CONDITIONS

Definitions

ACSMP	Means the Archaeological and Cultural Sites Management Plan
AEP	Means Annual Exceedance Probability
Archaeological site	Means any place in New Zealand that: (a) either: i. was associated with human activity that occurred before 1900; or ii. is a site of the wreck of any vessel where that wreck occurred before 1900 and (b) Is or may be able through investigation by archaeological methods to provide evidence relating to the history of New Zealand.
BPO	Means the Best Practicable Option
CAG	Means the Cultural Advisory Group
CAQMP	Means the Construction Air Quality Management Plan
CBR	Means California Bearing Ratio
Certification	Means assessed by the relevant Council staff member (or independent consultant if required) acting in a technical certification capacity to determine whether the document or matter is consistent with or sufficient to meet the conditions of this consent
CESMP	Means the Construction Environmental and Social Management Plan
CPT	Means Cone Penetration Test
Commencement of Works	Means the time when the first works that are the subject of this designations commence
CNVMP	Means the Construction Noise and Vibration Management Plan
Council	Means Waimakariri District Council
District Plan	Means the Waimakariri District Plan
ESCMP	Means the Erosion and Sediment Control Plan
HMP	Means the Heritage Management Plan
LLUR	Means the Listed Land Use Register
Noise Assessment	Means the Road-Traffic Noise Assessment Report in accordance with condition 92
Noise Criteria Categories	Means the groups of preference for time-averaged sound levels established in accordance with NZS 6806:2010 when determining the BPO mitigation option, i.e. Category A – primary noise criterion, Category B – secondary noise criterion and Category C – internal noise criterion
NZS 6806:2010	Means New Zealand Standard NZS 6806:2010 Acoustics – Road-traffic noise – New and altered roads
PPFs	Has the same meaning as in NZS 6806:2010 for the purpose of the preparation of the Noise Assessment. Once a Noise Assessment has been prepared in accordance with Condition 92, PPFs means only the

	premises and facilities identified in green, orange or red in the Noise Assessment.
Project	Means the construction, maintenance, operation of the Woodend Corridor that is subject to this Notice of Requirement
Requiring Authority	Means the NZ Transport Agency
RMA	Means Resource Management Act 1991
SRP	Means the Spill Response Plan
Structural Mitigation	Has the same meaning as in NZS 6806:2010
TMP	Means the Traffic Management Plan
ULDF	Means the Urban and Landscape Design Framework
ULDMP	Means the Urban and Landscape Design Management Plan
VEMP	Means the Visual Effects Management Plan

General

1. Except as modified by the conditions below, and subject to final design, the Project shall be undertaken in general accordance with the information provided by the Requiring Authority in the Notice of Requirement dated November 2013 and supporting documents (as updated by information provided by the Requiring Authority during the Notice of Requirement hearing) being:

    a) Notice of Requirement Documentation report, dated November 2013, including technical reports in Appendix E to Appendix Q to the Notice of Requirement Documentation report.

    b) Plan sets:

        1) Designation Plans (non-aerial version): DE0 Rev A, DE1-DE2 Rev C, DE3-DE15 Rev A, DE16 Rev C, DE17-DE21 Rev A, DE22-DE24 Rev C;

        2) Designation Schedule;

        3) Scheme Layout Plans: C003, C004, Index Sheet, Sheet Legend, LP0 Rev A, LP1-LP2 Rev C, LP3-LP15 Rev A, LP16 Rev C, LP17-LP20 Rev A;

        4) Intersection Plans: C801-C808 Rev B;

        5) Bridge Plans: C601 Rev C, C610 Rev C, C620 Rev C, C630 Rev C, C640 Rev D, C641 Rev D, C650 Rev D;

        6) Cross Sections: C416 Rev E;

        7) Longitudinal Sections: C530 Rev E, C531 Rev D, C532 Rev E, C540 Rev B, C541 Rev B, C550 Rev B, C551 Rev B, C552 Rev B, C560 Rev B, C561 Rev B, C570 Rev B, C571 Rev A;

        8) Service Plans: LPS1-LPS20 Rev A.

Lapse Date

2. The designation shall lapse if not given effect to within 15 years from the date on which it is included in the District Plan under section 175 of the RMA. The lapse period in this condition shall not apply to the section of existing State Highway 1 that has (as at the date of this Notice of Requirement) already been occupied by the Requiring Authority as shown on Designation Plans DE22-DE24 Rev C for the properties notated as 73b, 72b, 52b, 53c, 54a, 56a, 57b and 56c.

   Advice Note: No lapse period is required for this identified section as it is already occupied by the Requiring Authority and this part of the designation will be given effect to at the date this Notice of Requirement is confirmed and included in the Waimakariri District Plan.

Outline Plan

3. A separate Outline Plan (pursuant to section 176A of the RMA) shall be submitted to the Council 3 months prior to the Commencement of Works. The Outline Plan shall include details as to:

   a) The height, shape and bulk of the work

   b) The layout of the proposed Project alignment

   c) The likely finished contour of the site

   d) Vehicular access, circulation and provision for parking

   e) Landscaping proposed

   f) Waimakariri District Council services assets to be relocated as a result of the Project

   g) Any other matters to avoid, remedy or mitigate any adverse effects on the environment, such as specific designs of noise barriers, and shall include consideration of the Noise Assessment Report required by condition 93.

Management Plan Certification, Dispute and Review Process – Construction Environmental and Social Management Plan and Urban and Landscape Design Management Plan

4. The Commencement of Works shall not occur until the Requiring Authority has received the Council's written certification for a Construction Environmental and Social Management Plan (CESMP) and Urban and Landscape Design Management Plan (ULDMP). If changes are requested by the certifier these changes shall be made, in consultation with the Requiring Authority, before the certification is confirmed.

5. Subject to any dispute notified in accordance with condition 6, if written acknowledgement of certification is not provided by the Council within 20 working days of the Requiring Authority sending the CESMP and the ULDMP for certification, the certification shall be deemed to be confirmed.

6. Dispute:

   a) In the event of any dispute arising as to any certification matters required by the designation conditions, or as to the implementation of, or monitoring required by the conditions, matters shall be referred in the first instance to the Council and to the Requiring Authority's Regional Highway Manager to determine a process of resolution.

   b) If a resolution cannot be agreed within 1 month of lodging the particular management plan, the matter may be referred to an independent appropriately qualified expert, acceptable to both parties, setting out the details of the matter to be referred for determination and the reasons the parties do not agree.

   c) The qualified expert shall be appointed within 10 working days of the Requiring Authority or the Council giving notice of their intention to seek expert determination. The expert shall, as soon as possible, issue a decision on the matter.

   d) The decision of the qualified expert is binding on the Requiring Authority and shall be implemented by the Requiring Authority.

7. Following initial certification, the Requiring Authority may request amendments to the CESMP and the ULDMP by submitting the amendments in writing to the Council for certification in accordance with condition 5 and 6. Any changes to management plans shall remain consistent with the overall intent of the relevant management plan, and no changes shall take effect until certified by the Council.

