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## **BAY OF PLENTY REGIONAL COUNCIL**

### **Resource Consent Application Number 67173 Consent Holder: Bay of Plenty Regional Council (Natural Hazards Group)**

A resource consent is **granted**:

- a. Under Sections 9(2)(a) of the Resource Management Act 1991 and Rule 1C of the Bay of Plenty Regional Water and Land Plan being a discretionary activity to carry out earthworks within the Kopeopeo Canal and the containment sites; and
- b. Under Section 9(2)(a) of the Resource Management Act 1991 and Rule 2C of the Bay of Plenty Regional Water and Land Plan being a discretionary activity to disturb land and soil as a result of vegetation clearance on the margins of the Kopeopeo Canal; and
- c. Under Section 9(2)(a) of the Resource Management Act 1991 and Rule 35 of the Bay of Plenty Regional Water and Land Plan being a restricted discretionary activity to disturb a contaminated site and discharge contaminants to water associated with the remediation of the Kopeopeo Canal and works associated with Containment Site 3 and the treatment pond; and
- d. Under Sections 15(1)(a), 15(1)(b) and 15(2A)(b) of the Resource Management Act 1991 and Rule 37 of the Bay of Plenty Regional Water and Land Plan being a discretionary activity to discharge contaminated sediment and water to land and water; and
- e. Under Section 14(2) and 14(3)(a) of the Resource Management Act 1991 and Rule 43 of the Bay of Plenty Regional Water and Land Plan being a discretionary activity to take water from the Kopeopeo Canal at a rate exceeding 15m<sup>3</sup> per day; and
- f. Under Section 14(2) and 14(3)(a) of the Resource Management Act 1991 and Rule 46A of the Bay of Plenty Regional Water and Land Plan being a restricted discretionary activity to dam the Kopeopeo Canal west of the Keepa Road bridge; and
- g. Under Section 14(2) and 14(3)(a) of the Resource Management Act 1991 and Rule 48 of the Bay of Plenty Regional Water and Land Plan being a discretionary activity to dam Kopeopeo Canal east of the Keepa Road bridge and where there will be effects on water quality within a wetland; and
- h. Under Section 9(2)(a) of the Resource Management Act 1991 and Rule 71 of the Bay of Plenty Regional Water and Land Plan being a discretionary activity to disturb the bed of the Kopeopeo Canal east of Keepa Road bridge; and
- i. Under Section 9(2)(a) of the Resource Management Act 1991 and Rule 85 of the Bay of Plenty Regional Water and Land Plan being a discretionary activity

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to modify a wetland resulting in adverse effects associated with the degradation of water quality and changes to water flow, quantity and drainage; and

- j. Under Section 13(1)(b) of the Resource Management Act 1991 and Rule 4 of the Bay of Plenty Regional River Gravel Management Plan being a discretionary activity to disturb the bed of, and excavate gravel from, the Kopeopeo Canal east of Keepa Road bridge.

Subject to the following conditions:

### 1. Purpose

- 1.1 For the purposes of removing contaminated sediment from the Kopeopeo Canal, and transporting the sediment to three separate sites where it will be stored within containment cells and remediated used bioremediation techniques.

### 2. Location

- 2.1 The activities authorised under this consent are located as shown on the plans referenced as BOPRC Plan Number RC 67173/1 and are described as follows:
- a. Land within and adjacent to the Kopeopeo Canal extending for a length of approximately 5.1 kilometres ('km') between State Highway 30 (at the intersection of Kope Drain Road) and the confluence of the Kopeopeo and Orini Canals (in the vicinity of Keepa Road), Whakatane;
  - b. 1 and 26 Kope Drain Road, Whakatane, legally described as Allotment 29C1 Rangitaiki Parish (Containment Site 1 ('CS-1'));
  - c. 49A Keepa Road, Whakatane, legally described as Allot 28B 9B 2B Rangitaiki Parish Containment Site 2 ('CS-2');
  - d. 44 Keepa Road, Whakatane, legally described as Allot 216 Rangitaiki Parish Containment Site 3 ('CS-3').
- 2.2 For the purposes of the conditions of this consent 'the site' shall be the project site as defined on the plan entitled "Kopeopeo Canal - Project Site Boundary" prepared by Sinclair Knight Merz (SKM) referenced as AE04197 sheet 1 and dated 14 January 2014 (stamped as BOPRC Plan Number RC 67173/1).

### 3 Proceed in Accordance with Application

- 3.1 Except as modified by the conditions in this consent, the activities authorised under this consent shall proceed in general accordance with the Application, including:
- a. The Resource Consent Application and Assessment of Environmental Effects for the Kopeopeo Canal Remediation Project prepared by SKM entitled, *'Kopeopeo Canal – Removal, Remediation and Disposal of Canal Sediments – Bay of Plenty Regional Council - District and Regional Resource Consent Application and Assessment of*

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- Environmental Effects*' Issue 7 dated 18 October 2013' (including all appendices) ('the AEE');
- b. The Remedial Action Plan prepared by SKM entitled '*Kopeopeo Canal Dioxin Contaminated Sediment Remedial Action Plan*' Issue 9 dated 18 October 2013 (including all appendices);
  - c. Memoranda prepared by SKM entitled:
    - i. Summary of CS1 Site Investigations and Recommendations' dated 11 October 2013;
    - ii. Summary of Site Investigations and Recommendations' for CS-2 dated 13 October 2013; and
    - iii. Summary of Site Investigations and Recommendations' for CS-3 dated 13 October 2013;
  - d. The report entitled '*Bioremediation Response to Section 92*' prepared by Dr Christopher Anderson (Massey University) and Dr Joanne Kelly (University of Waikato) (undated).

#### **4. Plans to be provided to the Regional Council**

- 4.1 No less than 10 working days prior to the commencement of works authorised under this consent associated with the containment sites, the Consent Holder shall submit to the Chief Executives of the Bay of Plenty Regional Council ('the Regional Council' or 'BoPRC') and Whakatane District Council (WDC) the final plans and design details for the containment sites, including details of the earth bunds and water treatment pond. The plans shall be in general accordance with the details in section 5.1.2 of the AEE and as depicted in plans R822/1 Sheets 1 and 2, R822/2 Sheets 1 and 2, R822/3A Sheets 1 and 2, and R822/3B Sheets 1 and 2 (attached as Appendix B to the Remediation Action Plan) and prepared by, or under the supervision of a Chartered Professional Engineer, with a minimum of 5 years relevant experience.
- 4.2 No less than 10 working days prior to the commencement of works authorised under this consent associated with increasing the height of the stopbank at CS-3, the Consent Holder shall submit to the Chief Executives of the BoPRC and WDC the final plans and design details for the changes to the stopbank. The plans shall be in general accordance with section 5.1.3 of the AEE and prepared by, or under the supervision of a Chartered Professional Engineer, with a minimum of 5 years relevant experience.
- 4.3 No less than 10 working days prior to the commencement of works authorised under this consent associated with the construction of the dams (earth bunds and sheet pile dams) within the Kopeopeo Canal, the Consent Holder shall submit to the Chief Executives of the BoPRC and WDC the final plans and design details for the earth bund dams. The plans shall be in general accordance with the details in section 5.2.4 of the AEE and prepared by, or under the supervision of, a Chartered Professional Engineer, with a minimum of 5 years relevant experience.
- 4.4 No less than 10 working days prior to the commencement of works authorised under this consent the Consent Holder shall submit to the Chief Executives of the BoPRC and WDC a final Remedial Action Plan in accordance with the '*Kopeopeo Canal Dioxin Contaminated Sediment Remedial Action Plan*'

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Issue 9 dated 18 October 2013 prepared by SKM, but amended to reflect any changes required by the conditions of this consent. Updated versions of the Remedial Action Plan may be submitted to the Chief Executives for each season of works.

- 4.5 No less than 10 working days prior to the commencement of works authorised under this consent the Consent Holder shall submit to the Chief Executives of the BoPRC and WDC a final Environmental Monitoring and Validation Plan in accordance with the *'Kopeopeo Canal Remediation - Proposed Environmental Monitoring and Validation Plan'* Draft B dated 18 October 2013 prepared by SKM, but amended to reflect any changes required by the conditions of this consent.
- 4.6 No less than 10 working days prior to the commencement of works authorised under this consent the Consent Holder shall submit to the Chief Executives of the BoPRC and WDC a final Project Site Management Plan in accordance with the *'Kopeopeo Canal Remediation – Project Site Management Plan'* Issue 7 dated 18 October 2013 prepared by SKM, but amended to reflect any changes required by the conditions of this consent. The Consent Holder may submit a separate Project Site Management Plan for Season 1 and Season 2 works.
- 4.7 No less than 10 working days prior to the commencement of works authorised under this consent the Consent Holder shall submit to the Chief Executives of the BoPRC and WDC a final Traffic Management Plan in accordance with the *'Traffic Management Plan'* dated 15 March 2013 (Final version) prepared by SKM, but amended to reflect any changes required by the conditions of this consent or the reasonable requests of the relevant road controlling authority. The Consent Holder may submit a separate Traffic Management Plan for Season 1 and Season 2 works.
- 4.8 No less than 10 working days prior to the commencement of each season of earthworks authorised under this consent (excluding excavation within the Kopeopeo Canal), the consent holder shall submit an Erosion and Sediment Control Plan to the Chief Executive of BoPRC. Unless otherwise specified in the conditions of this consent, the Erosion and Sediment Control plan shall be in accordance with specifications set out in Bay of Plenty of Regional Council Guideline No. 2010/01 – *'Erosion and Sediment Control Guidelines for Land Disturbing Activities'*, section 8.1 of the AEE and the plans referred to under conditions 4.4 to 4.6 of this consent. Separate Erosion and Sediment Control Plans may be prepared for works Seasons 1 and 2.
- 4.9 The plans referred to in conditions 4.1 to 4.8, and any subsequent versions or updates, shall be submitted to the Chief Executive of the BoPRC for certification that the plan(s) are in accordance with the conditions of this consent. Works shall not commence until the plans have been certified in accordance with this condition and variations to the plans shall not be implemented until they have been certified in accordance with this condition.

