

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of applications by Waka Kotahi NZ Transport Agency (Waka Kotahi) to Manawatū-Whanganui Regional Council and Greater Wellington Regional Council for resource consents, and notices of requirement to Kāpiti Coast District Council and Horowhenua District Council for a designation, to enable the construction, operation, maintenance and improvement of new state highway, shared use path and associated infrastructure, between Taylors Road (to the north of Ōtaki) and Stage Highway 1 north of Levin.

**COMBINED SECTION 87F and 198D REPORT OF SARAH NEWALL
– SITE CONTAMINATION**

**MANAWATŪ-WHANGANUI REGIONAL COUNCIL, GREATER
WELLINGTON REGIONAL COUNCIL, KĀPITI COAST DISTRICT
COUNCIL AND
HOROWHENUA DISTRICT COUNCIL**

28 APRIL 2023

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A. OUTLINE OF REPORT

1. This report, required by section 87F and 198D of the Resource Management Act 1991 (“**RMA**”) addresses site contamination matters with regard to the resource consent applications lodged with the Manawatū-Whanganui Regional Council (“**Horizons**”) and Greater Wellington Regional Council (“**GWRC**”) and the notices of requirement (“**NoRs**”) lodged with the Kāpiti Coast District Council (“**KCDC**”) and Horowhenua District Council (“**HDC**”) (the “**District Councils**”).
2. The NoRs and resource consent applications lodged by Waka Kotahi NZ Transport Agency (“**Waka Kotahi**”) provide for the construction, operation, maintenance and improvement of a new state highway and shared use path and associated infrastructure, between Taylors Road (to the north of Ōtaki) and State Highway 1 north of Levin. The project is known as the Ōtaki to North of Levin Highway Project (the “**Ō2NL Project**”).
3. While this report is pursuant to section 87F and 198D of the RMA, I have in accordance with section 42A(1A) and (1B) attempted to minimise the repetition of information included in the application and where I have considered it appropriate, adopt that information.

B. QUALIFICATIONS / EXPERIENCE

4. My name is Sarah Helen Newall. I am a Site Contamination Specialist with HAIL Environmental Limited. I have been in that position since February 2021.
5. I hold a Bachelor of Science with Honours (Geology) from Victoria University of Wellington and am certified through the Environmental Institute of Australia and New Zealand (EIANZ) Certified Environmental Practitioner scheme (CEnvP). I am a member of the Waste Management Institute of New Zealand (WasteMINZ) and the Australasian Land and Groundwater Association (ALGA).
6. I have over 15 years’ experience in the New Zealand contaminated land industry. Throughout that time, I have worked for clients across a broad

range of industries and disciplines, including but not limited to the oil industry, local and central government, defence, horizontal infrastructure and private developers.

7. Most relevant to the Ō2NL Project, I was the contaminated land advisor to the construction joint venture for the Transmission Gully (TG) project from 2013 to 2016, and one of the contaminated land advisors to the Waikato Expressway (Hamilton section (HamEx)) project from 2016 to 2020.
8. I regularly advise on the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (the “**NES-CS**”), including obtaining and administering NES-CS consents over large sites and corridors. This has come from my work with TG and HamEx, and also with the New Zealand Defence Force (NZDF), where I led a project to obtain site-wide NES-CS consents for both RNZAF Base Ōhakea and Linton Military Camp. These sites also hold site-wide earthworks consents from Horizons and I continue to provide site contamination advice to NZDF in the context of these and the NES-CS consents.
9. Before entering the contaminated land industry, I was a compliance officer with Hawke’s Bay Regional Council from 2004 to 2007. Part of my role with HAIL Environmental is providing regional, city and district councils with technical peer-review of site contamination matters associated with resource consent applications and compliance. I provide this service to Hawke’s Bay Regional Council, GWRC, Palmerston North City Council, and Waipa, Central Hawke’s Bay and Tararua District Councils.
10. I am familiar with the site and surrounding area. I visited the site along with other HDC, KCDC, Horizons and GWRC experts on 24 August 2022. I also resided on the Kapiti Coast between 2013 and 2016 and have driven the existing state highway often.

C. CODE OF CONDUCT

11. I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note

2023. I confirm that I have stated the reasons for my opinions I express in this report, and considered all the material facts that I am aware of that might alter or detract from those opinions.

12. I have addressed the following issues in this report:
 - (a) Waka Kotahi's proposed approach to addressing the contaminated land matters associated with the Ō2NL Project; and
 - (b) The adequacy of the existing contaminated land technical assessment that was lodged with the NoR and resource consent applications.
13. Statements expressed in this report are made within the scope of my expertise.
14. I have all the information necessary to assess the application within the scope of my expertise and am not aware of any gaps in the information or my knowledge.