Construction Environmental and Social Management Plan

8. At least one month prior to the Commencement of Works, the Requiring Authority shall submit a Construction Environmental and Social Management Plan (CESMP) to the Council for certification. The CESMP shall include:

   a) The provision to be made for property access during construction, including temporary access where necessary.

   b) A protocol for addressing any complaints or issues that require a change to the CESMP arising during construction, including the contact names and telephone numbers for the appropriate representative from the Requiring Authority, including 24 hour emergency contact details.

   c) A requirement that machinery shall be thoroughly cleaned to remove soil and vegetation before entry to the construction site. A weed monitoring and management programme shall be developed and implemented to ensure any weed species growing within the completed construction areas or replanted areas are removed. The programmes shall be implemented for a minimum of 12 months from completion of construction or replanting, whichever is the latter.

   d) Lighting utilised during construction of the Project shall be minimised, downward facing and designed so that spill onto neighbouring lots does not occur.

   e) The CESMP shall provide that the hours of construction activities shall be limited to 7am to 7pm Monday to Saturday. No construction activities, other than dust

suppression activities carried out by the Requiring Authority or its contractors, shall occur on Sundays or public holidays.

f) The CESMP shall contain a protocol for consultation with the Council and for providing information to the local community prior to and throughout the construction phase.

g) Chapters containing the following specific plans:

1) Traffic Management Plan (TMP)

2) Construction Air Quality Management Plan (CAQMP)

3) Construction Noise and Vibration Management Plan (CNVMP)

4) Spill Response Plan (SRP)

5) Erosion and Sediment Control Plan (ESCMP)

6) Archaeological and Cultural Sites Management Plan (ACSMP)

7) Heritage Management Plan (HMP)

Advice Note: The management plans listed above are more appropriate to be completed following the detailed design process. Specific requirements for each Management Plan are set out in the conditions below.

Traffic Management Plan

9. The Traffic Management Plan (TMP) shall be provided with and shall form a part of the CESMP. The TMP shall identify the methods for managing traffic during the construction period, including, but not limited to:

a) The standards set out in the Code of Practice for Temporary Traffic Management.

b) Planning and management of the construction work so public roads remain open or a detour is provided during construction and so that pedestrian and cyclist access and safety is maintained.

c) A location plan showing the proposed works, site access points, site yard, and any other point on the local roading network to be regularly accessed during the works.

d) A schedule of various work stages and anticipated traffic generation.

e) A schedule of roads to be used for haul roads for supply of materials, as well as haul roads used between various stages/locations of the work site.

Construction Air Quality Management Plan

10. A Construction Air Quality Management Plan (CAQMP) shall be prepared to ensure that properties are not adversely affected by construction dust. The CAQMP shall contain information on dust mitigation measures, and monitoring and management requirements. The CAQMP shall be provided with and shall form a part of the CESMP. Specific mitigation measures shall be developed as part of the CAQMP and shall be consistent with the construction method. The CAQMP shall identify the mitigation measures to mitigate dust effects, including, but not limited to:

    a) Methods to control and limit dust nuisance from construction yards, haul roads, stock-piles and the general construction site, including:

        1) Developing location-specific speed limits on haul roads, if necessary;

        2) Temporary screening of the construction site;

        3) Watercarts should be available to control construction dust by spraying water where practicable and appropriate;

        4) Wheel washes should be installed no more than 5 metres from public roads to prevent the transport of dusty material off site on vehicle tyres;

        5) Criteria for the consideration of ceasing work during adverse weather conditions and dust attenuation methods to be utilised when wind is of a magnitude to potentially create a dust nuisance.

    b) Measures to address identified and verified adverse dust effects of the Project on sensitive receptors, including options such as cleaning of houses, other buildings and infrastructure.

    c) Having a community liaison person who is available to deal with any concerns or complaints and contact numbers for key construction staff, staff responsible for dust suppression and cleaning, and council officers;

    d) Having a comprehensive complaints registry procedure that is communicated to potentially affected parties;

    e) Regular maintenance of the construction vehicles; and

    f) Carrying out visual construction dust monitoring if necessary.

Construction Noise and Vibration Management Plan

11. The Requiring Authority shall implement a Construction Noise and Vibration Management Plan (CNVMP) throughout the entire construction period of the Project. The CNVMP shall be provided with and form part of the CESMP for certification that it addresses Conditions 11 to 14 prior to the Commencement of Works.

    The CNVMP shall describe the measures adopted to meet:

a) the noise criteria set out in Condition 13 below, where practicable. Where it is not practicable to achieve those criteria, alternative strategies should be described to address the effects of noise on neighbours, e.g. by arranging alternative temporary accommodation; and

b) the Category A vibration criteria set out in Condition 14 below, where practicable. Where it is not practicable to achieve those criteria, an independent, experienced and suitably qualified expert shall be engaged to assess and manage construction vibration during the activities that exceed the Category A criteria. If predicted construction vibration exceeds the Category B criteria then construction activity should, where practicable, only proceed if approved by the WDC council officer and if there is appropriate monitoring of vibration levels and effects on buildings at risk of exceeding the Category B criteria, by independent, experienced and suitably qualified experts.

The CNVMP shall, as a minimum, address the following:

a) Description of the works, anticipated equipment/processes and their scheduled durations.

b) Hours of operation, including times and days when construction activities causing noise and/or vibration would occur.

c) The construction noise and vibration criteria for the Project.

d) Identification of affected houses and other sensitive locations where noise and vibration criteria apply.

e) Requirement for building condition surveys at locations close to activities generating significant vibration, prior to and after completion of the works (including all buildings predicted to exceed the Category A vibration criteria in Condition 14).

f) Mitigation options, including alternative strategies where full compliance with the relevant noise and/or vibration criteria cannot be achieved.

g) Details of which operational road-traffic noise mitigation options as required by Condition 12 below will be implemented early enough to also mitigate construction noise.

h) Management schedules containing site specific information.

i) Methods and frequency for monitoring and reporting on construction noise and vibration.

j) Procedures for maintaining contact with stakeholders, notifying of proposed construction activities and handling noise and vibration complaints.

k) Construction equipment operator training procedures and expected construction site behaviours.

l) Contact numbers for key construction staff, staff responsible for noise assessment and council officers.

12. The Requiring Authority should, where practicable, implement those Structural Mitigation measures for operational noise detailed in Conditions 92 to 96 which are identified in the CNVMP as also providing construction noise mitigation, prior to commencing major construction works that would be attenuated by these mitigation measures.

13. Construction noise shall be measured and assessed in accordance with NZS 6803:1999 'Acoustics - Construction Noise'. The construction noise criteria for the purposes of the CNVMP are:

Time of the week	**Time period**	**"Long-term" duration construction (dBA)**	
		L_{Aeq}	L_{AFmax}
Noise criteria at residential buildings			
Weekdays	0630-0730	55	75
	0730-1800	70	85
	1800-2000	65	80
	2000-0630	45	75
Saturdays	0630-0730	45	75
	0730-1800	70	85
	1800-2000	45	75
	2000-0630	45	75
Sundays and public holidays	0630-0730	45	75
	0730-1800	55	85
	1800-2000	45	75
	2000-0630	45	75
Noise criteria at commercial/ industrial buildings			
Any day	0730-1800	70	-
	1800-0730	75	-

14. Construction vibration shall be measured in accordance with *ISO 4866:2010 Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures*. The construction vibration criteria for the purposes of the CNVMP are:

Receiver	Details	Category A	Category B
Occupied dwellings	Night-time 2000h - 0630h	0.3 mm/s PPV	1 mm/s PPV
	Daytime 0630h - 2000h	1 mm/s PPV	5 mm/s PPV
Other occupied buildings	Daytime 0630h - 2000h	2 mm/s PPV	5 mm/s PPV
All other buildings	Vibration – transient	5 mm/s PPV	BS 5228-2 *1, Table B.2
	Vibration – continuous		BS 5228-2*1, 50% of Table B.2

*1 BS 5228-2:2009 'Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration'

Spill Response Plan

15. A Spill Response Plan shall be provided with, and shall form a part of, the CESMP. A Spill Response Plan shall be prepared for construction activities and meet the following minimum requirements:

    a) All vehicle refuelling and maintenance shall occur in set areas away from waterways.

    b) Inclusion of a spill-response protocol.

    c) Measures to be taken to ensure concrete and asphalt related material does not come into contact with any waterway.