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## 5. Notification of Works

5.1 No less than 5 working days prior to the commencement of each season of works under this consent, the Consent Holder shall request (in writing) a site meeting between the principal site contractor, or nominated person responsible for the works, and the Chief Executives of the BoPRC and WDC or delegates. Notification at this time shall include details of who is to be responsible for the site management and compliance with consent conditions during site works.

5.2 Within 30 working days of the completion of:

- a. The construction of the earth bunds at the Containment Sites;
- b. The construction of the earth bunds associated with the Water Treatment Pond;
- c. The construction of the major earth bunds within the Kopeopeo; and
- d. The increase in the height of the stopbank within CS-3;

the Consent Holder shall submit a to the Chief Executives of the BoPRC and WDC a certificate signed by a Chartered Professional Engineer with a minimum of 5 years relevant experience, verifying that the construction of the earth bunds authorised by this consent has been:

- i. Constructed in accordance with the conditions of this consent;
- ii. Supervised by a Chartered Professional Engineer within at least 5 years relevant experience;
- iii. Compacted in accordance with test 4.1.1 NZS 4402: 1986.

5.3 The Consent Holder shall notify (in writing) the Chief Executives of the BoPRC and WDC or delegates within 5 working days of the completion of works undertaken in works Season 1 and Season 2 as authorised under this consent.

5.4 No less than 10 working days prior to commencement of work associated with the proposed truck access route within the saltmarsh area (shown on Figure 5.12 of the AEE), the Consent Holder shall notify (in writing) the Chief Executive of WDC and the Department of Conservation of the intention to commence work in that area.

5.5 The Consent Holder shall notify (in writing) the Chief Executive of WDC and the Department of Conservation within 10 days of the completion of works undertaken within the saltmarsh area shown on Figure 5.12 of the AEE.

## 6. Independent Monitor

6.1 Prior to the first exercise of this consent, the consent holder shall appoint an independent person (or persons) to monitor all activities carried out under this consent. This person(s) shall be appropriately qualified and experienced in contaminated land remediation.

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- 6.2 The appointment and specific responsibilities of the Independent Monitor shall be determined by the consent holder following consultation with the Chief Executives of BoPRC and WDC, the Ministry for the Environment and the Ministry of Health and shall be incorporated into a written brief of engagement for the Independent Monitor. The consent holder shall provide a copy of the brief of engagement to the consent authority prior to the appointment of the Independent Monitor
- 6.3 The responsibilities of the Independent Monitor shall include (but are not limited to):
- a. Providing an independent review of remedial activities and monitoring data to ensure they are being carried out in accordance with the management plans referred to in this consent, including the mitigation measures contained with those documents, and the requirements of the conditions of this consent.
  - b. Reviewing the results of monitoring activities required by the conditions of this consent.
  - c. Reviewing the complaints register and the actions undertaken in response to complaints.
  - d. Providing independent feedback and information to the community through the Community Liaison Group and the Consent Holder on the project.
  - e. Reporting to the Consent Holder on the independent monitoring undertaken on the project and making recommendations on any identified issues or changes required. The Consent Holder shall provide all reports prepared by the Independent Monitor to the Chief Executives of the BoPRC and WDC within 10 working days of receipt of any report.

## 7. Flood Management

- 7.1 The consent shall be exercised in accordance with a Flood Management Plan prepared by the Consent Holder. The purpose of the Flood Management Plan is to detail the methods and actions required to manage water levels within the Kopeopeo Canal and wider Rangitaiki Plains drainage scheme to maintain the design level of flood protection for the drainage scheme (5 year ARI) and achieve compliance with the conditions 7.1 and 7.2 this consent. Except as modified by the conditions of this consent, the Flood Management Plan shall be in general accordance with the evidence of Mr Bruce Crabbe (Attachment 1 to this consent), including but not limited to Appendix D: Example of Flood Management Action Plan, Section 6: Changes to Flood Handling Methodology, Section 7: Impact of Proposed Bunding for Dewatering and Sediment Removal from the Canal, and Section 10: Flood Management Measures and shall include the following matters:
- a. All measures that will be undertaken to manage floodwaters within the canal system, including the management of water levels within the Rangitaiki Drainage Scheme to optimise the capacity of the system to accommodate flood events of varying sizes (ARI and duration) in the manner set out in the Flood Mitigations Options Implementation Table included within the evidence of Mr Bruce Crabbe (Attachment 2 to this consent);

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- b. Identification of the critical duration storm event for each of the various phases of works within the Kopeopeo Canal and the likely floodwater storage requirements for each of those phases;
  - c. A description of the procedures and actions to be employed for flood events of defined intensities and durations, taking into account the different stages of the project and the critical duration storm event;
  - d. Procedures to monitor water levels in the Rangitaiki Drainage Scheme, including details of the monitoring methodology, frequency and reporting requirements;
  - e. Identification of triggers and responses to manage flood events in accordance with the conditions of this consent;
  - f. A description of the timing for procedures, including actions to be undertaken:
    - i. Prior to the commencement of Season 2 works (Preparatory Phase);
    - ii. During the Season 2 works period when weather forecasts are being monitored, including when the Met Service has issued a severe weather watch for the Eastern Bay of Plenty (Weather Monitoring Phase);
    - iii. At the on-set of a heavy rain event (Rainfall Monitoring Phase);
    - iv. In response to a heavy rain event (Response Phase).
  - g. A contingency plan to detail actions to be undertaken in the event that the measures set out in the Flood Management Plan are unable to accommodate an extreme flood event without resulting in an unavoidable discharge of untreated water from the remediation zone. The contingency plan shall include procedures for notifying BoPRC and Te Rununga o Ngati Awa prior to such a discharge occurring.
- 7.2 The Flood Management Plan shall be reviewed and certified by an independent and suitably qualified and experienced engineer to confirm that the measures, procedures and actions set out in the Flood Management Plan are robust and valid, and in accordance with the conditions of this consent and the evidence of Mr Bruce Crabbe (appended as Attachment 1 to this consent). The appointed peer reviewer shall be selected in agreement with the Chief Executive of the BoPRC or delegate.
- 7.3 A copy of the Flood Management Plan, and the peer reviewer's certificate shall be provided to the Chief Executive of the Regional Council no less than 40 working days prior to the commencement of any works in the bed of the canal.
- 7.4 The Consent Holder (or nominated person with detailed knowledge of the Rangitaiki Drainage Scheme and activities authorised by this consent) shall monitor weather forecasts and rainfall for the duration of works within the Kopeopeo Canal.
- 8. On-going Maintenance**
- 8.1 The Consent Holder shall ensure that all structures and works authorised under this consent are maintained in a structurally sound condition at all times.

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- 8.2 Despite Condition 8.1 the Consent Holder shall undertake any maintenance work on the structures and works authorised under this consent, as soon as reasonably practicable, if directed by the Chief Executive of the BoPRC or delegate.

## **9. Erosion & Sediment Controls for Land Outside Canal**

- 9.1 Erosion and sediment controls shall be established prior to the commencement of earthworks where practicable and maintained thereafter in general accordance with the Sediment and Erosion Control Plan referred to in condition 4.8 of this consent.
- 9.2 The Consent Holder shall carry out visual inspections of erosion and sediment control measures in accordance with any requirements of the Sediment and Erosion Control Plan referred to in condition 4.8
- 9.3 The Consent Holder shall notify (in writing) the Chief Executive of the BoPRC as soon as practicable (but within no more than 48 hours) of a daily visual inspection, if any of the erosion and sediment control measures have been compromised. In notifying the Chief Executive of the BoPRC, the Consent Holder shall set out any remedial action that has been undertaken, or that is to be undertaken to resolve erosion and sediment control issues.
- 9.4 Any remedial action to resolve erosion and sediment control measures shall be undertaken to the satisfaction of the Chief Executive of the BoPRC or delegate.
- 9.5 The Consent Holder shall ensure that all exposed areas of earth resulting from works under this consent are effectively stabilised against erosion by vegetative cover or other methods as soon as practicable, following the completion of each specific earthworks activity to the satisfaction of the Chief Executive of the BoPRC or delegate.

