Dated 10 April 2014

Resource Consent Conditions

This resource consent authorises the Consent Holder to undertake the construction, operation and maintenance of the Ara Tūhono Road Pūhoi to Wellsford Road of National Significance: Pūhoi to Warkworth Section.

This resource consent authorises the following activities:

(i) Land disturbing activities under section 9 of the Resource Management Act 1991 (RMA) including earthworks, roading, tracking, trenching, spoil disposal and vegetation clearance (33/003)

(ii) The construction and use of a structure being a viaduct in the coastal marine area and its occupation of the seabed at Okahu Inlet under section 12 of the RMA (33/009, 33/010, 33/011) and ancillary construction activities (33/012)

(iii) Works in watercourses, including structures, diversions, stormwater outlets, erosion protection, restoration and enhancement in the Mahurangi and Puhoi Rivers and their associated tributaries under sections 13 and 14 of the RMA (33/005 and 33/008)

(iv) The diversion of groundwater under section 14 of the RMA (33/006)

(v) The discharge of treated stormwater under section 15 of the RMA from the highway (33/004 and 33/007) and upgrades of local or construction roads (33/013, 33/014 and 33/015)

(vi) The discharge of contaminants to water during construction from an industrial or trade premise being a pre-cast concrete yard located at Lot 1 DP 329024 (CT 118446) under section 15 of the RMA (33/016)

(vii) The discharge of contaminants during construction to air from a mobile rock crusher under section 15 of the RMA (33/017)

These activities shall occur between the Johnstone's Hill Tunnels in the south and Kaipara Flats Road in the north, on land designated by the New Zealand Transport Agency under section 171 of the RMA for the construction, operation and maintenance of a State highway and in the coastal marine area at Okahu Inlet.

The final locations of each structure provided for in (ii), (iii) and (v) shall be provided to the Auckland Council through plans and certificates submitted in accordance with the conditions that follow.

Definitions	
AMP	Adaptive Monitoring Plan
CEMP	Construction Environmental Management Plan
CESCP	Construction Erosion and Sediment Control Plan
CTMP	Chemical Treatment Management Plan
Construction Works	Activities undertaken to construct the Project, excluding Enabling Works
Control Site	A site within each of the Mahurangi and Pūhoi Harbours that will not be affected by construction

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Coastal Marine Area (CMA)	Means the means the foreshore, seabed, and coastal water, and the air space above the water— (a) of which the seaward boundary is the outer limits of the territorial sea: (b) of which the landward boundary is the line of mean high water springs, except that where that line crosses a river, the landward boundary at that point shall be whichever is the lesser of— (i) 1 kilometre upstream from the mouth of the river; or (ii) the point upstream that is calculated by multiplying the width of the river mouth by 5
Council	Auckland Council
DEB	Decanting earth bund
Enabling Works	Preliminary activities including such things as geotechnical investigations (including access for such investigations), sealing roads, establishment of mitigation measures (such as earth bunds and planting)
Erosion Prone Stream	Streams with soft beds (not rock) that are predicted to be subject to flow changes of >15% to peak 2 year and 10 year ARI flows compared to predevelopment
ESCP	Erosion and Sediment Control Plan
Flat Country	That part of the Project to the north of the Perry Road Viaduct
Hill Country	That part of the Project to the south of the Perry Road Viaduct
Intermittent Stream	The streams recorded in Appendix A as intermittent and any stream or part of a stream that is not a Permanent Stream
Team Leader	Auckland Council Team Leader Compliance and Monitoring – Northern Resource Consenting and Compliance (Orewa)
Permanent Stream	Downstream of the uppermost reach of a river or stream that meets either of the following criteria (a) Has continual flow; or (b) Has natural pools having a depth at their deepest point of not less than 150 millimetres and a total pool surface area that is 10m² or more per 100 metres of river or stream bed length. The boundary between Permanent and Intermittent river or stream reaches is the uppermost qualifying pool in the uppermost qualifying reach
Project	The construction, maintenance and operation of the Ara Tūhono Pūhoi to Wellsford Road of National Significance: Pūhoi to Warkworth section
Project Area	The [XX designation] footprint
RCMP	Rock Crusher Management Plan

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SRP	Sediment retention pond
Stage	Any specific area or activity of construction within the Project as nominated by the Consent Holder
TP10	Auckland Council Technical Publication 10 - Stormwater management devices: Design guidelines manual 2003
TP90	Auckland Council Technical Publication 90 - Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region 1999 (updated 2007)
USLE	Universal Soil Loss Equation
Watercare	Watercare Services Limited

General

Consent lapse and expiry

1 Pursuant to section 125(1) of the Act, the Consents 33/003 – 33/017 shall lapse 15 years from the date of their commencement unless they have been given effect, surrendered or been cancelled at an earlier date.

2 Pursuant to section 123(c) of the Act, the Consents 33/004 – 33/011 and 33/013 – 33/015 shall expire 35 years from the date of their commencement.

3 Pursuant to section 123(c) of the Act, the Consents 33/003, 33/012, 33/016 and 33/017 shall expire 15 years from the date of their commencement.

Review

Condition 4 applies to Consents 33/003 – 33/017

4 These Conditions may be reviewed by the Team Leader under section 128 of the Act, by giving notice pursuant to section 129 of the Act, annually during construction and otherwise biannually at most, in order:

(a) To deal with any adverse effect on the environment that may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or

(b) To review the adequacy of any monitoring.

Iwi Advisor

Conditions 5-9 apply to Consents 33/003 – 33/017

5 At least 12 months prior to commencement of Construction Works, the Consent Holder shall request that Hōkai Nuku (being comprised of the representatives for Ngāti Whatua, Ngāti Whatua o Kaipara, Te Uri o Hau, and Ngāti Manuhiri) appoint an iwi advisor or other nominated kaitiaki (together the Iwi Advisor) to undertake the roles and responsibilities set out in these conditions.

6 Where no Iwi Advisor is appointed by Hōkai Nuku within 6 months prior to commencement of Construction Works or where at any time the appointed Iwi Advisor is unavailable or unwilling to undertake their roles

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and responsibilities set out in these conditions, the Consent Holder shall seek the advice of Hōkai Nuku prior to commencing an activity where the Iwi Advisor's input would otherwise be required and shall have regard to any advice provided by Hōkai Nuku.

7 The Consent Holder shall invite the Iwi Advisor to provide cultural indicators covering traditional association, mahinga kai and cultural stream health measures. The Consent Holder shall have regard to any cultural indicators provided in preparation of any management plan required under these conditions.

8 In the event that spoil from the Project is disposed of outside of the Project Area, the Iwi Advisor will be informed of the disposal site.

9 To the extent practicable, if any spoil is generated in the Project Area south of Puhoi Road, the Consent Holder shall retain that spoil within the Project Area south of Puhoi Road.

Construction Environmental Management Plan

Condition 10 applies to Consents 33/003 – 33/017

10 The Consent Holder shall produce a Construction Environmental Management Plan (CEMP). The purpose of the CEMP is to assist with the implementation of the Project and shall include:

(a) The roles and responsibilities of construction management staff;

(b) A description of the training and education programme that will be implemented to ensure compliance with conditions;

(c) Methods for undertaking monitoring, maintenance, auditing and reporting required in the conditions;

(d) Procedures for hazard, including fire hazard, identification and control;

(e) The details of emergency contacts and responses;

(f) The details of emergency contacts for Watercare to facilitate notification under Condition 10(g); and

(g) Methods for responding to queries and complaints.

Pre-construction monitoring

Conditions 11-16 apply to Consents 33/004, 33/005, 33/006, 33/007, 33/008, 33/009, 33/012, 33/013, 33/014, 33/015

11 Prior to the commencement of Construction Works, the Consent Holder shall undertake baseline monitoring of the Mahurangi and Pūhoi Harbours and of freshwater environments that are representative of the Project Area.