Erosion and Sediment Control Plan

16. During construction the Requiring Authority shall take all practicable measures to minimise erosion and prevent the discharge of sediment beyond the boundaries of the Project site.

17. Erosion and sediment control measures shall be constructed and maintained in accordance with the Erosion and Sediment Control Guidelines for State Highway Infrastructure.

18. An Erosion and Sediment Control Plan (ESCMP) shall be prepared in accordance with Erosion and Sediment Control Guidelines for State Highway Infrastructure. The Erosion and Sediment Control Plan shall be provided with, and shall form a part of, the CESMP. A Erosion and Sediment Control Plan shall include at minimum:

a) Best practice sediment control measures e.g., Environment Canterbury, 2007, the Erosion and Sediment Control Guidelines for State Highway Infrastructure, 2014, NZ Transport Agency, for reduction of erosion and sediment input while vegetation is becoming established.

b) All areas subject to disturbance shall be revegetated as soon as possible once construction has ceased.

c) Use suitable ground and soil erosion cover options on any sloping areas near waterways including Taranaki Stream crossing, Waihora Creek realignment, Cam River bridge and the Kaiapoi River bridge.

d) Particular stringent requirements for the upper Waihora Creek.

e) Undertake regular monitoring and inspections.

19. Within the ESCMP, a specific Management Plan shall also be prepared for the works within the Cam River and Kaiapoi River to address sediment control and the need to establish a dry work area if wet concrete is to be used within the river.

Tangata Whenua

20. Prior to the detailed design and Commencement of Works for the Project, the Requiring Authority shall establish a Cultural Advisory Group (CAG), consisting of at least 3 mandated members of Ngāi Tūāhuriri and one representative of Mahaanui Kurataiao Limited. The CAG shall be formed on Terms of Reference to be agreed between the Requiring Authority and Ngāi Tūāhuriri representatives.

21. The Requiring Authority shall use its reasonable endeavours to continue its ongoing discussions and consultation with the landowners of Maori Reserve 873 land that is directly affected by the Project.

Advice Note: The consultation requirements under this condition include consultation undertaken by the Requiring Authority in accordance with its obligations under the Te Ture Whenua Maori Act 1993 and the Public Works Act 1981.

22. The Requiring Authority shall ensure that land disturbance as a result of the Project between Pineacres and the Smith Street overpass avoids Te Kai a Te Atua urupā and the adjoining dune ridge Nuku Te Hiwi.

23. The Requiring Authority shall adopt the "Cultural Health Index for Streams and Waterways" as a culturally relevant and measurable means of monitoring the effect of the Project on the surrounding streams and waterways.

24. The Requiring Authority shall adopt and implement a restoration re-vegetation planting plan that enhances bio-diversity and in stream values utilising those taonga plant species that would naturally occur within the Project area.

25. The Requiring Authority shall ensure the installation of information features occurs in locations to inform pedestrian and cycle users of significant events or historical sites in the immediate vicinity as well as in the wider cultural landscape.

Archaeological and Cultural Sites

26. An updated archaeological assessment shall be undertaken by an independent, suitably qualified and experienced archaeologist following the detailed design of the Project to ensure the entire Project site is assessed.

27. A Section 44 (Heritage New Zealand Pouhere Taonga Act 2014) Archaeological Authority for the site shall be sought from Heritage New Zealand following the updated archaeological assessment required by condition 26 but prior to any proposed geotechnical testing or earthworks for the Project.

Archaeological and Cultural Sites Management Plan

28. Prior to any geotechnical testing or the Commencement of Works for the Project, the Requiring Authority and the CAG shall jointly prepare an Archaeological and Cultural Sites Management Plan. The purpose of the Archaeological and Cultural Sites Management Plan is to require the Requiring Authority to undertake construction in a manner that ensures the use of appropriate training, methods, protocols, and procedures in relation to the possible presence of archaeological sites or material that may be discovered during construction and the appropriate investigation and recording of any archaeological resources discovered during the construction of the Project. The Archaeological and Cultural Sites Management Plan shall be provided with and shall form a part of the CESMP.

29. The Archaeological and Cultural Sites Management Plan shall, as a minimum, contain the following requirements to be met by the Requiring Authority during construction of the Project:

Archaeological Sites

a) Any known archaeological sites within the Project site but outside the construction footprint shall be appropriately identified on the ground, and measures taken, where practicable, to avoid disturbance or destroying the archaeological site.

b) The mandated Te Ngāi Tūāhuriri Rūnanga representatives with training in the recognition of archaeological sites shall be engaged to assist the archaeologist to monitor geotechnical testing and earthworks related to the construction of the Project.

c) In the event of discovery of complex prehistoric archaeological deposits, the archaeologist shall present to mandated Te Ngāi Tūāhuriri Rūnanga representatives and to Te Ngāi Tūāhuriri Rūnanga members at a General Meeting of the Runanga, an excavation plan and timetable for comment and input.

d) All contractors and management shall be briefed by the archaeologist prior to Commencement of Works, as to the nature of any archaeological residues which may be uncovered, the statutory requirements of the Heritage New Zealand Pouhere Taonga Act 2014 and the Protected Objects Act 1975.

e) The storage and/or display of any artefacts, taonga and other cultural material associated with pre-historic archaeology located or excavated shall be determined in consultation with mandated Te Ngāi Tūāhuriri Rūnanga representatives.

f) All research and analysis of any cultural heritage located within the Project area shall be completed in a timely fashion and that copies of all reports be provided to mandated Te Ngāi Tūāhuriri Rūnanga, the Office of Te Ngāi Tūāhuriri Rūnanga Inc Soc and representatives and Mahaanui Kurataiao Ltd.

Archaeological Sites Protocol

g) The Archaeological and Cultural Sites Management Plan shall set out how the Requiring Authority shall comply with the following Archaeological Sites Protocol, including:

1) A consulting Archaeologist will be engaged to advise on methods to be undertaken to ensure that adverse effects on archaeological sites are avoided, remedied, reduced or mitigated. The Requiring Authority shall consult with mandated Te Ngāi Tūāhuriri Rūnanga representatives regarding the appointment of the archaeologist.

2) The Requiring Authority shall provide the consulting archaeologist, and mandated Te Ngāi Tūāhuriri Rūnanga representatives and Mahaanui Kurataiao Ltd with the following information no less than 10 working days prior to any earthmoving activities.

a A schedule of the dates of all significant earthmoving events, their sequence and duration;

b A summary of all measures being undertaken to ensure that adverse effects on archaeological values are avoided, remedied, reduced or mitigated.

3) The Requiring Authority shall, from time to time, invite mandated Te Ngāi Tūāhuriri Rūnanga representatives and Mahaanui Kurataio Ltd to attend any episode of monitoring or earthmoving activity.

4) The Requiring Authority shall provide mandated Te Ngāi Tūāhuriri Rūnanga representatives, the Office of Te Ngāi Tūāhuriri Rūnanga Inc Soc and Heritage New Zealand with a copy of all archaeological monitoring and investigation results which are required by the conditions of this designation with an invitation to respond, comment or meet to discuss any results.

5) The Requiring Authority shall notify the Council of all information provided to mandated Te Ngāi Tūāhuriri Rūnanga representatives and Mahaanui Kurataio Ltd and any responses received. If appropriate the Council, with the agreement of the Requiring Authority and mandated Te Ngāi Tūāhuriri Rūnanga representatives, shall convene meetings/hui should any of the information or issues require further discussion.