## **10. Erosion & Sediment Controls – Canal Works & Discharges to Water**

- 10.1 The Consent Holder shall install and maintain energy dissipation devices to avoid, to the extent practicable, any scour effects associated with the activities authorised this consent, including the dewatering Kopeopeo Canal and the discharges of water to the Kopeopeo Canal and the Whakatane River. Any works undertaken to remedy the effects of scour shall be undertaken to the satisfaction of the Chief Executive of the BoPRC or delegate.
- 10.2 The Consent Holder shall install sediment control devices within the Kopeopeo Canal during the construction and dismantling of the earth bunds within the Canal so as to minimise, to the extent practicable, the discharge of sediment downstream (east) of the works zone as a consequence of the works within the canal.



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## **11. Site Access & Traffic Management**

- 11.1 Prior to commencing the works authorised under this consent, the Consent Holder shall identify and mark the position of all utilities in close proximity to the works being undertaken so that they are easily identifiable to site workers.
- 11.2 Prior to work commencing at each Containment Site, the Consent Holder shall establish the relevant temporary vehicle access and traffic management measures described in the Traffic Management Plan referred to in condition 4.7 of this consent.
- 11.3 All vehicle access and traffic management measures shall be undertaken in accordance with the Traffic Management Plan referred to in condition 4.7 of this consent to the satisfaction of the Chief Executives of the BoPRC and WDC and the road controlling authorities.

## **12. Discharges Associated with Water Pumped from Kopeopeo Canal**

- 12.1 The Water Treatment Pond shall be constructed and available for use prior to works commencing within the Kopeopeo Canal in Season 2.
- 12.2 No water taken and/or diverted from the Kopeopeo Canal as part of the activities authorised by this consent shall be discharged directly to any waterbody or land outside of the remediation zone (dammed section) of the Kopeopeo Canal except as provided for by conditions 12.3 and 12.4 of this consent or as part of the flood management measures specified in the Flood Management Plan required by condition 7.3 of this consent.
- 12.3 Water taken and/or diverted from the Kopeopeo Canal as part of the activities authorised by this consent may be discharged to the Kopeopeo Canal downstream of the remediation zone or to the Whakatane River at the outlet of the Kope-Orini flood pump subject to the discharge water not exceeding a maximum dioxin concentration of 5.0 pg I-TEQ/L. The measure of dioxin concentration may be established through monitoring a proxy determined in accordance with condition 12.4.
- 12.4 The Consent Holder may use Total Suspended Solids ('TSS'), as a proxy to determine compliance with condition 12.3. Any alternative proxy to TSS shall be peer reviewed by an independent and appropriately qualified expert, with at least 5 year's relevant experience, and certified as being based on robust and valid science for use as a proxy to measure dioxin contamination in the water to be discharged from the Water Treatment Pond. The appointed peer reviewer shall be selected with the agreement of the Chief Executive of the BoPRC or delegate. The peer reviewer's certificate shall be provided to the Chief Executive of the BoPRC prior to use of the alternative proxy.
- 12.5 The proxy referred to in condition 12.4 shall account for variations in dioxin sediment concentrations through either additional water analysis or by assuming the highest absorbed concentrations detected.

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- 12.6 The water discharged from the Water Treatment Pond to locations outside the remediation zone shall be monitored continuously (minimum of 15 minute intervals) to ensure compliance with condition 12.3 is achieved prior to it being discharged. In the event that water is discharged that exceeds the water quality limits in condition 12.3 of this consent, discharges must cease immediately and the Consent Holder shall advise the Chief Executives of the BoPRC and WDC of the breach immediately. Discharges from the Water Treatment Pond may only resume when it has been established that the discharge water does not exceed the water quality limits in condition 12.3.
- 12.7 The Consent Holder shall discharge water from the Water Treatment Pond into the remediation zone of the Kopeopeo Canal where practicable. When discharge to the remediation zone is not practicable, the Consent Holder may discharge treated water from the Water Treatment Pond to the Kopeopeo Canal and Whakatane River, subject to conditions 12.2 to 12.6 of this consent. The Consent Holder shall provide advice (in writing) to Te Rununga o Ngati Awa and the Chief Executive of the Whakatane District Council prior to the commencement of any discharge from the Water Treatment Pond outside of the remediation zone and provide information on the expected duration of the discharge of the discharge.
- 12.8 Within 200m of the point of discharge within the Kopeopeo Canal (outside of the remediation zone) and 500m within with the point of discharge of the discharge to the Whakatane River, the discharge of treated water shall not result in:
- a. The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
  - b. Any conspicuous change in the colour or visual clarity;
  - c. Any emission of objectionable odour;
  - d. The rendering of fresh water unsuitable for consumption by farm animals;
  - e. Any significant adverse effects on aquatic life.

### **13. Stopbank Modification**

- 13.1 Prior to the commencement of works within the Kopeopeo Canal in Season 2, the height of the stopbank at Containment Site 3 between the Kope-Orini flood pump and the northernmost end of the Containment Site shall be increased in accordance with the details and plans referred to in condition 4.2.

### **14. Kopeopeo Canal Vegetation Clearance**

- 14.1 Any soil disturbed during vegetation clearance shall be compacted and stabilised to the satisfaction of the Chief Executive of the BoPRC or delegate as soon as practicable.
- 14.2 Where appropriate, any areas of vegetation removed from the banks of the Kopeopeo Canal shall be replaced with suitable indigenous species within the

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next planting season following the completion of remediation works in Season 2 to the satisfaction of the Chief Executive of the BoPRC or delegate. In determining the appropriateness of revegetation, including the location and species, the Consent Holder shall take into account the need to maintain the efficient functioning of the canal and ongoing access requirements.

## **15. Containment Sites**

- 15.1 Containment Cells shall be designed and constructed in accordance with the plans referred to in condition 4.1 of this consent and in accordance with the specifications within section 5.2.2 of the AEE.
- 15.2 The geotextile fabric utilised within the containment cells shall be a non-woven, synthetic fabric with a minimum grab tensile strength of 1000.0 N when tested in accordance with AS2001.2.3 and shall have a pore size of 90.0 micrometres.
- 15.3 The final design of Containment Site 1 shall incorporate a bund and cut off drain on the southern boundary and a non-return floodgate structure in the drain on the south-western corner of the site to direct all surface runoff from Containment Site 1 towards Kopeopeo Canal. The design details for the bund and cut off drain shall be provided as part of the requirements of condition 4.1.
- 15.4 In the event that any percolines, seepage zones or preferential flow paths are encountered when excavating the base or sides of the containment sites all such material shall be excavated to a depth of at least 500 mm and backfilled with well compacted clay or silt.

## **16. Mobile Pumps**

- 16.1 The Consent Holder shall establish mobile pumping stations at the Kope West Flood Gate and at the Fortunes Road Drain Pump Station in accordance with the Flood Management Plan referred to in condition 7.2 of this consent. The mobile pumping stations shall remain in place until there are no obstructions to the flow of water and the dams have been removed from the Kopeopeo Canal.

## **17. Kopeopeo Canal Dams**

- 17.1 Earth bunds and sheet pile dams shall be installed within the Kopeopeo Canal in general accordance with the plans referred to in condition 4.3 of this consent and the details in section 5.2.4 of the AEE.
- 17.2 Prior to installing the dams within the Kopeopeo Canal the Consent Holder shall implement the Preparatory Phase measures set out in the Flood Management Plan referred to in condition 7.3 of this consent.
- 17.3 All dams shall be removed from the Kopeopeo Canal immediately following the completion of excavation works in the canal and validation in accordance with conditions 27.4 and 27.5.

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- 17.4 Within 30 days of the removal of the dams the Consent Holder shall provide notice (in writing) to the Chief Executive of the BoPRC or delegate that the dams have been removed in accordance with the conditions of this consent.

## **18. Dewatering & Bank Stability**

- 18.1 Dewatering of the Kopeopeo Canal during Season 2 works shall be undertaken in general accordance with section 5.2.6 of the AEE and the methods within Appendix P of the Remedial Action Plan referred to in condition 4.4 of this consent.