D. EXECUTIVE SUMMARY

15. The key findings and conclusions of my report include:
 - (a) Any and all consents (both district and regional) that may be required to regulate works on contaminated land as part of the Ō2NL Project are specifically excluded from the applications.
 - (b) Therefore, all my comments on the documents reviewed only relate to the Ō2NL Project's proposed conditions.
 - (c) In my opinion, the Preliminary Site Investigation (the **PSI**) and the Technical Assessment have the following key shortcomings, which will need to be addressed before contaminated land related resource consents are applied for, outside of this current consenting and NoR process:
 - (i) The information reviewed and investigation work completed to date is unlikely to provide a complete and accurate account of potentially contaminating current and

historical land use activities over the Ō2NL Project area, because:

- i. regional council contaminated land databases will not be complete,
- ii. the reviewed aerial imagery had gaps of several decades, and
- iii. a full site walkover has not been completed, as technical experts for Waka Kotahi have not been able to access all of the land within the designation corridor as yet. In my experience, this is not uncommon at this stage of a large linear infrastructure project.

This means there are likely to be Ministry for the Environment (“**MfE**”) Hazardous Activities and Industries List (“**HAIL**”) sites that have not been identified, and therefore the list of sites requiring further investigations, as currently set out in proposed condition REW4, is likely to be too narrow, and not representative of the true number of sites to which the NES-CS and regional rules may apply.

- (ii) The risk screening system that has been used to assess the identified HAIL sites and inform the preliminary conceptual site model (“**CSM**”), does not appear to be fit for purpose.

- (d) Given these shortcomings, I am not satisfied that the PSI provides an accurate or robust conceptual site model, and therefore I do not consider it to be adequate for its intended purpose.

16. Given the above, I have a low to moderate level of confidence in the conclusions set out in Technical Assessment I – Contaminated Land (the "**Technical Assessment**") lodged with the application. In this report

I have provided recommendations for where I see additional work as necessary.

E. SCOPE OF REPORT

17. My report focuses only on issues related to site contamination. I have set out the issues I address at paragraph 12 above.
18. In preparing this report, I have reviewed the following information:
 - (a) Technical Assessment I – Contaminated Land;
 - (b) Appendix I.1 – PSI;
 - (c) Volume II Part A: Intro and Background (**Volume II Part A**);
 - (d) Volume II Part D: Statutory Approvals Required (**Volume II Part B**);
 - (e) Volume II Part G: Assessment of Effects (**Volume II Part G**);
 - (f) Volume II Part I: Statutory Assessment (**Volume II Part I**);
 - (g) Volume II Appendix 1: Rule Assessment (**Volume II Appendix 1**);
 - (h) Volume II Appendix 5: Draft Conditions (**Volume II Appendix 5**);
 - (i) Response to request for additional information pursuant to section 92 of the Resource Management Act 1991 – HDC and KCDC (the **DC s92 response**); and
 - (j) Response to request for additional information pursuant to section 92 of the Resource Management Act 1991 – Horizons and GWRC (the **RC s92 response**).

F. BACKGROUND

19. District and regional councils have different regulatory functions and instruments with respect to site contamination matters.

20. District councils, whose role relates to the human health effects arising from site contamination, regulate specific activities on contaminated land to protect human health via the NES-CS. The activities include, but are not limited to, disturbing (and disposing of) soil and changing land use.
21. Per Regulations 5(1) to 5(7), the NES-CS applies when one or more of the specific activities is proposed on a 'piece of land', **and** where that 'piece of land' is being, has been, or is more likely than not to have been, used for activities or industries featuring on the HAIL.
22. Regional councils are concerned with the environmental effects arising from site contamination and regulate these effects through rules in regional plans. For the Ō2NL Project, relevant GWRC rules may include, but may not be limited to, rules R51, R80, R81, R82 and R83 of the proposed Natural Resources Plan ("**PNRP**"), and relevant Horizons rules may include, but may not be limited to rules 14-24 through 14-28 of the Manawatū-Whanganui One Plan ("**One Plan**").
23. Both district and regional council roles with respect to site contamination are addressed in this report.