Wahi Tapu, Wahi Taonga and Urupa Protocol

h) The Archaeological and Cultural Sites Management Plan shall set out how the Requiring Authority shall comply with the following Wahi Tapu, Wahi Taonga and Urupa Protocol, including:

1) The mandated representative of Te Ngāi Tūāhuriri Rūnanga trained in the discovery and recognition of archaeological sites will be engaged to be

present during site preparation, excavation and construction, to act as advisor to the Requiring Authority on identification of Wāhi Tapu, Wāhi Taonga, Urupā or historic cultural sites.

2) The Requiring Authority shall consult with mandated Te Ngāi Tūāhuriri Rūnanga representatives to determine in accordance with tikanga Māori, if there are any matters of protocol which tāngata whenua wish to undertake in relation to the commencement of any development works, significant events or the commissioning of the completed works.

3) The Requiring Authority shall ensure that staff involved with earthmoving activities have received appropriate training and are aware of the requirement to effect and monitor earthmoving activities in a way that enables the identification of Wāhi Tapu, Wāhi Taonga, Urupā or historic cultural sites. Mandated Te Ngāi Tūāhuriri Rūnanga representatives shall be contracted to provide appropriate training to staff.

4) Immediately when it becomes apparent that a Wāhi Tapu, Wāhi Taonga, Urupā or historic cultural site has been discovered, earth moving activities shall stop. The contractor will shut down all machinery or activity immediately, leave the area and advise the Requiring Authority of the occurrence.

In cases where discoveries other than suspected Koiwi Tāngata (human remains) are suspected:

5) The mandated representative of Te Ngāi Tūāhuriri Rūnanga will be consulted by the Requiring Authority to determine what further actions are required to safeguard the site or its contents, and to avoid, reduce, remedy or mitigate any damage to the site.

Where Koiwi Tāngata (human remains) are suspected:

6) The Requiring Authority shall take steps immediately to secure the site in a way that ensures the koiwi tāngata are untouched.

7) The Requiring Authority shall be responsible for notifying the Te Ngāi Tūāhuriri Rūnanga, the Police and Heritage New Zealand and that it is suspected koiwi tāngata that have been uncovered.

8) The Requiring Authority of the site shall see that staff are available to meet and guide Kaumatua, the Police and Heritage New Zealand staff to the site, assisting with any requests that they may make.

9) Earthmoving operations in the affected area shall remain halted until the kaumatua; Police and Heritage New Zealand staff have marked off the area around the site and given approval for earthmoving operations to begin.

10) If the kaumatua are satisfied that the Koiwi Tāngata are of Māori origin, the kaumatua shall decide what happens to the koiwi tāngata and give their decision to the Police, the Archaeologist, Heritage New Zealand and the Requiring Authority.

Advice Notes:

PURPOSE.

The purpose of a "Discovery Protocol for Wāhi Tapu, Wāhi Taonga and Urupā is to:

a) *Manage and protect the integrity of known and unknown archaeological sites from damage and loss;*

b) *Maximise the opportunity to retrieve physical and archaeological evidence from disturbed sites;*

c) *Obtain quality information on the lives of people , their activities, food, resource use, trails and habitation areas of Ngāi Tahu ancestors from archaeological sites; and*

d) *Ensure Te Ngāi Tūāhuriri Rūnanga is satisfied with the management of any koiwi tāngata.*

RESPONSIBILITIES.

Te Ngāi Tūāhuriri Rūnanga shall:

a) *Inform the Requiring Authority of the position of any known sites prior to commencement of earth moving activities.*

b) *Inform the Requiring Authority in accordance with tikanga Māori, if there are any matters of protocol which Te Ngāi Tūāhuriri Rūnanga wish to undertake in relation to the commencement of work or significant events.*

c) *Provide a contact list of persons and phone, fax and mobile numbers to the Requiring Authority.*

d) *Adopt a policy of response to notification of a "suspected find site" to ensure that within a 24 hour time frame the following actions occur;*

    1) *contacting the appropriate people and organisations depending on the nature of the "find".*

    2) *arranging a time to inspect the site.*

    3) *identifying the appropriate action and timeframe within which to remove from the site or otherwise manage any archaeological material (note this does not require removal of the archaeological material from the site within 24 hours).*

The Consent holder shall:

a) *Ensure staff are aware of their responsibilities under the Archaeological Sites Protocol.*

b) *Implement a reporting procedure in the event of any "find" of archaeological material.*

c) Meet all obligations under the Heritage New Zealand Pouhere Taonga Act 2014.

d) Provide the mandated Te Ngāi Tūāhuriri Rūnanga representatives with the following reports no less than 10 working days prior to any earth moving works:

1) A schedule of the dates of all earth moving events their sequence and duration.

2) A summary of all measures being undertaken to ensure adverse effects on archaeological values are, remedied or mitigated.

e) Invite Te Ngāi Tūāhuriri Rūnanga to attend any episode of archaeological monitoring or earthmoving activity.

f) Provide the mandated Te Ngāi Tūāhuriri Rūnanga representatives with a copy of all archaeological monitoring and investigation results with an invitation to respond, comment or meet to discuss any results.

Heritage

30. During the detailed design of the Project and prior to the provision of the CESMP to the Council in accordance with condition 8, the Requiring Authority shall, in consultation with the property owner, engage an independent, experienced and suitability qualified heritage expert to undertake a further heritage assessment of the heritage property at 110 Parsonage Road using guidance provided by the Requiring Authority's *Guide to Assessing Historic Heritage Effects for State Highway Projects* (the revised heritage assessment).

31. If the revised heritage assessment recommends mitigation measures to remedy or mitigate adverse effects on heritage values for 110 Parsonage Road as a result of the Project (construction or operation), the Requiring Authority shall consult with the owners of 110 Parsonage Road on the preparation of a Heritage Management Plan. The objective of the Heritage Management Plan is to provide the methods, actions and timeframes for the implementation of the mitigation measures recommended in the revised heritage assessment. The Heritage Management Plan shall be provided with, and shall form a part of, the CESMP.

Advice Note: Conditions 30-31 are in addition to, not a replacement for, other mitigation measures for this property, including conditions 11-14 (construction noise and vibration), 40-41 (visual mitigation), 58-64 (trees), and 92-96 (operational noise).

32. The Requiring Authority shall engage an independent, experienced and suitability qualified heritage expert to provide a photographic record of the heritage property at 110 Parsonage Road and surrounding landscape, firstly, prior to the Commencement of Works and secondly, upon completion of construction of the Project. The photographic record shall be provided to the Council and Heritage New Zealand.

33. The Requiring Authority shall be deemed to have complied with conditions 30 to 32 above where:

a) the Requiring Authority fulfils the obligations in conditions 30, 31 or 32 ; or

b) the owner of 110 Parsonage Road does not accept either the Requiring Authority's offer to undertake the revised heritage assessment and mitigation measures under conditions 30 to 31, or the photographic record under condition 32; or

c) the owner of 110 Parsonage Road cannot, after reasonable enquiry, be contacted.

Urban and Landscape Design Management Plan

34. At any time prior to the Outline Plan being lodged in accordance with condition 3, the Requiring Authority shall submit an Urban and Landscape Design Management Plan (ULDMP) to the Council for certification in accordance with conditions 5 to 7. The purpose of the ULDMP is to integrate the Project's permanent works into the surrounding landscape and urban context and to illustrate the urban and landscape design of the Project.

