



## APPENDIX 1

Our Reference: RC135434/150526083480  
Valuation Reference: n/a

5 June 2015

MWH Ltd  
PO Box 4  
**DUNEDIN 9054**

**Attention: Denise Anderson**

Dear Ms Anderson

### **RECOMMENDATION ON NOTICE OF REQUIREMENT FOR DESIGNATION NEW ZEALAND TRANSPORT AGENCY (NZTA), WOODEND CORRIDOR**

Please find enclosed a copy of the Recommendation on the Notice of Requirement reached by Commissioners Darryl Millar, Andy Carr and Peter Allen. A copy of this decision is also available to view on the Council website, [www.waimakariri.govt.nz](http://www.waimakariri.govt.nz)

As set out in the Resource Management Act 1991, the process to be followed from this point, requires NZTA to make a decision on whether they accept or reject the recommendation of the Commissioners, in whole or in part, along with reasons for their decision. The decision of NZTA must be made to the Council within 30 working days of the issue of this recommendation by the Council. The Council calculates the 30 working days as being Tuesday 21<sup>st</sup> July 2015.

Once NZTA has made a decision on the recommendation, the Council is required, within 15 working days, to provide the decision to all submitters and landowners directly affected by the decision. Any submitter or the Council may appeal that decision in part or whole to the Environment Court. Should a submitter wish to appeal NZTA's decision to the Environment Court, they must do so within 15 working days of receipt of NZTA's decision on the recommendation.

If you have any further queries regarding this process, please do not hesitate to contact me at (03) 311-8900 extension 8886.

Yours faithfully

Garry Blay  
**PLANNING OFFICER**

**Copies to:**  
Chapman Tripp  
PO Box 2510  
Christchurch 8041  
Attention: J Appleyard

All Submitters



## **Recommendation to the New Zealand Transport Agency**

### **SH1 Woodend Corridor (Short Eastern Alignment)**

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>REQUIRING AUTHORITY:</b>   | NZ Transport Agency                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>APPLICATION REFERENCE:</b> | RC135434                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>APPLICATION:</b>           | <u>Notice of Requirement</u><br>To designate land for "Road Purposes – SH1",<br>"Road Purposes – Local" and "Road Purposes –<br>Right of Way"                                                                                                                                                                                                                                                                                                  |
| <b>SITE LOCATION:</b>         | <p>To realign and widen State Highway 1 from a point approximately 330m north of Wards Road to a point approximately 500m north of Ohoka Road, Kaiapoi.</p> <p>The route will be on a new alignment to the east of Woodend township from just south of Waihora Creek through to Williams Street, Pineacres, where it re-joins the existing State Highway.</p> <p>From Pineacres south, the existing highway will be widened to four lanes.</p> |
| <b>HEARING DATES:</b>         | 25-28 August and 12 November 2014                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>HEARING PANEL:</b>         | Commissioner Darryl Millar (Chair)<br>Councillor Peter Allen<br>Commissioner Andy Carr                                                                                                                                                                                                                                                                                                                                                         |
| <b>RECOMMENDATION:</b>        | Confirm the Requirement, with conditions                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>RECOMMENDATION DATE:</b>   | 18 <sup>th</sup> May 2015                                                                                                                                                                                                                                                                                                                                                                                                                      |

## **INTRODUCTION**

### **Background**

1. The New Zealand Transport Agency (The NZTA) has lodged a Notice of Requirement (NoR) with the Waimakariri District Council (the Council) to designate land for the realignment and widening of State Highway 1 at Woodend. The project extends from north of Wards Road (north of the current entrance to Pegasus town) to north of Ohoka Road, Kaiapoi. The project is referred to as the Short Eastern Alignment (SEA) and is some 10.3km in length.
2. The purpose of designation is to enable the construction, operation and ongoing maintenance of the roading corridor.
3. The NoR was publicly notified on 23<sup>rd</sup> January 2014. The notification process attracted 28 submissions. At the NZTA's request, the NoR process was placed on hold for two months to allow for additional consultation to occur.
4. A hearing was convened on 25 August, adjourned on 28 August, reconvened on 12 November and finally closed 24<sup>th</sup> November 2014.
5. Unlike a resource consent application, the Panel does not make a decision on the proposal. Rather, we will provide a Recommendation to the NZTA which can be to:
  - Confirm the Requirement
  - Modify the Requirement
  - Impose conditions
  - Withdraw the Requirement
6. Following receipt of the Recommendation, the NZTA will issue a formal Decision.
7. The Panel undertook several visits to the proposed alignment to gain an understanding of the corridor location, the environment in which it would sit and the nature and location of nearby activities. This included a number of prearranged visits onto private land adjacent to the proposed road corridor.

### **Minutes and Directions**

8. Leading up to, and during the course of, the hearing we issued a number of Minutes that specified Directions (or actions) for the various parties involved in the hearing process. In general terms the Minutes required:
  - Circulation of the Evidence in Chief for the NZTA witnesses before the commencement of the hearing; and
  - Additional assessments and supplementary evidence required by the Panel, following the adjournment of the hearing on 28<sup>th</sup> August. This included an independent peer review of the acoustic assessment provided to us by Mr Farren; and

- The circulation of the supplementary evidence and acoustic peer review; and
- The order of Appearances and conduct at the reconvened hearing.

9. Our Directions were designed to:

- Ensure parties had access to the extensive amount of evidence before the hearing commenced and to achieve time savings where possible; and
- Address areas where we considered there was a gap in the information supplied or where clarity in evidence heard was necessary; and
- Test the validity of some of the evidence heard.

## **Submissions**

10. Mr Blay (Waimakariri District Council Resource Management Planner) outlined the submission topics in section 11 of his section 42a Report. The submission topics were also canvassed in the evidence of the various NZTA experts. Given this, and as we reviewed each submission in detail, we do not propose to repeat the detail of the submissions in this Recommendation. Rather, our approach will be to reference submitters and the issues they raised as we address various topics in this Recommendation.

## **Appearances**

11. The Panel heard from the following people<sup>1</sup>:

### Requiring Authority

- Jo Appleyard/Tania Paddock – Legal Counsel
- Colin Knaggs – NZTA Highway Manager (Canterbury and West Coast)
- Stuart Woods – NZTA Principal Transport Planner
- Dr Shane Turner – Consultant – Road Safety
- Keith Weale – Consultant – Principal Transportation Engineer
- Steven Woods – Consultant – Geotechnical Engineer
- Wayne Bredemeijer – Consultant – Urban Design
- Craig Pocock – Consultant – Landscape and Visual
- David Pearson – Consultant – Heritage Architect
- Joseph Hullen – Consultant – Cultural Heritage
- John Farren – Consultant – Acoustic and Vibration
- Dr Paul Heveldt – Consultant – Air Quality
- Shelley McMurtrie – Consultant - Aquatic Ecology
- Peter White – Consultant – Stormwater
- Carl Steffens – Consultant – Groundwater
- Denise Anderson – Consultant – Planning

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<sup>1</sup> Not all attended the reconvened hearing

**Council**

- Garry Blay – Resource Management Planner

**Submitters**

- Jim Bucknell – supporting statements from Nicky Auld
- Arnold and Joy Pohio
- Amanda and David Fahy
- Tony Penny (Traffic Engineer) – on behalf of D and A Fahy, A and J Pohio, and J and C Bucknell
- Stuart Murray
- Andrea and Bryan Howell
- Barbara Dean – on behalf of Dr Rainer Hack and Dr Ursula Hack
- Jennifer May (Heritage Consultant) - on behalf of Dr Rainer Hack and Dr Ursula Hack
- Andrew Marriot (Engineer) - on behalf of Dr Rainer Hack and Dr Ursula Hack
- Claire Gibb (Mahaanui Kurataiao Limited) on behalf of Te Ngai Tuahuriri Runanga
- Elaine Cole
- David Blackwell
- Allan MacDonald
- Gregory Inwood (also Woodend Beach Road Developments Limited)
- John Brandts-Giesen – on behalf of Mark and Lesley Robinson

**12. In addition we received a:**

- Written statement prepared by Mike Sheppard on behalf of Phyllis Sheppard; and
- Letter from Infinity Investment Group Holdings Limited confirming the withdrawal of their submission; and
- Written statement from Mr David Blackwell, who was unable to attend the reconvened hearing

**Late Submissions**

- 13.** On the 12 August 2014 the Council received a late submission from Ann Deans, Wayne McClintock, Jane Wakeman, Mary Wakeman, Air Charter Queenstown, John Wakeman and Nicky Auld. Council staff considered, under delegation, whether an extension of time should be granted to allow the submission to be heard. In short, the request was declined. As a consequence of this, a number of the 'late' submitters joined the submission of Jim Bucknell.

**THE PROPOSAL**

**The Route, Immediate Environment and the Proposal**

- 14.** The project extends from north of Wards Road (north of the current entrance to Pegasus town) to north of Ohoka Road, Kaiapoi, and is some 10.3km in length. It consists of a mix of widening to create 4 lanes on existing alignments, and a new 4 lane road alignment east of the Woodend township south to Pineacres. Local road, pedestrian and cyclist connectivity will be maintained by way of grade separated overpass and underpass structures and an at grade roundabout at Pegasus.

15. The nature of the existing environment along the route is outlined in detail in section 5 of the NoR. Similarly Section 3 of the NoR, and the accompanying designation and scheme plans, outline the nature of the proposal. The NoR descriptions are generally factual statements and are not in dispute. As a consequence we do not propose to replicate them in this document, other than by way of summary in Table 1 below.

Table 1: Proposal Description

| Route Section                                                          | Project                                                                                                                                                                                                                                                                                                                                          | Environment                                                                                                                                                                                                  |
|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Kaiapoi</u><br>Ohoka Road – Cam Road                                | Modifications to the existing 4 lane alignment, Kaiapoi River bridge extension and realigned northern on ramp.                                                                                                                                                                                                                                   | Largely urban context. Kaiapoi River and riparian margins containing regionally significant fern ( <i>Blechnum blechnoides</i> ).                                                                            |
| <u>Kaiapoi to Pineacres</u><br>Cam Road – Williams Street              | Widening – 4 lane alignment largely follows existing 2 lane alignment.<br>Drain realignments and crossings.<br>New Cam River bridges with new on and off ramps.<br>Williams Street overpass with south facing on and off ramps.<br>Local road improvements.<br>Cycle and pedestrian connectivity by way of a new shared path on Williams Street. | Largely rural context with scattered housing (lifestyle blocks) – Cam Road to Cam River.<br>Cam River and riparian margins.<br>Maori Reserve 873.<br>Williams Street housing.<br>Lees Road housing cluster.  |
| <u>Pineacres to Gladstone Road</u><br>Williams Street – Gladstone Road | New 4 lane alignment.<br>Woodend Beach Road underpass including cycle and pedestrian connectivity by way of a shared path on the northern side of the realigned road and bridge.<br>Gladstone Road underpass including cycle and pedestrian connectivity by way of a shared path on the northern side.<br>Consequential local road improvements. | Largely rural context with scattered housing, including lifestyle blocks<br>Pineacres holiday park<br>LLUR site<br>Ready Mix gravel extraction site, including partially established ponds<br>Drain crossing |

| Route Section                                                          | Project                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Environment                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Gladstone Road to Pegasus</u><br>Gladstone Road ~ Pegasus Boulevard | New 4 lane alignment; re-joining the existing two lane state highway south of the existing Pegasus Boulevard intersection.<br><br>Waihora Creek realignment and box culverts.<br><br>Dual lane roundabout approximately 50m west of the existing Pegasus Boulevard incorporating shared cycle/pedestrian crossing facilities.<br><br>Local road improvements, including a new roundabout servicing the future "Ravenswood" development and a local road link south to the existing state highway. | Largely rural context with scattered housing, including lifestyle blocks.<br><br>110 Parsonage Road (Mairangi) heritage building and notable trees.<br><br>100 Parsonage Road notable trees.<br><br>Existing state Highway 1 housing cluster.<br><br>Waihora Creek.<br><br>Pegasus Golf Course and residential development.<br><br>Proposed Ravenswood housing development. |
| <u>Pegasus Boulevard North</u>                                         | New 4 lane alignment tapering to 2 lanes and re-joining the existing state highway north of the existing Pegasus Boulevard intersection.<br><br>Taranaki Stream realignment and box culvert.                                                                                                                                                                                                                                                                                                      | Scattered housing.<br><br>Existing state Highway 1 housing cluster.<br><br>Pegasus Golf Course and residential development.<br><br>Proposed Ravenswood housing development.                                                                                                                                                                                                 |
| <u>General</u>                                                         | Noise mitigation through the use of low noise pavement surfaces, such as Open Grade Porous Asphalt (OGPA), acoustic barriers and/or bunds.<br><br>Relocated and reinstated property accesses. Establishment of Rights of Way where required.<br><br>No direct access between Wards Road and 500m north of Ohoka Road.<br><br>A range of shared cycle/pedestrian paths.<br><br>36 month construction period.<br><br>15 year designation term.                                                      |                                                                                                                                                                                                                                                                                                                                                                             |

16. The NZTA is a Crown Entity, and was established in August 2008. It is the statutory body charged with operating the state highway network, and its objective is set out in the Land Transport Management Act 2003 (LTMA) as undertaking its function in a way that contributes to an effective, efficient and safe land transport system. In meeting this objective, it is required to also exhibit social and environmental responsibility.
17. We were told that NZTA operates within a framework of policies. This includes the Government Policy Statement (GPS) on Land Transport Funding, which the LTMA requires the Minister of Transport to issue every three financial years and which sets out the outcomes and objectives that the Government wishes to achieve. The LTMA requires that NZTA must give effect to the GPS

when carrying out its planning functions. Mr Knaggs described the key aspects of the 2009, 2012 and engagement draft of the 2015 GPS, noting that the latter signals a continuation of the current strategic direction of ensuring that the state highway network contributes to economic growth and productivity, offers value for money, and is safe.

18. The National Land Transport Programme (NLTP), of which the current version spans 2012 to 2015, sets out NZTA's programme of investment in activities that will give effect to the GPS. NZTA also has a 'Statement of Intent' for the 2012 to 2015 period, with four key business functions of planning the land transport networks, investing in land transport, managing the state highway network, and providing access to and use of the land transport system. These four functions are the means by which it contributes to an affordable, integrated, safe, responsive and sustainable land transport system.
19. NZTA is a signatory to the Urban Design Protocol. This is a (voluntary) commitment to create good urban design outcomes. The NZTA has devised objectives and methods to implement this commitment, balanced against its other functions. NZTA is also cognisant of regional policy and strategic planning documents when developing projects.

### **Reason for seeking the designation now**

20. The NoR, legal submissions and evidence outlined that the reason for pursuing the designation now was to 'future proof' the roading corridor. We were advised that construction is not anticipated for at least 15 years, and that the designation was being sought now to protect the corridor from incompatible land uses. In essence we understood this to be a response to increasing development pressure in the locality of the proposal.
21. A consequence of this is that a 15 year lapse period is sought by the NZTA. This is a significant departure from the 5 year default period prescribed by the Resource Management Act (RMA). We signalled to the NZTA during the course of the hearing that we were troubled by this aspect of the proposal, given that this may leave many of the directly affected land owners (land upon which the designation would sit), with a planning impediment and no effective guarantee that the Requiring Authority would enter into land purchase negotiations.
22. Mr Knaggs indicated in his evidence in chief that the NZTA will consider on a case by case basis requests for early purchase. Ultimately that will be a matter for negotiation between the NZTA and any directly affected land owner if the designation is confirmed. Related to this, Mr S Woods produced supplementary evidence<sup>2</sup> illustrating an extensive number of projects where extended lapse periods had been approved.
23. On balance, and in the circumstances, we accept that if the designation is confirmed, that an extended lapsing period is appropriate.