12 At least 20 working days prior to any baseline monitoring commencing, the Consent Holder shall submit a programme for the baseline monitoring as required by Condition 11 above to the Team Leader for approval. The programme shall include the methodology for undertaking the baseline monitoring, including the requirements set out in Conditions 13 to 15. If the Consent Holder has not received a response from the Team Leader within 20 working days, the Consent Holder will be deemed to have approval and can commence baseline monitoring.

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13 The monitoring shall be undertaken to:

(a) Confirm baseline environmental conditions, represented by:

i. sediment quality and benthic invertebrate community compositions in the marine environment;

ii. fish distribution, macroinvertebrates, periphytes, stream survey and transects in freshwater environments, using the Sections 4 and 5 of the Stream Ecological Valuation (SEV) methodology (Auckland Council TR 2011/009); and

iii. water quality, limited to TSS, pH, turbidity, nitrogen and phosphorous.

(b) Identify the baseline condition of Erosion Prone Streams.

14 Baseline monitoring shall be undertaken:

(a) At:

i. Five (5) sites potentially affected by the Project and one (1) control site in each of the Mahurangi and Pūhoi Harbours; plus one site potentially affected by the Project in the Okahu Inlet; and

ii. Two (2) representative freshwater sites across each of the Hill Country and the Flat Country. One (1) of the Flat Country sites shall be upstream of the water take at NZTM 1748780 mE 5970390 mN (Auckland Council Permit No. 35555)

(b) For one summer and one winter period prior to commencement of Construction Works.

15 The baseline monitoring programme shall also include a single walkover of all Erosion Prone Streams, and recording of erosion areas, including photographs.

16 The Consent Holder shall provide to the Team Leader the results of the baseline monitoring within 60 working days of the final baseline monitoring being undertaken.

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Earthworks

Conditions 17-40 apply to Consents 33/003, 33/005, 33/006, 33/008, 33/009, 33/014, 33/015, 33/016

Erosion and Sediment Control Plan

17 The Consent Holder shall prepare an Erosion and Sediment Control Plan (ESCP) for the Construction Works of the entire Project that shall advance the following objectives:

(a) To minimise the volume and area of the proposed earthworks required for the Project through the design of batter slopes and road alignments appropriate to expected soil types and geology;

(b) To maximise the effectiveness of erosion and sediment control measures associated with earthworks by minimising potential for sediment generation and sediment yield; and

(c) To ensure that earthworks authorised under this consent shall to the extent practical avoid, remedy or mitigate effects on surface water bodies within or beyond the Project boundary.

The Consent Holder shall engage with the Iwi Advisor while preparing the ESCP.

18 At least 20 working days prior to commencement of Construction Works, the Consent Holder shall submit the ESCP to the Team Leader for approval. If the Consent Holder has not received a response from the Team Leader within 20 working days of submitting the ESCP, the Consent Holder will be deemed to have approval and can commence earthworks.

18A A copy of the approved ESCP shall be forwarded to Watercare for their information.

19 The ESCP shall include the following:

General

(a) Identification of appropriate structural and non-structural erosion and sediment control measures to be installed prior to and during all Construction Works for representative parts of the Project, including earthworks, coastal works and works within watercourses;

(b) The approach and procedures for ensuring sufficient advance warning of a heavy rainfall event; and

(c) The methods and procedures to be undertaken for decommissioning of erosion and sediment control measures.

Responsibilities

(d) Identification of:

i. Appropriately qualified and experienced staff to manage the erosion and sediment control devices, associated maintenance procedures and monitoring requirements;

ii. Staff directly responsible for supervising installation and maintenance of erosion and sediment control devices and the associated works;

iii. A chain of responsibility for managing erosion and sediment control issues;

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iv. An erosion and sediment control management team (including representatives from the contractor, Council and the Consent Holder) to review erosion and sediment control practices and procedure; and

v. Proposed training requirements for staff.

Incident Management

(e) Identification of the process to identify, record and investigate incidents that result in the release of accidental discharge of contaminants or material into any watercourse due to any of the following:

i. discharges from non-stabilised areas that are not treated by erosion and sediment control measures required under this consent; and/or

ii. failure of any erosion and sediment control measures; and/or

iii. any other incident which either directly or indirectly causes, or is likely to cause, adverse ecological effects in any watercourse that is not authorised by a resource consent held by the Consent Holder; and/or

iv. any other incident which is likely to adversely affect the quality of water used for public reticulated water purposes.

(f) Identification of the process to notify Watercare if any of the incidents in Condition 19(e) occur upstream of the water take at NZTM 1748780 mE 5970390 mN (Auckland Council Permit No. 35555).

20 A Chemical Treatment Management Plan (CTMP) shall be prepared and implemented on site. The plan shall include as a minimum:

i. Specific design details of the chemical treatment system based on a rainfall activated and manual batch dosing methodology for the site's sediment retention ponds (SRPs), decanting earth bunds (DEBs) and container impoundment systems;

ii. A requirement for all DEBs and SRPs that serve a catchment area greater than 500m^2 to be treated via a rainfall activated chemical treatment system and the SRPs shall each have two flocculation sheds installed;

iii. Monitoring, maintenance (including post storm) and contingency programme (including a record sheet);

iv. Details of optimum dosage (including assumptions);

v. Results of initial chemical treatment trial;

vi. A spill contingency plan;

vii. Details of the person or bodies that will hold responsibility for the operation and maintenance of the chemical treatment system and the organisational structure which will support this system; and

viii. Details of the process to notify Watercare if any flocculant spillage occurs upstream of the water take at NZTM 1748780 mE 5970390 mN (Auckland Council Permit No. 35555).

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Erosion and Sediment Control Criteria

Location

21 All erosion and sediment control devices should be located outside the 20 year ARI flood level, unless no other viable location exists.

22 Clean water diversion channels and bunds shall be designed to accommodate the 20 year ARI rain event plus a 300mm freeboard.

23 Dirty water runoff diversion channels shall be sized to accommodate the 20 year ARI rain event plus a 300mm freeboard.

24 At all practical times, stream works activities and associated works shall be undertaken with all stream flows diverted, via bypass pumping, around the works area.

Maximum Exposed areas

25 Unless otherwise varied in accordance with the Adaptive Management Programme (set out in Conditions 33 to 38), the maximum open area of earthworks limitations shall apply as follows:

(a) Pūhoi Catchment (ie south of Moirs Hill Road) – 41ha at any one time; and

(b) Mahurangi Catchment (ie north of Moirs Hill Road) – 41ha of Hill Country and 21.5 ha of Flat Country (or equivalent ratios) at any one time.

Equivalent Ratios:

A one ha increase in open area of earthworks in the Flat country (above the 21.5 ha limit discussed above) will require a corresponding 0.467 ha reduction in open areas of earthworks in the Hill Country.

The reverse situation is equally applicable, in that a 1 ha increase in open area of earthworks within the Hill Country, (above the 41 ha limit discussed above) will require a corresponding 2.14 ha reduction of open area of earthworks in the Flat country, subject to a maximum open area of earthworks within the Hill Country of 51.05 ha which will result in no earthworks activity being permitted to take place within the Flat country during the same time period.

26 For earthworks activity taking place within the indurated rock of the Pakiri Formation geology, no seasonal limitation shall apply. For all other geology areas no bulk earthwork activities shall occur between 30 April and 1 October (winter period) in any one year unless otherwise agreed with the Team Leader. An assessment of whether bulk earthworks can occur within the winter period will be based on:

(a) Previous compliance;

(b) The AMP procedures in Condition 35;

(c) The nature of the specific works proposed to be undertaken in the winter period; and

(d) The location of the specific works.