35. The ULDMP shall be prepared by independent, experienced and suitably qualified persons, who shall include an urban designer and a landscape architect, and shall:

a) Take into account the findings, and implement the recommendations where relevant, of the Urban Design, Landscape and Visual Impact Assessment;

b) Implement and build onto the design concepts in the Project's Urban and Landscape Design Framework (*ULDF*);

c) Take guidance from the Requiring Authority's Urban Design Guidelines: Bridging the Gap (2013);

d) Implement any other relevant document; and

e) Take into account the requirements in conditions 24 and 45-47.

36. The ULDMP shall contain the following to guide and inform the detailed design of the Project:

a) Demonstration of how the design principles in the ULDF have been adhered to in the development of the design concepts, including (but not limited to) principles for noise walls, walking and cycling facilities and structures (including bridges, underpasses and associated retaining walls) which are identified in the ULDF as being in highly sensitive locations;

b) A concept plan – this shall depict the overall landscape and urban design concept, and explain the rationale for the landscape and urban design proposal if different from the ULDF concepts;

c) Landscape, urban design and planting details, including, but not limited to:

1) High amenity design concepts for the following walking and cycling connections within the SEA:

A. Williams Street,

B. along Woodend Beach Road bridge at the proposed underpass,

C. along Gladstone Road bridge at the proposed underpass,

D. between Woodend and Pegasus Boulevard, and

E. between Woodend and Kaiapoi.

2) Concepts for roadscape elements to achieve a motorway that provides a quality road user experience, is aesthetically pleasing and legible. This can be achieved through the direction of views and use of specific types of vegetation, and potentially the use of art, to showcase culturally significant natural features and 'tell the story' of the local area and integrate distinct themes of cultural significance into the design.

3) The design of the ramps leading to the bridges for the dedicated pedestrian and cycling connections along Gladstone and Woodend Beach Roads should optimise the ease with which these routes could be used.

4) The proposed underpasses that connect Gladstone and Woodend Beach Roads with the recreational facilities on the coast should indicate this connection through cues such as the type of vegetation and views.

5) Concepts for the sustainable and low maintenance design of the Gladstone Road and Woodend Beach Road underpasses and to enhance the experience of the road user.

6) Signage to indicate connections between communities.

7) Concepts to provide expansive views from the pedestrian and cyclist shared path on Gladstone Road and Woodend Beach Road at the underpasses.

8) Locally altered stream cross section design, culvert design, and planting.

9) Direction of views, use of vegetation and potentially art to showcase culturally significant natural features and 'tell the story' of the local area.

10) Provision of an aesthetically pleasing, and legible environment that provide cues about the location through the use of signs and the direction of views.

11) Placement of vertical elements such as noise and light attenuation walls, and trees to direct views of the surrounding area and natural features and provide context.

12) Use of materials and colours to achieve Integration of the Project into its natural environment.

13) An aesthetically appealing, sustainable and low maintenance design that provides a quality road user experience and includes distinct local themes of cultural significance.

14) The detail design of the landscape elements of the Project should specify how vegetation should:

A. Mitigate any severance and adverse effects on immediate natural environment where possible;

B. Enhance and provide new ecological connections;

C. Enhance biodiversity through the utilisation of plant species that would naturally occur within the Project area;

D. Relate to culturally significant local landscape elements; and

E. Provide for a high quality road user experience.

15) The amenity of the pedestrian and cycling facilities along Gladstone Road and Woodend Beach Road at the underpasses and along Williams Street at the overpass so that they function as informal public spaces which offer expansive views and amenity, e.g. through generous width and elements such as lighting, signage and planting.

16) Planting of embankments.

17) The design of stormwater facilities associated with the Project to:

A. provide ecological amenity in locations of ecological value;

B. provide for a high quality road user experience; and

C. Consist of low maintenance materials.

18) Any obligations for monitoring, maintenance and/or replacement of damaged, dead or diseased trees or other vegetation planted in accordance with (c). These obligations shall commence following planting and continue:

A. during construction of the Project; and

B. for two years following the opening on the Project

37. The works demonstrated on the certified ULDMP shall be undertaken in accordance with the plans and specifications contained in the ULDMP.

Landscape

38. A new 'informal gateway' at the future northern entrance into Woodend shall be created in order to replace the visually significant trees at the current northern entrance into Woodend that currently function as a gateway and that will have to be removed for the Project.

Advice Note: This condition could be achieved at the time the existing State highway 1 status for the road through Woodend is revoked.

39. The lighting around the proposed Pegasus Boulevard roundabout shall minimise light spill and effects on the night sky.

Visual Effects Management Plan

40. At any point before the Outline Plan is submitted to WDC in accordance with condition 3, the Requiring Authority shall appoint an independent, experienced and suitably qualified landscape architect and arborist to prepare a Visual Effects Management Plan (*VEMP*). The VEMP shall provide detail of the design approach to avoid, remedy and mitigate the adverse visual impact of the Project. The VEMP shall:

    a) include the review of the visual effects assessment for all properties included in the 8 August 2014 Evidence of Craig Pocock (Landscape and Visual), prior to the detailed design stage of the Project, in order to take the possible changes in the landscape into consideration;

    b) take into account the Design Recommendations and Landscape Design Concepts included in Sections 3.1 and 3.3 of the ULDF Report in Appendix G of the NoR, to the extent the Design Recommendations and Landscape Design Concepts are not inconsistent with the outcomes of the review of the visual effects assessments as required by (a);

    c) include the design, methods and timeframes for implementation for the mitigation of the visual impact of the Project, including acoustic barriers, for the following affected properties (*Affected Properties*) for dwellings existing at the date of notification of the Notice of Requirement:

        1) 5 Wards Road (Lot 9 DP 923)

        2) 144 Main North Road (Lot 1 DP 13738)

        3) 146 Main North Road (Lot 1 DP 15192)

        4) 138 Main North Road ((Part RS 757)

        5) 130A Main North Road (Lot 1, DP 414079)

        6) 100 Parsonage Road (Lot 2 DP 16789)

        7) 156 Gladstone Road (Lot 2 DP 342658)

        8) 183 Gladstone Road (Lot 1 DP 345904)

        9) Williams Street (Public realm)

        10) 25, 25A and 25B Adderley Terrace (Lot 1 DP 25230, Lot 2 DP 25230 and Lot 1 DP 83640)

        11) 110 Parsonage Road (Lot 1 DP 3598) (mitigation may include dense evergreen trees no taller than 6 metres to be planted along the northern and eastern boundary of the property, for approximately 30 metres each way, starting from the north-eastern corner of the property boundary)

        12) 287 Lees Road (Lot 1 DP 23975)

13) 565 Williams Street (Lot 2 DP 306454)

14) 567 Williams Street (Lot 3 DP 306454) (mitigation may include retaining the existing Leylandii hedge where possible or planting a new hedge where necessary)

15) 143A Old North Road (Rakiwhakaputa Maori Reserve 873 222 Block)

16) 143B Old North Road (Part Rakiwhakaputa Maori Reserve 873 Block 223); and

17) any additional properties as recommended by the landscape architect and the arborist;

d) include the design, methods and timeframes for implementation of the mitigation of the visual impact of the Williams Street Overpass and its on-ramps for the Lees Road dwellings existing at the date of notification of the Notice of Requirement. Should the existing shelterbelt located on the ReadyMix site be removed, the eastern embankment of the motorway alignment shall be planted between Chainage 6650 and 6200 as illustrated on Figure SB-01 attached to the supplementary evidence of Mr Craig Pocock dated 19 October 2014; and

e) include any obligations for monitoring, maintenance and/or replacement of damaged, dead or diseased trees or other vegetation planted in accordance with (c) or (d). These obligations shall commence following planting and continue:

1)during construction of the Project; and

2)for two years following the opening on the Project.