### **Project Objectives**

24. The stated Objectives for the proposal are given on page 2 of the Notice of Requirement and are:

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<sup>2</sup> Woods supplementary evidence 17 October 2014, para 50-53

- provide for the predicted rapid land use development, both within and surrounding Woodend, that will drive the need for improved transport infrastructure and the increasing traffic flows on SH1, which are projected to be around 28,000 vehicles per day by 2041;
- provide more predictable and improved travel times for all modes of transport on critical intra and inter-regional connections;
- improve access to work, shops and social amenity locally and in Christchurch through congestion relief;
- improve the efficiency of passenger transport through congestion relief;
- reduce the public health impacts of transport through urban areas;
- reduce severance and social issues due to increasing traffic volumes;
- reduce environmental effects through improved treatment with new design standards; and
- improve safety standards on new infrastructure and reduced exposure on existing infrastructure.

## **STATUTORY CONSIDERATIONS**

25. Ms Appleyard notes in paragraphs 21 and 22 of her opening legal submissions that *"part of the NoR relates to the alteration of an existing designation."* Ms Appleyard then confirms that as the requirement of section 181(3)(c) has not been met, it needs to be assessed under sections 168-179 of the Act as if it were a requirement for a new designation. We agree with this assessment.
26. Given the above section 171 of the RMA requires that when considering the NoR we *"must, subject to Part 2, consider the effects on the environment of allowing the requirement, having particular regard to:*
- (a) *any relevant provisions of:*
    - (i) *a national policy statement;*
    - (ii) *a New Zealand coastal policy statement;*
    - (iii) *a regional policy statement or proposed regional policy statement;*
    - (iv) *a plan or proposed plan; and*
  - (b) *whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if:*
    - (i) *the requiring authority does not have an interest in the land sufficient for undertaking the work; or*
    - (ii) *it is likely that the work will have a significant adverse effect on the environment; and*
  - (c) *whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought; and*
  - (d) *any other matter the territorial authority considers reasonably necessary in order to make a decision on the requirement."*

27. In summary, the S171 matters are subject to the purpose and principles of the RMA as set out in Part 2, and require that the following be given particular regard (in summary):
- the relevant provisions of any National Environmental Standard, National Policy Statement, the Canterbury Regional Policy Statement, Regional Plan and the Waimakariri District Plan;
  - whether adequate consideration has been given to alternatives if the Requiring Authority does not have an interest in the land sufficient for undertaking the work, or it is likely that the works will have significant environmental effects;
  - whether the work and designation are necessary to NoR to achieve its objectives; and
  - any "other" relevant matters.
28. With respect to "a)" above, both Mr Blay and Ms Anderson provided an overview of the Plans and Policy Statements relevant to this proposal. Ms Anderson, in particular, provided an extensive discussion in paragraphs 224 – 312 of her evidence in chief. We note that Ms Anderson's assessment was not contested.

## **THE HEARING AND THE ISSUES**

### **Introduction**

29. This section of our Recommendation is in two parts. Part One summarises the evidence and statements presented. As the hearing occurred over a 5 day period, we will not repeat the evidence or statements heard in full as these are a matter of public record. This is particularly the case for the expert evidence (and supplementary evidence) of the NZTA witnesses that was pre-circulated.
30. Part Two considers the issues that arise from the evidence and statements, and addresses the statutory assessment criteria. From this we draw our overall conclusions that lead to our final Recommendation.
31. There are occasions within the Part One discussion where we have provided our view or conclusion on issues. Where this occurs, and for clarity, we do not propose to repeat that discussion in Part Two and it can be taken as the Panel's formal position on the issue. This is particularly so in circumstances where we have received uncontested expert evidence and we consider it reliable.

### **Part One: Evidence/Statement Summaries**

#### **The Council**

##### **Garry Blay**

32. After considering the relevant matters of section 171(1), including Part 2 RMA considerations, Mr Blay concluded that the designation could be confirmed. Having formed this view, however, Mr Blay, clearly signalled the need to address design details and some effects issues through subsequent management plan and Outline Plan processes. We discuss the management plan approach in some detail in our Part Two assessment below. Without prejudice to that discussion, we agree with Mr Blay's comments about this approach.

## **The Applicant - NZTA**

### **Colin Knaggs**

33. Mr Knaggs is a Highway Manager for NZTA with overall responsibility for the management of the Canterbury and West Coast regions. His evidence was focused on explaining how the SEA fitted within the overall NZTA role and function. He initially set out the statutory objective of NZTA, of undertaking its functions *"in a way that contributes to an affordable, integrated, safe, responsive and sustainable land transport system"* and noted that these encompassed the functions of its predecessors, Land Transport New Zealand and Transit New Zealand. He highlighted that in undertaking these functions, NZTA is required to exhibit social and environmental responsibility.
34. Mr Knaggs also described the importance of the Government Policy Statement in guiding NZTA on the outcomes, objectives and short to medium-term goals that the government wishes to achieve through the National Land Transport Programme and from the allocation of the National Land Transport Fund. He set out that in evaluating options associated with this project, consideration has been given to the 2009, 2012 and engagement draft 2015 Government Policy Statements, noting a strong emphasis on value for money and the economic efficiency of projects, and the particular importance of investing in the state highway network.
35. Mr Knaggs also described the four key business functions of NZTA, set out in the 'Statement of Intent' for 2012-15, noting that the SEA embodied three of the four functions (planning the land transport networks, investing in land transport, and managing the state highway network). He went on to describe how the proposal had been guided by a number of regional policy and strategic planning documents and also discussed the NZTA property acquisition programme, which would enable NZTA to *"purchase and provide compensation"* in relation to land required for the SEA. He concluded that in his view, NZTA was fulfilling its statutory functions through the proposal, that it was consistent with the NZTA strategic purpose and aligned to its key business functions, and was also aligned with the government's policy direction.

### **Stuart Woods**

36. Mr Woods is a Principal Transport Planner for NZTA for the Southern Region, and has had a number of roles in the project being the consultant team leader between December 2010 and December 2013, and from January 2014 onwards providing client-side advice to the project team. Mr Woods' evidence initially described the background to the proposal, starting with the 1966 'Christchurch Master Transportation Plan', through to the mid-1970's and 1980's when the progression of the project was delayed through concerns about the cost and the economic performance of the scheme. He described that in the early 1990's, in response to the introduction of the Resource Management Act, Transit New Zealand carried out a review of all its designations across the country and this resulted in the then-current Woodend Bypass designation being let lapse.
37. The concept of a bypass was revisited through the Waimakariri District Council's District Transport Study in the later 1990's / early 2000's and this identified ten possible bypass options. These were evaluated by way of a multi-criteria assessment method, but ultimately this did not make any specific recommendation as to which was the optimum alternative. By the mid-2000's, the advent of the new township known as Pegasus meant that Transit was requested to determine the location of the Woodend Bypass, but due to *"difficulties with the decision-making process"* Transit decided to set the issue to one side.

38. Mr Woods then went on to describe the more recent history of the proposal, and the procedure that had been followed to determine the alignment that is the subject of the Requirement. This commenced with the Woodend Transportation Issues Paper which recognised that the number of bypass options was becoming limited due to new developments in the area, and accordingly, recommended that public consultation be carried out on the issue. This involved a variety of methods, including a letter, feedback forms, media releases, advertisements and articles in the local community newsletter, open days, and a project website. The results of this showed that nearly nine out of ten respondents wished the state highway to be relocated to outside Woodend, and of those that gave a preference for the location, more than two thirds preferred an eastern route.
39. Two further rounds of consultation were completed. The first resulted in six potential bypass alignments being developed but two of these were rejected due to the impact upon Maori historical sites and land, various environmental effects and high construction costs. Four options were therefore taken forward into the second round of consultation, with two alignments (the 'Long Eastern Alignment' and SEA) being the most preferred. However following an assessment of the Long Eastern Alignment, it was found that this had a lower cost benefit ratio than the SEA, carried less traffic and did not divert as much traffic out of Woodend. Consequently, at that time Transit determined it would focus on progressing the SEA and also an option to four-lane the existing highway through Woodend.
40. Mr Woods went on to describe in more detail the processes that had been followed most recently in assessing the proposal. The first phase considered a wide range of potential configurations, with an initial 'broad brush' analysis using transport modelling, costings and a range of other criteria to create a short-list of three options for each corridor under investigation. The second phase optimised the three options further through a more detailed analysis and included public consultation on the alternatives. The third phase compared the best option within each corridor against one another using a multi-criteria assessment process. The latter showed that the SEA provided more benefits than a four-laning scheme.
41. Mr Woods then described the key characteristics of the state highway network in the area, including the expectations for the levels of service provided with regard to travel time, resilience, speeds, safety, amenity and accessibility, and set out the relative roles of NZTA and the District Council. He discussed in some detail the various elements of the proposal, but this is set out elsewhere within this Decision and is therefore not repeated here. However, he also included details of the expected future traffic flows and likely poor levels of service, which have led to the decision to allow for a four-lane bypass to be constructed.
42. As well as the various locations and forms of proposed intersections, he also set out the provision to be made for pedestrians and cyclists, noting that the proposal would maximise the accessibility of the local transport networks by separating local traffic from long-distance traffic and meaning it would be safer and more attractive to walk or cycle. The SEA also incorporates facilities for pedestrians and cyclists within the new infrastructure provided on the local road network, although no provision will be made along the motorway itself. He highlighted however that once the SEA was complete, any redundant parts of the state highway were likely to have their highway status revoked and would revert to District Council control.
43. Mr Woods addressed submitters concerns in respect of the provision of north-facing ramps at the Williams Street overbridge, the issues associated with grade-separation at Pegasus Boulevard, the process followed by NZTA in deciding upon the route. In these matters, he set out that an

investigation of north-facing ramps showed that traffic flows on the ramps would be minimal but that more land would be required, scheme costs would be greater, and that there would be a degradation in the quality of the walking and cycling facilities provided. At Pegasus Boulevard, he highlighted that grade-separation would require "significant" land, would be more expensive than an at-grade arrangement, would not notably improve travel times and was generally opposed during public consultation. In respect of the process followed, he highlighted that the choice of alignment involved trade-offs between a wide range of requirements and desires, and reiterated that a "considerable" amount of consideration and analysis had been carried out to determine the proposed extent and location of the designation sought.

44. Overall, Mr Woods set out that in his opinion, the proposal was a strategic fit with NZTA's management of the state highway network and aligned well with national and regional strategic documents. He considered it was a sound and rational outcome response to anticipated future development, and that the protection of the alignment through designation was required at this point as the best option available.
45. In response to our questions, Mr Woods produced a supplementary Statement of Evidence which addressed matters relating to the transport modelling carried out for the proposal and in particular the sensitivity tests that had been carried out. There were three such tests, 50% faster land-use growth in the area to the north of the Waimakariri River, 3% per annum faster growth in areas to the north of the district, and fewer 'through' trips on the state highway with this being based on the observed Automatic Number Plate Recognition survey data. He concluded that the tests did not change the recommendation of the preferred corridor, nor fundamentally affect the justification for the proposal.
46. Mr Woods produced a second supplementary Statement of Evidence which addressed the consideration of alternatives at the State Highway 1 / Williams Street intersection. In this, he set out the process that had been followed in evaluating the likely scheme design (and hence the extent of the proposed designation) at this location and confirmed that various options had been assessed. A roundabout formed part of the first phase of potential options, and progressed into the second phase for further analysis. A roundabout was also included within one of the options used within public consultation in Phase Two, as was an option which showed the SEA passing underneath Williams Street.
47. Mr Woods noted that the potential for the SEA to pass underneath Williams Street had a number of difficulties including the impacts on property access, land purchase and effects at the Williams Street / Lees Road intersection. However a roundabout was less costly to construct than a grade-separated arrangement, and would potentially require less land than the option that was subsequently progressed. Nevertheless, he set out that public consultation had identified concerns with delays/congestion at a roundabout and the need for drivers to reduce their speed to negotiate the intersection.
48. Further, he considered that it could be inferred from the traffic modelling carried out that the presence of a roundabout would slow traffic on the SEA and thereby erode the travel time benefits, and that the degree of reduction in traffic flows on Williams Street would be diminished. He also noted that NZTA wished to extend the motorway function and status of the state highway in the Woodend area and an at-grade roundabout would be incompatible with this. He went on to highlight that if a grade-separated layout was to be required in future then there would be less disruption to state highway traffic through constructing this at the outset, and that grade-separation provides a number of benefits to cyclists and pedestrians that an at-grade arrangement does not. He then

provided an assessment of the at-grade and grade-separated option for this intersection against each of the project objectives and ultimately concluded that the present expectation of grade-separating the State Highway 1 / Williams Street intersection better met the objectives.

### Shane Turner

49. Dr Turner is a consultant Road Safety Specialist. The scope of his evidence covered both general transport and road safety matters associated with the proposal, and provided considerable detail on both. He firstly described the current conditions on the highway in terms of the traffic flows within and to the north and south of Woodend, and the turning counts at each of the existing intersections within the study area. He set out the current public transport provision, and the extent of walking and cycling provision made, and then discussed in detail the road safety record of the highway. In this regard, he highlighted two fatal crashes and also drew attention to the State Highway 1 / Williams Street ('Pineacres') intersection which is *"one of the worst rural black-spots in Canterbury and is ranked in the top 100 high risk intersections in New Zealand"*.
50. He then described the efficiency of the existing network, in terms of the expected future Level of Service as forecast by the Greater Christchurch CTM model, in the morning and evening peak periods, for 2041, if no works were carried out. This analysis showed a number of links and intersections operating with a poor Level of Service (E or F) by this year. However he went on to set out that in practice, a number of improvements would be likely to be made regardless in order to improve levels of service, and that these formed part of a 'do minimum' scenario that had also been taken forward for modelling. In the first stage of this analysis, two 'do minimum' scenarios were modelled together with six four-laning options and seven SEA options. This showed that the SEA options performed favourably in terms of travel time, but worse in respect of the vehicle kilometres travelled. At the conclusion of this phase, three sub-options were taken forwards for each corridor option (the 'do minimum' and SEA alternatives) for further testing.
51. Under the second tranche of modelling, detailed assessments were carried out for each of the six sub-options. However at this time NZTA decided that the schemes within the 'do minimum' scenario should be revisited to ensure that they had been determined using an appropriate set of assumptions and analyses to ensure that a basic level of network functionality was achieved. Dr Turner sets out that this ultimately resulted in a 'do minimum' scheme that included two sets of traffic signals, conversion of three intersections to left-in/left-out only and revisions to other intersections, and that this was then taken forward for comparison against the preferred four-laning and SEA options determined within the second modelling phase.
52. Dr Turner notes that this third phase of modelling showed that the SEA option provided *"reasonable"* travel time savings, although these are partially offset by an increased travel distance. However subsequent to this, the 'do minimum' scheme was revised again due to concerns that the works required were too extensive and that in practice it was unlikely to ever be implemented. Ultimately, both the four-laning and SEA options were taken forward for a multi-criteria analysis to identify the preferred solution because there were not any significant net differences in travel times and vehicle operating costs between them.
53. Dr Turner describes that the multi-criteria analysis used criteria drawn from the objectives of the Government Policy Statements, Land Transport Management Act, and the Resource Management Act. The outcome of this revealed that the SEA was the more preferable of the two options, with better travel time and reliability, better network access, better road safety outcomes, less impact

upon Maori land (MR873) and less effects on landscape values. It was therefore selected as the preferred option.