## **19. Protection of Infrastructure**

- 19.1 Prior to the commencement of works within the Kopeopeo Canal in Season 2, the Consent Holder shall undertake a pre-condition survey documenting all infrastructure (including roads, bridges, and the transmission or distribution network of water, telecommunications, gas and electricity) which has the potential to be affected by activities authorised under this consent in accordance with the methods set out in the Monitoring and Validation Plan referred to in condition 4.5 of this consent.
- 19.2 Prior to commencing the works authorised under this consent, the Consent Holder shall identify and mark the position of all utilities in close proximity to the works being undertaken so that they are easily identifiable to site workers.
- 19.3 The Consent Holder shall prepare an Asset Management Plan for the infrastructure identified by the pre-condition survey required under condition 19.1. The Asset Management Plan shall:
- a. Set out any measures requires to protect the infrastructure from damage as a result of works associated with the exercise of this consent;
  - b. Include triggers for the purposes of requiring remedial action for the purposes of condition 19.5 of this consent;
  - c. Be peer reviewed and certified by an independent and appropriately qualified person to confirm that the triggers for remedial action are valid and robust. The appointed peer reviewer shall be selected in agreement with the Chief Executive of the Regional Council or delegate;
  - d. Be submitted, along with the peer reviewer's certificate, to the Chief Executives of the BoPRC and WDC or delegates no less than 5 working days prior to works commencing within the Kopeopeo Canal in Season 2.
- 19.4 During the dewatering and excavation works in Season 2, the Consent Holder shall monitor the banks of the Kopeopeo Canal for signs of instability and/or deformation in accordance the methods set out in Monitoring and Validation Plan referred to in condition 4.5 of this consent and the pre-condition survey

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and trigger levels in the Asset Management Plan referred to in condition 19.3 of this consent.

- 19.5 If, the monitoring undertaken in accordance with condition 19.4 shows that any of the trigger levels referred to in the Asset Management Plan have been exceeded and/or that the activities authorised under this consent are resulting in slumping and/or erosion of the canal banks, the Consent Holder shall undertake strengthening, stabilising, or remedial methods as soon as practicable to the satisfaction of the Chief Executive of the BoPRC or delegate.

## **20. Excavation of Sediment – Removal Methodology**

- 20.1 The excavation of sediment from the Kopeopeo Canal during Season 2 shall be undertaken in general accordance with the methods in section 5.2.7.2 of the AEE and the Site Management Plan referred to in condition 4.6 of this consent.

## **21. Modifications to the Kopeopeo Canal**

- 21.1 Modifications to the Kopeopeo Canal described in section 5.2.8 of the AEE shall be carried out prior to works commencing within the canal in Season 2 to the satisfaction of the Chief Executive of the BoPRC or delegates.

## **22. Containment Sites – Sediment Disposal**

- 22.1 The sediment excavated from the Kopeopeo Canal shall be transported and deposited at the containment sites in general accordance with section 5.2.10 of the AEE and the plans referred to in conditions 4.4 to 4.8 of this consent.

## **23. Containment Sites – Stormwater**

- 23.1 The Consent Holder shall ensure that the constructed containment sites do not result in stormwater discharges that are greater than the pre-development stormwater discharge during a 24 hour 2% AEP rainfall event.

## **24. Containment sites- Bioremediation and Monitoring**

- 24.1 Sediment deposited in the containment sites shall be bioremediated in general accordance with the Bioremediation Methodology contained within the report entitled *'Te Ohu Mo Papatuanuku Phase 2: The Bioremediation of Contaminated Sediment Dredged from the Kopeopeo Canal'* prepared by Dr Christopher Anderson and Dr Joanne Kelly, dated 8 October 2012 and attached to the Remedial Action Plan referred to in condition 4.4 of this consent

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- 24.2 Following the completion of the Season 2 works, including closure and stabilising of the containment sites, monitoring shall be undertaken at the containment sites in accordance with the parameters, methods, and frequencies detailed in section 11 of the Environmental Monitoring and Validation Plan referred to in condition 4.5 of this consent.
- 24.3 All monitoring activities carried out in accordance with condition 24.2 shall be undertaken in a manner that minimises the extent of soil disturbance. Any disturbance of the soil surface of the containment cells shall be reinstated at the completion of each sampling event.
- 24.4 The Consent Holder shall prepare, and submit to the Chief Executive of the BoPRC, a programme for the regular inspection of the containment sites to ensure that all sediments are contained and prevented from being released from the cells. The programme shall identify timing and frequency for regular inspections and inspections after rainfall events exceeding a 5 year ARI and earthquakes exceeding the following:

MAGNITUDE	DISTANCE FROM EPICENTRE (Kilometres)
4.0	5
5.0	10
6.0	60
6.5	75
7.0	110
7.5	170

- 24.5 If any inspection reveals that sediment has or is being released or leaked from the containment cells, it shall be reported to the Chief Executive of the BoPRC immediately and the sediment shall be removed and the affected area validated to confirm that any contaminated sediment has been removed to the satisfaction of the Chief Executive of the BoPRC or delegate.
- 24.6 The consent holder shall provide a report to the Chief Executive of the BoPRC or delegate on the first anniversary of the consent and annually thereafter. This report shall include a summary of the sampling results from monitoring undertaken in accordance with condition 24.2 of this consent.

## 25. Containment Site Management

- 25.1 A containment cell shall be deemed as having reached the remediation target when the 95% Upper Confidence Limit ('UCL') for dioxin concentration is determined to be at or below 40 pg I-TEQ-g using the validation methodology set out in the Environmental Monitoring and Validation Plan referred to in condition 4.5 of this consent. If the remediation target has been achieved, the Consent Holder shall advise the Chief Executive of the BoPRC in writing that the remediation target has been met and provide a Site Validation Report for the containment cell within 30 days of receipt of monitoring results.

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- 25.2 Within 90 days of monitoring results confirming that the remediation target of 40 pg I-TEQ/g has been achieved at any one of the containment sites, the Consent Holder shall submit to the Chief Executive of the BoPRC a management plan, prepared by an appropriately qualified expert, for the site(s) detailing how the site(s) should be managed and stating what uses are suitable for the site in the future. For the avoidance of doubt, a management plan is required for each of the containment sites.
- 25.3 The Management Plans shall be peer reviewed and certified by an independent and appropriately qualified expert to confirm that the details contained within the management plan are valid and robust. The appointed peer reviewer shall be selected in agreement with the Chief Executive of the Regional Council or delegate. A copy of the Management Plan and peer reviewer's certificate shall be provided to the Chief Executive of the BoPRC within 30 working days of the Management Plans being certified.

## **26. Validation Sampling – Kopeopeo Canal**

- 26.1 Immediately upon the completion of the excavation of sediments from each section of remediation zone within the Kopeopeo Canal, sampling shall be undertaken to confirm that the remediation target for the canal has been achieved. The sampling shall be undertaken in accordance with the parameters and methods detailed in section 12 of the Monitoring and Validation Plan referred to in condition 4.5 of this consent.
- 26.2 The analysis of 1 in 20 sediment samples taken in accordance with condition 26.1 shall be split and analysed at two different laboratories for the purposes of quality assurance.
- 26.3 The Consent Holder shall provide a report to the Chief Executive of the BoPRC within 30 days of the sampling referred to in condition 26.1 of this consent, which shall provide details on the results of the sampling undertaken, and a description of the excavation and deposition of sediment carried out.
- 26.4 Each of the dammed sections of the Kopeopeo Canal shall be deemed as being remediated when the 95% Upper Confidence Limit ('UCL') for dioxin concentration is determined to be at or below 60 pg I-TEQ-g using the validation methodology set out in the Environmental Monitoring and Validation Plan required by condition 4.5.
- 26.5 Each section of the Kopeopeo Canal shall remain dammed until the Consent Holder provides documentation to the Chief Executive of the BoPRC demonstrating that the remediation target has been achieved for that section. Once it has been confirmed that the remediation target has been achieved, the Consent Holder may retain the major earth bunds in accordance with the measures set out in the Flood Management Plan referred to in condition 7.3 of this consent.
- 26.6 The Consent Holder shall monitor eels annually for 5 years following the completion of works within the Kopeopeo Canal in accordance with conditions 26.7 and 26.8 of this consent.

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- 26.7 The eel sampling required by condition 26.6 shall be undertaken in accordance with the methods set out in section 12 of the Monitoring and Validation Plan referred to in condition 4.5 of this consent and the methods in section 2.2 of the report entitled '*Investigation of Organic Contamination in the Kopeopeo Canal*' prepared by Mr Stephen Park referenced as Environment Bay of Plenty Environmental Publication 2005/23 and dated November 2005 (the latter shall prevail if there is any inconsistency).
- 26.8 Eel sampling shall be undertaken at the locations identified in in section 12 of the Monitoring and Validation Plan except that Location 1 shall be relocated so as to be undertaken a further 1.0km upstream in the Orini Canal.
- 26.9 Within 60 days of annual sampling, the Consent Holder shall provide a report to the Chief Executives of the BoPRC and WDC and the Medical Officer of Health with the results of the eel sampling.
- 26.10 The Consent Holder shall confirm the volumes of sediment removed from the canal by preparing and submitting to the Chief Executives of the BoPRC and WDC within 6 months of completing works within the Kopeopeo Canal, cross-section drawings based on surveys undertaken prior to and following the excavation of sediments.