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General design criteria

27 Unless otherwise agreed with the Team Leader, the Consent Holder shall design, construct and maintain all erosion and sediment control devices to achieve TP90 and the following design practices (which do not form part of TP 90):

(a) Pumping of sediment laden runoff and groundwater during Construction Works shall be to SRPs, DEBs, grass buffer zones or temporary sediment retention devices such as container impoundment systems;

(b) All DEBs shall be fitted with floating decants;

(c) Stream work construction methodologies, including stream assessments, fish species assessment, fish migration assessment and any required fish relocation provisions;

(d) Details of the presence and management of any unexpected geological conditions such as high or low pH soil conditions;

(e) The mechanism to establish and define changes to erosion and sediment control that are considered minor which would not require further certification by the Team Leader prior to implementation;

(f) Identification of areas susceptible to erosion and sediment generation and implementation of erosion and sediment control measures appropriate to each situation with particular emphasis on high-risk areas (including those identified and determined through sediment yield calculations). This risk identification process shall also include identification of:

i. the water take downstream at NZTM 1748780 mE 5970390 mN (Auckland Council Permit No. 35555); and

ii. the stream and SH1 culvert located approximately 340m north of the driveway access to 1488 State Highway 1~~any stream bank erosion and existing culvert locations in the vicinity of 1488 State Highway 1~~.

(g) All construction yard areas shall achieve the detention requirements as detailed within the NZTA Erosion and Sediment Control Standard;

(h) For the pre-cast yard facility, pH levels for all discharges shall be within the range of 6.5 to 8.5;

(i) All SRP volumes are to be designed based on 3% of the contributing catchment area and will contain reverse slopes in the base of ponds, baffles and decant pulley systems;

(j) All dirty water diversion channels shall be designed and constructed with sediment sumps at locations specified in the CESCPs with a minimum volume of $2m^3$ per sump; and

(k) The erosion and sediment control for the site shall include the installation of a last line of defence, which shall include protection of the freshwater receiving environments with additional bunding, silt fence, super silt fence or alternative as defined in the CESCP for that particular stage.

Construction Erosion and Sediment Control Plans

28 The Consent Holder shall prepare specific Construction Erosion and Sediment Control Plans (CESCPs) for each Stage of the Project, which shall demonstrate the best practicable option to achieve the objectives included in Condition 17 and advanced by the ESCP. The Consent Holder shall engage with the Iwi Advisor while preparing the CESCPs.

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29 At least 10 working days prior to the commencement of work in each Stage of the Project, the Consent Holder shall submit a CESCP for that Stage of the Project to the Team Leader for certification. Each CESCP shall conform with the design criteria required by Condition 27. Work shall not commence in any Stage of the Project until the Consent Holder has received the Team Leader's written certification of the CESCP for that Stage. The certification will confirm the CESCP has been prepared in accordance with the ESCP and meets the criteria identified in Conditions 19 to 27. If the Consent Holder has not received a response from the Team Leader within 5 working days of submitting a CESCP, the Consent Holder will be deemed to have certification and can commence earthworks.

29AA If Lot 1 DP 321568 is to be used for construction vehicle access, a CESCP shall demonstrate that any works to form such access avoid, to the extent practicable, the discharge of sediment-laden runoff to the south onto Pt Lot 2 DP 151082. A copy of the certified CESCP shall be provided to the owners of Pt Lot 2 DP 151082 for their information.

Advice Note: Each CESCP is considered to be a short succinct document of a few pages and associated drawings which will be used primarily by the "on the ground" contractor for implementation and maintenance provision purposes.

29A A copy of certified CESCPs for works in the catchment upstream of the water take at NZTM 1748780 mE 5970390 mN (Auckland Council Permit No. 35555) shall be forwarded to Watercare for their information.

30 All earthworks shall be carried out in accordance with the relevant CESCP.

Certification of compliance with CESCP

31 As-built(s) signed by an appropriately qualified and experienced erosion and sediment control practitioner shall be submitted to the Team Leader as confirmation that the erosion and sediment control measures for that CESCP have been constructed in accordance with the relevant CESCP including the extent of exposed areas.

Incident Management

32 If any of the incidents occur as identified in the ESCP, the Consent Holder shall:

(a) re-establish erosion and sediment control measures as soon as practicable where these have failed or have not been implemented in accordance with the ESCP or CESCP;

(b) liaise with the Team Leader to establish the extent of any remediation or rehabilitation that is required and establish whether such remediation or rehabilitation measures are practical to implement;

(c) carry out any remedial and/or mitigation action as required by and to the satisfaction of the Team Leader;

(d) maintain a permanent record of the incident on the site, which shall include the date and time of the incident, the nature, manner and cause of the release of the contaminants, weather conditions at the time of the incident and the steps taken to contain any further release and to remedy any adverse ecological effects on the watercourse; and

(e) notify Watercare if any incident in Condition 19(e) occurs upstream of the water take at NZTM1748780 mE 5970390 mN (Auckland Council Permit No. 35555).

Adaptive Monitoring Programme

33 At least 20 working days prior to the commencement of Construction Works, the Consent Holder shall submit an Adaptive Monitoring Plan (AMP) to the Team Leader for certification. The purpose of the AMP is

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to identify the monitoring processes to be adopted alongside any CESCP to assist with minimising sediment yield.

34 The Team Leader's certification of the AMP will confirm the AMP has been prepared in accordance with Conditions 35 to 36. If the Consent Holder has not received a response from the Team Leader within 20 working days of submitting the AMP, the Consent Holder will be deemed to have certification and can implement the AMP.

35 The AMP shall include procedures for undertaking:

(a) On site visual assessments of all erosion and sediment control structures;

(b) Device monitoring including flocculation;

(c) Automatic onsite rainfall monitoring;

(d) Flow monitoring from two selected sediment retention devices;

(e) Automatic sediment sampling from two selected sediment retention devices; and

(f) Identification of freshwater and marine ecological trigger levels, response criteria and reporting requirements.

36 The AMP shall include the following requirements:

(a) If rain is forecast for the Project Area, the Consent Holder shall undertake pre-rain inspections and any maintenance and install any additional measures that are required to ensure erosion and sediment controls operate as effectively as possible during the rain event.

(b) The Consent Holder shall carry out manual sediment monitoring if one of the following trigger events occur during construction:

i. Greater than 25mm of rainfall over any 24 hour period (as measured by the automatic onsite rainfall device) where a construction area subject to a CESCP is not stabilised; or

ii. Greater than 15mm of rainfall within an hour period where a construction area subject to a CESCP is not stabilised; or

iii. Spillage/accidents that cause a discharge of sediment or contaminants to the aquatic environment; or

iv. Obvious degradation of the receiving environment immediately downstream of the sediment retention ponds, such as accumulation of sediment, conspicuous oil/grease, scums/foams, floatable matter, fish kills, discolouration of water or significantly increased growth of nuisance algae.

(c) Within 36 hours of any of the trigger events in Condition 36(b) occurring, the Consent Holder shall investigate the erosion and sediment control measures for all un-stabilised earthwork areas to determine whether there has been a discharge from the devices. If there has been a discharge the Consent Holder shall:

i. Inspect the earthworks site and erosion and sediment control devices to identify any problems or activities likely to have contributed to the increased sediment discharge; and

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ii. Take manual samples of discharges; and

iii. Remedy any identified problems, and implement any further controls on activities that are likely to contribute to sediment discharge.

(d) If freshly deposited earthworks-derived sediment that is attributable to the Project is detected within the freshwater environment or the coastal marine area, the Consent Holder shall measure the sediment deposition depth and take GPS measures of the sediment location where possible. If the earthworks-derived sediment has been deposited to a depth of ≥ 3mm over a continuous area of 1000m² (or greater) or over a discontinuous area of 1000m² within an area of 3000m², the Consent Holder shall repeat the measuring of the depth and extent of sediment three days after the first triggered inspection.

(e) If, after the second triggered sediment depth and area inspection, the deposition depth and extent exceeds the measurements noted in Condition 36(d), the Consent Holder shall engage a suitably qualified ecologist to undertake an ecological survey of the affected area within 48 hours of the second sediment investigation. In the event that significant adverse effects on ecological values are identified, the Consent Holder shall develop and implement appropriate remedial measures commensurate to the scale of effects, with the agreement of the Council. If remedial measures or offset mitigation are required due to adverse effects being detected in the marine environment, the measures should have direct benefit to that marine environment as determined by a suitably qualified ecologist.