54. Dr Turner then set out a detailed comparison of the performance of the 'do minimum' and SEA options for both 2016 and 2041 setting out the levels of service at intersections within the study area, the total travel time and distance for all vehicles, and travel time and distance for heavy vehicles. This showed that the SEA provided "significant" travel time savings albeit with a greater distance travelled. Dr Turner also noted that there would be reduced delays for public transport, particularly at the State Highway 1 / Williams Street intersection and also benefits for people crossing the road within Woodend, and that the SEA would have a positive impact on pedestrian and cycle connectivity in the area.
55. With regard to road safety, Dr Turner set out that the SEA would reduce the number of potential vehicle conflicts and that a 'safe system' design approach has been used which is forgiving of driver mistakes. He calculated that the proposal would save approximately 2.67 fatal or serious crashes per year over a 30-year assessment period, equating to a Net Present Value in the order of \$12.29M.
56. In responding to submissions, Dr Turner provided supporting figures for Mr Woods' assertion regarding the north-facing ramps at the State Highway 1 / Williams Street intersection and also addressed road safety matters relating to the provision of an at-grade, rather than a grade-separated intersection at Pegasus Boulevard. He concluded that the proposed at-grade provision represented a substantial improvement on the current situation, albeit not as safe as grade-separation.
57. Dr Turner concluded that the transport impacts of the SEA were primarily positive and provided greater benefits than a 'do minimum' solution. It improves the safety performance of both the existing state highway alignment and that of the adjacent local road network, and creates improvements for non-motorised road users. Overall, he considered that the proposal was safe, provides travel time efficiencies and benefit to all road users, and can be accommodated without adverse effects on the local road network.

#### **Keith Weale**

58. Mr Weale is a consultant Transportation Engineer and has extensive experience in highway engineering design. He acted as the reviewer of the design process outputs, including the scheme layout plans that were lodged in support of the SEA. He described this role as reviewing whether the designers had applied best and most appropriate engineering practice and standards, considered all alternatives for each element of design, taken into account the implications and effects of their proposals on other elements of the project, and considered and put forward appropriate solutions for NZTA.
59. In his evidence, Mr Weale set out that the preliminary design meets the NZTA standards and guidelines for a four-lane dual carriageway expressway with a 90km/h design speed between Pegasus Boulevard and Gladstone Road, and a four-lane median divided dual carriageway motorway with a 110km/h design speed between Gladstone Road and the Kaiapoi River. He also considered that the cross sections proposed were appropriate for the standard of highway envisaged.
60. In respect of the horizontal alignment, Mr Weale discussed each of the sections of the highway in turn, highlighting the design constraints for each which led to the particular alignment which is

proposed. He noted that the vertical alignment follows the ground profile as much as possible without creating drainage issues associated with inundation, surface flooding and aquaplaning of vehicles. The SEA will pass under both Gladstone Road and Woodend Beach Road, and the extents of the elevated sections on both roads are the minimum required to provide safe sight distance over the crests for a design speed of 70km/h.

61. At the intersections, he set out that the design of the proposed two-lane roundabout at Pegasus Boulevard followed current guidelines and best practice, and provides safe sightlines between entering, approaching and circulating traffic (and provided a detailed explanation of these). He noted that the SEA would sever Main North Road and so in order to preserve connectivity, a new road was proposed from the severed portion of Main North Road to connect to the Ravenswood link road about 200m west of the Pegasus Boulevard roundabout.
62. Mr Weale described that the existing State Highway 1 / Williams Street intersection would be replaced by an overpass, with Williams Street being realigned to extend directly into Main North Road in order to avoid “confusing and unsafe” driver behaviour if the existing alignment was retained. Two new intersections are also required at this location at the ends of the proposed on and off ramps. He set out that the existing Williams Street / Lees Road intersection will be retained, albeit with minor modifications. Further south, the SEA will tie-in to the existing dual carriageway section of the Northern Motorway, and that minimal adjustment of the north-facing ramps at Lineside Road will be required.
63. Mr Weale then discussed property access issues, highlighting that there will be no direct access to the SEA and that any existing property accesses that would be severed or disrupted will be relocated and reinstated, and that this may require the establishment of rights of way to local roads across adjacent properties. He provided a detailed explanation of the proposals for a number of properties within his response to submissions.
64. An independent safety audit of the preliminary scheme design has been carried out and Mr Weale set out that this revealed two key safety issues, relating to the retention of the State Highway 1 / Wards Road intersection and the likely vehicle speeds on Woodend Beach Road. The former was addressed through the provision of safer right-turn facilities within the median, and the latter through an expectation that the speed limit on the road would be reduced.
65. In responding to submissions, Mr Weale provided more details on the design issues if north-facing ramps were to be provided at the State Highway 1 / Williams Street intersection, highlighting that these would range from widening the designation, through to revising the form of the south-facing ramps and increasing the span of the Williams Street overbridge to provide adequate sight distances. He also addressed the matter of the Cam River Bridges and SEA alignment south of the river (and these are discussed in more detail below).
66. With regard to the possible grade-separation of the Pegasus Boulevard roundabout (discussed above), Mr Weale set out that grade-separation would not be possible with a two-lane highway and thus would require the four-laning to extend to at least 500m north of the roundabout. He noted that pedestrian and cyclist crossing facilities were proposed on all four legs and that these met current best practice. He also described the provision for walking and cycling made at other locations within the wider scheme corridor.

67. In conclusion, Mr Weale considered that the SEA and its associated intersections had been designed for all road users to safe and appropriate standards, and to minimise the effects on adjacent properties.
68. Mr Weale provided a short supplementary statement of evidence addressing access matters at three properties in the vicinity of Pegasus Boulevard. He presented concept sketches for these but also noted that these would be subject to further development during detailed scheme design.
69. Mr Weale provided a supplementary statement of evidence which addressed two matters; the alternative options considered at the State Highway 1 / Williams Street intersection, and the matter of relying upon a speed limit change at Woodend Beach Road. In respect of the former, he set out that he had initially suggested that an at-grade arrangement (a roundabout) might be an appropriate solution as it would be less costly, could be implemented quickly to solve the existing road safety issues at this location and might facilitate staging of the SEA. However this was not progressed further because it would not achieve NZTA's aim of extending the Northern Motorway past Woodend or result in improved travel times.
70. With regard to relying on a speed limit reduction, Mr Weale set out that in his view it was reasonable to do this because of the road being likely to serve increased residential development on either side, and that if the existing speed limit was assumed to remain in place, there would be difficulties in accommodating the required embankments within the designation footprint without steepening and strengthening the fill slopes

**Steven Woods**

71. Mr Woods is a consultant Civil Engineer, and provided evidence on the geotechnical design philosophy and geotechnical implications of the design and construction of the SEA. He described that initial investigations comprised of a review of previous geotechnical information relating to the area of the SEA and the existing four-laning alignment, and a site investigation and laboratory testing programme. This revealed that the ground conditions were consistent with expectations, with layers of sand and silt overlying denser gravel, silt, clay and sand layers. Groundwater was encountered at 1m to 4m below ground level but artesian groundwater was not encountered.
72. This exercise was followed by an interpretive geotechnical report, which used the factual data that had been collected as the basis for a discussion on the geotechnical implications associated with the engineered components of the SEA. Although Mr Woods did not contribute to these two reports, he has reviewed them and agrees with the conclusions reached other than that he considers ground improvements will be required at each of the bridge structures in addition to piles.
73. Mr Woods described that the principal geotechnical design premise for the proposal is to adhere to the NZTA Bridge Manual (third edition). Broadly, this requires that the design of any structure located in an area which is susceptible to earthquake-induced liquefaction shall take into account the potential for large movements due to settlement, rotation and translation of substructures. Mr Woods set out that the liquefiable soils are "*prevalent*" within the area and that appropriate measures will therefore be required within the design. At the bridges and culverts, this will be through supporting the structures on piles with an associated area of ground improvements to reduce the potential for liquefaction. Subject to these, he considers that there are no geotechnical conditions affecting the viability of the project.

74. Mr Woods does not consider that specific mitigation measures are required at the road embankments away from the structures, but a specific construction methodology will be required for the embankment through the Christchurch ready Mix Concrete Plant pits. While the detailed design of this is yet to be undertaken, he provided an indicative sequence of the process that could be followed to achieve this and noted that it would involve the formation of an underwater embankment. In his opinion however, there are commonly-used techniques to construct this and ensure it is fit for purpose.
75. On the basis of his evaluations, Mr Woods concludes that there are no major geotechnical constraints affecting the viability of the SEA, although there are geotechnical issues that require further investigation at the detailed design stage. We accept the evidence of Mr Woods and do not propose to comment further on geotechnical issues.

#### **Wayne Bredemeijer**

76. Mr Bredemeijer is a Senior Urban Designer with the Urbanismplus Ltd based in Auckland. Mr Bredemeijer was involved in the preparation of the Urban Design, Landscape and Visual Impact Assessment, and the Urban and Landscape Design Framework, alongside Mr Pocock and a number of other individuals.
77. Mr Bredemeijer clarified that at the time of his engagement on the project the corridor option had already been selected, and thus the focus of his assessments related to design elements and related effects issues.
78. Overall Mr Bredemeijer was of the view that there were no fundamental urban design issues of such significance that would impact on the alignment selected by the NZTA. Moreover, that the suite of conditions<sup>3</sup> offered by the NZTA would enable the detailed design issues to be appropriately addressed and in particular proposed:
- Condition 34 requires the preparation of a Urban and Landscape Design Management Plan (ULDMP)
  - Conditions 35 and 36 prescribe the content and matters for assessment
79. We note that Mr Bredemeijer's evidence was uncontested.

#### **Craig Pocock and the Statement of Martin Gohns**

80. Mr Pocock is a consultant Landscape Architect. The focus of Mr Pocock's evidence was on the scale and extent of landscape and visual impacts that may arise from the project. This included an overall assessment and a finer grained evaluation at a local level.
81. At an overall or strategic level Mr Pocock concluded that effects of the project on the landscape would be significant, although it was his view that the effects could be reduced and mitigated through the proposed ULDMP.
82. At a local level, Mr Pocock identified visual impacts that ranged in effect from "no or low" through to "high". In his view, however, the ULDMP and the Visual Effects Management Plan (VEMP) will provide a framework for addressing these effects, but more specifically he identified a number of

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<sup>3</sup> NZTA Conditions version dated 12 November 2014.

sites where particular matters should be considered. This aspect of his assessment informed the drafting of conditions 40c-d<sup>4</sup>.

83. He was strongly of the view, given the likely time period that would elapse between consideration of this NoR and project construction, that mitigation of the high end effects should be considered at the detailed design phase. Accordingly he recommended that the visual effects assessment be updated at that time (condition 40a<sup>5</sup>).
84. Overall, Mr Pocock was of the opinion that the landscape and visual effects of the project could be appropriately reduced and/or mitigated through the development of the ULDMP and the VEMP and related conditions.
85. Following the adjournment of the hearing on 28<sup>th</sup> August, the Panel undertook further site visits to consider the evidence of Mr Pocock and the statements of a number of the submitters. In particular we visited 100 and 110 Parsonage Road, 145 Gladstone Road (from the road), 175 Gladstone Road and the Lees Road/Williams Street area.
86. Following this we issued Minute number 3 which sought supplementary evidence from Mr Pocock on the extent to which there was reliance on offsite mitigation, such as existing planting or shelterbelts. By offsite, we meant land that was neither in ownership of the affected party or in (or planned to be in) Crown ownership. Our line of enquiry on this issue related specifically to:
- 175 Gladstone Road  
At 175 Gladstone Road Mr Pocock relied upon an existing shelterbelt and commented in evidence that the extent of visual impacts will be dependent upon which side of the shelterbelt the sound attenuation wall will be located (Appendix G NoR). One presumption in his assessment was that the shelterbelt would remain. We wished Mr Pocock to consider two potential scenarios and to advise if this altered his conclusions or if any specific additional mitigation measures were required. The two scenarios were:
    - If the noise barrier is located on the east side of the shelterbelt; or
    - If the shelterbelt does not exist
  - The Lees Road properties generally.  
In this case we sought further evidence from Mr Pocock on the extent to which he was relying on the existing Pine shelterbelt located on the Christchurch ReadyMix site as a visual effects mitigation measure at Lees Road.
87. Related to this, Mr Pocock also recommended the planting of street trees on the north side of Lees Road and around into Williams Street. The latter measure was designed to specifically address visual impact issues associated with the proposed Williams Street underpass as viewed from 287 Lees Road. We asked Mr Pocock to consider the following scenario and to advise if this altered his conclusions:
- The Pine shelterbelt does not exist. In this scenario we also asked Mr Pocock to consider the impact of any possible noise barriers.
88. We noted also that the Lees/Williams street tree mitigation offered in Mr Pocock's assessment did not specifically appear in the recommended conditions.

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<sup>4</sup> Ibid

<sup>5</sup> Ibid

89. In his supplementary evidence Mr Pocock advised that part of the existing shelter belt adjacent to 175 Gladstone Road was located within the area proposed to be designated by the NZTA (Chainage 2700 – 3120). His assessment of the various scenarios outlined above was that the visual effects would range from low to moderate. His conclusion was influenced by some recent on site planting that would assist with screening an acoustic barrier if it were located east of the existing shelterbelt.
90. While Mr Pocock noted in paragraph 17 of his supplementary evidence that the NZTA does not intend to remove the shelterbelt, there is no guarantee that will be the case. Within this context Mr Pocock referred to condition 40a<sup>6</sup> of NZTA's proposed conditions which provides specifically for situations where there is a change in the landscape.
91. In terms of the Lees Road issues, Mr Pocock described in general terms the likely scale and extent of the acoustic barrier that would be required. Noting this, and with the shelter belt removed, he revised his earlier assessment and concluded that the visual impacts of the alignment would range from low to moderate. The one exception to this was the Pohio property at 287 Lees Road, where he considers the effects to be high. Overall this signals the need for further mitigation.
92. Mr Pocock's evidence<sup>7</sup> references the supplementary evidence of Ms Anderson and her discussion on the status of the existing shelterbelt under the ReadyMix resource consent (CRC093754.1). In short, there is some uncertainty surrounding the extent to which the shelterbelt will remain and the impact of the NoR, if it is confirmed, on the ability of ReadyMix to comply with the consent conditions. Within this context Mr Pocock adopted a conservative stance which assumes the shelterbelt is removed. In this scenario Mr Pocock commented in paragraph 28 of his supplementary evidence that it is his opinion that screen planting should extend from Chainage 6650 to 6200. Figure SB-01 (Attached to his Supplementary Evidence) illustrates the spatial extent of this planting. Given all of the above, Mr Pocock proposed condition 40d<sup>8</sup> which reads:

*The VEMP shall:*

*...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.....*

93. We discussed this proposed condition with Mr Pocock at the hearing. The Panel supports the performance based approach of the condition but, given the specificity of his conclusions, we suggested to Mr Pocock that condition 40d required amendment to more clearly define the minimum area of planting; assuming the designation is confirmed. He agreed with this approach.
94. Appended to the evidence of Mr Pocock was an aboricultural assessment prepared by Mr Gohns. Mr Gohns is a consultant Arborist and prepared an assessment of the potential impact of the roading project on existing trees located at 100 Parsonage Road, 110 Parsonage Road, 565 Williams Street and 567 Williams Street.
95. At 565 and 567 Williams Street some vegetation removal will be required to enable the construction of the Williams Street overbridge, on-ramp and associated batter slopes. This vegetation is not protected under the provisions of the District Plan. Mr Gohns noted that the vegetation that would

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<sup>6</sup> ibid

<sup>7</sup> Pocock evidence paragraphs 29-32

<sup>8</sup> NZTA Conditions version dated 12 November 2014.

remain should be afforded protection during construction activities and that compensatory planting should be provided as a mitigation measure. To this end NZTA have proposed conditions 64, 40(c) and 41<sup>9</sup>.

