being 36° 12.423' S, 175° 48.249' E (WGS 84)

	l) 2,750,000–3,000,000 ± 1,000 cubic metres, ~~operational disposal~~ dumping point (S400), being 36° 12.539' S, 175° 48.109' E (WGS 84) m) 3,000,000–3,250,000 ± 1,000 cubic metres, ~~operational disposal~~ dumping point (SW400), being 36° 12.553' S, 175° 47.904' E (WGS 84).
14.	Visual and acoustic detection for marine mammals is to be undertaken (by an appropriately trained crew-member) for at least 30 minutes immediately prior to any ~~disposal~~ dumping activity. A written record of the period in which the detection was undertaken, marine mammals detected, method of detection, personnel undertaking detection, confirmation that the personnel has the required training, and general weather conditions shall be prepared and along with any acoustic recordings undertaken shall be made available to the EPA upon request. Marine mammal data will be summarised in the monitoring report required under Condition 9.
14A.	The consent holder shall make available to all crew members undertaking dumping activity at the NDA, a New Zealand marine mammal species identification guide to assist in the accurate identification of species.
15.	~~Dumping activity may only occur provided there is no detection of marine mammals within the NDA during the detection period required under Condition 14.~~ No dumping activity shall occur if there is detection of marine mammals within the NDA in the preceding 30 minutes detection period required under Condition 14. Where a marine mammal has been detected within the NDA in accordance with Condition 14, the dumping activity shall commence when 30 minutes has elapsed, since the last detection of any marine mammals in the NDA.
16.	Upon the EPA's request, the Consent Holder shall allow the EPA (or their representative or delegate) to attend in an observer status during the Consent Holder's monitoring surveys and dumping activity at the NDA. The Consent Holder shall bear the reasonable costs of the EPA's attendance.

17.	At least ten days prior to any scheduled ~~disposal~~ periods <u>of dumping activity</u>, the Consent Holder must notify: (i) the New Zealand Defence Force of the scheduled ~~disposal~~ periods <u>of dumping activity</u> to ensure there is no conflict with military use of the Submarine Exercise Area. Should any such conflict rise, the New Zealand Defence Force's current or intended military use of the Submarine Exercise Area shall take precedence, <u>and</u> <u>(ii) Sanford Limited of the scheduled periods of dumping activity</u>.
18.	The Consent Holder shall supply to the EPA, on request, proof in writing that the requirements of Condition 17 have been met.
19.	~~The Consent Holder must maintain written records of the following matters, and provide them to the EPA each calendar month in a Form of Acknowledgement, for each individual load of dredged material~~: <u>The Consent Holder shall provide a written record detailing the following matters for each individual load of dredged material dumped at the NDA in the preceding month, to the EPA by the 15th day of every month.</u> a) The Source Site, b) ~~The actual amount disposed~~ T<u>he quantity of dredged material dumped</u> c) The exact location of the <u>dumping activity</u> ~~disposal~~ determined by GPS <u>including reference to the relevant dumping point in condition 13.</u> d) The date, time and duration of any <u>dumping activity</u> ~~disposal~~, and e) <u>Details of a</u>~~A~~ny detections of marine mammals present in the NDA<u>, including the information detailed in condition 14</u>.
20.	At the time of providing <u>to</u> the EPA, <u>the written record required by condition19,</u> ~~with the Form of Acknowledgment,~~ the Consent Holder must also provide the EPA with GPS evidence supporting the information required in Condition ~~17~~ <u>19</u>(c) and (d).
21.	If no disposal at the NDA occurs during a calendar month, the Consent Holder must provide to the EPA <u>a written record</u> ~~Form of Acknowledgement~~ stating the same.