G. REVIEW OF APPLICATION

Project and setting

24. The concept and features of the proposed Ō2NL Project are comprehensively explained in the application documents, specifically in Section 1.4 of Volume II Part A. I adopt these and do not repeat them here.
25. The current land-use setting of the NoR is also well described. As this is material to this report, an excerpt from the PSI included with the Technical Assessment is included here:¹

The existing environment within the proposed designation boundary is characterised by agricultural land uses, comprising dairy and sheep farming, extensive areas of market

¹ Ōtaki to North of Levin, Preliminary Site Investigation, prepared for Waka Kotahi, September 2022 by Stantec. Section 2.2.2, 'Current site uses', page 9.

gardening, pockets of orchards, glasshouses, poultry farms, and a vineyard. The topography is typically gently rolling, with various streams running in a general east to west direction across the area of the proposed designation... The agricultural land is interspersed with pockets of lifestyle or rural-residential development.

Consenting approach

26. Although paragraph 5 of the Technical Assessment acknowledges the potential that contaminated land exists within the Ō2NL Project corridor, consents (both district and regional) that may be required to regulate works on contaminated land as part of the Ō2NL Project are specifically excluded from the application.

27. Regarding district council consents, Section 4.5 'Aspects and approvals not covered' of Volume II Part A, states the following:

There are future consents, authorisations and approvals that are not sought at this time and are therefore not addressed in this documentation. These include:

a. Resource consent [under the] Resource Management (National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES-CS)...

28. Regional council contaminated land related consents are not mentioned in Section 4.5 of Volume II Part A. However, Section 19 'Resource consent' of Volume II Part D, states:

All regional resource consents required for the Ō2NL Project are being sought as part of this application, whether they are explicitly specified or not.

If, after detailed design is complete, further or different consents are required these will be sought at the time.

29. On its face, this suggests that the application purports to apply for all regional council consents. However, on review of the application, it becomes apparent that the intention of Waka Kotahi is to apply for

consents that may be required under the One Plan and PNRP at a later date.² Further, Section 19.7 of Volume II Part D states:

Waka Kotahi will undertake detailed site investigations (DSIs) including soil testing of sites traversed by the Ō2NL Project in subsequent design phases and once land access becomes available. Informed by the DSI results, if necessary Waka Kotahi will then apply for any resource consents required by the NES-CS regulations **and/or the relevant Regional Plans** [my emphasis added]. Waka Kotahi will share the results of the DSI with the relevant district and regional council when they are completed.

30. The Technical Assessment also states:³

Resource consent for activities managed under the NEC-CS and any relevant Regional Plan rules is not being sought at this stage of the process. Instead, consents will be sought, as required, in accordance with the outcomes of the recommendations in this report.

31. As I understand it, technical investigations have not been progressed by Waka Kotahi to the point that it is accurately known where the NES-CS and regional rules apply, and to what extent. This means that Waka Kotahi does not presently know what consents are required or which areas of the proposed works they would cover.
32. It appears from the excerpt from the application set out in paragraph 29 that the technical investigations have not progressed due to constraints on site access, with land acquisitions not having yet been completed by Waka Kotahi. In my experience, this is not uncommon at this stage of a large linear infrastructure project.
33. Waka Kotahi has therefore excluded site contamination consenting from the application (that is, they have simply not applied for consent under the NES-CS, or the relevant contaminated land rules of the regional

² See sections 19.2 and 19.7, 'Discharges to land and water' of Volume II Part D. The relevant rules of the One Plan or the PRNP are also not included in the summary of resource consents sought under the application.

³ At paragraph 4.

plans) and proposes to seek these approvals later, as required, once further investigations have been completed.

34. Waka Kotahi has stated through the DC s92 response that this proposed approach does not pose a material issue/risk to other disciplines' designs or the detailed design of the Ō2NL Project as a whole. Specifically, it stated:⁴

The NoR is based on a concept design to allow an envelope of effects to be assessed and consented, and the extent of the land required for the Project to be defined sufficiently for the NoRs to be given. Detailed design stages undertaken subsequent to the confirmation of the NoRs will incorporate the findings of a range of updated investigations (for example, site specific geotechnical assessments and detailed site investigations). Any material findings from the contaminated land investigation will be factored into that detailed design process.

35. Based on discussions with Waka Kotahi to date and their explanation of the proposed project design process, and experience with other new alignments (e.g. Transmission Gully), I consider it is a reasonable approach to deal with site contamination matters, both district and regional, outside the present application, once site access is possible.
36. However, while I agree in principle with the consenting approach adopted by Waka Kotahi, I have concerns with the adequacy of the investigation completed to date (the PSI). I address this in paragraphs 37 to 104 below.
37. My concerns and comments about the adequacy of the PSI are material, in that they inform the wording of conditions which will direct the process for further work.

⁴ Ōtaki to north of Levin Highway Project- – Response to request for additional information pursuant to section 92 of the Resource Management Act 1991, Waka Kotahi to Horowhenua and Kāpiti Coast District Councils, 22 December 2022, question 180, page 32.