96. Mr Gohns also considered the impact of the proposal on the protected trees (District Plan) located at 100 and 110 Parsonage Road. This includes an English Oak (100 Parsonage Road) and a Copper Beech (110 Parsonage Road) that are located in close proximity to boundary of the roading alignment.
97. Acoustic barriers are proposed along the roading alignment, and may be within the drip line of the protected trees. Mr Gohns main area of concern related to the potential for ground disturbance associated with the establishment of the acoustic barriers and the impact this may have on the trees. In response to this concern a suite of conditions (58-63<sup>10</sup>) were proposed by the NZTA designed to afford protection to the trees.
98. Mr Gohns assessment on this issue was based on a generic understanding of the form of the acoustic barrier and the construction method involved. As Mr Gohns was unavailable for the hearing, we sought a supplementary report querying whether his conclusions would remain the same if, for example, a different barrier was proposed and/or more intrusive earthworks were required. In short his view was unchanged as he considered the conditions proposed adequately addressed that potential scenario. We accept the advice of Mr Gohn's on this matter.

**Dave Pearson**

99. Mr Pearson is a consultant Architect specialising in the field of conservation architecture. Mr Pearson's evidence assesses effects on the heritage values on St Barnabas Church (135 Main North Road), Woodend Orchard House, Woodend Methodist Church and the Woodend Parsonage (Mairangi) located at 110 Parsonage Road, Woodend.
100. He concluded that there would be no effect on the heritage values of the St Barnabas Church, Woodend Methodist Church or the Woodend Orchard House due to the separation between the alignment and these sites. His evidence and conclusions were not contested.
101. Mr Pearson advised that Mairangi is a category II listed building (Heritage New Zealand Pouhere Taonga) for reasons of historical or cultural value. The building is also listed in the Waimakariri District Plan for its historical and social significance.
102. The motorway alignment and the proposed designation do not require land to be taken at 110 Parsonage Road. The roading corridor does, however, immediately adjoin the northern boundary of the site. The Panel sought clarity on the nature of the District Plan listing and we were advised it listed items by building/structure and address and that in this particular case the heritage site is the Mairangi Homestead and Stables. Within this context Mr Pearson's evidence in chief and supplementary evidence largely considers impacts on the heritage values of the buildings and associated amenity impacts, rather than consideration of the wider site setting.
103. Mr Pearson's overall view was that, as the project does not require changes to be made to the property or the building, there will be no adverse physical impacts on heritage values. Mr Pearson

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<sup>9</sup> NZTA Conditions version dated 12 November 2014.

<sup>10</sup> *ibid*

acknowledged in his evidence, however, that if modifications to the building were required in order to address noise effects, then this had the potential to affect heritage values. In his view any such work would be unlikely, based on the assessment and findings of Mr Farren. If work was required it would be, in his view, minor and would likely be considered a permitted activity under the District Plan.

104. Mr Pearson's supplementary evidence outlined some additional/modified conditions proposed in response to issues raised by Barbara Dean, Jennifer May and Andrew Marriot. In particular he noted proposed conditions 30 and 31<sup>11</sup> which deal with requirements for a further heritage assessment (in terms of the NZTA's Guide to Assessing Historic Heritage Effects from State Highway Projects) and consultation with the building owners on the preparation of a Heritage Management Plan (which forms part of the CESMP) should physical works be required on the building.
105. Mr Pearson's evidence touched briefly on any adverse physical effects on the building that may arise from construction of the motorway project. To the extent that he has relied on the evidence of Mr Farren (see below), he concludes that no such adverse effects will arise,
106. We sought further guidance on the District Plan requirements and in Ms Appleyard's closing submissions she outlined the relevant Plan rule regime for "permitted alterations", including the definition of the term "minor alteration". Should any work be required that does not meet the permitted activity standard then resource consent would be required. For the purpose of this assessment, at this time, it is assumed that if resource consent is required, it would only be granted in circumstances where the effects on heritage values were appropriately mitigated. That is the extent of the assessment we can undertake at this time – given the project life of this proposal, there may be a different District Plan framework or legislative context when this matter is considered subsequently. Given this, we do not propose any further comment on the issue, other than to note that the conditions proposed by the NZTA (and noted above) appropriately address the issues in our view.

#### **Joseph Hullen**

107. Mr Hullen was engaged by the NZTA to prepare the Cultural Impact Assessment (CIA) for this project and to assist in consultation with Ngai Tahu. His assessment identified a number of potential effects on cultural values could arise from the project; recognising that in general, and in some cases site specific, terms this area is of high cultural value to Ngai Tahu.
108. Mr Hullen's evidence assessed the proposal against a raft of statutory and non-statutory documents, within the realm of his area of expertise. This included the RMA, Canterbury Regional Policy Statement, proposed Land and Water Regional Plan, Canterbury Natural Resources Regional Plan, Waimakariri River Regional Plan, Mahaanui Iwi Management Plan and the Te Ture Whenua Act. While not explicitly stated in his evidence, during questioning Mr Hullen confirmed that it was his view that the proposal aligned with these documents from a cultural impact perspective and in terms of its impacts on Ngai Tahu. We note, for completeness, that some of the issues discussed in evidence (and the related document references) deal with matters beyond the scope of these proceedings; for example stormwater management.
109. Mr Hullen was of the view that the extensive suite of conditions proposed by the NZTA assisted with his conclusions. This includes, but is not limited to, an Archaeological and Cultural Sites Management Plan (forming part of the CESMP) and the establishment of a Cultural Advisory Group

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<sup>11</sup> NZTA Conditions version dated 12 November 2014.

(CAG) which includes requirements for identification of archaeological sites, site monitoring and site management discovery protocols, establishment and members of the CAG; and its ongoing role in consultation.

110. We accept Mr Hullen's advice on these matters.
111. Mr Hullen's evidence also considered the impact of the proposal on the Kaiapoi Maori Reserve 873 and outlined the consultation completed to date with the beneficial land owners. Mr Hullen acknowledged at the hearing that consultation was ongoing.

#### **Jon Farren and the Peer Review of John Cawley**

112. We have placed our discussion on the evidence of Mr Farren and Mr Cawley in this location as a matter of convenience; acknowledging that Mr Farren appeared as a witness for the NZTA and that Mr Cawley was engaged by the Waimakariri District Council to act in an independent review role.
113. Mr Farren is an Acoustic consultant and his evidence canvased issues relating to operational noise, and construction noise and vibration. As Mr Farren's evidence was uncontested, we directed the Council to engage an independent acoustic consultant to review the assessments and conclusions of Mr Farren. This area of enquiry was principally around operational noise issues and the use of *NZS 6806:2010 Acoustics – Road-traffic noise - new and altered roads* (NZS6806). Mr Cawley was appointed for this purpose.
114. Through the course of the hearing we received evidence and supplementary evidence from Mr Farren, a peer review report from Mr Cawley, and a joint statement from Mr Cawley and Mr Farren. The joint statement was produced in response to queries raised in Mr Cawley's review and was designed to clearly set out for us where there were areas of agreement and disagreement between the experts. In short, Mr Cawley and Mr Farren found that they had no significant areas of disagreement.
115. In Mr Farren's view *NZS 6803:1999 "Acoustics – Construction Noise"* represents the current best practice approach for assessing and managing construction related noise and forms the cornerstone of the conditions dealing with the development and implementation of the Construction Noise and Vibration Management Plan (CNVMP). We accept Mr Farren's advice on this matter.
116. With respect to vibration from construction activities Mr Farren referred to *British Standard BS5228* and *German Standard DIN 4150-3*. The British Standard addresses human response to vibration and the German Standard considers building response. Mr Farren confirmed that the British Standard establishes a more restrictive standard (category A criteria) than the German Standard which, he advised, "ensures that damage will not occur"<sup>12</sup>. While this discussion was generally focussed on the concerns raised by Mr Marriott, in relation to concerns about adverse vibration effects on the dwelling located at 110 Parsonage Road, it has relevance along the entire route of the project.
117. As a consequence of Mr Farren's assessment, the NZTA proposed a suite of conditions<sup>13</sup> dealing with vibration and the CNVMP. Of particular relevance to this issue are conditions requiring the

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<sup>12</sup> Farren supplementary evidence paragraph 20

<sup>13</sup> NZTA Conditions version dated 12 November 2014.

adoption of Category A criteria where practicable and, in circumstances where this could not occur a process of independent assessment to determine the application of Category B criteria.

118. In terms of operational noise, Mr Farren outlined the application of NZS 6806. In his view this standard represents industry best practice for assessing traffic noise and was appropriate to use it for this project. The Standard provides 3 increasing levels of noise exposure for sensitive activities (Categories A-C) and uses a "best practicable option" approach for determining which category should apply. During the course of the hearing the NZTA removed the Category C option from the proposal.
119. Mr Farren's preliminary assessment concluded that with the use of mitigation measures such as Open Grade Porous Asphalt (OGPA) and acoustic barriers, that the Category A Criteria should be achievable. Notwithstanding this, his assessment concluded that in some circumstances the noise effects experienced in some locations would range from substantial to severe. While this may be the case, his overall conclusion was that the application of the NZS would demonstrate a reasonable noise outcome in terms of Section 16 of the RMA. Conditions proposed by the NZTA prescribe the process for the development of a Road-traffic Noise Assessment Report and the development of mitigation measures.
120. The appropriateness of the NZS was fundamental to Mr Farren's assessment. Within this context the joint statement of Mr Farren and Mr Cawley concluded:
- NZS 6806 is the appropriate means of assessing traffic noise
  - The adoption of NZS 6806 will result in "reasonable" levels of traffic noise (section 16 RMA)
  - They did not support a designation condition requiring Category A noise levels.

**Paul Heveldt**

121. **Dr Heveldt** is a consultant Environmental Specialist. He was the reviewer and technical lead for the air quality assessment associated with the proposal and provided evidence on this matter.
122. He firstly outlined in broad terms the receiving environment, being mainly rural land, and noted that there were no 'sensitive receptors' such as schools or healthcare facilities within 200m of any part of the proposed alignment although there were a number of residential properties in close proximity to the proposed SEA alignment. He then discussed the prevailing winds within Woodend by way of a wind rose.
123. With regard to the assessment of air quality effects, Dr Heveldt set out that the draft NZTA Guide to Assessing Air Quality Effects for State Highway Improvement Projects had been used. This makes use of a web-based tool to determine whether vehicle emissions are likely to cause a significant adverse air quality effect. Since operational emissions arise mainly from the combustion of fuels, brake and tyre wear and road dust, Dr Heveldt made use of the expected traffic volumes, proportion of heavy vehicles, average vehicle speeds and distance to the nearest sensitive receptor to undertake his analysis.
124. Comparing the results of this against relevant standards and guidelines, notably the National Environmental Standards for Air Quality, New Zealand Ambient Air Quality Guideline, and World Health Organisation Air Quality Guidelines, Dr Heveldt noted that the concentrations of fine particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) and nitrogen dioxide (NO<sub>2</sub>) at the nearest residential properties were all less than the significance criteria. He described that the use of the closest residential

property represented the 'worst case criteria' and that pollutant concentrations decrease with distance from the alignment. Thus concentrations at other sensitive receptors will also be less than the significance criteria.

125. During construction of the SEA, Dr Heveldt noted that the primary potential air discharge will be dust. Although the detailed construction methodologies had not been developed, he felt able to make an assessment of potential impacts based upon a generic construction approach. He described that since dust could affect properties within 200m of the alignment, and that there were a number of such properties, it was necessary in his view for a Construction Air Quality Management Plan to be produced. He then set out a number of components that he would expect to see within this.
126. Dr Heveldt also drew attention to the benefits of the SEA in improving air quality within Woodend itself, due to the removal of traffic from the current state highway alignment. He noted that the town contains a high number of residential properties, plus a school, within 200m of the present alignment, and that there would be "*significant*" reductions in the exposure of residents and school pupils to contaminants.
127. In responding to submissions, Dr Heveldt considered that the adoption of a Construction Air Quality Management Plan would address the concerns raised in respect of dust, and stressed the importance of ensuring that this was diligently applied.
128. In concluding, Dr Heveldt set out that, in his view, the effects on ambient air quality from vehicle emissions along the SEA alignment would be "insignificant" and that those emissions would be likely to have no more than minor adverse effects on human health or on the environment. He did not therefore consider that any specific mitigation measures or monitoring of vehicle emission was required.
129. Dr Heveldt provided a short supplementary statement of evidence addressing the revised traffic volume that may arise under the sensitivity tests reported by Mr Stuart Woods. He concluded that under these scenarios the changes to air quality were minor and were not significant.

### **Shelley McMurtrie**

130. Ms McMurtrie is a consultant aquatic scientist with expertise in aquatic ecology. Ms McMurtrie prepared the Aquatic Ecology Report which accompanied the NoR and her overall conclusion was that with the conditions recommended by the NZTA any adverse effects will be mitigated. This includes the proposed conditions dealing with:
- Erosion and sediment control (conditions 16 – 19)
  - The development of the ULDMP (conditions 14, 17)
  - Terrestrial ecology (conditions 44 – 47)
  - Aquatic ecology (conditions 48 – 57)
131. Ms McMurtrie commented specifically on ecology themed issues raised in the submission of Mr MacDonald dealing with the bridge proposals at the Cam River. New bridge structures are proposed to accommodate the alignment and associated ramps. Ms McMurtrie advised that the design provided for daylight admission to the banks and the river below. In her view while this was of no direct importance to aquatic biota, it may impact on riparian plant species and thus, may require a specific planting plan to be developed. This particular issue is addressed specifically in condition

46<sup>14</sup> proposed by the NZTA. On balance it was Ms McMurtrie's view that the current bridging proposal, which included gaps between the structures, was preferable to a single span structure.