## **27. Communication – Community Liaison Group**

- 27.1 Prior to commencing activities authorised by this consent the Consent Holder shall facilitate the establishment of Community Liaison Group for the purpose of:
- a. Providing information and facilitating discussion and free flow of information between the Consent Holder and the community on:
    - i. the remediation process and the activities authorised by this consent;
    - ii. results and details of sampling and monitoring undertaken;
    - iii. any accidental spills, discharges, or other unforeseen events associated with implementing the project;
    - iv. remedial actions taken to rectify any accidental spills, discharges, or other unforeseen events; and
    - v. the project generally and the timing and duration of activities.
  - b. Providing a forum for the community to provide feedback to the Consent Holder on the implementation of the project.
- 27.2 The Consent Holder shall invite the following groups and organisations to have at least 1 representative on the Community Liaison Group referred to in condition 27.1 of this consent:
- a. Members of the general community (e.g. residents, business owners and operators);
  - b. The Department of Conservation;
  - c. Toi te Ora Public Health;
  - d. Sawmill Workers Against Poison;
  - e. Whakatane District Council;
  - f. Whakatane Harbour Care Group;



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- g. Fish and Game;
- h. The New Zealand Transport Authority;
- i. Te Kura o Te Paroa School;
- j. Te Runanga o Ngati Awa;
- k. Ministry for the Environment; and
- l. Whakatane Waimana Rivers Scheme Liaison Group;
- m. Opposing submitters to the resource consent application; and
- n. The independent Monitor referred to in condition 6.1 of this consent.

27.3 Prior to the commencement of activities authorised under this consent, the Consent Holder shall prepare a Communications Plan in consultation with the Community Liaison Group to enable the general public and stakeholders to be kept informed of the works and remediation processes being undertaken as part of the Kopeopeo Remediation Project. As a minimum, the Communications Plan shall:

- a. Identify the method and frequency of communication, taking into account different phases of the project (such as the works phase, bioremediation at containment sites, and monitoring and reporting phases);
- b. Identify an agreed method(s) for providing information, such as a website or other form of communication;
- c. Identify the nature of information to be made available, including progress updates on the project, monitoring results, summaries of reports and complaints received with respect to the project;
- d. Identify the procedures for providing feedback to the Consent Holder on the implementation of the project; and
- e. Reflect the purpose of the Community Liaison Group as identified in condition 27.1 of this consent.

27.4 The Communications Plan shall be submitted to the Chief Executives of the BoPRC and WDC prior to the commencement of activities authorised under this consent and implemented to the satisfaction of the Chief Executives of the BoPRC and WDC or delegate.

27.5 **Complaints Register**

The Consent Holder shall establish and maintain a complaints register to record complaints received and actions taken to investigate and, (if justified) address the subject of the complaint. Details of the complaints logged shall include:

- a. The date, time, location, origin and nature of the complaint;
- b. The name, phone number and address of the complainant, unless the complainant elects not to supply these details;
- c. Information on weather conditions and activities taking place at the site at the time of the complaint if relevant to the nature of the complaint;
- d. Actions taken to investigate the cause of the complaint and any remedial actions undertaken;
- e. Information provided to the complainant regarding the investigation and actions undertaken to remedy the complaint.

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- 27.6 Details of any complaint shall be provided to the Chief Executives of the BoPRC and WDC or delegates within 5 working days of the receipt of the complaint.

## **28. Wheel Wash Facilities**

- 28.1 Prior to depositing sediment excavated from the Kopeopeo Canal at the containment sites, wheel wash facilities shall be established in general accordance with the Project Site Management Plan referred to in condition 4.6 of this consent and shall be used until works are complete at the containment site.

## **29. Spill Prevention & Response**

- 29.1 The Consent Holder shall take all necessary steps to avoid spilling sediment excavated from the Kopeopeo Canal, including through implementation of the methods described in the Site Management Plan referred to in condition 4.6 of this consent.
- 29.2 Loading pads or similar devices shall be used to capture any spillage of contaminated sediment as described in general accordance with the Site Management Plan referred to in condition 4.6 of this consent and plan number R823 sheets 1 and 2 included within Appendix B of the Remedial Action Plan referred to in condition 4.4 of this consent.
- 29.3 Trucks transporting sediment from the Kopeopeo Canal to the Containment Sites shall be specifically constructed or modified and loaded to prevent the spill of sediment.
- 29.4 All trucks transporting sediment to the Containment Sites shall be fitted with cameras so as to allow the driver to monitor the behaviour of the loaded sediment and to record and identify any spills that occur during transportation. Cameras shall be fitted so as to record sediment that is loaded to and discharged from the vehicle, and any areas of the vehicle where there is potential for sediment to be spilled. Footage shall be inspected for spills by site staff each day, as a minimum, to check for any spills that have not been identified or reported.
- 29.5 All trucks shall be inspected upon each departure and arrival at the works area of the Kopeopeo Canal and the containment sites for evidence of any spilled sediment. In the event that there is evidence of spilled sediment, the Consent Holder shall identify and clean the spilled sediment immediately.
- 29.6 The Consent Holder shall undertake inspections of the site area, including at the entry and exit points of the containment and excavation sites, and along transport routes to identify if any spills have occurred. Inspections shall be undertaken at the start and end of each day and once every three hours during each day that excavation works and transportation of sediment occurs.

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- 29.7 Except as required for by conditions 29.8 and 29.9 of this consent, any accidental spill of sediment excavated from the Kopeopeo Canal shall be remedied immediately in accordance with the procedures set out in Appendix E the Monitoring and Validation Plan referred to in condition 4.5 of this consent.
- 29.8 The Consent Holder shall implement the procedures set out in Appendix E of the Remedial Action Plan referred to in condition 4.4 of this consent immediately upon any spill of sediment from trucks in transit.
- 29.9 Any accidental spill of sediment greater than 5m<sup>2</sup> in surface area shall be cleaned and validated in accordance with the procedures out in Appendix E of the Remedial Action Plan referred to in condition 4.4 of this consent.

### **30. Hazardous Substances**

- 30.1 Any spill of hazardous substances shall be remedied in accordance with the procedures set out in the Site Management Plan referred to in condition 4.6 of this consent (refer to Advice Note 12).

### **31. Signage**

- 31.1 Signage shall be erected and maintained at the containment sites and other prominent locations in proximity to the works area for the duration of the works carried out in accordance with this consent. Signage shall include information on the remediation project, any necessary health warnings and shall clearly display, as a minimum, the following information:
- a. The Consent Holder;
  - b. A 24 hour contact telephone number for the Consent Holder or appointed agent; and
  - c. A clear explanation that the contact telephone number is for the purpose of receiving complaints and information from the public about dust nuisance, odour, sediment spills or any other problem resulting from the exercise of this consent.

### **32. Archaeological Sites**

- 32.1 In the event of any archaeological site or koiwi being uncovered during the exercise of this consent, activities in the vicinity of the discovery shall cease. The Consent Holder shall contact the BoPRC, then consult with Te Runanga o Ngati Awa or its authorised successor, and the New Zealand Historic Places Trust. The Consent Holder shall not recommence works in the area of the discovery until the relevant Historic Places Trust approvals or other approvals to damage, destroy or modify such sites have been obtained, where necessary (refer to Advice Note 8).
- 32.2 Subject to condition 32.1 of this consent, the Consent Holder shall implement the *'Ngati Awa protocol for dealing with Koiwi or Taonga unearthed during the*

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Kopeopeo *Canal Remediation Project*' (Attachment 2 to this consent) in the event of any archaeological site or koiwi being uncovered during the exercise of this consent.

### **33. Cultural Monitor**

33.1 No less than 20 working days prior to the commencement of works authorised under this consent, the Consent Holder shall invite (in writing) Te Runanga o Ngati Awa appoint a cultural monitor to:

- a. Observe activities associated with the excavation and earthworks activities authorised by this consent in order to implement the '*Ngati Awa protocol for dealing with Koiwi or Taonga unearthed during the Kopeopeo Canal Remediation Project*' (Attachment 2 to this consent) in the event koiwi or taonga is unearthed; and
- b. Provide advice to contractors and staff on cultural matters associated with the works associated with the Kopeopeo Canal Remediation Project.

33.2 The Consent Holder shall provide full copies of this resource consent and the Health and Safety Plan (attached as Appendix C to the Remedial Action Plan) with its invitation to Te Runanga o Ngati Awa in accordance with condition **33.1** of this consent.

### **34. Hours of Work**

34.1 Except for activities associated with the pumping of water from the remediation zone of the Kopeopeo Canal and any mitigation measures necessary to manage dust, odour, sediment spills, flood events, or any other effects associated with the exercise of this consent, all activities authorised under this consent shall be undertaken within the following hours:

Monday to Saturday 7.30am to 6.00pm; and  
Sunday and Public Holidays – No works

### **35. Access for Monitoring**

35.1 The Consent Holder shall allow access by authorised officers of the BoPRC and WDC (or delegated persons) to the remediation zone of the Kopeopeo Canal to each of the Containment Sites for purposes of monitoring the compliance with the conditions of this consent, to the satisfaction of the Chief Executives of the BoPRC and WDC or delegates.