Technical report – Preliminary Site Investigation (PSI)

38. Waka Kotahi has provided a contaminated land technical assessment as part of its application, and a PSI.⁵ The technical assessment and PSI contain more or less the same information. I did not observe any information in the technical assessment that was not in the PSI, therefore my review has focused on the PSI. Notwithstanding, any comments I provide will also apply to the Technical Assessment.
39. The requirements of a PSI are set out in MfE's Contaminated Land Management Guideline No. 5 'Site Investigation and Analysis of Soils', revised 2021 ("**CLMG5**") and 1 'Reporting on contaminated sites in New Zealand', revised 2021 ("**CLMG1**").
40. Section 2.2 of CLMG1 states the purpose of a PSI, which is to understand:
- (a) whether there has been (or there is more likely than not to have been) a potentially contaminating land use,
 - (b) the nature and source of probable contaminants,
 - (c) the possible locations of contamination,
 - (d) known or potential exposure pathways by which identified receptors could be exposed to the contaminants under current or know proposed future land use,
 - (e) known or potential human and ecological receptors that could be exposed to contaminants.
41. In addition, a PSI will provide an initial assessment of the applicability of relevant contaminated land legislation and/or district and regional rules, setting out further work required, if necessary, to refine resource consenting requirements further.
42. Appendix A of CLMG1 also includes a 'Table of Contents' for a PSI. It is referenced as being associated with assessing NES-CS applicability,

⁵ Technical Assessment I: Contaminated Land.

however, the general format as shown in CLMG1 is widely adopted for PSIs, regardless of the intended purpose.

43. My review of the PSI with this application focused on whether the purpose as per CLMG1 has been achieved, whether the necessary information has been included, and whether the PSI is adequate.

PSI review

44. The submitted PSI has identified thirty-five 'potential HAIL sites': five outside, but in the vicinity or adjacent to the proposed designation, and thirty within the proposed designation.
45. These sites were identified through reviews of GWRC's 'selected land use register' ("**SLUR**") and Horizons' 'sites associated with hazardous substances' ("**SAHS**") databases, review of current and historical aerial imagery and a partial site walkover.
46. All five sites outside the designation feature on the Horizons SAHS. Of the five, three (HAIL IDs 10, 11 and 33) were adjacent to the main designation boundary with the remaining two (HAIL IDs 34 and 35) '*near*' or '*close to*' proposed materials supply sites.
47. HAIL IDs 10, 11 and 33 were assessed as '*Low risk – Outside designation and hydraulically downgradient of works. Therefore, mobilization of contaminants to the Project unlikely*'. Based on the information presented regarding the location, scale and nature of the HAIL activities, proximities to designation/material supply site boundaries and likely groundwater flow direction, I agree that it is unlikely that contaminants from these sites (if present) may have migrated into or onto the designation in sufficient quantities that would require additional investigation.
48. However, I do note that the feature observed at HAIL ID 11 was incorrectly identified as an underground fuel storage tank, when the photographs in the report clearly identify it as a domestic wastewater treatment system, which is not a HAIL activity. It is not clear whether the fuel tanks identified in Horizons records are indeed present at the site at a different location, or whether they are no longer present.

49. HAIL IDs 34 and 35 were identified as former landfills, although HAIL ID 34 is mentioned as being listed in error in the SAHS, and HAIL ID 35 was assessed as:

Low risk – Outside material supply site boundary and hydraulically downgradient of works. This site is not to be disturbed as part of the works. The extents of the landfill is visible on site and known to the landowner.

50. Of the 30 sites within the designation, 20 were identified as market gardens (one with glass houses), 7 as orchards (one potentially with a small waste pit), one as a quarry (with fuel storage), one as a former landfill, and one as a poultry farm.
51. However, I am not satisfied that all HAIL sites within the Ō2NL Project area have been identified. I am therefore not satisfied that the PSI is complete and that it achieves the purpose of CLMG1. I elaborate on this in the following paragraphs.
52. One of the key shortcomings of the PSI is that a full site walkover had not been undertaken.
53. Regarding the partial site walkover that was undertaken, the PSI report stated (my emphasis):⁶

... due to access constraints, it was not possible to view all horticultural or pastoral land, nor the quarry and historic landfill next to the Ōhau River, nor parts of the route that were not intersected by the existing road network, as part of the site visit.

These will be reviewed in more detail once access is granted.

54. Viewing the alignment from existing roads does not constitute a site walkover, however, the bolded sentence of the paragraph above could be read as suggesting that there is the intention to revise and update the PSI once full site access is granted.