132. We accept Ms McMurtrie's advice on all of the above matters.

**Peter White**

133. Mr White is an experienced civil engineer in the area of infrastructure services. He authored the stormwater management report which accompanied the NOR, and provided evidence in this regard, although he stressed that this was at a conceptual level and that detailed design would be required during the detail design phase and after site-specific investigation, analysis and design.
134. Mr White highlighted that there were four main drainage catchments in the area (Taranaki Stream, Waihora Creek, McIntosh Drain and Cam River). He noted that the increase in the impermeable area within the highway corridor results in a potential increase of 50% in the peak runoff rate from that corridor, should it be discharged outside the corridor but that when considered as part of a wider catchment, this reduced to up to 3% for any particular drainage catchment. However, detention of peak flows within the drainage systems for the highway would mitigate this potential increase.
135. With respect to the Cam River, Taranaki Stream and wet section of the Waihora Creek, Mr White noted that for ecological reasons, mitigation by way of avoiding any discharge of stormwater to these waterways or by treatment prior to discharge, will be required.
136. He noted that groundwater levels were "high" but that disposal of stormwater to ground was feasible subject to permeability testing at each potential soakage site, use of infiltration trenches in conjunction with overflow to surface channels during peak /prolonged rainfall and pre-treatment to remove contaminants prior to discharge.
137. In respect of a potential Ashley River breakout, Mr White set out that two sections of the SEA could be affected, near to the Taranaki Stream and in the vicinity of the existing highway to the south of the Cam River. In view of this, he considered that box culverts would be required at the new crossings of the Waihora and Taranaki Streams, and realignment of the flood channel where the SEA follows the ephemeral Waihora Creek channel. He noted that the modelling of a breakout should be included within the detailed design works.
138. Mr White also provided a series of more generalised comments on the stormwater requirements for the SEA, highlighting the need for treatment of runoff, the use of swales as the primary drainage collection systems, and the disposal of stormwater by either soakage or discharge to existing drains and channels. Importantly, he set out that although further investigations are required at the detailed design stage, in his view the proposed designation was sufficiently wide to enable the management of stormwater.
139. During construction, Mr White considered that erosion and sediment control measures would be required with dust control being needed in dry conditions. He highlighted that any measures would need to be based on the construction methodologies adopted but that there was sufficient space within the proposed designation to allow for the likely extent of erosion and sediment control works.

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<sup>14</sup> NZTA Conditions version dated 12 November 2014.

140. In responding to submissions, Mr White set out that in his view there would be no increase in flood risk at 110 Parsonage Road, and that soakage trenches can be located a suitable distance from the bore as well as the soakage system being constructed using a sand filter. He also sets out that the proposed designation in the area of Ravenswood is adequate from a stormwater management perspective.
141. Overall, Mr White considers that the stormwater associated with the SEA is able to be satisfactorily managed, including drainage and treatment, within the proposed designation. We accept the evidence of Mr White and do not propose to comment further on stormwater and Ashley River breakout issues.

**Carl Steffans**

142. Mr Steffans is a hydrogeologist with particular experience in the assessment and management of groundwater, and provided evidence in respect of the potential effects on groundwater that might arise from the SEA. He noted that the Kaiapoi-Ohapuku area is underlain by a sequence of four permeable gravel aquifers with data from the Environment Canterbury database indicating that the minimum calculated groundwater levels range from 0.8m to 6.25m below ground level within 400m of the designation.
143. Mr Steffans described that the water extracted from bores to the aquifers is used for a range of purposes, and that there are 135 active bores within 400m of the proposed designation including seven active and existing public supply bores, and 40 bores within 50m of the designation. There are also several ponds in the southern part of the area although he noted that these would be unlikely to be affected by the SEA.
144. In respect of the possible effects on bores, Mr Steffans firstly noted that any bores along the designation may be removed as part of the scheme construction, and that this would need to be done in accordance with Environment Canterbury's requirements. Mitigation for this will be by way of either drilling a replacement bore or arranging a connection to a reticulated supply.
145. In addition, Mr Steffans set out that bores close to the designation could be affected by construction work which could create some turbidity or siltation. He considered this to be a "*small scale and short term*" effect which could be addressed through pumping the bore water to waste for a period of time, and if the turbidity does not clear, either redeveloping the bore or in the worst case redrilling the bore, although he believed that the latter would be unusual outcome. He considered that the use of a 400m distance for the purposes of identifying potential effect on bores was conservative and that in practice, active monitoring should focus on public water supply bores within 50m from the works with other and more distant bores being assessed through the bore owners reporting any experiences of turbid water.
146. Mr Steffans did not consider that there would be any long-term adverse effects on the public water supply drawn from bores in the area, partly due to the depth of the bores and partly due to their distance from the designation.
147. In respect of the surface waterways that cross the corridor, Mr Steffans noted that all were expected to gain flow from groundwater and that changes in the permeability of the ground surface may alter the hydraulic conductivity of the ground with resultant localised changes to groundwater levels and quality, and in turn, this could create effects on springs and wetlands. He considered that any such

changes would be identified through monitoring before, during and after construction and that suitable mitigation measures could be provided if required.

148. Mr Steffans highlighted that stormwater management may also affect bores, springs and wetlands, including contamination from runoff. He considered that the use of swales and the nature of the near-surface strata would provide a good degree of treatment for stormwater but to provide a comfortable space for these natural treatments to operate, in his view a separation distance of 50m between soakage pits and human drinking water supply wells would be "prudent". In the event that this minimum distance was not possible, he considered that the soakage system should be constructed using a sand filter to provide a higher degree of treatment for the stormwater discharge. He also set out that where infiltration trenches were located within 200m of any water supply wells then site-specific design of the soakage systems should be carried out.
149. As the proposed designation passes through a former landfill, Mr Steffans noted that this area may require special construction methodologies which in turn may result in disturbance to the waste material and the release of liquid wastes into the surrounding groundwater. He highlighted that the significance of this depended on the composition and state of the waste material and that direct assessment and monitoring of groundwater and landfill gas is likely to be required before, during and after construction.
150. Mr Steffans responded to two groundwater related submissions, noting that at 110 Parsonage Road as a precautionary approach any stormwater soakage trench should be located at least 50m from the bore and if not, then a sand filter system should be adopted. He also set out that he did not anticipate any adverse groundwater effects would arise at 565 Williams Street.
151. Overall, Mr Steffans considered that although construction activities could cause some disruption these could be mitigated through careful planning and design. He noted that careful location and design of the stormwater soakage systems could minimise any contamination risks for water supply bores in the area, and that the construction of the SEA could be completed without adverse effects on the groundwater resource.
152. The NZTA proposed a range of conditions (79(a)-(g)) for managing and addressing (where required) direct effects on bores, springs or wetlands and groundwater levels and quality. In the context of the extensive amount of detailed design, investigations and assessments, and potential additional resource consenting, we are satisfied that the conditions proposed will appropriately address effects on the resource, or provide a process for ensuring protection of the resource. Given this, we do not propose to comment further on groundwater issues.

#### **Denise Anderson**

153. Ms Anderson is a consultant planner and was the lead author of the AEE which accompanied the NoR. Ms Anderson prepared extensive evidence for the hearing and supplied supplementary evidence for the reconvened hearing. We do not propose to summarise the evidence of Ms Anderson to any great extent given its length. Rather, here we précis her general conclusions.
154. Ms Anderson summarised the findings of the respective NZTA experts and, from this, concluded that any adverse effects arising from the proposal would be appropriately remedied or mitigated by the suite of conditions that were proposed in the NoR and refined during the course of the hearing. She noted that a number of positive benefits would result from the proposal including, but not limited to:

- Securing a route which provided long term certainty to the community and the NZTA
- Improving travel times, road safety and access
- Reducing severance through Woodend.

155. We have outlined Ms Anderson's discussion on the relevant statutory documents in paragraph 28 above and note that overall it was her view that the proposal was generally aligned with them. In summarising her views on Part 2 of the RMA (sections 5-8), Ms Anderson was of the opinion that the proposal would promote the purpose and principles of the Act.
156. Following the adjournment of the first hearing we issued Minute number three which requested that the NZTA provide additional evidence on two of the Project Objectives dealing with public health and severance and social issues. We sought this evidence so as to assist our considerations under section 171(1)(c) of the RMA. For completeness we note that a number of submitters raised similar questions. Ms Anderson addressed these matters in her supplementary evidence and we will comment further on this in our Part Two assessment below.

### **The Submitters**

#### **Jim Bucknell**

157. Chris and Jim Bucknell are the owners of the property located at 283 Lees Road, Pineacres. The Bucknell's position was that the project should not proceed given the adverse effects that will arise on the directly affected adjoining communities, there was no proven need for the project and that it will not provide community benefits.
158. Mr Bucknell highlighted the characteristics of the area that are valued and that he considered would be eroded as a result of this proposal. In his opinion these can be described as "quiet, peaceful, rural, insulated from the bustle of traffic".
159. Mr Bucknell also commented on the potential impact that the continuing gravel extraction operation of ReadyMix may have on the alignment of the project. In his view, the ongoing extraction may make it difficult to fill or bridge the resultant water bodies and thus force the alignment closer to Lees Road. We note at this point that the evidence of Mr Steven Woods (paragraphs 74-75 above) was that a specific construction methodology will be required for the embankment through the ponds and that there are commonly used techniques to construct such structures. We accept the advice of Mr Woods on this matter.
160. The Panel discussed this issue with submitters during the course of the hearing noting that should Mr Woods be incorrect, the NZTA would not be able to move the alignment without a change to the boundaries of the designation – assuming this was required. A statutory process exists under the RMA for such situations and would need to be followed. Given this, we do not propose to comment further on this issue.

#### **Joy and Arnold Pohio**

161. Joy and Arnold Pohio are the owners of 287 Lees Road, which is located on the Williams Street corner. The submitters view is that the project should not proceed, given the potential impacts on visual amenity that will arise from the proximity of the road alignment to their property. The loss of existing rural views is of particular concern, including the view to Mount Grey, especially given the proposed grade separation of the alignment at Pineacres.

162. At the reconvened hearing Ms Pohio highlighted that while the revised conditions may assist with some visual mitigation of the motorway embankment, it does not address the loss of views to Mt Grey. She also noted that Mr Pocock's visual assessment relies, in some instances, on existing planting on the Lees Road properties. In her view, little weight should be placed in this as a mitigation measure given that it could be removed at any time.

**Andrea Howell**

163. Andrea and Bryan Howell are the owners of 175 Gladstone Road and are of the view that the proposal should not proceed. Ms Howell raised concerns regarding potential noise and air quality issues from the operation of the motorway. While we will leave any further discussion on noise issues until our Part Two assessment below, we note at this point that we accept the advice from Dr Heveldt (paragraphs 121-129 above) on air quality issues and do not propose to comment further.
164. During the hearing Ms Howell queried Mr Pocock's visual assessment, particularly with respect to his commentary around the location of, and reliance on, an existing hedge as a visual mitigation measure. It was this query that led to our formal questions on the issue in Minute number 3 and the subsequent response of Mr Pocock as outlined in paragraphs 86-89 above. We do not propose to comment on this issue further, insofar as it relates to the location of the hedge.
165. At the reconvened hearing, Ms Howell indicated that she did not accept the conclusions of Mr Pocock concerning the nature of visual and landscape impacts.

**Nicola Auld**

166. Ms Auld's written statement included an outline of her professional qualifications and a statement of experience. Within this context the Panel questioned Ms Auld as to whether she was providing expert evidence or a statement. Ms Auld confirmed it to be the latter.
167. Ms Auld raised a number of effects concerns which, for the most part, can be considered as amenity related effects – for example "lifestyle, privacy" and light pollution. Ms Auld also commented on construction related effects including vibration and fugitive dust. We heard evidence from Mr Farren (paragraphs 116 to 117 above) on vibration effects and the approach to address those matters during the construction phase. As signalled already we accepted the advice of Mr Farren on this issue. We also heard evidence from Dr Heveldt on the issue of fugitive dust effects during the construction period (paragraphs 125 to 127 above). Given his evidence and the conditions<sup>15</sup> proposed by the NZTA dealing with the CESMP and the Construction Air Quality Management Plan (CAQMP), we do not propose to comment on this issue further.
168. Ms Auld made reference to the RMA and provided some commentary around the extent to which this proposal aligned with selected extracts from the Section 167. We respectfully point out that the section of the Act that Ms Auld was referring to relates to the approval of an applicant as a Requiring Authority, rather than as a measure of the appropriateness of a particular project. As correctly stated in the opening legal submissions of Ms Appleyard, the NZTA is already an approved requiring Authority and is thus able to seek designations. Given this, we do not propose to comment on this issue further.

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<sup>15</sup> NZTA Conditions version dated 12 November 2014 – conditions 8(d), (e) and 10.

169. Ms Auld also commented on a range of surface and ground water quality issues that will be the subject of separate resource consent processes in the future. This issue was raised again by Ms Auld at the reconvened hearing and, at that time, issues were raised about a general lack of detail and specific management plans designed to address adverse effects. We have outlined our position on such issues in paragraphs 217-227 below and consequently do not propose to comment on this issue further.
170. Ms Auld provided commentary on terrestrial and aquatic ecology issues in the general vicinity of the Cam River bridges. These matters have been canvassed above (paragraphs 130-131) and addressed specifically in a range of conditions provided by the NZTA. Given this we do not propose to comment on this issue further.

**Tony Penny**

171. Mr Penny is a consultant traffic engineer and transport planner. He presented expert traffic evidence on behalf of a number of submitters. He firstly outlined his previously involvement with the Woodend Bypass through his work at the Pegasus Township, and a study that his company carried out in 1998. This concluded that an alignment towards the east of Woodend was the preferable option, but that this should run from the Pegasus Boulevard intersection to rejoin State Highway 1 near Sandhills Road rather than one that rejoined the highway at Williams Street. He considered that this alignment had not been fully investigated by NZTA and that no economic assessment had been presented of this option. He also questioned whether it was necessary for the highway to be constructed to a motorway standard, and noted that no analysis had been carried out of the bypass being constructed to a lesser standard.
172. Mr Penny went on to discuss the strategic planning background for the bypass, notably that the bridge over the Waimakariri River is already exhibiting characteristics of the peak hour being spread and that people from North Canterbury are travelling earlier to attempt to avoid the existing congestion. He said that when additional lanes were added to the south of the bridge through the Western Belfast Bypass and Northern Arterial, the bridge would become a "bottleneck" and set out that it was close to capacity already. In this regard he noted that approximately 18,000 vehicles per day would use the Woodend Bypass with 65,000 vehicles per day crossing the Waimakariri River yet the standard of highway provision was very similar. He did not consider this to be a logical or cost-effective strategic for the state highway corridor.
173. He set out that he understood the reasons for the capacity constraint across the river was to discourage people from travelling in their cars and encourage them to car pool or use public transport, whereas providing additional roading capacity at Woodend was not consistent with this approach. He noted that the money required for the construction of the bypass could alternatively be allocated to providing better public transport for North Canterbury, and if this was to occur, the bypass might not be constructed.
174. Mr Penny described potential alternatives for the proposal which he considered would have been better addressed within an overall strategy for the state highway corridor. In his view, a roundabout at the State Highway 1 / Williams Street intersection would be appropriate and would be able to accommodate traffic flows for at least the next 15 years, with the existing highway alignment to the north of this also capable of accommodating the projected traffic volumes. He then considered that a roundabout could be constructed in the area of Sandhills Road, and a two-lane bypass to the east of Woodend that included roundabouts at Woodend Beach Road and Gladstone Road, rejoining the current highway alignment at Pegasus Boulevard. He set out that this would be able to be staged

and that it would enable traffic from the subdivisions in North Canterbury to use the bypass, which in turn would create capacity such that vehicles within East Rangiora could then move to travel through Woodend. This would alleviate pressure on Lineside Road. He highlighted in passing that Lineside Road was projected to carry more traffic than the Woodend Bypass, yet provides only two traffic lanes.