37 The Consent Holder shall ensure that:

(a) All monitoring required under the AMP is undertaken by a suitably qualified and experienced erosions and sediment control practitioner, except for the ecological surveys in Condition 36(e);

(b) The results of all monitoring carried out pursuant to the AMP are submitted to the Team Leader within 10 working days of a triggered event in Condition 36(b) and also at quarterly intervals for all monitoring for the Council's information;

(c) Records are to be kept to demonstrate where monitoring is not possible due to dry conditions; and

(d) In the event that an exceedance is recorded for any monitored parameter, an adaptive management process is immediately instigated, as described in the AMP, and in consultation with the Team Leader.

38 In the event that the results and analysis of the AMP identify a reduction or increase in sediment yield, the Consent Holder can apply to the Team Leader to increase or decrease the open area limitation for either or both catchments, Hill Country and Flat Country sites. This revision of open area may apply to the entire catchment area or for a specific Stage of works. Such a revision of open area will be subject to approval from the Team Leader.

Enabling Works

39 The Consent Holder shall prepare specific CESCPs for the Enabling Works for the Project, which shall demonstrate the best practicable option to achieve the objectives included in Condition 17. The Consent Holder shall engage with Hōkai Nuku while preparing the CESCPs for the Enabling Works.

40 At least 10 working days prior to the commencement of Enabling Works, the Consent Holder shall submit a CESCP for those Enabling Works to the Team Leader for approval. Enabling Works shall not commence in until the Consent Holder has received the Team Leader's written approval for the CESCP for the Enabling Works. The approval will confirm any such CESCP meets the criteria identified in Conditions 21 to 27. If the Consent Holder has not received a response from the Team Leader within 5 working days of

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submitting a CESCP, the Consent Holder will be deemed to have approval and can commence Enabling Works.

Dust management

Conditions 41-47 apply to Consents 33/003, 33/005, 33/008, 33/014

41 At least 20 working days prior to commencement of Construction Works, the Consent Holder shall provide a Construction Dust Management Plan (CDMP) to the Team Leader. The purpose of the CDMP is to outline the measures (including visual monitoring) to be adopted to avoid, as far as practicable, dust and fumes arising from construction activities beyond the boundary of the designation.

42 The Consent Holder shall use best endeavours to seal sections of any unsealed access or road used by construction vehicles where the road passes a residential dwelling within 50 metres of the road, for a length of at least 100m either side of the dwelling.

43 Prior to the commencement of Construction Works, the Consent Holder shall seal:

(a) Moirs Hill Road between SH1 and western edge of the designation; and

(b) Wyllie Road between Woodcocks Road and western edge of the designation.

44 *[This condition is intentionally left blank]*

44A If used for construction works, the Consent Holder shall seal sections of the construction vehicle access on Lot 1 DP 321568 where the access passes a residential dwelling within 150 metres of the access, for a length of at least 100 metres either side of the dwelling.

45 At intervals of no less than four (4) months during the period of Construction Works, the Consent Holder shall offer by mail to the landowners and occupiers (if different) of any occupied dwellings:

(a) ~~all occupied dwellings~~ within 200 metres of the designation boundary; and

(b) located on the following properties:

i. 77B Viv Davie-Martin Drive;

ii. 62B Viv Davie-Martin Drive;

iii. 62A Viv Davie-Martin Drive;

iv. 346 Woodcocks Road;

v. 434 Woodcocks Road;

vi. 438 Woodcocks Road;

vii. 123 Valerie Close;

viii. 63 Perry Road;

ix. 815 State Highway 1;

x. 18 Slowater Lane; and

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xi. 37 Puhoi Road.

to:

(c) Fill any potable water tanks on the property, up to a maximum of 30,000 litres per property every four (4) months; and

(d) Conduct exterior house and window washing, involving a full water blast with non-toxic washing liquid to remove visible dust arising from Project construction.

45A The Consent Holder shall offer by mail to the persons referred to in Conditions 45(a) and 45(b) to conduct a full water blast with a non-toxic washing liquid of any surface used to collect potable water on the properties referred to in Conditions 45(a) and 45(b), at the conclusion of Construction Works in the vicinity of the relevant property.

46 If the Consent Holder has not received a response from a landowner or occupier identified in Condition 45 or 45A within 20 working days of mailing an offer under Condition 45 or 45A, that landowner or occupier will be deemed to have rejected the offer.

~~47 An offer that would otherwise be required under Condition 45 need not be made if there have been no Construction Works within 200 metres of the relevant property in the four (4) months prior to the time that the offer is due to be made.~~

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Works in a water course

Conditions 48-60 apply to Consents 33/005 and 33/008

48 Prior to the commencement of works within the relevant watercourse, the Consent Holder shall engage a suitably qualified freshwater ecologist to:

(a) undertake a survey of every watercourse that is not identified in Appendix A that may be affected by Construction Works, to identify whether the watercourse is either Permanent or Intermittent; and

(b) identify the typology (as defined in Appendix B) of watercourses noted in Appendix A and (a) above as permanent.

Streamworks

49 Works in any watercourse (for example, all viaducts, bridges, culverts and permanent stream diversions) shall achieve the following:

(a) Allow for the 100 year ARI event; and

(b) Minimise stream loss as far as practicable.

The Consent Holder shall engage with the Iwi Advisor while undertaking the design.

49A Streamworks shall be carried out only during periods when all flows, up to the 24 hour 20 year return period storm event, can be diverted around the area of works. During periods of flow greater than the capacity of the diversion, up to the 100 year flood event, a stabilised flowpath shall be provided to ensure no scour or erosion occurs and so that flows can pass safely around or through the area of works with minimum nuisance, damage and sediment generation or discharge.

Advice Note: Streamworks should be undertaken when the two day weather forecast predicts minimal rainfall for the site location.

50 Culvert design shall:

(a) be designed to minimise flooding effects;

(b) address the risks of non-performance, such as blockage, taking into account the risk of a soil/rock debris flow;

(c) incorporate fish passage elements to enable all aquatic species that are or expected to be (by a suitably qualified ecologist) present to migrate into and through each culvert for 300 days of the year on a long term average basis (ie considering the velocities and flow depths associated with the 10th percentile to 90th percentile flow range within the specific culvert and the locomotive limitations of the target species). Fish passage elements shall be informed by Auckland Council and NZTA Fish Passage guidelines and shall be provided, designed and constructed to be robust enough to withstand the impact of debris passing through the culvert and still operate as intended; and

(d) incorporate energy dissipation and erosion control to minimise the occurrence of bed scour and bank erosion in receiving environments.

51 Fish passage shall be provided on all culverts unless deemed unnecessary by a suitably qualified ecologist, who has assessed the fish passage requirements in accordance with NZTA's "Fish passage guidance for state highways" (November 2013). Where fish passage is deemed unnecessary, appropriate data and

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rationale for this decision shall be provided with the design drawings to the Team Leader for approval (refer Condition 53).

52 The Consent Holder shall design all stream diversions in general accordance with the requirements in Appendix B for flow, channel stability, instream habitat and riparian planting.

53 At least 30 working days prior to commencement of the relevant works within a water course, the Consent Holder shall submit the design drawings for permanent culverts (including fish passage), bridges and stream diversions to the Team Leader for certification that those details meet Conditions 48 to53. If the Consent Holder has not received a response from the Team Leader within 30 working days of submitting the design drawings, the Consent Holder will be deemed to have certification and can commence the works within a water course.

54 The Consent Holder shall undertake monitoring at six (6) month intervals for two (2) years following construction of works in Erosion Prone Streams. Monitoring shall consist of stream walkovers of Erosion Prone Streams and recording of erosion-prone areas, including photographs. If monitoring identifies new erosion that is attributable to the Project by a suitably qualified engineer (using the baseline data obtained pursuant to Condition 14), the Consent Holder shall implement remedial action in the form of stream stabilisation measures.

55 The Consent Holder shall undertake monitoring of 10 per cent of all Project culverts including the five longest culverts and the five steepest culverts to determine the effectiveness of fish passage provisions (as determined by a suitably qualified ecologist). If the five steepest culverts and the five longest culverts represent more than 10 per cent of all project culverts no further culverts require monitoring. This monitoring shall be undertaken once monthly during the months of September, October, November and December for a period of no less than three years and the results reported annually to the Team Leader.