⁶ Ōtaki to North of Levin, Preliminary Site Investigation, prepared for Waka Kotahi, September 2022 by Stantec. Section 2.2.1, 'Site inspection', page 9.

55. On that point, HDC and KCDC asked Waka Kotahi the following question during the s 92 process:

Following the process set out in the NES-CS, and as full site walkover has not yet been undertaken, could the Applicant please comment if it would be more appropriate to first require the PSI to be revised and updated following a complete site inspection, and then require DSIs for all identified pieces of land where the PSI cannot conclude that it is 'highly unlikely that there will be a risk to human health if the change of use is made' (Regulation 8(4) and/or that the soil disturbance component cannot meet permitted activity thresholds (Regulation 8(3))?

56. Contrary to the implication in the section of the PSI quoted at paragraph 53 above, Waka Kotahi's answer was:⁷

Waka Kotahi considers that the PSI is complete for its intended purpose and does not require subsequent revision.

57. Section 3.3.7 of CLMG1 states that *'the investigation should build up a weight of evidence, from as many reliable sources as possible'*.
58. In this PSI, where a full site inspection was not complete, sites were assessed as being (potentially) HAIL or not, based on review of regional council SLUR/SAHS information, and current and historical aerial imagery. Both information sources are useful; however, they also have their limitations.
59. Section 3.1.2 of the PSI states *"for any PSI it has to be assumed that Council records may be incomplete and therefore a wider search of historical photographs is important"*.
60. I agree – in my experience, Horizons' SAHS is not comprehensive, and I would not consider it to be complete, and in that regard a 'reliable

⁷ Ōtaki to north of Levin Highway Project- – Response to request for additional information pursuant to section 92 of the Resource Management Act 1991, Waka Kotahi to Horowhenua and Kāpiti Coast District Councils, 22 December 2022, question 181, page 33.

source' of information. GWRC's SLUR is more comprehensive, however, it is still unlikely to be complete.

61. I also agree that reviewing historical aerial imagery is important. However, aerial imagery only captures features and activities that were occurring at the time an image was taken. As there are typically years or even decades between images, it is possible that HAIL features and/or activities may not have been captured at all.
62. Section 3.1.2.1 of the PSI lists the dates for images that were '*available for all or part of the route*'. They were:
 - 1939-1942
 - 1961-1965
 - 1970-1979
 - 1999-2000
 - 2010-2011
 - 2015-2016
 - Drone footage from March 2021
63. This shows that there were some decades where no aerial images were reviewed, including (more or less) the 1940s, 1950s, 1980s, 1990s and 2000s.
64. Aerial imagery available through Retrolens does not appear to have been accessed and reviewed.⁸ As this is readily available information, this should have been done. To illustrate, I found imagery on Retrolens for HAIL ID 1 (45 South Manakau Road) from the late 1940s through to the late 1980s, which would supplement the imagery already reviewed. It is likely that similar imagery is available for the whole alignment.
65. In my opinion, the likely gaps in the SLUR/SAHS, and in the aerial images reviewed means Waka Kotahi have not provided the '*weight of*

⁸ Retrolens Historical Image Resource: retrolens.co.nz.

evidence, from as many reliable sources as possible, as required by CLMG1. The issues are compounded by the fact that a full site walkover was not completed by Waka Kotahi's technical advisors.

66. An example of uncertainty within the PSI is evident at paragraph 71 of the Technical Assessment, which states: 'Sheep dips may possibly be present on some farm properties through which the Ō2NL Project passes, although there is no record of these in either Horizons or GWRC records'.
67. In my experience, sheep dips are rarely included on regional council HAIL records, unless that particular council has undertaken a specific sheep dip identification project, which to the best of my knowledge, Horizons and GWRC have not.
68. In any case, an absence of regional council information does not indicate that sheep dips are not present. Sheep dips can be significant sources of contamination; HAIL Environmental has investigated dips with effects over as much as a hectare. The absence of this information is a potentially significant uncertainty, which is indicative of the general lack of clarity about the activities undertaken on the Ō2NL Project land due to a full site inspection not having been completed at this stage of the process.
69. Considering the information gaps in the PSI, I am not confident that the 35 'potential HAIL sites' identified to date (30 within the proposed designation and 5 adjacent) are in any way a complete account of the potential HAIL sites over full extent of the Ō2NL Project.
70. This is an important consideration given the scope of proposed condition, REW4. This condition specifically lists the sites requiring further investigation, based on the findings of the PSI. My concern is that if potential HAIL sites have not been identified through the PSI process due to gaps in the investigation, then the sites that require further investigation listed in condition REW4 may also be incomplete.
71. As a result, there is a risk that there could be HAIL sites that are not identified, investigated, or appropriately consented (and managed according to consent requirements) for the Ō2NL Project.