41. In preparing the VEMP, the Requiring Authority:

a) shall undertake initial consultation with the land owners of the Affected Properties and property owners identified through condition 40(d) to discuss the design, methods and timeframes for implementation for the mitigation of the visual impact (*Initial Consultation*). If agreement is reached, the Requiring Authority shall incorporate the agreed visual impact mitigation measures into the VEMP; and

b) If no agreement is reached with land owners on mitigation measures in the Initial Consultation, the Requiring Authority, landscape architect and arborist shall draft one or more options for mitigation for the affected properties (*the Mitigation Options*);

c) The Requiring Authority shall provide and consult on the Mitigation Options with the land owner as soon as reasonably practicable, advising that:

1) the land owner has two months within which to decide on one of the Mitigation Options, and if the Requiring Authority has advised the owner that more than one Mitigation Option is available, to advise which of those Mitigation Options the land owner prefers (*Preferred Option*); and

2) the Requiring Authority shall incorporate the Preferred Option into the VEMP.

42. Where a land owner does not want mitigation, refuses to consult with the Requiring Authority, or does not choose a Preferred Option within the required timeframe, the Requiring Authority shall not be required to mitigate the visual impact of the Project on this Affected Property.

Dwellings to be removed or relocated

43. The dwellings at 1 Fullers Road (RS1203), 189 Woodend Beach Road (Lot 7 DP50914), 160 Gladstone Road (Lot 2 DP 393876) shall be removed or relocated.

Terrestrial Ecology

44. Prior to construction, habitat assessments and surveys of areas of rank grassland vegetation within the designation shall be undertaken by a herpetologist to determine the existence of any resident lizard populations. If lizards are discovered, capture and relocation measures shall be implemented prior to the Commencement of Works to ensure survival of the affected populations.

    Advice Note: Attention is drawn to the need to obtain permits under the Wildlife Act before capture and relocation measures are implemented.

45. To compensate for the loss of any indigenous vegetation situated along the banks of the Waihora Creek that lie within the designation, replacement planting shall be undertaken of the same (or otherwise ecologically suitable) mix of native shrubland and wetland species at suitable stream bank sites upstream and downstream from the Project designation where overhead cover exists. These re-planting measures may be implemented in combination with any landscape mitigation measures proposed beyond the creek margins.

46. Planting plans shall be prepared for around the bridge crossings on the Cam River and Kaiapoi River. The Planting Plans shall include species that are tolerant of low light and dry soil conditions. Additional native riparian planting along the river upstream and downstream of the new bridge and on-ramp, consisting of native canopy trees and understory vegetation should be considered. The planting plan for the Kaiapoi River bridge area shall take into account the presence of the locally rare *Blechnum blechnoides* fern and should aim to complement this species and allow it to thrive.

47. The population of the fern *Blechnum blechnoides* that exists at the Kaiapoi River Bridge shall be defined on site by a qualified botanist and cordoned off prior to commencement of construction of the new bridge, particularly the 9.5m reach on the true right bank. Any plants that are located within the construction footprint shall be uplifted and replanted in suitable sites within the high tide fluctuation outside of the construction zone. These sites shall be selected by a qualified botanist and shall be subject to periodic monitoring following transplanting to gauge survival rates. Some of the transplanted specimens should be transferred to a nursery and held for two years as a contingency in case the transplanted population does not survive.

Aquatic Ecology

48. Exposed soil along waterway banks (wetted or ephemeral) shall be stabilised (with mulch or erosion mat) and re-vegetated with native species as soon as possible and in accordance with the Requiring Authority's P39 Standard Specification for Highway

Landscape Treatments. Where stock access is available then waterways and associated plantings shall be fenced off.

49. Realigned waterway channels shall be naturalised and provide improved native riparian and aquatic habitat. For Taranaki Stream this shall include the addition of a coarse (e.g., gravel/cobble) substrate, resting and refuge areas for migrating fish, varied channel width, re-contoured banks to reduce bank erosion, and native riparian trees and wetland species. For the wetted realigned portion of Waihora Creek this shall include woody debris, emergent native plants, native wetland riparian planting (including tree species), and other aquatic habitat conditions more suitable for wetland environments and non-migratory native fish species. The design of any realigned waterway shall be undertaken with an independent, experienced and suitably qualified aquatic ecologist and botanist (with a proven track record in waterway restoration) so that the correct habitat and riparian features are included in the design.

50. Any remaining sections of Taranaki Stream between the three culverts (that will not be realigned) shall also be improved as per condition 49.

51. Waterways to be infilled or realigned shall be sampled by independent, suitably qualified and experienced ecologists prior to any works, and biota relocated to suitable habitat upstream or downstream of the realigned section of watercourse, under the necessary Ministry of Fisheries and Department of Conservation permits.

52. The placement of the linkage road between the Pegasus Boulevard roundabout and North Woodend shall where practicable, be sited more than 7 metres from Waihora Creek wetland habitat: a road alignment that ensures the road is not running parallel to the wetland channel would be the preferable option for better ecological outcomes.

53. Culverts for permanently flowing waterways (e.g., Taranaki Stream and the upper portion of Waihora Creek) shall be designed and constructed to provide for fish passage.

54. Any long culvert crossings at Waihora Creek and Taranaki Stream, shall be minimised in length, where practicable, including by localised realignment of the stream if required.

55. During the construction of bridges and culverts over waterways with permanent water, the Requiring Authority shall ensure fish passage is provided for, other than the Waihora Creek culverts.

56. Bank or in-river works on the Kaiapoi River should be avoided during the months of September-November (the whitebait season), while more stringent sediment controls shall be required for works around the bridge during the months of December to April (the salmon spawning period) to keep sediment inputs or in-river sediment disturbance to a minimum.

57. Where possible, the natural character and hydrological features, including inflows and outflows, of wetlands shall be maintained.

Trees

58. Conditions 59 to 63 shall only apply with respect to the following notable trees (*Notable Trees*):

a) 100 Parsonage Road – English Oak *Quercus robur* (listed as P#017 in Appendix 29.1 of the Waimakariri District Plan at 8 August 2014)

b) 110 Parsonage Road – Copper Beach *Fagus sylvatica 'Purpurea'* (listed as P#005 in Appendix 29.1 of the Waimakariri District Plan at 8 August 2014).

59. All work involving excavation or disturbing the ground, adjacent to the Project designation boundary, within 3m of the drip line of Notable Trees shall be monitored by an independent, experienced and suitably qualified arborist. The property owner shall be notified in writing at least 20 days prior to any work commencing that triggers the requirements under this condition.

60. Prior to works commencing in the vicinity of the Notable Trees, a pre-commencement meeting shall be held so that the tree protection measures for the Notable Trees can be explained by the arborist to all contractors or sub-contractors.

61. A methodology statement for the construction of the acoustic barrier in proximity to the Notable Trees shall be prepared and approved by the arborist prior to works commencing in the vicinity.

62. Roots encountered during excavations in proximity to retained vegetation that require severance shall be cleanly cut back to the excavation face by the arborist using a handsaw or secateurs.

63. Exposed roots and root ends of retained trees uncovered during excavations shall be covered by hessian (or a similar product) to prevent them from drying and kept damp until the excavated area can be backfilled.