22.	The ~~Form of Acknowledgement,~~ written record referred to in Conditions 19, 20 and 21, must be provided to the EPA by the 15th day of the following month.
23.	In the event that dumping activity ~~disposal~~ intended to occur in the NDA occurs outside the NDA, and within the EEZ, for any reason, emergency or otherwise, the Consent Holder must notify the EPA within 24 hours. Such notification must include: (i) T~~t~~he quantity of dredged material dumped ~~disposed:~~ (ii) T~~t~~he exact location of the dumping activity determined by GPS (iii) The ~~and the~~ date and time and duration of the ~~disposal~~ dumping event ~~occurred~~, (iv) ~~and~~ A~~a~~n explanation of the reasons for the dumping ~~disposal,~~ and (iv) A~~a~~ description of any mitigation measures adopted; (vii) Details of a~~A~~ny detections of marine mammals present in the NDA, including the information detailed in condition 14.
24.	For all vessels (including barges) associated with the ~~disposal~~ dumping of dredged ~~dredging material~~ at the NDA: (i) Lighting is to be inward and downward facing and minimised as far as practicable while still complying with any relevant regulations and safety requirements; and (ii) The 'Clean Hull' for 'long-stay vessels' requirement specified in the Craft Risk Management Standard: Biofouling on Vessels Arriving to New Zealand (MPI, 15 May 2014), ~~or any subsequent variation thereof~~ is to be followed.
25.	The Consent Holder is to establish and run a "NDA Liaison Group" to consider and discuss the operations and effect of the dumping activities ~~disposal~~ at the NDA, subject to the invitees' willingness to participate. This Group shall comprise the representatives of the parties listed below ("the invitees") and any subsequent parties invited by the Group.

	The Group shall be convened at least annually (from the date the consent is given effect to) by the Consent Holder, who shall meet the administrative meeting costs only. The purpose of the Group shall be to disseminate information (including monitoring results), to hear concerns of invitees and to discuss ways of addressing any concerns or risks arising. The Consent Holder shall keep the minutes of all meetings. At least 15 working days prior to each meeting the following information shall be distributed to all invitees: • A copy of the last meeting minutes, • Summary of source and volume of disposed material for the last 12-month period, • Summary of any NDA site monitoring results from the last 12-month period, and • Summary of known disposal volumes, sources and periods for the next 12-month period. Invitees: • A representative of Sanford Limited, • A representative of Cedenco Foods New Zealand Limited, • A representative of Inshore Fisheries New Zealand Limited, and • Representatives of Coastal Resources Limited (including any specialist consultants involved in the administration and monitoring of the NDA).
25A.	Pursuant to sections 76 and 77 of the EEZ Act, the EPA may serve notice on the consent holder of the intention to review the conditions of this marine dumping consent at [x] yearly intervals from the grant of this consent, for the following purposes: a) to deal with any adverse effects on the environment that may arise from the exercise of the consent and with which it is appropriate to deal with after the consent has been granted; b) for imposing additional performance standards and requirements for monitoring the chemical characterisation of sediment and the macrofaunal species contained within dredged material to be disposed at the NDA and / or at the NDA, if the range

	of contaminants or the levels of any contaminants in the sediments or the biosecurity risks within dredged material to be disposed at the NDA and / or at the NDA, are shown to be greater than anticipated in the determination of the consent.

Schedule One: Northern Disposal Area Monitoring Sites

Site Name	Latitude (WGS 84)	Longitude (WGS 84)
Disposal Centre	36 12.34030 S	175 48.00200 E
North 500	36 12.09404 S	175 47.86445 E
East 500	36 12.22881 S	175 48.30585 E
South 500	36 12.58656 S	175 48.13957 E
West 500	36 12.45178 S	175 47.69813 E
North 1000	36 11.84778 S	175 47.72691 E
East 1000	36 12.11731 S	175 48.60968 E
South 1000	36 12.83281 S	175 48.27715 E
West 1000	36 12.56324 S	175 47.39425 E
North 1500	36 11.60151 S	175 47.58939 E
North East 1500	36 11.58770 S	175 48.35138 E
East 1500	36 12.00580 S	175 48.91351 E
South East 1500	36 12.63229 S	175 48.93734 E
South 1500	36 13.07906 S	175 48.41475 E
South West 1500	36 13.10263 S	175 47.65465 E
West 1500	36 12.67469 S	175 47.09036 E
North West 1500	36 12.05748 S	175 47.06402 E

Schedule Two: Metals, metalloids, organometallic and organic compounds to be tested