56 If the results of the monitoring in Condition 55 show that the fish passage provisions are ineffective then remedial work should be undertaken.

Ecology

57 Prior to the commencement of works in sections of streams that support a population of fish, the Consent Holder shall ensure that any fish present in that section of stream are recovered and transferred to another section of that stream. ~~The monitoring for fish presence shall be undertaken during optimal times for fish migration (September to December), as identified by a suitably qualified ecologist.~~ The stream section where the fish are transferred to shall be isolated from the section of the stream where the works are being undertaken to prevent fish re-entering. This transfer process shall be detailed within the CESCP for that specific Stage of works.

58 The Consent Holder shall replace and monitor any loss of habitat functionality within any permanent stream that is to be culverted. The replacement and monitoring shall be determined by a suitably qualified ecologist as follows:

Calculating lost habitat functionality

(a) Assess the current habitat functionality (SEV) (using the Technical Report 2011/009: Stream Ecological Valuation: a method for assessing the ecological functions of Auckland Streams (Stream SEV method) (or other method if agreed with Council) of the stream which is to be culverted (Culvert Site Current SEV).

(b) Assess the assumed SEV of the culvert site following culverting (Culvert Site Future SEV).

(c) Subtract the Culvert Site Future SEV from the Culvert Site Current SEV to get "Culvert Site SEV Loss".

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(d) Calculate the area of stream bed (ie length x wetted width) to be culverted (Culvert Site Area).

(e) Multiply Culvert Site SEV Loss by Culvert Site Area to get "Culvert Site SEV Units".

(f) Provide the SEV assessments and the above calculations to the Team Leader.

Replacement of lost habitat functionality

(g) Identify a stream or streams within the designation as mitigation sites (Mitigation Sites) taking into consideration:

i. The potential to link other mitigation works required for the Project under the ULDF where such linkages would have broader ecological benefits; and

ii. Mitigation Sites in environments similar to those of the Culvert Sites (for example, hill country or flat country), to the extent practicable.

(h) Assess the current SEV of the Mitigation Sites.

(i) Prepare a Mitigation Works Plan (eg riparian planting, stream habitat creation, fencing and stream protection) for the Mitigation Sites, the purpose of which is to enhance the Mitigation Sites' condition to achieve full replacement of the Culvert Site SEV Units within five years of the Mitigation Works taking place.

(j) Assess the predicted SEV gain from the Mitigation Works Plan (Predicted Gain).

(k) Divide the Culvert Site SEV Units by the Predicted Gain to get the total area of stream to be enhanced (ie wetted length and width).

(l) Implement the Mitigation Works Plan prior to the opening of the Project.

(m) Provide a copy of the Mitigation Works Plan to the Team Leader.

Monitoring of Mitigation Sites and Mitigation Works Plan

(n) Monitor the SEV of the Mitigation Sites at no less than three (3), five (5) and seven (7) years after opening of the Project (or until the monitoring shows the Mitigation Sites have achieved replacement of the Culvert Site SEV Units, whichever time period is the lesser) to establish whether the Culvert Site SEV Units have been replaced at the Mitigation Sites. Monitoring shall be undertaken at times that avoid transient conditions, such as flood events.

(o) Where that monitoring concludes that the Mitigation Sites and the Mitigation Works Plan have not replaced the Culvert Site SEV Units prepare a further Mitigation Works Plan, subject to approval by the Team Leader. The further Mitigation Works Plan may include, without limitation, repair or improvement of existing mitigation works or additional mitigation works. ~~Additional mitigation need not be provided if the ecologist concludes that the lower than predicted SEV results are from transient conditions that are likely to return to normal before the next monitoring interval, subject to approval by the Team Leader.~~

(p) Implement any additional mitigation within 6 months of the approval by the Team Leader or during the next planting season (whichever is appropriate to the measures adopted).

(q) Undertake further monitoring after seven (7) years at two yearly intervals if the Mitigation Sites have not achieved replacement of the Culvert Site SEV Units, and repeat paragraph (m) as necessary.

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(r) Provide a copy of the monitoring results to the Team Leader.

59 *[This condition is intentionally left blank]*

60 All works in a water course shall be carried out in accordance with designs certified in Condition 53.

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Stormwater Discharge

Conditions 61-68A apply to Consents 33/004, 33/006, 33/007, 33/013, 33/014 and 33/015

61 The Consent Holder shall ensure that all stormwater from the motorway is captured, treated and discharged through wetlands to the extent practicable and as approved by the Team Leader in condition 65 below that:

(a) Remove at least 75% of Total Suspended Solids (TSS) loads on an average annual basis by design in accordance with TP10 guidelines or variations agreed with Council (for example vegetated roadside drains for local roads);

(b) Provide extended detention in accordance with TP10 of rainfall for all discharges to stream environments. Discharges without extended detention, such as to flow channels or culverts or to tidally influenced areas, are subject to approval by the Team Leader as required by condition 65 below;

(c) Provide for the 100 year ARI event, including provision for overland flow up to this event; and

(d) Include erosion control for stormwater outfalls to minimise the occurrence of bed scour and bank erosion in receiving environments.

The Consent Holder shall engage with the Iwi Advisor when designing permanent stormwater measures.

The motorway for the purposes of this Condition is considered to include impervious surfaces and rock cuts.

62 The Consent Holder shall design permanent wetlands to include:

(a) Forebays and submerged or baffled low flow outlets so that floatables and litter can be trapped at the main outlet;

(b) Planting in deep emergent, littoral, riparian zones and that dense, healthy planting is maintained in operation with vegetation providing some shading; and

(c) Consideration of provisions to facilitate climbing fish access to the extent practicable (eg spat ropes).

63 The Consent Holder shall use pre-treatment measures where higher sediment loads are anticipated, such as sediment traps for sediment eroded off rock cuts.

64 The Consent Holder shall maintain stormwater treatment devices to ensure that the criteria in Conditions 62 and 63 of this consent are achieved.

65 The Consent Holder will submit the final design of the permanent stormwater measures (ie excluding conveyance measures) to the Team Leader for approval. The final design, which may be provided in parts, shall be submitted to the Team Leader at least 30 working days prior to the commencement of construction of permanent stormwater measures in the applicable area. If the Consent Holder has not received a response from the Team Leader within 30 working days of submitting the final design, the Consent Holder will be deemed to have approval and can commence construction.

66 All permanent stormwater measures shall be carried out in accordance with designs approved in Condition 65.

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67 The Consent Holder shall document the operation and maintenance requirements of the stormwater treatment devices including sediment traps within three months of the completion of the Construction Works. These shall be submitted to the Team Leader for approval.

Flooding

67A The Consent Holder shall ensure that the Project does not result in any more than a negligible increase in downstream peak flood levels and/or flood flow up to the 100 year ARI. Compliance with this Condition shall be demonstrated by a hydraulic and hydrological model with the level of detail and reporting to be agreed with the Team Leader. The peak flood levels and flood flows for pre-development and post-development of the Project shall be compared at the location of the Mahurangi River flow gauge located behind Mahurangi College.

68 The Consent Holder shall ensure that north of Wyllie Road to SH1 intersection with Kaipara Flats Road the Project will not result in:

(a) Flooding of habitable floor levels where predevelopment modelling indicates pre-Project there is no such flooding in the 2, 5, 10, 20, 50 and 100 year ARI events;

(b) Any increase in flood levels on Lot 2 DP 405448 (CT 419127) from those experienced on that lot preconstruction of the Project;

(c) Any increase in flood levels of more than 100mm where neither (a) nor (b) above apply;

Compliance with this Condition shall be demonstrated by a hydrological and hydraulic model with the level of detail and reporting to be agreed with the Team Leader.

68A The Consent Holder shall demonstrate that any headwater ponding upstream of any Project culvert in the 100 year ARI is contained within either:

(a) Land within the Project Area at the time of construction; and/or

(b) An existing floodplain.