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### **36. Water Metering & Reporting – Taking Water**

- 36.1 Prior to the taking of water from the Kopeopeo Canal for transfer to the Water Treatment Pond the Consent Holder shall install a water meter and data logger at a location where it can measure the water that is abstracted from the canal.
- 36.2 The water meter and data logger unit shall:
- a. Meet the Resource Management (Measuring and Reporting on Water Takes) Regulations 2010;
  - b. Be installed and maintained in accordance with the manufacturer's specifications, and to the satisfaction of the Chief Executive of the BoPRC or delegate;
  - c. Be sealed and as tamper proof as practicable;
  - d. Be suited to the qualities of the water it is measuring (such as temperature, algae content and sediment content);
  - e. Be able to be fitted with a recording device;
  - f. Be calibrated by a suitably qualified operator to ensure any margin of error does not exceed +/- 5%. Calibration shall be undertaken within 5 working days of the commencement of water abstracted from the Canal and thereafter as directed by the Chief Executive of the BoPRC or delegate. Within 5 working days of calibration, the Consent Holder shall provide evidence of calibration to the Chief Executive of the BoPRC or delegate.
- 36.3 All practicable measures shall be taken to ensure that the water meter and data logger unit are fully functional at all times. All malfunctions of the water meter and data logger unit shall be reported to the Chief Executive of the BoPRC or delegate within 24 hours of observation and appropriate repairs shall be undertaken as soon as practicable following observation of the malfunction.
- 36.4 The water meter and data logger shall be made accessible for the purpose of monitoring by the Chief Executive of the BoPRC or delegate.
- 36.5 Records stored by the data logger shall enable the amount of water taken each week to be calculated. If no water is taken the volume shall show zero cubic metres.
- 36.6 The Consent Holder shall provide a record of the amount of water taken each week to the Chief Executive of the BoPRC within 20 working days of the completion of works within the Kopeopeo Canal.

### **37. Groundwater Monitoring & Responses**

- 37.1 From the first deposit of contaminated sediments in the Containment Sites authorised under this consent, the Consent Holder shall carry out groundwater monitoring in accordance with conditions 37.2 to 37.9 of this consent.

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- 37.2 Groundwater monitoring shall be undertaken at all of the locations described in Appendix A to the Environmental Monitoring and Validation Plan referred to in condition 4.5 of this consent (with the exception of MW303 for which no monitoring is required).
- 37.3 The following additional wells shall be included in the Monitoring and Validation Plan referred to in condition 4.5 of this consent:
- a. The 0.8 BGL shallow piezometers at CS-1 and CS-2;
  - b. A new well in the marine sands at the eastern end of CS-1 (if a full year of monitoring shows that groundwater flow direction is consistently to the northwest no further monitoring is required in this location);
  - c. An additional well at the south of CS-2; and
  - d. **An additional well at CS-3 between the containment site and the Whakatane River.**
- 37.4 The static groundwater level shall be measured at all monitoring locations at monthly intervals from the first deposit of contaminated sediment and for the duration of the consent in accordance with the methods set out in the Monitoring and Validation Plan referred to in condition 4.5 of this consent.
- 37.5 At least two background groundwater quality monitoring events shall be undertaken prior to the deposition of sediment in the containment sites in accordance with the methods set out in the Monitoring and Validation Plan referred to in condition 4.5 of this consent and for the following parameters:
- a. pH;
  - b. Electrical Conductivity (EC);
  - c. Dissolved Oxygen (DO);
  - d. Redox Potential (ORP);
  - e. Dissolved Metals (Heavy Metal Suite, As, Cd, Cr, Cu, Pb, Ni, Zn and Fe);
  - f. Anion / Cation Profile (Ca, Mg, Na, K, Alkalinity, Bicarbonate, NO<sub>3</sub>, NO<sub>2</sub>, SO<sub>4</sub>, Cl); and
  - g. **Dioxins.**
- 37.6 On-going groundwater quality monitoring shall be undertaken upon the first deposition of sediment in the containment sites in accordance with the methods set out in the Monitoring and Validation Plan referred to in condition 4.5 of this consent and for the following parameters:
- a. pH;
  - b. Electrical Conductivity (EC);
  - c. Dissolved Oxygen (DO);
  - d. Redox Potential (ORP);
  - e. **Dioxins**
- 37.7 Groundwater quality monitoring shall be undertaken at CS-1 and CS-2 following the deposition of contaminated sediment as follows:
- a. For the first 6 months following the first deposition of sediment in the containment sites (expected duration of the conditioning phase), sampling shall be undertaken at monthly intervals;

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- b. For the following 18 months (i.e. months 7 to 24 from the first deposition of sediment in the containment site) sampling will be based on a rainfall trigger. Sampling shall be undertaken in accordance with the following:
  - i. The frequency of sampling shall be no greater than once a month;
  - ii. Sampling shall be undertaken within 24 hours following a rainfall event of at least 5mm per 24 hour period;
  - iii. If there are no rainfall events equal to or exceeding 5mm per 24 hour period within any month, no sampling is required for that month;
  - iv. If there are no rainfall events equal to or exceeding 5mm per 24 hour period within a three month period, sampling shall be undertaken and once every three months thereafter until such time as the 5mm per 24hr rainfall trigger is met or exceeded.
- c. If, following the first two years of monitoring, results show that a dioxin concentration of 30pg I-TEQ/L has not been exceeded, sampling shall continue at six monthly intervals for a further six years, and then annually for the remainder of the consent.
- d. In the event that any monitoring undertaken after two years produces a dioxin concentration of 30pg I-TEQ/L or more, monitoring shall be undertaken at the frequencies referred to in conditions 37.6(b), until the dioxin concentration is equal to or less than 30pg I-TEQ/L.
- e. In the event that the remedial target of 40 pg/g TEQ for sediment in the containment cell is met, an appropriately qualified expert shall review the need for, and frequency of on-going groundwater monitoring. This review, including conclusions on the need for on-going monitoring, shall be peer reviewed and certified by an independent and appropriately qualified expert to verify that the need and frequency for groundwater monitoring is robust and based on valid science. The appointed peer reviewer shall be selected in agreement with the Chief Executive of the BoPRC or delegate. A copy of the report detailing the review, and the peer reviewer's certificate shall be provided to the Chief Executive of the BoPRC and WDC within 30 working days of the completion of the reports.

- 37.8 The Consent Holder shall carry out groundwater quality monitoring at CS-3 from the first deposit of contaminated sediment at six monthly intervals, or until three consecutive monitoring results show that the dioxin concentration of groundwater is at or below 30pg I-TEQ/L at which time groundwater quality monitoring at CS-3 may cease.

If the groundwater quality Trigger Level 2 of 30pg I-TEQ/L is exceeded at any of the containment sites a Corrective Action Plan shall be implemented. The Corrective Action Plan shall be detailed in a revised Remedial Action Plan to be completed in agreement with BOPRC but will include:

- a. Further investigation and sampling of the groundwater exceeding the TL
- b. Possible installation of additional wells
- c. Undertaking a risk assessment to determine whether the exceedence poses a risk to human health,

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- d. Any risk assessment shall be carried out by an appropriately qualified expert. The Containment Site(s) shall be managed in accordance with the recommendations contained within the risk assessment.

### **38. Settlement Monitoring – CS-3**

- 38.1 The Consent Holder shall undertake annual topographical surveys at CS-3. In the event that annual surveys show that the height of the containment cell bunds at CS-3 are lower than the design specification (as per the plans referred to in condition 4.1 of this consent), the height of the bunds shall be increased to the satisfaction of the Chief Executive of the BoPRC or delegate.

### **39. Air Quality – General**

- 39.1 All activities with potential for air emissions, including in association with dioxin contamination, dust, and odour shall be undertaken and managed in accordance with the methods and procedures set out in the Remedial Action Plan, Site Management Plan and Monitoring and Validation Plan referred to in conditions 4.4 to 4.6 of this consent.
- 39.2 All activities shall be managed so as to avoid objectionable or offensive air emissions beyond the boundaries of the site.

### **40. Dioxin & Air Quality Monitoring**

- 40.1 Air quality monitoring for dioxins shall commence 28 days prior to the commencement of Season 2 works and shall continue for the duration of works associated with sections 1 to 5 of the canal. Additional air quality monitoring for dioxins shall be carried out at the request of the Chief Executive of the BoPRC, or delegate within the first year following the completion of the containment cells.
- 40.2 Air quality monitoring for dioxins shall be undertaken in accordance with AS 3580 at or adjacent to 99 Paroa Road, Whakatane (Whakatane Growers Limited) and 34 Paroa Road, Whakatane (Paroa School) and conducted in accordance with the US EPA Method TO-9A *'Determination of Polychlorinated, Polybrominated and Brominated/Chlorinated Dibenzo-p Dioxins and Dibenzofurans in Ambient Air'*, except as modified for sampling over a 14 days period.
- 40.3 The results of the monitoring in accordance with condition 40.1 shall be provided to the Chief Executive of the BoPRC within 5 days of the monitoring results being received and shall be communicated to the community in accordance with the Communications Plan referred to in condition 27.3.
- 40.4 If air quality monitoring for dioxins produces a result with a dioxin concentration of 0.03 pg I-TEQ/m<sup>3</sup> or more, the Consent Holder shall carry out all necessary investigations to determine the cause of the exceedence of the



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dioxin concentration trigger and shall take all practicable steps to ensure that the concentration of dioxin in the air is less than or equal to 0.03 pg I-TEQ/m<sup>3</sup>.