Parameter	Units
Dry Matter	g/100g
Total Organic Carbon	g/100g dry wt
Total Recoverable Arsenic	mg/kg dry wt
Total Recoverable Cadmium	mg/kg dry wt
Total Recoverable Chromium	mg/kg dry wt
Total Recoverable Copper	mg/kg dry wt
Total Recoverable Lead	mg/kg dry wt
Total Recoverable Mercury	mg/kg dry wt
Total Recoverable Nickel	mg/kg dry wt
Total Recoverable Zinc	mg/kg dry wt
Tributyltin	µg/kg dry wt
Total Petroleum hydrocarbons (C7 - C36)	mg/kg dry wt

Schedule Three: Chemical Characterisation Methodology

This methodology sets out a procedure to characterise the concentration of the substances specified in Schedule 2 ("the Primary Contaminants") in any material to be dredged for disposal at the NDA. Dredged material will only be acceptable for disposal at the NDA if the average concentration of each of the Primary Contaminants is below the ISQG-L Value.

In addition, this methodology requires the material to be dredged to be characterised in relation to potential contaminants other than the Primary Contaminants ("Other Contaminants") in accordance with international best practice.

The methodology is tailored to material to be dredged from shallow seabed locations either as capital or maintenance operations.

Characterisation of each source site must be undertaken at intervals of not greater than 3-years, and must be undertaken if events occur at a source site that are likely to change contaminant concentrations present at that site.

A **level 1** investigation reviews the existing information on the material to be dredged.

A **level 2** investigation is concerned with the physical and chemical characterisation of the material.

In relation to the Primary Contaminants levels 1 and 2 are mandatory and will establish whether the average concentration of any of the Primary Contaminants is below the relevant ISQG-L Value.

If the level 1 investigation identifies potential Other Contaminants that may be present in the material to be dredged, then those contaminants will also be subject to a level 2 investigation.

A **level 3** investigation involves elutriation testing of any Other Contaminants identified in a level 2 investigation at concentrations between the ISQG-L and ISQG-H Values.

Level 1 investigation

The review needs to determine:

i) what the contaminants of concern are based on the site history review and pre-existing data on the sediments, if any; and

ii) whether or not the geometric mean levels of the identified contaminants of concern in the waste are below the ISQG-L Values.

The review should include information on the volume, location and depths of sediment to be dredged. The historical uses of the excavation site and catchment should be evaluated with particular attention to any usage that could have resulted in contamination, such as horticulture, farming, mining, industrial and residential uses, and should pay particular attention to potential point sources of pollution adjacent or upstream, the location of effluent or stormwater discharges etc., and previous dredging, dumping, or landfilling. The sediments in major ports and established marinas are very likely to have been studied previously.

The review of existing information should identify all potential contaminants particularly those with ISQG guideline values. In addition to chemical contaminants in the marine sediments an assessment of particle sizes and a detailed review of their potential to release floating material or contaminants should be investigated.

Level 2 investigation

A level 2 investigation requires a comprehensive physical and chemical characterisation based on samples of the material to be dredged. Sampling will be representative of the geographic extent of the area to be dredged

and the entire depth of sediment to be dredged.

The number of samples or cores required is dependent on the variability of the sediments and their pollutant content, which may depend on a large number of factors. Table 1 contains a guide to the number of cores to be collected based on volume dredged. Within marinas it is expected that 1 sample per 10,000m^2 is sufficient. Whichever number of cores (based on volume or area) is greater should be adopted, and additional cores should be added to target known point source locations.

Table 1: Guide to Number of Core Samples Required by Volume Dredged

Volume to be Dredged (cubic metres)	Number of Cores
0–5,000	3
5,000–15,000	4
15,000–100,000	10
Each additional 100,000	3 additional

The USEPA approach of stratifying the site into arbitrarily sized blocks and randomly sampling in each block is to be adopted. The size of blocks can be varied, but should not be greater than 10,000m^2. For large or complex sites the use of an initial pilot sampling programme should be considered.

The level of contamination is expected to decrease with increased depth of sediment. The thinnest layer that can be reliably dredged and selectively handled is between 30 and 50 cm so sampling at smaller intervals is of no value.