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Coastal Works

Conditions 69-80 apply to Consents 33/009, 33/010, 33/011, 33/012

69 At least 20 working days prior to the commencement of works in the coastal marine area, the Consent Holder shall provide the Team Leader with plans (including dimensioned cross sections, elevations and site plans) of the permanent and temporary structures within the coastal marine area during the construction and operation of the Project.

70 Construction Works in the coastal marine area shall be undertaken in accordance with a CESCP. Such CESCP shall be prepared accordance with Conditions 28 and 29.

71 The Consent Holder shall maintain the construction site in good order and where appropriate remedy any damage and disturbance of the foreshore and seabed caused by plant and equipment during construction.

72 The Consent Holder shall ensure all equipment, erosion and sediment control measures and construction materials are removed from the coastal marine area within 40 days following completion of Construction Works.

73 Prior to commencement of Construction Works within the Okahu Inlet, adult mud snails (amphibola crenata) present on the mudflat within the construction footprint shall be collected by hand, and relocated to a similar area of mudflat at least 20 metres from the outer limits of the construction area. The time between collection of snails and relocation should not exceed two hours, in order to minimise stress on the snails. Collection and relocation of snails shall be carried out by a suitably qualified marine ecologist. The Consent Holder shall engage with the Iwi Advisor to ensure the Iwi Advisor (or representative of Hōkai Nuku) is invited to be present during the collection and relocation of the snails.

74 The area of mangrove and saltmarsh removal within Okahu Inlet shall be minimised as far as practicable.

75 Mangrove and saltmarsh removal shall be undertaken between 1 March and 31 July in order to avoid the wading bird primary breeding season.

76 Where mangrove or saltmarsh removal is required, the vegetation shall be removed from the estuary and disposed of at an approved facility in order to avoid potential adverse effects from decaying vegetation on mudflat habitat.

Coastal monitoring

77 The Consent Holder shall undertake three forms of coastal ecological monitoring:

(a) Baseline surveys in the Mahurangi and Pūhoi Harbours;

(b) Site specific surveys that are triggered by potential sediment discharge events in accordance with Condition 36; and

(c) Monitoring of benthic habitat before and after temporary disturbance in the Okahu Inlet.

78 The Consent Holder shall undertake baseline monitoring of benthic invertebrate assemblages and sediment quality in the Mahurangi and Pūhoi harbours to form a baseline set of data that can be used to determine whether potential sediment discharges from the Project cause an adverse effect to marine ecological values. Monitoring shall:

(a) Be carried out by a suitably qualified marine ecologist;

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(b) Be undertaken at five (5) sites potentially affected by the Project and one (1) control site in each of the Mahurangi and Pūhoi harbours;

(c) Include six (6) monthly benthic invertebrate and sediment quality surveys;

(d) Include surface sediment quality surveys of concentrations of copper, lead, zinc, TOC and HMW-PAHs in both total sediment and the <63µm fraction, plus grain size analysis of the total sediment sample.

79 Baseline data will consist of one year of pre-construction monitoring (provided for in Conditions 11 to 15) and at least two subsequent years monitoring during construction, provided that no marine surveys have been triggered during this period that have detected significant adverse effects (provided for in Condition 35). If statistical analysis of the ecological data indicates that the natural inter-annual variation in the invertebrate community and sediment quality data is high, then a further two years of summer and winter surveys will be required.[1] Otherwise, the three years of data can be considered a robust baseline and further seasonal monitoring during construction or post-construction will not be required until triggered surveys indicate significant adverse effects have occurred.

80 In addition to the pre-construction monitoring in Conditions 11 to 15, the Consent Holder shall undertake at least one summer and one winter post-construction survey of benthic invertebrate assemblages and sediment quality at one (1) site in the Okahu Inlet where an access track is proposed to be located. The purpose of the monitoring is to confirm that natural rehabilitation processes occur after the removal of the access track. If natural rehabilitation processes do not occur within the post-construction monitoring period, the Consent Holder shall develop and implement remedial action with the approval of the Council.

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[1] If after five years of data collection the variability remains high, then it can be concluded that the marine community is naturally highly variable and further data collection is unlikely to better characterise the ecological values.

Air Discharge – Rock Crusher

Conditions 81-84 apply to Consent 33/017

81 At least 20 working days prior to the commencement of any rock crushing the Consent Holder will submit a Rock Crusher Management Plan (RCMP) for approval. If the Consent Holder has not received a response from the Team Leader within 20 working days of submitting the RCMP, the Consent Holder will be deemed to have approval and can commence rock crushing works.

82 The purpose of the RCMP is to ensure that beyond the boundary of the Project Area there shall be no discharges, including hazardous air pollutants, dust or visible emissions, caused by the operation of the mobile rock crusher that, in the opinion of the Team Leader, are noxious, dangerous, offensive or objectionable or does or could cause adverse effects on human health, the environment or property.

83 The RCMP shall:

(a) Identify the location(s) of any mobile rock crusher for the duration of construction,

(b) Identify potentially sensitive receivers,

(c) Identify methods to manage dust suppression including any emissions control equipment (eg enclosure and/or water sprays at transfer points) and any recording of weather conditions.

84 The Consent Holder shall operate any mobile rock crusher in accordance with the RCMP.

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Appendix A

The approximate locations of the watercourses within the proposed designation are shown in Figures A-1 and A-2.

Permanent Streams
The watercourses classified as permanent streams are as follows:

P1, P4, P6a, P7, P9, P10, P11, P11b, P11c, M13d, M15, M16, M18, M19, M21b, M22, M23 (two crossings), M24, M23a, M23b, M23c.

Intermittent Streams
The watercourses classified as intermittent streams are as follows:

P2, P3, P3a, P5, P6, P9a, P9b, P10a, P11a, P11f, P11g, P12, M13, M13b, M21a, M21c, M21d, PA200A, PA500A.

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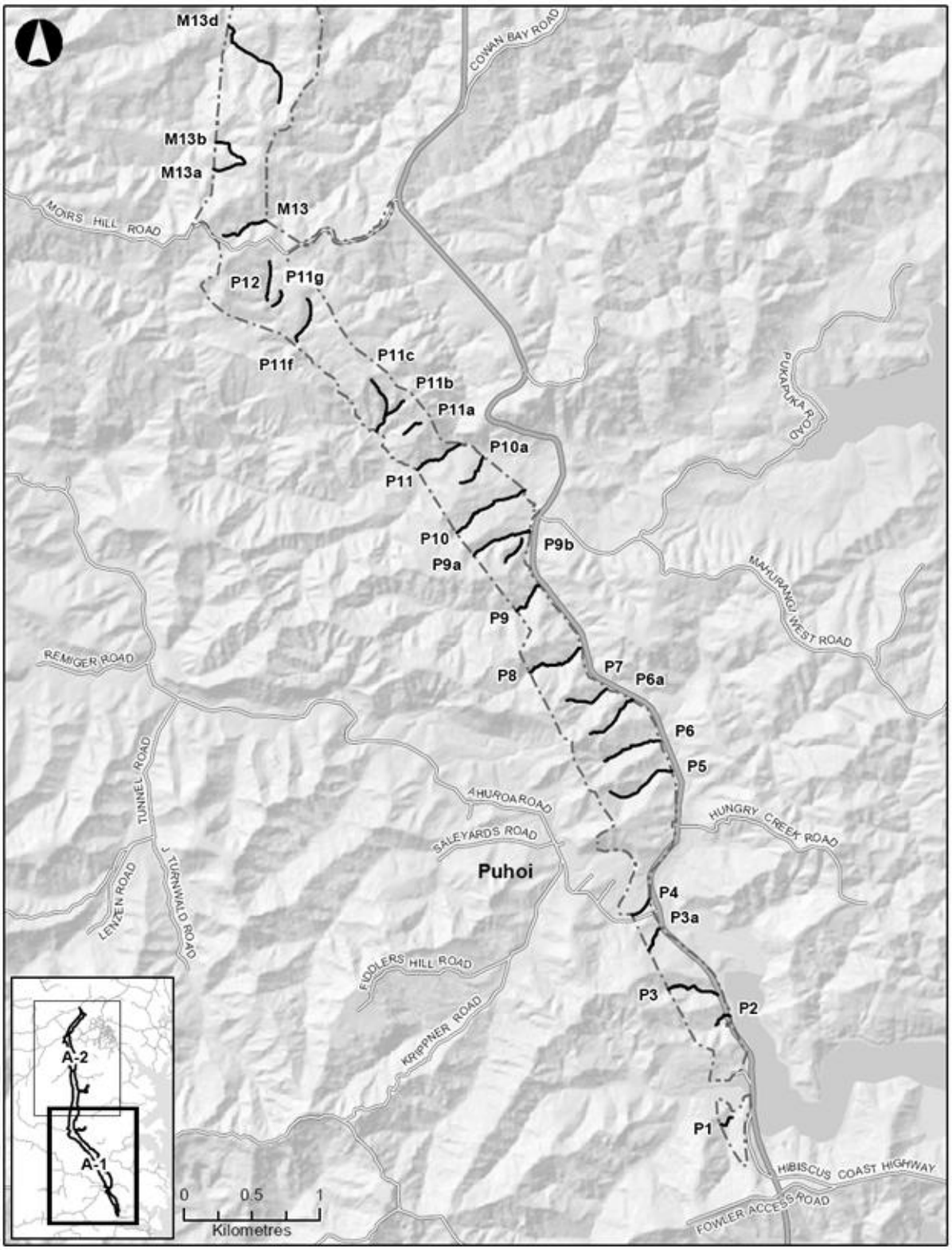