40.5 The results of the air quality monitoring referred to in condition 40.1 of this consent shall be analysed and reported to the Chief Executive of the BoPRC or delegate within nine months of the completion of the containment sites associated with this consent.

#### **41. Dust Management**

41.1 The Consent Holder shall ensure that sediment is kept wet from the time it is excavated from the Kopeopeo Canal until the time it is deposited in the containment cells and the cells have been covered and stabilised.

41.2 The Consent Holder shall adopt a proactive strategy for dust control, specifically by complying with the principles of dust management as set out in the Bay of Plenty Regional Council Guideline No. 2010/01 - "*Erosion and Sediment Control Guidelines for Land Disturbing Activities*" or its successor, so as to prevent a dust nuisance from occurring beyond the site boundaries.

41.3 The Consent Holder shall ensure that an adequate supply of water for dust control (sufficient to apply a minimum of 10 mm/day to all exposed areas of the site), and an effective means for applying that quantity of water, is available on site at all times during construction and until such time as the Containment Sites are fully stabilised.

41.4 The Consent Holder shall ensure that, at all times, the soil moisture level of exposed areas is sufficient, under prevailing wind conditions, to prevent dust being generated beyond the boundary of the containment sites and or transportation routes by normal earthmoving operations.

41.5 The Consent Holder shall ensure that, outside of normal working hours, staff are available on-call to undertake dust suppression measures.

41.6 If, during preparatory works in Season 1, wind conditions render dust control impracticable, the Consent Holder shall ensure that any machinery generating airborne dust ceases to operate until such time as effective dust control can be re-established.

41.7 Despite conditions 41.2 to 41.6 of this consent, the Consent Holder shall undertake additional or alternative dust control measures to the satisfaction of the Chief Executive of the BoPRC or delegate, as directed.

#### **42. Dust Monitoring**

42.1 The Consent Holder shall:

- a. Carry out continuous visual monitoring for dust while works are being carried out; and
- b. Monitor particulate concentrations using optical light scattering instrumentation with one monitoring instrument located at the

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containment site where works are taking place and one monitoring instrument located downwind of the predominant wind direction at the canal where excavation works are being undertaken;

in accordance with the methods set out in the Monitoring and Validation Plan referred to in condition 4.5 of this consent.

#### **43. Remedial Action for Dust Emissions**

43.1 In the event that:

- a. Dust emissions result in a visible plume at or beyond the boundary of the site; or
- b. any measurement of particulate matter exceeds 70 micrograms/m<sup>3</sup> as a one-hour average,

the Consent Holder shall investigate the source of the dust, review dust management practices and implement additional measures as necessary to avoid dust travelling beyond the boundaries of the site as soon as practicable.

43.2 In the event that visible dust is reported and verified travelling at or beyond the boundary of the site, for more than 4 hours in a 24-hour period, all works shall cease and the Consent Holder shall advise (in writing) the Chief Executive of the BoPRC of the incident. Works may only re-commence when the effects of dust travelling beyond the site boundary have been remedied to the satisfaction of the Chief Executive of the BoPRC or delegate.

43.3 Dust monitoring data shall be provided to the Chief Executive of the BoPRC or delegate on two-weekly basis, or as otherwise requested, and shall include a record of particulate matter measurements recorded, identify any instances that dust has been recorded beyond the boundary of the site, and the actions taken to avoid and/or minimise dust generation.

#### **44. Odour Management & Monitoring**

44.1 The Consent Holder shall monitor, and keep a diary of odour generated as a consequence of the activities authorised under this consent in accordance with the methods set out in the Monitoring and Validation Plan (including Appendix F) referred to in condition 4.5 of this consent.

44.2 The Consent Holder shall ensure that sufficient lime is available to be added to sediment in trucks and at the containment sites so as to mitigate adverse odour effects.

44.3 In the event that objectionable or offensive odour is reported and verified beyond the boundary of the site, the Consent Holder shall investigate the source of the odour, review odour management practices and implement additional odour control measures as necessary to the satisfaction of the Chief Executive of the BoPRC or delegate.

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- 44.4 If objectionable or offensive odour occurs beyond the boundary of the site for more than 2 days, the Consent Holder shall terminate the operations causing the odour and notify (in writing) the Chief Executive of the BoPRC. Works may only proceed if the Chief Executive of the BoPRC or delegate has confirmed that it is satisfied with the mitigation measures to be implemented.

#### **45. Soil Quality & Monitoring**

- 45.1 Prior to the deposition of contaminated soil at the containment sites, the Consent Holder shall undertake background soil sampling at the containment sites in accordance with the methods set out in the Monitoring and Validation Plan (including the Soil Sampling Protocols in Appendix D of the Monitoring and Validation Plan) referred to in condition 4.5 of this consent for the following parameters:
- a. Dioxins (full congener analysis, - Polychlorinated dibenzo-p-dioxins (PCDDs), Polychlorinated dibenzofurans (PCDFs), reported as I-TEQ;
  - b. Heavy Metals (As, Cd, Cr, Cu, Ni, Pb, Zn);
  - c. Acid Herbicides (Screen); and
  - d. Organochlorine Pesticides (Screen).
- 45.2 After the first placement of sediment in the CS-1 containment cells, the Consent Holder shall undertake sediment sampling in the CS-1 Perimeter Drain at the following locations:
- a. The eastern end of the southern cut-off drain;
  - b. Mid-point of the southern cut-off drain;
  - c. The western end of the southern cut-off drain.

A composite sample of locations a to c (above) shall be analysed to determine dioxin concentration. Samples shall be collected and analysed at three monthly intervals for the first two years following the placement of sediment in CS-1.

- 45.3 The results of the sampling undertaken in accordance with condition 45.1 shall be used for comparative purposes in the event that the Contingency Plans are implemented in accordance with the Monitoring and Validation Plan referred to in condition 4.5 are implemented.

#### **46. Aquatic Species**

- 46.1 Prior to use, the Consent Holder shall ensure that the pumps used for dewatering purposes are fitted with screens to prevent fish from becoming trapped in the pumps.
- 46.2 Prior to carrying out de-watering of each Section of the Kopeopeo Canal, the Consent Holder shall undertake all reasonable steps, to the satisfaction of the Chief Executive of the BoPRC or delegate, to ensure that the Section is substantially free from fish species (including eels).

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- 46.3 The removal of fish species from the Kopeopeo Canal in accordance with condition 46.2 of this consent shall be achieved through use of fyke nets over a period of up to seven days or less if it is verified that the section of the canal is substantially free from fish. A suitable alternative method of removing fish from the canal may be employed subject to the prior written approval of the Chief Executive of the BoPRC or delegate.
- 46.4 All fish species shall be euthanized and disposed of at the nearest Containment Site. This condition does not preclude the potential for fish and eels to be sampled for dioxin (or other) contamination prior to being disposed of at the Containment Sites.

#### **47. Saltmarsh**

- 47.1 The route and extent of the temporary access road through the Kopeopeo Canal Salt Marsh (as shown on Figure 6.5, Appendix A to the Remedial Action Plan referred to in condition 4.4 of this consent) shall be designed in such a manner that the road footprint and vegetation disturbance are both minimised.
- 47.2 Prior to the construction of the temporary access road, an appropriately qualified and experienced terrestrial ecologist shall carry out a detailed survey and prepare a report on the nature, condition and extent of the vegetation and flora present within the proposed access route.
- 47.3 No works associated with the temporary access road shall be carried out between the months of September to January (inclusive).
- 47.4 The design and construction of the temporary access road through the saltmarsh area shall incorporate one or more culverts designed to enable the tidal flows of water between areas of the saltmarsh on either side of the access road. The final design details of the culverts shall be included in the Site Management Plan required by condition 4.6 of this consent.
- 47.5 The temporary road shall be constructed in general accordance with the methods described in the Site Management Plan referred to in condition 4.6 of this consent and shall be underlain with geotextile fabric in such a manner so as to facilitate the complete removal of roading material and any foreign matter deposited in association with the activities authorised by this consent.
- 47.6 On completion of the works in the Kopeopeo Canal east of Keepa Road, the Consent Holder shall rehabilitate the temporary access route to the satisfaction of the Chief Executive of the BoPRC or their delegate.
- 47.7 The rehabilitation required by condition 47.6 of this consent shall, as a minimum, be to the baseline established by the survey required by condition 47.2 of this consent and include but not be limited to:
- a. Removal of all roading material and foreign matter (including the geotextile fabric) introduced as a consequence of the exercise of this consent;