72. Section 3.3 of the PSI 'Unknown Sites', recognises that previously unidentified HAIL sites or areas of contamination may be encountered during the Ō2NL Project. In such instances, it suggests an unexpected discovery protocol is followed, which may involve investigation, sampling and analysis of the material encountered.
73. I agree that having an unexpected discovery protocol is important: and it is standard practice for large-scale earthworks projects such as the Ō2NL Project.
74. However, having an unexpected discovery protocol is not a substitute for identifying HAIL sites through site investigations. Rather, that protocol should be in place to address the sites/areas that realistically could not be identified through a PSI and/or DSI, such as historical small-scale farm tips, which may not have a surface expression and may not be visible on aerial photographs.
75. Therefore, in my opinion, further work is required to achieve greater certainty about the presence and location of HAIL sites within the Ō2NL Project corridor. Currently, the PSI is incomplete and should be revised (or updated through evidence) following additional work, not least a full site walkover.
76. Paragraph 21 of the Technical Report states the following:
- The presence of asbestos – cement sheet roofing material has been identified at one site and the removal of this material will need to be managed by a licensed operator. I recommend that all buildings built prior to 1990 that are to be removed as part of the works be inspected for the presence of asbestos by a suitably qualified person prior to being demolished.
77. I agree that an asbestos survey should be completed by a licensed asbestos surveyor of all buildings within the Ō2NL Project area build prior to 1990, that will be removed or demolished as part of the Project.
78. Further to this, I recommend that the findings of the asbestos survey are incorporated into the revision of the PSI or produced in evidence, as HAIL category E1 includes 'sites with buildings containing asbestos products known to be in a deteriorated condition'.

Risk screening methodology

79. Section 4.1 of the PSI describes how a risk screening system (“**RSS**”) has been used to inform the CSM. The RSS ranks the 35 potential HAIL sites identified to date as either ‘low’, ‘low-medium’, ‘medium’, ‘medium high’ or ‘high’ risk, based on *‘the likelihood and the nature of contamination existing at the site from a particular activity’*. The intention of the risk ranking is *‘to be a prioritisation tool to direct future site investigations and soil management during soil disturbance’*.
80. Section 4.1 of the PSI states that the RSS used ‘has been based on the Ministry for the Environment Contaminated Management Guideline No 3: ‘Risk Screening System’.
81. I am familiar with this guideline, and know that for each site, ‘scores’ associated with specific site information are entered into the tool (which is often in spreadsheet form). This requires the user to know certain information about the site and potential contaminants, including (but not limited to) toxicity, quantity and mobility of contaminants, whether contaminants are contained, what the surface cover is, soil permeability and whether groundwater is used.
82. Without completing site inspections, and with limited information about the sites, much of the information required for the assessments would not be known, and therefore many assumptions would have needed to have been made.
83. The PSI does not contain the RSS spreadsheets for the sites, or any workings or assumptions made, so I have not been able to review and comment on these.
84. HDC and KCDC asked Waka Kotahi the following question during the s 92 process:

The PSI states that the risk screening system is based on the Ministry for the Environment (MfE) Contaminated Management Guideline No 3: ‘Risk Screening System’. Could the Applicant please provide the template and workings of the risk screening, including the parameters adopted and the inputs?

85. Waka Kotahi's response was:⁹

This information is not required to better understand the nature or extent of effects given that no applications have been made during this process. This is a technical approach matter that can be discussed by the relevant experts during and as part of the preparation of any future application for resource consent under the NES-CS.

86. I agree that the suitability or not of the RSS is not a strictly a matter for these applications, however, it is something that will need to be addressed as part of the contaminated land work that is required to determine future consenting requirements.

87. Using the RSS, the 35 identified HAIL sites have been ranked as follows:

Low: 22

Low-medium: 4

Medium: 7

Medium-high: 1

High: 1

88. The 'medium', 'medium high' and 'high' risk sites comprise the list of sites set out in proposed condition REW4, which require further investigation. The eight 'medium' and 'medium-high' risk sites were all market gardens or other horticultural land. One also involved asbestos containing building materials. The one 'high' risk site was a suspected landfill.

89. Further investigation of the remaining 26 'potential HAIL sites' which are ranked as 'low' or 'medium low' risk has not been recommended in the PSI. Although it is not explicitly stated in the PSI, following the process proposed by Waka Kotahi effectively means that no further

⁹ Ōtaki to north of Levin Highway Project – Response to request for additional information pursuant to section 92 of the Resource Management Act 1991, Waka Kotahi to Horowhenua and Kāpiti Coast District Councils, 22 December 2022, question 182, page 33.

consideration of the NES-CS or regional rules is considered necessary for these sites.