FIGURE A-1 WATERCOURSES

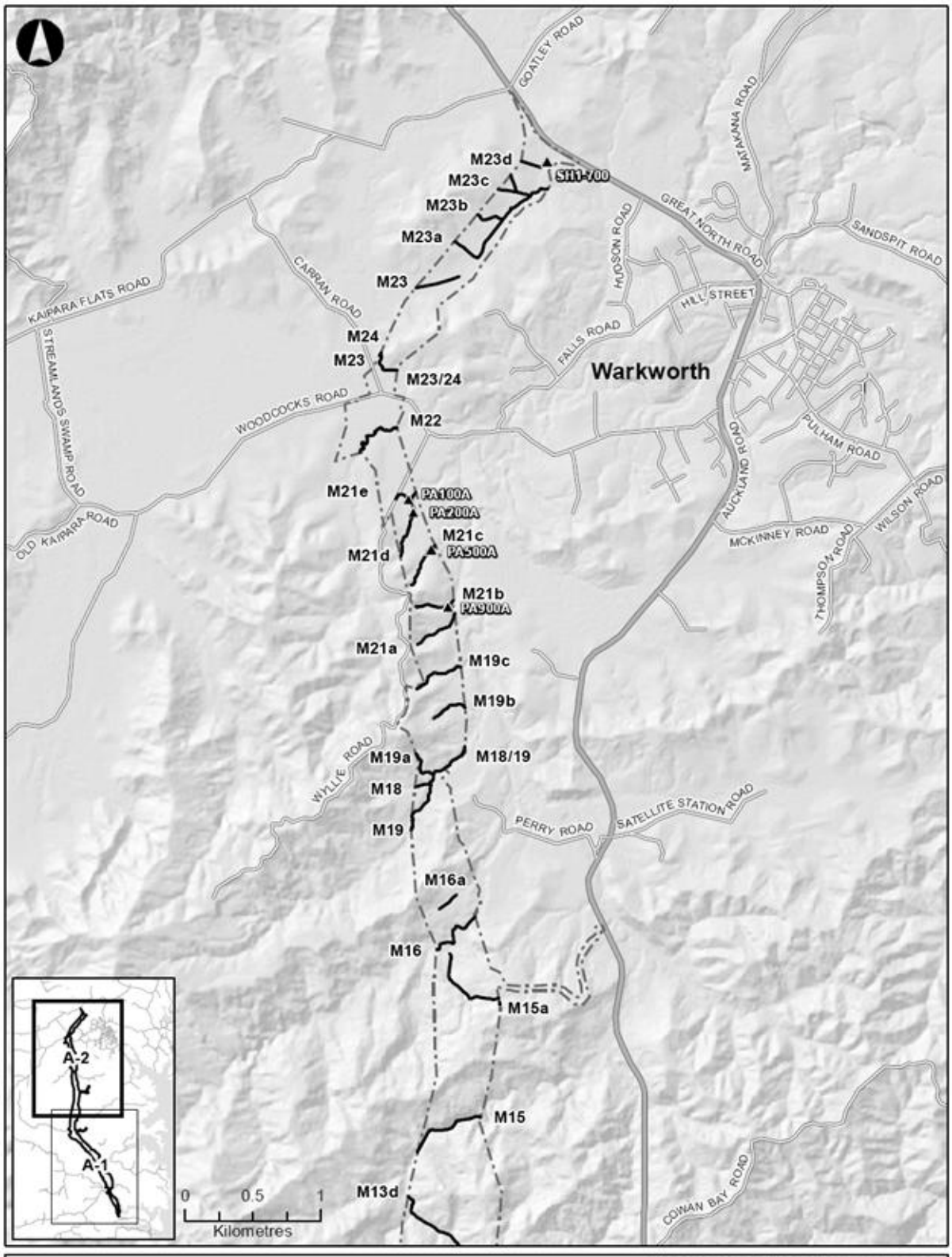
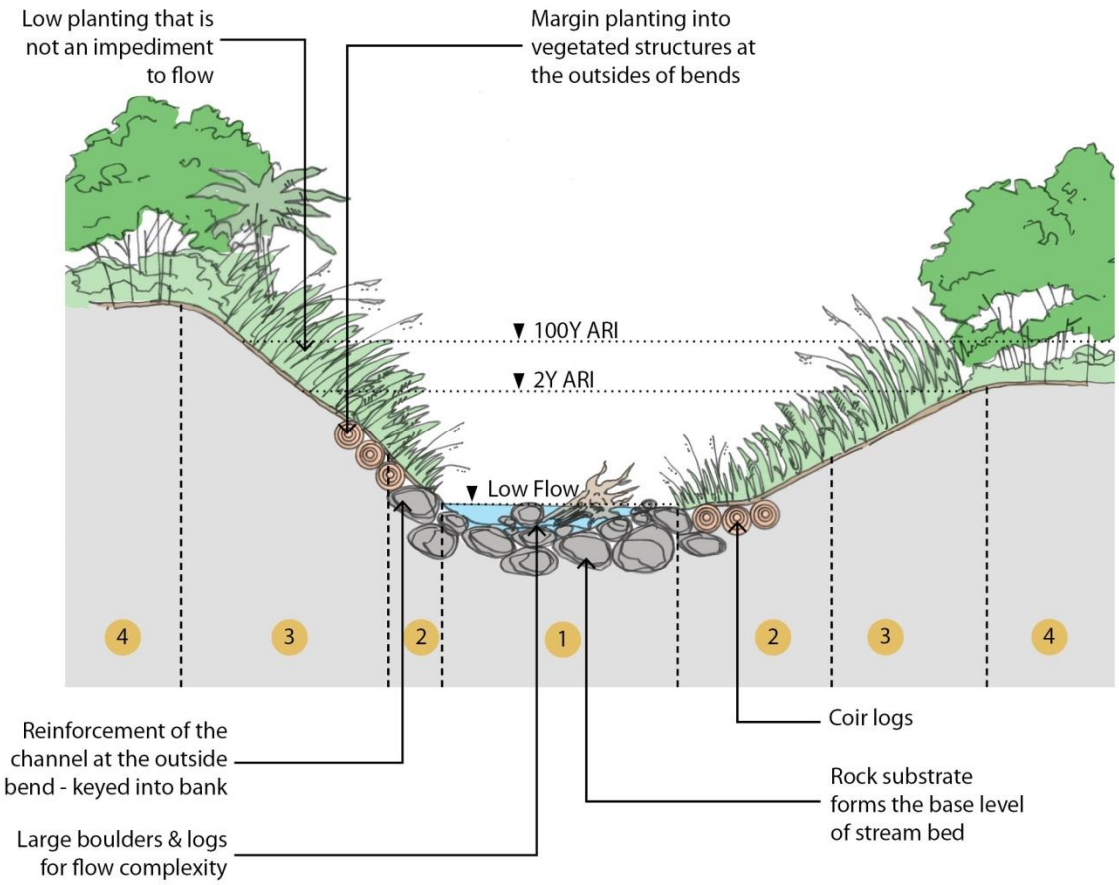