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- b. Ground levels to be restored to their original (pre-development) levels to the extent required to facilitate the reestablishment of the saltmarsh and prevent the introduction of weed species within the saltmarsh;
  - c. Remediate any compacted estuarine soils, including by raking and back-hoeing;
  - d. Monitoring of the affected saltmarsh area and adjacent habitats shall be undertaken three-monthly for the first three years following completion of the works, to assess whether natural re-establishment of saltmarsh is occurring. This monitoring shall include:
    - i. Walk-through assessments;
    - ii. Photographs at recorded points;
    - iii. Observations recorded using photo point record sheets; and
    - iv. GPS co-ordinates of all site photographs and other records.
  - e. If saltmarsh vegetation does not self-regenerate in two calendar years following the completion of works within the Canal, the Consent Holder shall re-vegetate the affected area using locally-sourced indigenous saltmarsh species;
  - f. Replanting of locally-sourced indigenous saltmarsh vegetation shall be implemented to the satisfaction of the Chief Executive of the BoPRC or delegate if natural regeneration has not occurred two years following the completion of works; and
  - g. A report shall be provided to the Chief Executive of the BoPRC or delegate within three years of completing works within the Canal verifying that the saltmarsh has been rehabilitated to at least a similar quality and extent as that recorded in the pre-condition survey and in accordance with this condition. This report is to be prepared by a suitably qualified and experienced ecologist.
- 47.8 Any pest plants within or adjacent to the saltmarsh area affected by the works are to be removed and subsequent weed control carried out for a period of 3 years following rehabilitation of the saltmarsh area.
- 47.9 If the time required for remediation of the section of the Kopeopeo Canal east of Keepa Road Bridge exceeds 21 days, the saltmarsh in the vicinity of CS-3 shall be monitored for signs of dryness. If necessary to ensure the survival of saltmarsh vegetation, the saltmarsh shall be replenished with clean (uncontaminated) water to the satisfaction of the Chief Executive of the BoPRC or delegate.
- 48. General Monitoring & Reporting**
- 48.1 All reporting shall be undertaken in accordance with '*Contaminated Land Management Guidelines No.1 – Reporting on Contaminated Sites in New Zealand*' Ministry for the Environment, April 2001, Revised 2011, or its successor.
- 48.2 All soil and sediment sampling shall be carried out in accordance with '*Contaminated Land Management Guidelines No.5 – Site Investigation and Analysis of Soils*' Ministry for the Environment, February 2004, Revised 2011, or its successor, including the use of split samples to be analysed by a secondary laboratory at a rate of 1 in 20 samples.

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- 48.3 The Consent Holder shall keep project and monitoring records for the duration of this consent and shall forward a copy of the records required by the conditions of this consent to the Chief Executives of BoPRC and WDC or delegates within 48 hours of a request.
- 48.4 From the commencement of works authorised by this consent and until such time that the containment sites have been completed and stabilised, the Consent Holder shall provide a monthly reports (in writing) to the Chief Executives of the BoPRC and WDC or delegates. The update shall contain details regarding:
- a. project progress, including notification of the completion of specific components of the project;
  - b. any issues (including complaints, incidents, or spills) that have been identified and how these are to be resolved;
  - c. notice of any trigger level transgressions and/or breach of conditions of this consent;
  - d. any opportunities that have been identified and changes to methods and / or procedures;
  - e. Water abstraction volumes recorded in accordance with condition 38.5 of this consent; and
  - f. The results of monitoring required by other conditions of this consent, unless provided under specific reporting requirements of that condition.
- 48.5 Within 60 working days of the completion of all excavation from the canal, the Consent Holder shall submit a final Validation Report confirming that the remediation target has been met within the Kopeopeo Canal (i.e. a dioxin concentration no greater than 60 pg I-TEQ-g). The Validation Report shall be prepared in accordance with the MfE Contaminated Land Management Guidelines No. 1: Reporting on Contaminated sites in New Zealand 2011 guideline referred to in condition 48.1 of this consent.
- 48.6 The Consent Holder shall provide written advice to the Chief Executives of the BoPRC and WDC, the Community Liaison Group, Te Rununga o Ngati Awa, and the Medical Officer of Health of any of the following incidents:
- a. A groundwater quality sampling result with a dioxin concentration exceeding 30pg I-TEQ/L;
  - b. Air quality sampling results with a dioxin concentration exceeding 0.03pg I-TEQ/M<sup>3</sup>;
  - c. Dust monitoring using optical light scattering instrumentation with results exceeding 70 micrograms/m<sup>3</sup>;
  - d. Any discharge of water outside of the remediation zone of the Kopeopeo Canal exceeding 5.0pg I-TEQ/L (or proxy);
  - e. Any occurrence of reported and verified dust travelling beyond the boundaries of the site;
  - f. Any occurrence of reported and verified objectionable or offensive odours beyond the boundaries of the site;
  - g. Any spill of sediment excavated from the Kopeopeo Canal outside of the Kopeopeo Canal or Containment Sites.

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#### **49. Review of Consent Conditions**

- 49.1 The BoPRC may, within six (6) months and twelve (12) months following the grant of this consent, and annually thereafter, serve notice on the Consent Holder under Section 128(1)(a)(ii) or (iii) of the Resource Management Act 1991 of its intention to review the conditions of this resource consent. The purpose of such a review is to assess the need for additional monitoring and/or adjust trigger levels and/or management responses in order to avoid remedy or mitigate adverse effects on the environment. The need for, and scope of any review under this condition shall be informed by the reporting undertaken in accordance with the conditions of this consent.
- 49.2 The BoPRC may, within one month of receipt of results from compliance monitoring, or where complaints have been received and validated by the Chief Executive of the BoPRC or delegate, serve notice on the Consent Holder under Section 128(1)(a)(i) and/or (iii) of the Resource Management Act 1991 of its intention to review the conditions of this consent. The purpose of such a review would be to ensure that management practices are appropriate to avoid any adverse effects on the environment.

#### **50. Resource Management Charges**

- 50.1 The Consent Holder shall pay the Bay of Plenty Regional Council such administrative charges as are fixed from time to time by the BoPRC in accordance with Section 36 of the Resource Management Act 1991.

#### **51. Term of Consent**

- 51.1 This resource consent shall expire on 15 years from grant of consent.

#### **52. Other Approvals**

- 52.1 The Consent hereby authorised is granted under the Resource Management Act 1991 and does not constitute an authority under any other Act, Regulation or Bylaw.

Signed this 28<sup>th</sup> day of February 2014.



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Alan Bickers  
Chairman of Hearing Panel

28 February 2014

## **ADVICE NOTES:**

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1. *The Chief Executive of the BoPRC or delegate, as referred to in this consent is the person responsible for monitoring and enforcing compliance with the conditions of this consent.*
2. *Unless otherwise specified all monitoring records and notification required under consent conditions shall be directed (in writing) to the Chief Executive of the BoPRC or delegate, Bay of Plenty Regional Council, PO Box 364, Whakatāne 3158, or fax: 0800 884 882 or email: [notify@boprc.govt.nz](mailto:notify@boprc.govt.nz). This notification shall include reference to the resource consent number 67173.*
3. *The Consent Holder is responsible for ensuring that all contractors carrying out works under this consent are made aware of the relevant consent conditions, plans and associated documents.*
4. *This resource consent will lapse five years from the time of being granted, if not given substantive effect to by the Consent Holder within that time.*
5. *The Consent Holder is advised that non-compliance with consent conditions may result in enforcement action against the Consent Holder and/or their contractor(s).*
6. *Any review of consent conditions undertaken in accordance with Conditions 49.1 and 49.2 and Section 128 of the Resource Management Act 1991 may result in an increase in monitoring and/ or a change in trigger levels and trigger responses.*
7. *Resource Management (Measuring and Reporting of Water Takes) Regulations 2010 came into force on 10 November 2010. Details can be found at [www.newzealand.govt.nz](http://www.newzealand.govt.nz) or [www.mfe.govt.nz](http://www.mfe.govt.nz).*
8. *This consent does not authorise the holder to modify or disturb any archaeological or historic sites within the area affected by this consent. Should any artefacts, bones or any other sites of archaeological or cultural significance be discovered within the area affected by this operation, written authorisation should be obtained from the Historic Places Trust before any damage, modification or destruction is undertaken.*
9. *The Consent Holder is advised that the Ngati Awa Claims Settlement Act 2005 includes protocols for engagement with the Ministry of Heritage and Culture and the Historic Places Trust. Any artefacts found on land solely within the Ngati Awa rohe will be subject to return to Ngati Awa who will seek ownership and custodianship of the artefact in perpetuity.*
10. *The fair and reasonable costs associated with a review under Conditions 49.1 and 49.2 may be recovered from the applicant.*
11. *The Consent Holder is advised that in the event that Bioremediation of contaminated sediments at the containment sites is unsuccessful, the removal of sediment from the Containment Sites is not authorised under this consent and other resource consents and approvals may be required.*
12. *For the purpose of this resource consent, the contaminated sediment removed from the Kopeopeo Canal is not defined as a 'hazardous substance'.*
13. *All fish species (including eels) recovered from the Kopeopeo Canal in accordance with the conditions of this consent shall be euthanized using best practice and humane methods.*



BoPRC  
Resource Consent 67173  
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*14. All references to “days” in the consent conditions are to “working days”.*