90. Many of the 26 sites ranked 'low' or 'low-medium' risk were market gardens and orchards, assessed as HAIL category A10 'Persistent pesticide bulk storage or use, including sports turfs, market gardens, orchards, glass houses or spray sheds'.
91. The justification for the ranks given to these sites was that they were established 'post 1980' or 'post 2000'. The PSI does not elaborate further on why market gardens and orchards established post-1980/2000 are considered 'low' or 'low-medium' risk, however, I have assumed it is because persistent pesticides such as DDT had been phased out by this time and so are unlikely to be present in soils at the sites.
92. If this is the case, and if this does not factor in any other HAIL activities being or previously being present, it is reasonable to consider that soils in more modern market gardens and orchards are unlikely to contain contaminants such as DDT at the same concentrations as similar sites established in, say, the 1950s.
93. However, while this may mean the risk to human health is low on these sites, the same cannot necessarily be said for risk to the environment.
94. Copper-based sprays are routinely applied to modern-day orchards and market gardens. Copper, although not a human health contaminant, does persist in soil and is ecotoxic.
95. MfE has recently released the document 'Hazardous Activities and Industries List guidance, Identifying HAIL land'. Commentary regarding HAIL category A10 includes the following:

This category is intended to apply to any land that has been subjected to the use of persistent pesticides, or where persistent pesticides have been stored in bulk. The category includes specific activities, namely sport turfs, market gardens, orchards, glass houses or spray sheds. However, the category is defined by the bulk storage of persistent pesticides and their use. Plant production, including viticulture, silviculture and

horticulture, typically involves the application of pesticides to reduce crop damage, the characteristics of which may include toxicity, ecotoxicity and, in some cases, persistence in the environment. Therefore, careful consideration of the likelihood of contamination should be given where persistent pesticides have been used at sites other than those listed above. **Orchards that have only ever used copper-based chemicals would be captured by this activity. While not toxic to humans, copper can be toxic to organisms in water or soil** [my emphasis added].

96. 'Toxicity to organisms in water or soil' is otherwise known as 'ecotoxicity'.
97. Therefore, it is possible that sites that have been ranked as 'low' or 'low-medium' risk (and therefore assessed as not requiring further investigation) may actually require consideration with regard to regional plan rules, including (but not limited to) rules 14-26 to 14-28 of the One Plan.
98. For example, rule 14-27 'Discharges of contaminants onto or into land that will not enter water', which may be relevant in the context of earthworks and movement/re-use of material within the Ō2NL Project, contains the following condition:

The discharge must not cause any increase in the concentration of **hazardous substances** [my emphasis added] or pathogenic organisms on or in any land.
99. The One Plan defines 'hazardous substance' as including, among other things, ecotoxicity.¹⁰ These effects are not currently considered through the RSS. Therefore, in my view, the RSS appears to be rather a blunt instrument, without the nuances it needs to accurately determine applicability of the NES-CS and regional plan rules.
100. In my opinion, there is no need to use the RSS at all.

¹⁰ Horizons Regional Council One Plan, Glossary: 'Hazardous Substances', <https://www.horizons.govt.nz/publications-feedback/one-plan/glossary/glossary>.

101. The framework for assessing NES-CS applicability is set out in the NES-CS itself, without the need for adopting a separate RSS. In summary, the process is as follows:
- (a) If the PSI determines it is 'more likely than not' that a site (or part thereof) has had HAIL use(s), the NES-CS will apply to those HAIL areas, referred to as 'pieces of land'.
 - (b) Where a 'change of land use' is proposed on a 'piece of land', if the PSI determines 'it is highly unlikely that there will be a risk to human health if the activity [change of land use] is done to the 'piece of land', the activity is permitted. If this test cannot be met, then further assessment, through a detailed site investigation (DSI), will be required to determine ongoing applicability of the NES-CS.
 - (c) Where 'soil disturbance' is proposed on a 'piece of land', there are thresholds associated with matters such as disturbance and removal volumes, and time. If these can be met, the activity [soil disturbance/removal] is permitted. It is a reasonable assumption that the permitted activity thresholds will not be met for 'pieces of land' within the Ō2NL project, therefore further assessment of the 'pieces of land', through a DSI, will be required to determine ongoing applicability of the NES-CS.
102. Assessing the applicability of the relevant rules of the regional plans requires understanding of:
- (a) site use and history,
 - (b) the specific wording and intent of the rules, including definitions of words/terms used in the rules, and
 - (c) the proposed works (earthworks, cut to fill, plans for soil movement/re-use/disposal etc).