175. He set out a number of conditions on the designation that he wished to see imposed to minimise the impact of the proposal, including a full or partial lowering of Williams Street to reduce the height of the embankment required, or the treatment of the embankment to provide visual mitigation. He briefly touched on the need for noise barriers (noting that this was not within his area of expertise) and also set out that in the event that it was not possible to back-fill the Ready Mix pits, the full designation should be reassessed.
176. Mr Penny concluded that it was not necessary in his opinion to have a motorway-standard road for the SEA, and that based on traffic volumes the motorway should start at the Williams Street intersection. This would then lead to greater flexibility in terms of the standard of roading provided towards the north, at Woodend. It would also result in reduced costs for any bypass and eliminate the need for three bridges, with roundabout being "sufficient and effective" at those locations instead. If this approach was adopted, he considered that it would be possible to find a different alignment that was more cost-effective and had lesser effects than the current proposal. Overall, he felt that the proposed designation was not reasonably necessary for achieving the objectives of the NZTA. We note however that Mr Penny concluded that an eastern bypass was "preferable" to widening the state highway through Woodend.

#### **Barbara Dean**

177. Ms Dean presented a Statement on behalf of her parents Dr Rainer Hack and Dr Ursula Hack, who are the owners of 110 Parsonage Road (Mairangi). Her Statement was supported by evidence from Jennifer May and Andrew Marriot.
178. Ms Dean provided a description of the site and outlined the values that are important to her parents. This includes the current rural setting, peacefulness and quietness. She commented specifically on the assessment of Mr Farren, noting that:
- he assessed the current noise levels at about 45dB LAeq(24h); and
  - the operational noise levels were predicted to be 12dB higher at the upper floor of the dwelling and 10 dB higher at the ground floor
179. In the submitters opinion this does not constitute a reasonable noise exposure. Ms Dean argued that due to the heritage values associated with the building that noise mitigation should be provided over and above that required to be the best category at the time. We have assumed this to be Category A.
180. Ms Dean also commented that given the proposed location of the motorway, combined with the location and layout of the existing dwelling, that this would give rise to a range of "unreasonable" adverse noise, vibration, visual and air quality effects. As we have noted previously, we are satisfied with the expert air quality evidence we have received and do not propose to comment on this issue further.

181. In terms of visual impacts, Ms Dean indicated support for the proposal of the NZTA to establish a planting strip alongside the north eastern boundary of the property (proposed condition 40(c)(11)), but requested amendments to the conditions that would recognise specific issues including visual effects, impacts on existing planting and landscape design and mitigation designed to address visual impacts from the acoustic barriers.
182. While we intend to address the wider visual impacts issue in our Part Two assessment, we do note at this point that proposed condition 41 provides a process for site specific consultation during the preparation of the VEMP. In our view, this provides a mechanism for addressing the issues identified by Ms Dean.
183. Ms Dean stated that they do not accept that it is appropriate to undertake earthworks within the dripline of the protected Copper Beech located on the site. Ms Dean rightly noted that there was no guarantee that a timber construction acoustic barrier would be used. This issue has been canvassed in paragraphs 94-98 above and, as indicated, we are satisfied that the conditions proposed by the NZTA appropriately address the concerns. Accordingly we do not propose to comment on this issue further.

**Jennifer May**

184. Ms May is an experienced heritage consultant and she provided an extensive background to the Mairangi site, building, building architect and the designer of the garden around the site. When commenting on effects issues, Ms May highlighted the NZTA's own publication the "Guide to Assessing Heritage effects for State Highway Projects and offered the view that the guide was not being followed in this case. Within this context Ms May considered that an appropriate assessment of effects on the heritage values of Mairangi had not been undertaken.
185. As noted in paragraphs 104 to 106 above, Mr Pearson's supplementary evidence addresses the issue of the NZTA Guide. Given this, and the conditions proposed by the NZTA requiring a further assessment in line with the Guide, the preparation of a Heritage Management Plan (if required) and related owner consultation, and the requirement for NZTA to compile a "pre" and "post" photographic record, we are satisfied that the issues identified in Ms May's evidence are appropriately addressed. Accordingly we do not propose to comment on this particular issue further.

**Andrew Marriott**

186. Mr Marriott is a Structural Engineer with expertise in heritage engineering. Mr Marriott provided a useful explanation as to the state of Mairangi following the Canterbury earthquake sequence. Within this context Mr Marriott's main issues related to the extent to which construction related activities could potentially exacerbate damage that has already occurred.
187. We have considered this issue within the context of the evidence on vibration effects provided by Mr Farren (summarised in paragraphs 116 and 117 above). Given this and the suite of conditions dealing with heritage management (conditions 30 and 31), construction vibration (condition 11), and the requirements for the CNVMP to be a subset of the CESMP, and for the CESMP to be certified by the District Council, we do not consider that any additional mitigation measures are required to address the matters raised by Mr Marriott. Given this we do not propose to comment on this particular issue further.

**Stuart Murray**

188. Mr Murray owns the property located at 565 Williams Street and is adjacent to the motorway alignment. His principal concern rests with the timing and implementation of screen planting that is influenced not only by the proposed location of the roading alignment, but also by the position of an existing pond. Some part of the pond may sit outside of the land area required for the alignment and mitigation planting.
189. Mr Murray has suggested that there is logic in filling the balance of the pond area outside of the designation to provide new and additional screen planting, but notes that this activity may require resource consent. We have heard no evidence to confirm whether that would be the case. That aside the proposal of Mr Murray would allow him the opportunity to proceed with additional screen planting well ahead of the construction phase of the project.
190. We can see the issue and the point that Mr Murray has raised. We are reluctant, however, to address the matter directly in this Recommendation and the reasons for this are:
- The works will sit outside of the area to be designated
  - The development of the CESMP and the VEMP<sup>16</sup> will be informed by detailed design which will be some time away.
191. Within this context, we see some risk in proceeding with such works now and we will not direct the NZTA to do so. Having said that, there is nothing to stop the parties negotiating a resolution outside of this process. Within this context we do not propose to comment on this particular issue further.

**Elaine Cole**

192. Ms Cole is the owner of 71 Parsonage Road and is of the view that the proposal should not proceed. Ms Cole raised concerns regarding the consultation that had been undertaken, the assessment and analysis behind the final route choice, and the ability of management plans used during construction phases to adequately address adverse environmental effects.
193. When referencing section 171(1)(b) of the RMA Ms Cole considered that the NZTA had not given adequate consideration to alternative routes and in terms of section 171(1)(c) Ms Cole was of the view that the NZTA had not adequately demonstrated that the project was reasonably necessary to achieve the objectives of the Requiring Authority. In essence, Ms Cole was suggesting that alternate routes were favourable, which may include widening through Woodend itself.

**Claire Gibb – Mahaanui Kurataiao Limited (MKT)**

194. Ms Gibb is a resource management planner with MKT. We were advised that MKT was mandated by Te Ngai Tuahuriri Runanga to act on their behalf on RMA matters.
195. Ms Gibb noted that the proposal is located within an area that is a highly significant cultural landscape, but that this has been generally recognised in the Cultural Impact Assessment prepared for the NZTA. Drawing on experience with other roading projects, Ms Gibb supported the establishment of a Cultural Advisory Group (CAG) to ensure ongoing engagement and the suite of conditions dealing with the interests of the Runanga.

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<sup>16</sup> We note that 565 Williams Street is one of the listed properties contained in proposed Condition 40(c)

196. Within this context MS Gibb made a number of recommendations around the referencing of parties within the conditions. Ms Gibb was also concerned that an advice note (in the notified version of the conditions) outlining the Runanga's responsibilities where a suspected find occurred placed an unachievable time frame. These matters have been addressed in the revised conditions<sup>17</sup> produced by the NZTA. Within this context we do not propose to comment on this particular issue further.

**Amanda and David Fahy**

197. Amanda and David Fahy own the property located at 281 Lees Road and oppose the motorway alignment. Ms Fahy was of the view that alternate routes required further investigation and, until that occurs, the current proposal should not be considered.
198. Key issues of concern highlighted by Ms Fahy included the visual impacts arising from the grade separation at Williams Street, the views of the motorway alignment, the loss of views of Mount Grey, and adverse noise impacts that may occur. These concerns were also expressed by Mr Fahy.
199. In terms of visual impacts, Mr Fahy expressed a view that it was unfortunate that the NZTA had not produced any visual imagery to support the NZTA proposal and the landscape and visual assessment prepared by Mr Pocock. Mr Fahy reiterated his concerns regarding noise effects and cast doubt as to the extent of any evidence presented by the NZTA as to what he describes as "severance effects" that might arise if four laning was to occur through Woodend. We pause at this point to note that we issued Minute number three requesting further evidence on this matter and that we will discuss the outcome in our assessment of the Project objectives.

**David Blackwell**

200. Mr Blackwell indicated support for the proposal in principle, but raised concerns that motorists would not use the motorway to access Williams Street at Pineacres – as there are no north-facing ramps at the Williams Street overpass. In his view this would defeat the purpose of the motorway proposal. Mr Blackwell proposed two potential solutions; ramps at the Williams Street overpass or an at grade roundabout. Regarding the ramps, as we set out in paragraph 43 above, Mr Stuart Woods provided evidence that the traffic flows on any north-facing ramps would be minimal but that more land would be required, scheme costs would be greater, and that there would be a degradation in the quality of the walking and cycling facilities provided. We accept Mr Woods' evidence on this matter. With respect to the second option, Mr Blackwell noted that there may be other environmental benefits that accrue from this. We note that through Minute number three we requested further information on the options for at grade solutions at Williams Street.

**Greg Inwood (Woodend Beach Developments Ltd)**

201. At the hearing Mr Inwood indicated that he was not opposed to the project in principle, but that the key issue of concern related to noise impacts on the planned residential development on Woodend Beach Road – land covered by District Plan Outline Development Plan 171 (ODP 171). As this was a future development, it would not be included within the noise assessment carried out under NZS 6806.

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<sup>17</sup> dated 12 November 2014

202. Mr Inwood and Mr Farren communicated on this issue outside of the formal hearing process, and the outcome was reported in Mr Farren's supplementary evidence and in the revised conditions proposed by the NZTA. In summary, the NZTA propose that dwellings located within ODP 171 shall be included in the assessment and this is formalised in proposed condition 93(b)<sup>18</sup>.

**Allan MacDonald**

203. Mr MacDonald is the owner of land located at 143B Old North Road. He advised us, through his submission, that the site's legal description was Part Rakiwhakaputa Maori Reserve 873 Block 223.
204. Mr MacDonald outlined a number of concerns to us and key amongst those related to the number of bridges proposed for the Cam River crossings. In short Mr MacDonald considered the number could be reduced thereby reducing the impacts on the river itself and on his property. The latter would also potentially include a degree of realignment which may include moving the alignment west towards the Cam River. In short, Mr MacDonald was pursuing alternatives.
205. We encouraged Mr MacDonald and the NZTA to engage on this issue outside of the hearing process. Accordingly a meeting and subsequent correspondence took place. The notes of a meeting that took place between Mr MacDonald and Mr Weale and Dr Turner were provided to us as an attachment to supplementary evidence. In short, the NZTA agreed to examine alternatives. This occurred and in a letter dated 21 October 2014 the NZTA reported back to Mr MacDonald advising that they were not proposing to change the alignment. The letter outlined reasons why and included a copy of supplementary evidence produced by Mr Stuart Woods.
206. At the reconvened hearing Mr MacDonald reiterated his concerns. It is clear to all that Mr MacDonald and the NZTA have not been able to reach an agreement. Within this context Mr MacDonald's submission stands and we will consider it and the proposal on their merits.
207. In related submissions Mr MacDonald raised concerns regarding the extent of adverse landscape and visual impacts that could arise from the development of the corridor, given the proximity of the alignment to his site. We note that proposed condition 40(c) which identifies the "affected properties" includes 143 A Old North Road, but not Mr MacDonald's site. We propose to include Mr MacDonald's site in the condition.

**Mark and Lesley Robinson**

208. A statement was presented by Mr John Brandts-Giesen on behalf of the Mark and Lesley Robinson. The submitter argues that despite the increased speed environment on the motorway alignment the increased travel distance will not deliver the envisaged travel time savings. In part, we accept Mr Brandts-Giesen's argument that there is a trade-off between the increased speed and increased travel distance, but we note that this matter was specifically addressed in the NoR, which concluded that the additional distance travelled was offset by the higher speeds and that benefits would accrue as a result.
209. While connectivity will be maintained and possible enhanced, the submitter comments that this comes with the cost of some significant structures and that these would not be required if a four laning option was pursued through Woodend.

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<sup>18</sup> NZTA Conditions version dated 12 November 2014

210. Mr Brandts-Giesen opposed the 15 year duration sought for the designation, noting that it "locked up" land. He also raised concerns regarding the possibility that future budget constraints may see some of the proposed mitigation measures evaporate. On this point we note that if the designation is confirmed, it will be subject to a suite of mandatory conditions.

## Part Two: Assessment and Considerations

### Introduction

#### **Outline Plan and Management Plans**

211. The NZTA propose to use the Outline Plan process and Management Plans as a tool to address and manage a range of environmental effects arising from the project. Our views on this approach are outlined in paragraphs 217 to 227 below.
212. Should the designation be confirmed, the current legislative regime of the Resource Management Act (section 176A) requires the NZTA to submit an Outline Plan to the Waimakariri District Council for consideration. The Council is not required to 'approve' the Outline Plan, but they are able to request changes. Section 176A(3) prescribes the matters that the NZTA must include within the Outline Plan documentation<sup>19</sup>:

*An outline plan must show—*

- (a) the height, shape, and bulk of the public work, project, or work; and*
- (b) the location on the site of the public work, project, or work; and*
- (c) the likely finished contour of the site; and*
- (d) the vehicular access, circulation, and the provision for parking; and*
- (e) the landscaping proposed; and*
- (f) any other matters to avoid, remedy, or mitigate any adverse effects on the environment.*

213. The Designation and Outline Plan regimes of the RMA have their genesis in New Zealand's earlier planning legislation; namely the Town and Country Planning Act 1977. The Outline Plan process is designed specifically to enable augmentation to, or amendment of, existing works on designated sites, or to enable the development of works on designated sites where no such works currently exist. The latter is a case in point relevant to this current proposal and the legislative regime (past and present) recognise the legitimacy of, and need for, such processes; particularly in circumstances where detailed design is yet to be completed. NZTA's proposed condition 3<sup>20</sup> would require that the Outline Plan be submitted to the Council 3 months prior to the commencement of works.
214. The NZTA also propose extensive use of Management Plans and related assessments for this project, as outlined in Table 2 below<sup>21</sup>, and conditions are proposed which include specific, and general, requirements for each plan.