64. Where appropriate during construction of the Project, the Requiring Authority shall consider the following when undertaking works around, and involving, trees:

a) Protective fencing (consisting of 1.8 metre high pole/wire mesh fencing or timber site boarding) to isolate trees identified for retention from construction activities for the duration of the works in the vicinity.

b) Construction activities are not to occur within the fenced tree protection areas, including but not limited to; excavation, storage of construction materials, fuel or chemicals, disposal of contaminated water, fires, storage or operation of machinery, or any other activities that may cause damage to retained trees.

c) The arborist shall determine the position of the protective fencing in consultation with the Project manager. The position of the protective fencing is expected to be outside the drip line (canopy spread).

d) All trees to be removed shall be clearly marked by the arborist prior to the commencement of works in the vicinity of the Notable Trees.

e) All tree removal and pruning shall be carried out in accordance with current arboricultural best practices by a competent arborist.

f) All tree felling, dismantling and pruning operations shall be carried out in a safe manner that avoids damage to trees identified for retention.

g) Where appropriate, all tree pruning shall be carried out under the direction of the arborist.

Stormwater

65. The stormwater systems shall, as a minimum, be designed in accordance with the Transport Agency Stormwater Treatment Standard for State Highway Infrastructure and in accordance with resource consent requirements in the regional plan(s) of the Canterbury Regional Council.

Advice note: Higher levels of treatment may be needed in locations where there is a risk of contaminated stormwater adversely affecting potable water supplies or sensitive receiving waters.

66. The systems shall include a combination of methods to effectively mitigate potential effects.

67. Roadside swales shall be used to collect runoff where possible and for treatment of first flush flows. The swales shall be vegetated and shall include wetland plants in wetland areas where water is held.

68. Check dams shall be included in the roadside swales to detain and reduce peak flows.

69. Infiltration trenches shall be utilised in areas of permeable soil for soakage disposal outside contaminated land areas. In the Cam River Catchment (CH 6700 to CH 7200) testing at any proposed soakage areas shall be undertaken to confirm whether soils at that location are suitable for disposal of stormwater to ground, or whether alternative filters shall be required prior to discharge of treated stormwater to the Cam River.

70. Where there is known contaminated land (LLUR sites), stormwater shall be diverted away from the site, or conveyed across the site in a channel such as a swale with an impervious lining of material such as clay.

71. At new bridges and culverts over waterways, or where space is constrained or where discharge to land is to be avoided, stormwater shall be collected in kerb and channel.

72. Where practicable, the stormwater treatment design shall ensure that stormwater remains hydraulically disconnected from other waterways except by filtration and delivers, as a minimum standard, best practice treated stormwater to its final receiving environment. Where this is not practicable, stormwater overflow may be disposed of to streams, or drains, or to existing surface water channels where appropriate, after treatment, including overflow from areas primarily drained by soakage. Proprietary or constructed filtration devices may be utilised where space is limited and head is available.

73. The stormwater treatment and disposal system shall be developed during the detailed design and be lodged with Council in the Outline Plan. This shall incorporate consideration of the following:

a) Redefinition of ephemeral streams and drains.

b) The feasibility and management of stormwater runoff from the motorway via infiltration systems shall depend on the infiltration characteristics of the natural

strata, the depth to the water table, and the depth and storage capacity of stormwater treatment systems.

c) If stormwater infiltration systems are located within 200 m of any water supply wells and/or near areas where shallow groundwater levels might cause drainage problems, specific design responses and/or the need for monitoring shall be identified. Stormwater infiltration trenches shall be located with a minimum separation distance of 50 metres separation from any water supply well, where feasible. Where that separation distance cannot be achieved then stormwater infiltration shall occur through a sand filtration system rather than a gravel or boulder soakage trench.

74. The use of Waihora Creek in the vicinity of SH1 as a stormwater wetland treatment system shall be avoided. The mid-lower reaches of Waihora Creek may be used for stormwater disposal provided no surface water linkage between the upper wetted portion of the Waihora Creek and the mid-lower dry channel/ephemeral portion shall be formed.

Advice note: The dry tributary channel and pond to the north of the Waihora Creek could be used for stormwater treatment.

75. The Requiring Authority shall design all drainage measures using rainfall figures based on HIRDS Version 3 (or subsequent versions) plus a 16% allowance for climate change for the site location. Any piped reticulation connecting to the Councils network shall be designed with a capacity to convey the 20% AEP critical duration event.

76. The Requiring Authority shall provide for secondary flow paths with a design capacity to accommodate flows from a 2% AEP critical duration storm event.

77. Tutaepatu Lagoon shall not be used for stormwater disposal from the Project.

78. The Requiring Authority shall provide evidence of all approved Canterbury Regional Council consents including those for temporary works, dewatering, dam and diversion works, and discharge consents prior to any works commencing on site.

Groundwater

79. The following investigations, monitoring and sampling shall be undertaken by an independent and suitably qualified hydrogeologist (*the hydrogeologist*) at the times specified below:

Direct Effect on Bores

a) During the detailed design phase of the Project, groundwater use within 400 m of the Project corridor shall be confirmed with a door knock survey to establish the use and depth of abstraction.

b) During the detailed design phase of the Project, the Requiring Authority shall engage the hydrogeologist to identify any wells that will be removed during construction and where these wells are used for water supply or for on-going monitoring purposes, provision for replacement shall be made or, alternatively, in the case of a water supply bore, arrange a connection to a reticulated supply.

c) During the Project construction period, any adverse effects identified by individual well owners and verified by the hydrogeologist to be as a result of construction shall be rectified by either:

1) pumping the bore water to waste for a period of time to see if the turbidity clears; or

2) if the water does not clear, an alternative water supply shall be provided, including either a temporary alternative water supply if the hydrogeologist considers the adverse effects are short term only (for example, while construction activities are occurring adjacent to the affected property), or if the hydrogeologist considers the adverse effects are likely to be long term, the Requiring Authority shall authorise either a drilling rig to re-develop the bore or, in the worst case; a replacement bore may need to be drilled.

Direct Effects on Springs or Wetlands

d) During the detailed design phase of the Project, the Requiring Authority shall engage the hydrogeologist to establish groundwater depth within 400 m of the Project corridor to infer maximum groundwater levels and potential impact on road structure.

e) During the detailed design phase of the Project, the Requiring Authority shall engage the hydrogeologist to conduct surveys of stream beds in autumn and spring, including flow gauging and water sampling to quantify spring inputs from groundwater seepage in and around the Project corridor.

General Effects on Groundwater Levels or Groundwater Quality

f) During the detailed design phase of the Project, the Requiring Authority shall engage the hydrogeologist to obtain details of well performance and groundwater quality to provide a benchmark against any future changes related to Project development.

g) During the detailed design phase of the Project and until completion of construction of the Project, the Requiring Authority shall engage the hydrogeologist to undertake monthly measurements of groundwater levels (and after times of heavy rainfall) at monitoring wells along the Project to infer maximum groundwater levels and potential impact on road structure and stormwater ponds.

Natural Hazards

80. Structural elements of the Project shall be designed to current, or better, standards applying at the time of detailed design.

81. Additional geotechnical investigations shall be undertaken, in accordance with an investigation schedule developed by an independent, experienced and suitably qualified Geotechnical Engineer, to support detailed design, based on the following outline:

a) Additional test pits and scalas at 200m intervals where required to assess the subgrade CBR boundaries for detailed design of the pavement. Additional lab CBR, particle size distributions, compaction testing and plasticity index testing shall be required on test pit samples.

b) One deep borehole and one CPT per bridge/overpass/culvert abutment or central pier to be undertaken at the final structure location. Lab testing including particle size distributions, plasticity index, consolidation and direct shear/triaxial testing to be undertaken on borehole samples as recommended.

c) Lime/cement stabilised CBR soil testing suite to include 3-4 lime/cement mix designs per soil type to be analysed and sufficient multiple tests are to be undertaken to confirm variation of results.

d) A borehole and detailed survey around the man-made lake cuts adjacent to the quarry to confirm lateral spreading risk and potential fill options in the area.