FIGURE A-2 WATERCOURSES

Appendix B

Stream diversion Type 1 – Lowland stream cross section



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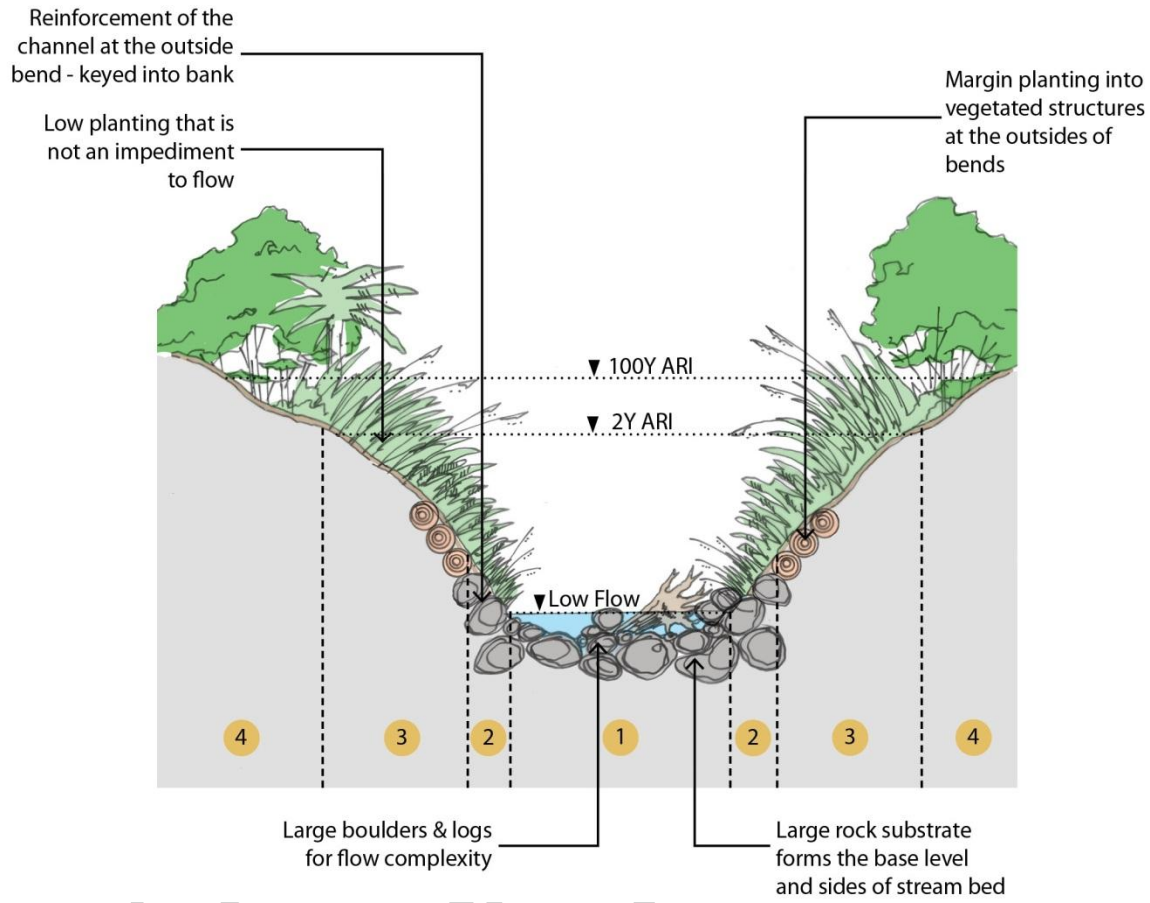
Stream diversion Type 2 – Steep stream cross section



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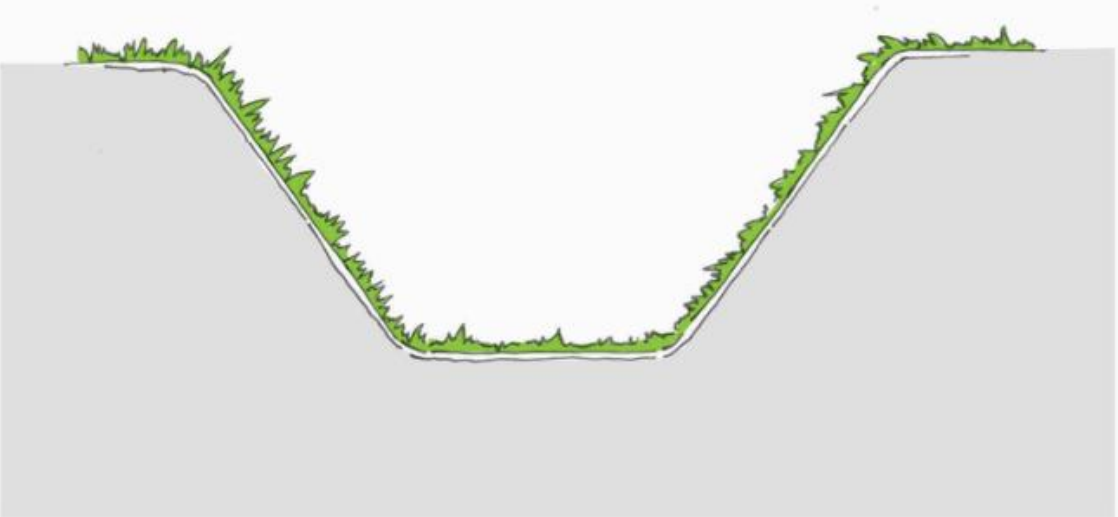
Stream diversion Type 3 – Flow channel cross section

Rock-Lined Flow Channel for High Flow and/or Steep Gradients



Grass-Lined Flow Channel for Low Flow and/or Flat Gradients

	STREAM DIVERSION TYPE		
Requirement	**1 Lowland Stream**	**2 Steep Stream**	**3 Flow Channel**
Flow	• Flood conveyance of 100 year ARI rainfall event with stop bank if required; • Low flow channel; • Main channel for the 2 year ARI rainfall event; • Flood berm for larger events; and • Maintain velocity to mitigate ponding and stagnant water.	• Flood conveyance of 100 year ARI rainfall event; • Low flow channel; • Main channel for the 2 year ARI rainfall event; and • Flood berm for larger events.	Flood conveyance of 100 year ARI rainfall event.
Channel Stability	Stable for 2-year ARI floods.	Stable for 2-year ARI floods.	Stable for 100-year ARI floods, lined as appropriate to achieve stability (e.g. grass or rock lined).
In-stream Habitat	• Low continuous gradient; • Meanders; • Complexity (variety of logs and rocks that change flow patterns and provide resting places); and • Continuous low flow channel.	• Steep gradients; • Pools and cascade sequences; • Complexity (variety of logs and rocks that change flow patterns and provide resting places); and • Continuous wetted surface for climbing species.	No requirement for in-stream habitat.

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	STREAM DIVERSION TYPE		
Requirement	**1 Lowland Stream**	**2 Steep Stream**	**3 Flow Channel**
Riparian	• Replicate the existing environment as much as possible; • Riparian zone to be 10-20m on either side of the stream edge. Riparian zone to be a heterogeneous planting regime, which reflects what is existing. Planting to be species found in the Rodney Ecological District. Planting to replicate lowland and steep streams with riparian planting to include zones for 1 stream, 2 stream edge, 3 littoral and 4 forest in accordance with the drawings above ~~Drawings SW-401, SW-402 and SW-403~~; • Recovery of plants and re-planting is encouraged; • Provide a bat-friendly corridor by inclusion of puriri and taraire trees; and • Establish a closed canopy cover early.		No requirement for riparian planting.

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