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<sup>19</sup> There are exceptions available under Section 176A(2)

<sup>20</sup> NZTA's suggested conditions attached to Ms Appleyard's and Ms Paddock's legal reply (dated 12 November 2014)

<sup>21</sup> *ibid*

**Table 2: Management Plan Proposals**

| Plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Submission to Council                       | Process                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------|
| Construction Environmental and Social Management Plan (CESMP) including the following specific plans: <ul style="list-style-type: none"> <li>• Traffic Management Plan</li> <li>• Construction Air Quality Management Plan</li> <li>• Construction Noise and Vibration Management Plan</li> <li>• Spill Response Plan</li> <li>• Erosion and Sediment Control Plan</li> <li>• Archaeological and Cultural Sites Management Plan</li> <li>• Heritage Management Plan</li> </ul> | 1 month prior to commencement of works      | Certification by Council <sup>22</sup>    |
| Urban and Landscape Design Management Plan (ULDMP)                                                                                                                                                                                                                                                                                                                                                                                                                             | Prior to the lodgement of the Outline Plan  | Certification by Council                  |
| Visual Effects Management Plan (VEMP)                                                                                                                                                                                                                                                                                                                                                                                                                                          | Prior to the lodgement of the Outline Plan  | Consideration as part of the Outline Plan |
| Road Traffic Noise Assessment Report (RTNAR)                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3 months prior to the commencement of works | Consideration as part of the Outline Plan |

215. Given the above, the Outline Plan and various management plans/reports would be submitted to the Council in the following order:
- ULDMP, VEMP, RTNAR, Outline Plan – at least 3 months prior to the commencement of works
  - CESMP – 1 month prior to the commencement of works.
216. During the course of the hearing we raised two process issues:
- First, under the current proposal the Outline Plan will be submitted to the Council ahead of the CESMP. We queried whether the Council would be able to appropriately consider the Outline Plan within the context of Section 176A(3)(f) in the absence of the CESMP and all of its subset management plans. Neither the NZTA nor Mr Blay considered this to be an issue. We assume that this is because the CESMP effects considerations are subject to a separate certification process, albeit this will occur after the assessment of the Outline Plan. We interpret this to mean that the Council will effectively defer the assessment of those matters from the Outline Plan process until the certification of the CESMP. While we perceive that there may be a procedural issue here, we are not minded to amend the process as suggested by the NZTA, as ultimately there will be processes in place to make overall judgements as to the nature of effects that may arise. Ultimately, this is a matter for the Council and the NZTA to resolve.
  - Second, proposed condition 5 provides the Council with 10 working days to assess the CESMP and provide certification to the NZTA<sup>23</sup>. If the timeline is not met, the CESMP is

<sup>22</sup> NZTA's suggested conditions define the meaning of 'Certification' and prescribe a certification process, including dispute resolution

<sup>23</sup> Notwithstanding the disputes process

deemed to be 'certified'. We queried Mr Blay as to whether 10 days was sufficient given the breadth and complexity of the subject matter involved. While he indicated support for the 10 day period, we do not share his confidence and, consequently, if we provide a positive Recommendation to the NZTA we will also recommend amending condition 5 to extend the timeline. It is essential, in our view, to provide the Council with an appropriate length of time to assess the CESMP particularly given that failure to meet the timeline means an automatic default to a deemed approval.

### **Designation Context and Our Approach**

217. It was evident to us through the course of the hearing that a number of the submitters did not fully appreciate the purpose of a designation within a RMA context, the relationship with future Outline Plan and resource consent processes, and the role of management plans during the construction phase. As we have noted above these 'future' processes are a key element of this project.
218. The lack of appreciation is not surprising, given the specialist nature of the RMA and the complex processes and procedures associated with a major civil construction project. We wish to stress, however, that we are certainly not directing any criticism at the submitters.
219. As a consequence, we have resolved to provide a brief outline of our views on the relationships noted above, and to provide a commentary on the approach taken by the NZTA to defer a range of the required resource consents for the future. We feel compelled to do this as it provides a framework for, and an explanation of, our consideration of a number of the environmental effects issues raised by submitters. It also assists in understanding the importance of management plans in circumstances where detailed design is not available and construction methodologies are not developed.
220. The NZTA are proposing to designate land to enable the development of the roading corridor. As part of this process they are seeking a 15 year lapsing period. Within an RMA context, the lapse period provides a Requiring Authority (the NZTA in this case) with a defined period of time in which to exercise the rights provided by the designation. If those rights are not exercised, and an extension not sought, then the designation lapses.
221. The designation, if confirmed, secures a planning tool that in a general sense equates to a land use approval or a 'spot zoning'. It does not, however, obviate the Requiring Authority from:
- providing an Outline Plan with the required information and assessments to the District Council for comments prior to works commencing; and
  - obtaining the necessary Regional Council resource consents; and
  - approvals that may be required under any relevant National Environment Standard; and
  - any land use consents required from a District Council for any works outside of the designated area.<sup>24</sup>

Any such approvals will be required from the relevant consent authority before works can proceed.

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<sup>24</sup> Obligations that exist under the current statutory regime

222. The lapse period sought by the NZTA clearly signals the potential for a significant period of time to pass before (or if) works will commence. Within this context we agree with the NZTA that it would be imprudent to commence detailed design at this stage. We accept also that without a higher level of design it would be very difficult indeed to present sufficient assessment to support the other resource consent/NES applications that will inevitably be required. This approach also recognises that there may be marked change in the planning requirements, and possibly the statutory regime, between now and when design actually occurs.
223. As a consequence of this strategy, the NZTA will rely extensively on the use of the Outline Plan process and Management Plans as mechanisms to ensure environmental effects are appropriately managed and to provide a framework for the future consideration of resource consent applications. Again, we signal comfort with this approach in principle. One of the critical issues for our determination will be to ensure that the management plan approach and content outlined in the evidence of the NZTA witnesses is sufficiently robust so as to:
- Address the relevant effects; and
  - Require certification and/or auditing where appropriate
224. In undertaking our assessment of this we will refer to the Council's S42A report, the evidence of all the expert witnesses (including those called by the submitters) and the statements and submissions of the submitters.
225. An alternate approach for the NZTA would be to not seek a designation at this point, and to commence statutory processes at some future time closer to a possible construction date. We heard evidence and legal submissions on this issue. In short, NZTA argued that the purpose of commencing the process now was to "future proof" the required corridor against future development. We accept the arguments proffered by the NZTA.
226. We acknowledge also that if the designation is confirmed in the District Plan, it will clearly signal the location and spatial extent of the corridor to the community.
227. The preceding commentary is not intended to signal our position on the merits of the NoR itself. Rather, it outlines our position on some of the high level issues that underpin the use of designations for projects such as the SEA and our views with respect to future planning approvals and the use of management plans. The merits of the proposal within the context of the statutory requirements of the RMA have been the subject of considerable deliberation by the Panel and our findings are outlined in the balance of this Recommendation.

#### **S171 (1) - The Environmental Effects and Mitigation Measures**

228. Given that we have addressed some of the effects issues in preceding comments, we have identified the following remaining effects areas that require **assessment**:
- Operational noise
  - Visual Impacts
  - Heritage
  - Maori Reserve 873
  - Contaminated Land
  - Transport
  - Positive effects

## **Operational Noise**

229. Extensive evidence was produced by Mr Farren on the approach proposed by the NZTA regarding the use of NZS6806. We also received a peer review from Mr Cawley and a joint statement from both noise experts confirming that, in their opinion, the application of NZS 6806 would result in "reasonable" noise exposure for adjoining and nearby sensitive activities.
230. Mr Farren's noise assessment included within the NoR and as summarised in his evidence concluded that in some locations, the noise exposure would range from substantial to severe (sectors 2 and 3). Clearly this was of concern for some landowners and submitters. Notwithstanding that, Mr Farren and Mr Cawley still confirmed that in their view the outcomes would constitute reasonable noise. We have received no opposing expert evidence on this issue.
231. We need to state very clearly that Mr Farren's predictions are just that – they are predictions and will ultimately be influenced by the detailed design process that, as we understand it, will be many years away. Within that context we see no reason to specify a particular standard or noise outcome now. Rather what is important, in our view, is to ensure that there is a robust process established that will ensure all practicable means are explored at the time of detailed design to ensure appropriate outcomes. The NZS approach allows that to occur and will provide flexibility to accommodate future engineering and design innovations. Having said that we note that proposed condition 94 specifies some requirements in terms of acoustic barriers and low noise road surfaces. Within this context we do not consider it appropriate to depart from the process promoted by the NZTA.
232. We considered very carefully the conditions proposed by the NZTA and whether there was ability for directly affected landowners to be consulted during the assessment process and development of the Road-traffic Noise Assessment Report (proposed conditions 93-97). The NZTA's revised version of the conditions does not directly provide for this, with the exception of condition 31 dealing with 110 Parsonage Road. Rather, the current construction of the conditions provides for the Noise Assessment Report to be provided to the District Council no later than 3 months prior to the commencement of works. This will enable the Council to consider the Report as part of the Outline Plan process and, if necessary, request changes where appropriate. Given that the Outline Plan process provides for the Council to act in an audit role, we accept that the proposed conditions do not require further modification requiring consultation with directly affected landowners.
233. While the NZTA may want to run this process outside of the Outline Plan process, including circumstances where condition 95 may come into play, we do not believe that to be possible given the information that must be submitted with an Outline Plan as specified in S176A of the RMA. For the avoidance of doubt, however, we propose an amendment to conditions 3 and 93(a) to ensure that the Noise Assessment Report is considered as part of the Outline Plan.
234. Barbara Dean suggested in her submission that adverse noise effects could impact on the heritage values of the Mairangi (110 Parsonage Road). While we are not necessarily convinced that this is the case, we do note that Mr Pearson acknowledges in his evidence that "there is potential for the Project to have some effect on the amenity values of the property from increased noise"<sup>25</sup>. He goes

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<sup>25</sup> Pearson supplementary evidence paragraph 22

on to state that such effects can be mitigated<sup>26</sup>. Notwithstanding that conclusion, it follows from proposed condition 30 that a further heritage assessment is required and, from condition 31, that:

*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.*

235. We are satisfied with the scope and intent of these conditions and do not consider that any further mitigation is required.

### **Visual Amenity**

236. Mr Pocock's assessments and evidence have come under close scrutiny; by us and by submitters. We agree with some that a lack of visualisations did not assist with understanding of the project, but we certainly do not see that as critical to our consideration of the project. While these may have been missing, the NZTA did provide bridge and structure cross sections and elevations, and long sections of the route within the NoR. This aided our understanding of the project.
237. There was clearly a wide divergence of opinion between the opinion of Mr Pocock and the views of submitters as to the acceptability of the landscape and visual outcomes that will result from this project. We have outlined these in our evidence and statements summaries above and will not repeat them here.
238. For many along the route, there will be considerable change involving the appearance of new activities and structures, loss of views and impacts on existing character. We acknowledge this, but change in itself does not necessarily mean an adverse effect of significance. Rather, the issue is to ensure that change is managed appropriately and effects associated with visual amenity is no better an example. Of equal importance, it is significant to note that the RMA does not mandate a "no effects" approach nor does it attempt to prescribe preservation. Clearly there are examples of exceptions to this, but the RMA is predominantly an enabling piece of legislation.
239. We have already signalled our general acceptance of the management plan approach and the reasons for that. Within this context we have closely examined the NZTA's relevant conditions to ensure that the provisions will lead to appropriate outcomes and that sites where the potential exists for unacceptable effects are clearly identified for assessment. Moreover, that a process exists for a robust assessment of the potential impacts.
240. The proposed ULDMP and VEMP are key documents. The ULDMP must be lodged prior to the Outline Plan and must be certified by the Council. The certification process, including dispute resolution processes are outlined in proposed conditions 4-6. The VEMP is to be considered as part of the Outline Plan and we have already highlighted above our view on that process.

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<sup>26</sup> Reliance on the evidence and supplementary evidence of Mr Farren

241. The purpose of the ULDMP is stated in proposed condition 35 and provides a macro view of the project within the urban and rural landscape. The VEMP provides a tool for a more fine grain analysis of visual effects on a site or specific location basis.
242. While Mr Pocock's assessment identified areas and sites where further mitigation may be required, he recommended that the visual impact assessment be revised closer to the time of project construction. We agree with this approach as it will take account of changes in the environment that occur, including removed or additional planting or shelterbelts. Equally, there will be significantly more design information available thereby allowing for a more focused assessment. This is particularly so in the case of the acoustic barriers which, while we were provided with some information about their scale, are currently not designed and their form is unknown – this is simply a reflection of the current status of the project. Overall, this requirement is contained in proposed condition 40.
243. Mr Pocock's current assessment has identified sites or areas where particular attention may be required in the future. These sites are identified in proposed condition 40(c). Through the course of the hearing the list has been expanded (for example specific recognition of the Lees Road area through condition 40(d)). We paid particular attention to this issue in our assessment of Mr Pocock's evidence and during our site tours, to ensure that all the relevant properties have been identified. As noted above, we propose to add 143B Old North Road to condition 40(c). Other minor amendments to condition 40 include:
- 40(c) – a minor amendment to make it explicit that visual effects mitigation should include consideration of the acoustic barriers
  - 40(d) – an amendment to clearly define the minimum area of planting required along the embankment facing Lees Road, as discussed earlier.
244. Proposed condition 41 specifically requires NZTA to undertake consultation with the landowners of these sites and prescribes a process and timeline for attempting to reach agreement on outcomes acceptable to both parties.
245. For completeness we note that our commentary in paragraph 234 is equally applicable to the issue of visual impacts.
246. A number of submitters raised concerns regarding the loss of views. Our reference point for considering this issue is the District Plan and in short it does not provide a planning framework to protect views. While we agree that it is arguable that existing views can contribute to the definition of character, particularly within the rural environment, this does not translate to a mandate for view protection. This is not an unusual situation in a general sense, although some District Plans do contain provisions for view shaft maintenance.
247. From the evidence we have received and the statements made by submitters we consider that no further mitigation measures are required.

#### **Heritage – 110 Parsonage Road**

248. This is a site specific issue relating to 110 Parsonage Road. While we have commented above on our view of amenity effects on this site and the impact of proposed conditions 40, 41, 30 and 31, we do want to add to that discussion following on from comments made by Barbara Dean in her hearing Statement.

249. Within a general commentary on Part 2 of the RMA, Ms Dean considered that the project is contrary to section 6(f) of the Act. That section of the RMA requires the protection of "historic heritage from inappropriate subdivision, use and development". By reference to the draft decision of the Board of Inquiry into the Basin Bridge proposal, Ms Dean argued that this Panel needs to consider not only the impacts on the building, but also impacts on the setting and surroundings. Within this context, Ms Dean concluded that we were required to take into account "both direct and indirect adverse effects".