Earthworks

82. Where land filling is to be undertaken, the areas affected together with dimensions relative to the created property boundaries, shall be shown on "As-built" plans to be supplied to the Council.

83. Any areas of fill or earthworks not certified in accordance with NZS 4431; 1989 shall, together with sufficient dimensions to locate the feature from property boundaries, be registered on the land transfer title plans, and shown on the "As-built" plans.

84. Where possible, stockpiles shall be located 100 metres away from any neighbouring dwellings. Stockpiles remaining for more than 4 months shall be no greater than 6.0 metres high, shaped and protected from dust and sediment migration.

85. All rubbish, organic or other unsuitable material shall be removed off site to an approved site where this material can be legally disposed of.

86. The Requiring Authority shall, where material needs to be imported, provide details as to the source and type of material, laboratory tests to confirm mode of compaction, type and frequency of transportation and route used to enter the site.

Contaminants

87. Contaminated material from any LLUR site shall be kept in situ if it is suitable for road construction. If this is not possible, excavation, screening on site to remove residual material and reuse as on site fill, with the residual material taken to a Class A landfill is to be implemented**.**

88. For any road construction activities that occur directly over waste deposits in the former landfill at LLUR site 2689 at 162 Gladstone Road, Woodend then appropriate management and monitoring of landfill gas and groundwater quality effects shall be implemented to ensure that no adverse effects result.

Advice Note: A separate resource consent is likely to be required for this work, and conditions will be imposed by that consent.

Services Relocation

89. Other than as required by condition 90, the Requiring Authority shall carry out any service relocation of Council assets to accord with the Council's Engineering Code of Practice.

90. As the network utility provider the Council, at the Requiring Authority's expense, shall carry out all water connections to the existing public water supply.

91. The Requiring Authority shall provide engineering plans of all relocation works to the Council with the Outline Plan in accordance with condition 3.

Operational Noise

92.

a) The Requiring Authority shall appoint an independent, experienced and suitably qualified acoustics specialist, an independent, experienced and suitably qualified planner approved by the Council, and other designers, to determine the BPO for road-traffic noise mitigation in accordance with NZS 6806:2010. No later than 3 months prior to the Commencement of Works starting, and as part of the Outline Plan required by condition 3, the Requiring Authority shall submit to the Council a Road-traffic Noise Assessment Report ('Noise Assessment') detailing the assessment process, 'Selected Options' for noise mitigation, and the Noise Criteria Categories for all PPFs ('Identified Categories'). All PPFs shall be Category A or Category B. The Requiring Authority shall implement the Selected Options for noise mitigation identified in the Noise Assessment as part of the Project, in order to achieve the Identified Categories where practicable, subject to Conditions 93-95 below.

b) The Noise Assessment shall include PPFs located within the Outline Development Plan Area shown on the Council's Woodend Beach Road Outline Development Plan 171 dated 3 March 2014.

93. The detailed design of the Structural Mitigation measures in the Selected Options (the 'Detailed Mitigation Options') shall be undertaken by an independent, experienced and suitably qualified acoustics specialist prior to construction of the Project, and, subject to Condition 94, shall include, as a minimum, the following:

a) Noise barriers with the location, length and height in general accordance with the Noise Assessment; and

b) Low-noise road surfaces in general accordance with the Noise Assessment.

94. Where the design of the Detailed Mitigation Options identifies that it is not practicable to implement a particular Structural Mitigation measure in the location or of the length or height included in the Selected Options if the design of the Structural Mitigation measure could be changed and would still achieve the same Identified Category or Category B at all relevant PPFs, and an independent, experienced and suitably qualified planner approved by the Council certifies to the Council that the changed Structural Mitigation would be consistent with adopting the BPO in accordance with NZS 6806:2010, the Detailed Mitigation Options may include the changed mitigation measure.

95. The Detailed Mitigation Options shall be implemented prior to completion of construction of the Project, with the exception of any low-noise road surfaces, which shall be implemented within 12 months of completion of construction.

96. The Requiring Authority shall manage and maintain the Detailed Mitigation Options to ensure that, to the extent practicable, those mitigation works retain their noise reduction performance for at least 10 years after the opening of the Project to the public.

Transport Safety and Access

97. New appropriately located and designed accesses shall be constructed. Disturbance associated with temporary accesses shall be reinstated. Rights of Way shall be established where necessary.

98. If the Requiring Authority provides a new access for 138 Main North Road and 1188 Main North Road, the Requiring Authority shall ensure:

    a) the access is designed to meet safe intersection sight distance requirements for an appropriate design speed;

    b) the access should be positioned close to the Pegasus/Ravenswood roundabout within a road environment that shall be landscaped, kerbed and lit to urban standards;

    c) measures to accommodate vehicles slowing to turn shall be incorporated into the Project design.

    Advice note: The Requiring Authority shall not be responsible for the ongoing maintenance or upgrade of any access provided under condition 97 and 98.

99. At any time prior to the Outline Plan being lodged in accordance with condition 3 the Requiring Authority shall undertake a safety audit in accordance with the Requiring Authority's guideline *Road Safety Audit Procedures for Projects, 2013*. Once the safety audit is complete, it shall be provided to the Council for their records.

Monitoring

100. The Council, on an actual cost basis, will audit compliance with the conditions of consent by both site inspections and checking of associated documentation to the extent necessary to ensure the work is completed in accordance with the approved plans and specifications and to the Council's standards. The Council will undertake inspections and checking.

101. The minimum level of inspection shall be as follows:

Environmental Management

a) Upon initial construction of proposed measures.

b) During progress of the works.

Construction Traffic Management

c) During the progress of the works.

Earthworks

d) During stripping of topsoil and stockpiling.

e) During the progress of the works.

f) On completion to final levels.

g) At the completion of the works.

Relocation of Service Connections

h) During installation and prior to backfilling.

i) Testing of water, sewer and stormwater mains and laterals.

j) Disinfection of water mains.

k) CCTV Inspection.

l) At the completion of the works.

Drainage/Stormwater

m) During progress of the works.

n) During installation of culverts, pipelines, sumps, outlets and any other structures, diversion of waterways, construction of swales.

o) At the completion of the works.

102. It is anticipated that other inspections will be required, and the Requiring Authority shall give the Council a minimum of 48 hours' notice of any required inspections. Where repeat inspections are required because of faulty workmanship or work not being ready contrary to the receipt of a notification, such inspections will be carried out at the current hourly rate for staff time and vehicle running costs for kilometres travelled.

Inspection

103. Compliance with the above conditions may be verified by inspection by a Council Officer pursuant to Section 35(2)(d) of the RMA. Should an inspection be required the Requiring Authority shall pay to the Council charges pursuant to Section 36(1)(c) of the Resource Management Act 1991 to enable the Council to recover its actual and reasonable costs in carrying out the inspections.

Advice Notes

This approval relates to establishing the designation only. The following additional approvals will also be required:

a) Resource consents will be required for matters prescribed by the applicable regional plans at the time of construction commencing.

b) A separate Outline Plan (pursuant to section 176A of the Resource Management Act 1991) as required by condition 3.

c) Building consents may be required for structures associated with the Project.

d) Archaeological Authorities, pursuant to the Heritage New Zealand Pouhere Taonga Act 2014.

e) All elements of the Project shall be designed to current, or better, standards applying at the time of detailed design and shall not obstruct any floodway.