PSI review summary

103. In summary and in my opinion, the key shortcomings of the PSI are:
- (a) The information reviewed and investigation work completed to date is unlikely to provide a complete and accurate account of potentially contaminating current and historical land use activities over the Ō2NL Project area, because:
 - (i) regional council SLUR/SAHS databases will not be complete,
 - (ii) the aerial imagery reviewed had gaps of several decades, and
 - (iii) a full site walkover was not completed.

This means that there are likely to be HAIL sites that have not been identified. The list of sites requiring further investigations, as currently set out in proposed condition REW4, is therefore likely to be too narrow, and not representative of the true number of sites to which the NES-CS and regional rules may apply.

- (b) The RSS that has been used to assess the HAIL sites that have been identified and inform the CSM, does not appear to me to be fit for purpose. For example, it deems some sites 'low' risk and not requiring further investigation/consideration when these sites may actually have relevance when considering the regional plan rules.
104. Given these shortcomings, I am not satisfied that the PSI is adequate or accurate in the context of CLMG1, and it does not provide an accurate or robust CSM.

H. PROPOSED CONDITIONS

105. Waka Kotahi has proposed a condition (REW4) that sets out a proposed process for addressing site contamination matters moving forward.

106. REW4(a) lists 9 sites where, based on the findings of the PSI, Waka Kotahi proposes to complete detailed site investigations (DSI) when site access allows.
107. In my opinion, because the PSI is incomplete, the list of sites proposed for further investigation in REW4(a) may also be incomplete.
108. Therefore, to set out a clear and robust process for addressing contaminated land matters, in my opinion, REW4(a) should read as follows:

Site contamination and asbestos

- (a) Before earthworks and land disturbance authorised by these resource consents begin, and once full access to the project designation is possible, the existing Preliminary Site Investigation (PSI) will be revised based on a full site walkover, and the requirements of clauses b) – g) will be met.
- (b) The revised PSI will be completed and reported on in accordance with the Ministry for the Environment (MfE) 'Contaminated Land Management Guidelines (CLMG) Nos. 5: Site Investigation and Analysis of Soils' and 1: Reporting on Contaminated sites in New Zealand (CLMG5 and CLMG1, both revised 2021).
- (c) The revised PSI will identify the sites within the project designation (and any other sites that will be disturbed as part of the project) requiring further investigation (i.e., detailed site investigation (DSI)) to assess and satisfy consenting requirements under the relevant regional plans and/or the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (the NES-CS).
- (d) The revised PSI will be informed in part by an asbestos survey, which will be completed by a licensed asbestos surveyor, of all buildings constructed before 1990 within the Ō2NL project corridor, which will be

removed, demolished or disturbed in any way as part of the works.

- (e) The revised PSI will be provided to GWRC, Horizons, KCDC and HDC before the DSI required by clause c) is undertaken.
- (f) The DSI required by clause c) will be completed and reported in accordance with CLMGs 5 and 1 and will also confirm the following:
 - (i) the resource consents required for the project under the relevant regional plans and the NES-CS,
 - (ii) the assessment criteria either adopted or derived for the project,
 - (iii) further phases of work required before project works begin, including, but not necessarily limited to additional investigation and/or remediation.
- (g) Following the completion, and based on the results of the DSI required by clause c) all resource consents identified as being required under clause d)1 will be obtained from the relevant consenting authorities.
- (h) A project Contaminated Soil Management Plan (CSMP) will be drafted for inclusion into the resource consent applications required by clause e). The CSMP will be produced in accordance with CLMG1.
- (i) If required, a Remedial Action Plan (RAP) will be provided with the resource consent applications required by clause e). The RAP will be produced in accordance with CLMG1.

109. Finally, I note that REW4 is listed as a regional council condition and there is no equivalent in the district council condition set. As outlined in this report, site contamination is a relevant matter for both district and

regional councils, so in my view REW4 should sit in both the district and regional council condition sets.

I. SUBMISSIONS

110. Only 1 submission addresses contaminated land matters – Submission 49 from Karen and Stephen Prouse.
111. Section 12 of that submission under the heading ‘contaminated land’, requests that the property at 1015 Queen Street East is added to the list of sites in condition REW4, that require further investigation. This is based on an alleged ‘large asbestos shed - previously painted with a high possibility of contaminated soil’.
112. The revision to condition REW4 I have proposed above will ensure that an asbestos in buildings survey is completed across the whole Ō2NL project corridor, with the findings incorporated into a revision of the PSI, which will in turn be used to determine further investigations. This should address the issues raised by this submission.

Sarah Helen Newall CEnvP

28 April 2023