	Cores are to be sampled as follows: • The top 50 cm of the core (or to the depth of dredging if less than 50 cm) is to be composited as a single sample for analysis. • A second sample is to be taken from the 50–100 cm interval. • Below 1 m, cores should be composited in 1 m lengths for analysis. Sample handling techniques must ensure that changes in the composition of the samples as a result of chemical, physical or biological action are minimised, that cross contamination of samples does not occur during sub-sampling and subsequent handling, and that samples are not lost or mixed up between sampling and arrival at the analysing laboratories. Sampling should occur in a manner that avoids or minimises contamination and effective use of field and equipment blanks should be utilised. Appropriate decontamination procedures must be followed when sub-sampling from cores and between sites to avoid cross-contamination of samples. Samples for chemical analysis should be frozen, the sample container should be filled to two thirds of its volume and immediately chilled; the sample should be frozen as soon as possible after sampling. Samples for grain size analysis should be chilled but not frozen. Waterproof labels and ink should be used, preferably pre-printed. The labels should be placed outside the sample bag inside a second bag facing out clearly visible. The label information should include site, date, depth, analysis, and handling required. The approximate mass of material necessary for particular analyses is set out in Table 2 below.

Table 2: Amount of sediment required for various analyses

Analytical Parameter	Amount required (g, wet weight)
Organic compounds	100–250
Metals	10–100
Miscellaneous analyses	50–100
Grainsize	50–200
Total organic carbon	10–50
Moisture content	10–50

All field procedures must be documented using the standard procedures routinely used in New Zealand in contaminated site investigations as follows:

- Written standard operating procedures (SOPs) are to be included in the sampling and analysis plan and variations from SOPs, and the reasons for such variations, noted.
- Field conditions (weather, tides, currents), station locations, sampling methods and handling and storage methods, field numbers, date, time, identity of sampler should be noted in ink in the field log and field descriptions of sediments recorded as collected.
- A sample inventory log and a sample tracking log must be maintained.

	• Chain-of-custody forms that list all sample numbers and locations and the analyses and detection limits required of each sample are to accompany each sample to the laboratory. At each stage of handling, the samples are to be checked against the chain-of-custody forms and after receipt by the laboratory, a checked form sent back to the sampling organisation. • Laboratories must be accredited with a recognised laboratory accreditation organisation and must be experienced in the analysis of marine sediments and solid wastes. For all core samples and depth subsamples the basic physical characteristics to be determined are volume, basic sediment grainsize (by volume), and moisture content data. The proportion of litter and other anthropogenic items in the waste should also be assessed. In respect of the Primary Contaminants the following sampling program should be applied: • The top 50 cm of each core should be analysed for Sediment grain size, Moisture content, Heavy metals (cadmium, chromium, copper, lead, mercury, nickel, zinc), metalloid (arsenic), total organic carbon, total petroleum hydrocarbons, polynuclear aromatic hydrocarbons and tributyl tin. • 50 – 100cm interval of each core, should be analysed for Sediment grain size, Moisture content, Heavy metals (cadmium, chromium, copper, lead, mercury, nickel, zinc), metalloid (arsenic). • A composite sample of equal volumes from each 50 – 100cm interval of each core should be analysed for total organic carbon, total petroleum hydrocarbons, polynuclear aromatic hydrocarbons and tributyl tin. • Each further 1m interval of each core, should be analysed for Sediment grain size, Moisture content, Heavy metals (cadmium, chromium, copper, lead, mercury, nickel, zinc), metalloid (arsenic). • A composite sample of equal volumes from each 1m interval of the same depth, of each core should be analysed for total organic carbon, total petroleum hydrocarbons, and tributyl tin.

	If the level 1 investigation has identified the potential for site-specific Other Contaminants (examples could include polynuclear aromatic hydrocarbons, organochlorine pesticides, polychlorinated biphenyls and pentachlorophenol), the sampling program shall include appropriate provision for those Contaminants. Detection limits should be sufficient to allow comparison with the ISQG-L Values. If the mean concentrations by volume for each Primary Contaminant detected is at levels above ISQG-L, then the material is unsuitable for disposal at the NDA. If the level 2 investigation reports any detections of arsenic, cadmium, chromium, copper, lead, mercury, nickel or zinc in one or more samples above ISQG-L then a level 3 investigation is required in relation to those contaminants. **Level 3 investigation** Elutriate testing determines whether contaminants present in the dredge material are mobile and will transfer to the water once dredged or dumped. The results of elutriate testing are to be compared to the ANZECC marine water quality criteria (for cadmium, chromium, copper, lead, mercury, nickel or zinc) or USEPA criteria (for arsenic) after the application of an appropriate dilution factor. If the elutriate test results exceed the relevant criteria after initial dilution (initial mixing is defined as that which occurs within four hours after dumping), then the material is unsuitable for disposal at the NDA.

Schedule Four: Biosecurity Characterisation Methodology

In addition to the characterisation of quality of dredge material as outlined in Schedule 3, a characterisation of marine biosecurity risks associated with a dredging area is required.

Because different non-indigenous species (NIS) have different habitat preferences, sampling methodologies are required to assess the different habitats that NIS are likely to occur in. The number and type of samples required to assess a dredge area will vary from area to area. The area to be dredged will consist of soft marine sediments, which support infaunal biota and larger epifaunal biota. Where the dredge area is adjacent to vertical structures, such as wharf piles, or shoreline that could lead to NIS being entrained in the dredge material, then these areas should also be assessed.

The number of samples required is determined from the area to be dredged, its complexity and history. At sites where there is a history of NIS, a stratified approach of dividing the site into arbitrarily sized blocks, with the average size no greater than 10,000m^2 and randomly sampling in each block is to be adopted. Within each block different sampling techniques should be used depending on the habitats present within and adjacent. The size of blocks can be varied so that the sampling density is greater in locations where the probability of NIS being present is greatest. At sites where there is a history of no NIS and no reasons to believe otherwise, then the number of samples required can be reduced. However a stratified random, sample approach should still be used.

Biota present within the sea floor soft sediment to be dredged should be sampled either by diver operated core sampler or by surface operated grab sampler. While it is preferable to collect quantitative samples this is not always possible and qualitative samples will still provide a presence or absence of NIS. Each sample should be a minimum of 2L volume and be washed through a 1.0mm (or smaller) mesh sieve and animals retained on the

	sieve collected, preserved and returned to the field laboratory for sorting and identification. Sieving and samples preservation should occur within 6 hours of sample collection. A suitably qualified and experienced person should conduct sample species identification. Larger benthic organisms are likely to be under represented in grab samples therefore these should be sampled using an Ocklemann sled or similar device. The sled should be towed for a standard distance, typically 100 m, along the seabed such that the mouth of the sled partially digs into the sediment and collects organisms in the surface layers to a depth of a few centimetres, before being retrieved. The mesh size used in the sled should be sufficiently small as to retain species of interest, typically in the order of 10mm square mesh. The entire contents should be sorted and either identified in the field or bagged, labelled and persevered for later identification. A suitably qualified and experienced person should conduct sample species identification. Some epibenthos species such as benthic scavengers and fishes are more mobile and thus require different sampling methods. The use of baited Opera house fish traps, Fukui- designed box traps, Starfish traps and Shrimp traps should be considered, if mobile NIS are identified as being present within the dredge area and potentially able to be included in the dredge material. While dredging is of soft sediment from the sea floor, adjacent habitats could be disturbed by the dredge or barges, during dredging, thus the wharf piles and step rocky break waters are also required to be assessed. The outer face of wharf piles are to be assessed at different depths from low tide to seabed. Sampling can include continuous video recording of the wharf pile face, high resolution still images of selected depths and diver collected scraping samples from a quadrat at selected depths. The piles assessed should have been present within the marina for at least 12 months. Rocky breakwater walls adjacent to dredging operation will be sampled at low tide in areas. Samples can include still images of quadrats and or hand sorted, enumerated counts of species present within

	quadrats. All samples should be clearly labelled with site number, sampling method, time and date. Field conditions (weather, tides, currents), station locations, sampling methods and handling and storage methods, field numbers, date, time, identity of sampler should be noted in ink in the field log and field descriptions of sediments recorded as collected. A sample inventory log and a sample tracking log must be maintained.