250. We have reviewed the legal submissions in reply from Ms Appleyard (paragraphs 45-56). Ms Appleyard's submission is best summarised in paragraphs 48 and 50 where it is stated:

*"...the Board of Inquiry (BoI) assessed that project under section 6(f) taking into account a wider "heritage area", which was made up of the Basin Reserve Heritage Area and other buildings in the area that had statutory recognition of heritage status from Heritage New Zealand or the City Council. Ms Dean relied on a number of statements in this decision, including the BoI's decision that they are obliged to consider effects on historic heritage, including not only built heritage, but surroundings and setting in which building heritage exists. To determine this "heritage area" this decision relied on the RMA definition of "historic heritage", which includes "surroundings."*

*However regardless of whether the BoI was correct in its determination and methodology for determining the very wide "heritage area" (that is, to a setting that arguably extended beyond the surroundings of the heritage items), it is submitted that applying that decision to the facts of this case does not appear to provide any assistance to the Commissioners. In contrast to the environment considered in the Basin Bridge decision, the Parsonage Road property is one heritage site within a rural environment.*

251. Ms Appleyard went on to note that Ms Dean did not provide evidence to confirm that, in this case, it is possible to distinguish a difference between the effects on the "heritage setting and effects on the Homestead". Within this construct we agree with Ms Appleyard when she states in paragraph 54:

*"...whether or not the project is assessed against the heritage values of the Homestead, or within some of [sic] kind of wider property setting in which this Homestead is located, there is no fundamental difference in assessment or effects."*

252. Ms Appleyard concludes her submission by noting that given Mr Pearson's view that the mitigation measures offered will ensure the heritage values of the property will not be adversely affected, then the project cannot be considered as an inappropriate development – and thus cannot be considered contrary to section 6(f). Given our earlier conclusion on other related amenity effects, especially when considered within the context of proposed conditions, we agree and we do not consider that the proposal raises a section 6(f) issue.

### **Maori Reserve 873**

253. Earlier we outlined Mr MacDonald's concerns and noted that the NZTA and Mr MacDonald had not been able to reach an agreement as to the alignment and bridge arrangements. Consequently we will consider the merits of Mr MacDonald's submission.

254. Mr MacDonald argued that further consideration of alternatives were required. Putting the ecological issues to one side, as we have already indicated that we accept the advice of Ms McMurtrie, we have considered the evidence of Mr Weale.
255. Mr Weale described the process that had been followed with regard to the design of the SEA in this particular location. He noted that the design requirement for three bridges arose as a consequence of the proposed Williams Street overpass. With regard to the latter, he described how the overpass has benefits in terms of minimising additional land required for construction, avoiding significant adverse visual and noise effects, maintaining property access and enabling the Lees Road intersection to remain open. However, if the overpass is constructed, there is then a need to ensure that appropriate sight distances are achieved for the on ramps and off ramps. In practice, he said, achieving this distance required the ramps to be extended to the point at which the main carriageway of the SEA started to rise to cross Williams Street, some 500m south of Williams Street. However as the Cam River is 400m south of Williams Street, this meant that the ramps also had to be on bridges too. Mr Weale went on to describe the advantages of using three bridges rather than a smaller number, setting out how it meant that the current bridge could be used for an off ramp, how it did not require the demolition of the existing bridge, and how it allowed more daylight through to the river bed.
256. In respect of the highway alignment near to MR873, Mr Weale set out that consultation during the development of the road alignment indicated that widening to the west of the existing alignment and into MR873 was likely to be untenable to Te Ngai Tuahuriri Runanga, and furthermore, it would have potentially affected the ecology<sup>27</sup> of the Cam River over a 400m section. Conversely, constructing the SEA on the eastern side of the present alignment meant that the existing highway could continue to operate for almost the entire construction period. He acknowledged that the proposed alignment could be relocated 10m to 15m towards the east, but that this would potentially affect more MR873 land and 300m of the Cam River, and create greater disruption for traffic on the highway during construction.
257. Overall, our view is that the NZTA has provided a robust explanation of the design and the alternatives considered and, within the context of the proposal we have in front of us, we cannot agree to the relief sought in Mr MacDonald's submission.

#### **Contaminated Land**

258. The NoR included an assessment of contaminated sites located along the route (Appendix N). The assessment provided in the NoR summarised the findings as follows:

*"The desk top study identified any potential contaminated sites along or near to the SEA. Of the eight sites recorded close to the SEA, two potentially contaminated sites were identified on the route itself, one a closed "rubbish pit" and the other a horticultural site currently used for blackcurrant production.*

*Further site investigations were undertaken at both these sites to determine the potential risk to human health given the intended activity and to inform the development of the design of the proposed works. These investigations followed the criteria set out in the Ministry for the Environment's Contaminated Land Management Guidelines No. 1 - Reporting on Contaminated Sites in New Zealand (Revised 2011) as being the elements required in a Preliminary Site Investigation (PSI). Sampling and analyses was also undertaken in accordance with the*

<sup>27</sup> McMurtrie evidence paragraphs 84, 86-90 and evidence summary paragraphs 15-20.

*requirements of a Phase 2 Detailed Site Investigation (DSI). Therefore, it is also considered that the site investigation has complied with the Ministry for the Environment's Contaminated Land Management Guidelines No.5: Site Investigation and Analysis of Soils (Revised 2011).*

*The investigations showed that the levels of potential contaminants are within the NES soil contaminant standards for human health and therefore the sites are considered to be suitable for the proposed highway route."*

259. Within this context the NZTA proposed conditions dealing specifically with the concept of keeping contaminated material in situ, if possible (condition 88), and addressing groundwater and potential landfill gas issues (condition 89). Ms Anderson recognised in her evidence that separate resource consents will likely be required under the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Public Health) Regulations 2011. Additional resource consents will also be required from Environment Canterbury and, related to this, these sites will need to be considered carefully within the final stormwater design.
260. Recognising the need for future approval processes, we are satisfied from the evidence that no additional mitigation measures are required in respect of the NoR.

### **Transport**

261. As described more fully above, Mr Woods set out in some detail the process that had been followed in respect of determining the alignment of the proposed designation. The first phase of this considered a wide range of potential configurations, with an initial 'broad brush' analysis using transport modelling, costings and a range of other criteria to create a short-list of three options for each corridor under investigation. The second phase optimised the three options further through a more detailed analysis and included public consultation on the alternatives. The third phase compared the best option within each corridor against one another using a multi-criteria assessment process. From his description, we are satisfied that NZTA has carried out a suitably thorough assessment of alternative options for the bypass alignment prior to settling on the preferred arrangement.
262. We spent some time considering the matter of the State Highway 1 / Williams Street intersection, as it seemed to us that this was one part of the SEA which could benefit from consideration of an alternate design and thus influence the level of effects, and indeed we sought additional evidence on this matter from a number of experts. Mr Woods second supplementary statement of evidence focussed on this particular issue, and he discussed the process that had been followed prior to determining that the preferred option was grade- separation. He outlined that an at-grade layout had been considered as well as the Williams Street passing below the SEA, and he provided a description of the 'pros and cons' associated with these and drew our attention to some practical difficulties associated with each. We are satisfied with the evidence of Mr Woods on this issue. In passing, we comment however that the proposed extent of the designation in this location appears to preclude construction of an alternative intersection layout in future, and essentially commits NZTA to a grade-separated arrangement.
263. Mr Penny's evidence set out an alternative arrangement for the bypass that he considered would provide a better outcome, and that as a result, he concluded that the proposed designation was not reasonably necessary for achieving the objectives of the NZTA. His proposal may or may not have merit in traffic engineering terms but this is not for us to decide. We are not required to assess whether NZTA investigated every possible alternative option but rather, the test that we have to

apply is whether NZTA gave adequate consideration to alternative sites, routes, or methods or undertaking the work, and not whether the arrangement selected is the optimum. For the reasons set out above, we consider that it did.

264. Mr Penny also queried whether the SEA would be constructed to a standard that was not justified for the extent of traffic using it. We anticipate that this will be reflected in the Benefit-Cost Ratio when the scheme is being considered for funding in future by NZTA, and that if there is an element of over-design, this will necessitate a delay to the scheme or a revision to the infrastructure proposed. We acknowledge Mr Penny's point that this may mean that the designation presently sought is too large, but at the same time, we understand that the land within the designation will also be used for landscaping, stormwater management and the like and so will be required to accommodate elements associated with the road other than the carriageway.
265. Dr Turner provided details of the expected outcomes in respect of travel times and travel distances, and we accept his evidence in these matters. The SEA will result in *increased* travel distances but *reduced* travel times due to the higher speeds that vehicles will be able to achieve on the bypass compared to driving through Woodend. In turn, this means that the speed limit on the bypass is critical to achieving the benefits described. However, since we understand that the scheme will be constructed to motorway standard, we consider it is unlikely that the speed limit will be less than that which was assumed in the modelling.
266. The importance of the prevailing speeds in turn affects the level of provision made along the district roads crossed by the bypass (Gladstone Road, Woodend Beach Road and Williams Street), since at-grade solutions will result in slower speeds and reduced benefits. However the proposal to grade-separate at these locations supports a higher speed limit and thus means the forecast benefits can be gained.
267. Dr Turner and to an extent Mr Weale also addressed road safety issues. From the evidence, the preliminary design of the SEA which has informed the extent of the proposed designation has been designed to meet current standards and guides, and on this basis we consider that it will operate in a safe manner. We interpret Dr Turner's evidence with regard to the road safety benefits somewhat cautiously as it relies upon the application of generic formulae, and as such his calculation to two decimal places seems a little optimistic. However we accept and agree that the scheme will have positive road safety outcomes, including for local traffic within Woodend which will no longer have to mingle with longer-distance vehicles.
268. Aspects of the evidence presented to us addressed the benefits to Woodend of removing through traffic. We have been careful, as were the authors of the evidence, not to consider traffic-related benefits from works that the Council might carry out when the redundant highway becomes a district road. We recognise the positive outcomes to the town through a reduction in traffic volumes such as improved road safety and levels of service, but there were no submissions from the business community and so we were unable to conclude whether there would be any economic benefits / dis-benefits that would arise as well.
269. Overall, we are comfortable that the traffic and transportation aspects of the proposal have been properly considered and evaluated.

### **Positive Effects**

270. The evidence provided to us indicated that a number of positive benefits would accrue from the project. First and foremost we see significant benefit in securing the route now, as it will ensure route protection and will clearly signal to the community the preferred alignment. As we have discussed earlier, a designation contained in the District Plan provides a clear public reference point for this project.
271. The evidence of Stuart Woods and Dr Turner indicated the following network operation and safety outcomes:
- Travel time savings
  - Crash reduction, including improving the current poor crash record at the Pineacres intersection
  - Improved connectivity – maximising the accessibility of the local transport networks and separating local traffic from long distance traffic. The proposal incorporates facilities for pedestrians and cyclists within new infrastructure on the local road network, thereby making it safer to walk and cycle.

### **Conditions and Effects Conclusions**

272. During the course of the hearing there were several iterations of the conditions proposed by the NZTA. In general terms these were in response to issues raised at the hearing; by us and by submitters, and in discussion with Mr Blay. Mr Blay offered a different approach to conditions, but we do not support that. Our preference is to adopt the thematic or subject based structure of the NZTA and to include the advice notes within the body of the conditions so that there is a clear link to interpreting conditions where required.
273. There are a considerable number of conditions proposed by the NZTA and this is a reflection of the current status of the project and the level of the information available. As we have already stated, we accept the approach given the "future proofing" nature of this proposal. We add, however, that in our view the future proofing concept extends not only to the ability of the NZTA to secure this route, but also to ensuring appropriate environmental outcomes for the directly affected landowners and occupiers. To this end there is a significant reliance on the use of future management plan, certification and Outline Plan processes. While the lack of project specificity was clearly a concern to some submitters, it is unfortunately, and at the same time realistically, a reflection of the project. It is for that reason that we have paid particular attention to the conditions package through the hearing and during our deliberations.
274. We have proposed some minor amendments to the conditions from the 12 November version provided by the NZTA in Ms Appleyard's closing submission. These amendments are as discussed within the body of this Recommendation. For the benefit of all parties we have left our amendments as track changes.
275. Given all the above, we are satisfied that any adverse effects can be adequately remedied or mitigated.

**S171 (1)(a) – Plans and Policy Statements**

276. We are required to have particular regard to relevant policy provisions in the relevant statutory instruments, as outlined in paragraph 27 above. We received extensive evidence from Ms Anderson on this issue and her overall opinion was that the proposal was generally aligned with them. Mr Blay agreed and we did not receive any alternate expert views.
277. During the hearing we did question Ms Anderson on her assessment of Chapter 12 of the Waimakariri District Plan. Chapter 12 deals with "Health, Safety and Wellbeing" issues across the district as a whole. Of particular relevance is Objective 12.1.1 and the related policies. Objective 12.1.1. reads:
- Maintain the amenity values and a quality of environment appropriate for different parts of the District which protects the health, safety and wellbeing of present and future generations, and ensure that any potential adverse environmental effects from buildings and structures, signs, glare, noise and hazardous substances are avoided or mitigated.*
278. Given the change in land use, landscape character and increases in noise exposure that will occur in some locations, we queried Ms Anderson as to whether amenity values and the quality of the environment would be maintained, particularly within the rural sections of the route. In her view the mitigation measures proposed would ensure this outcome. While we do not necessarily agree that the outcome sought in this policy will be achieved, we accept that this is different from the effects conclusions we have drawn earlier. In other words, while the proposal may not be aligned with one particular objective and the suite of supporting policies, it is not critical to the project in our view provided effects matters are addressed. We are mindful also, that we are required to have "particular regard" under section 171(1)(a) and while this means we are to give serious consideration, it does not raise consideration of "being in accordance with" or "in conflict with". Equally of importance, is that we must give consideration to the relevant policy platforms as a whole.
279. Given the above, we are satisfied that no further consideration of section 171(1)(a) is required

**S171 (1)(b) – Alternative Sites, Routes or Methods**

280. Section 171(1)(b) requires consideration of alternative sites, routes and methods in the circumstance where:
- (i) The Requiring Authority does not have an interest in the land sufficient for undertaking the work; or
  - (ii) It is likely that the work will have a significant adverse effect on the environment
281. The NZTA does not have sufficient interest in the land to proceed with the work, therefore a consideration of alternatives is required. We received a summary of the caselaw from Ms Appleyard in opening legal submissions (paragraphs 29-34). It is clearly established that the NZTA is not required to identify and implement the best method or route choice. Rather, the requirement is to demonstrate that a robust approach has been followed. We have considered the process followed by the NZTA in selecting the route (at a macro level) and in the solutions proposed within the alignment, including consideration of alternate intersection/interchange designs. These have been documented in detail in evidence and have been considered by us during our deliberations and are summarised in the body text of this Recommendation. Overall our view is that the process followed by the NZTA satisfies the requirements of section 171(1)(b).

**S171 (1)(c) – Is the Work and Designation Reasonably Necessary**

282. Section 171(1)(c) of the Act requires consideration of whether the proposed works and designation are reasonably necessary to achieve the objectives of the Requiring Authority for which the designation is sought. The objectives are outlined in paragraph 24 above.
283. There are two elements to this consideration:
- The need for the work or project; and
  - The need for the designation as a planning tool.
284. In Ms Appleyard's opening legal submissions (paragraph 38) she highlighted that the designation, as a planning tool, was necessary for the reason that without the designation, the NZTA would have limited ability to protect the land required for the roading corridor from ongoing growth and development. Given the likely timeline before construction, this places the corridor at risk in our view. There are also a number of other general reasons for supporting the use of designations for projects such as this:
- It signals the potential for future changes
  - It confirms the alignment location for the community and it can be expressly identified in the District Plan
  - It provides a clear methodology for managing effects through the Outline Plan process
285. While we are generally satisfied that the use of the designation is appropriate in this circumstance, we are left to consider the merits of the need for the project within the context of the stated objectives. Given this we outline our consideration of the project objectives below.
- Provide for the predicted rapid land use development, both within and surrounding Woodend, that will drive the need for improved transport infrastructure and the increasing traffic flows on SH1, which are projected to be around 28,000 vehicles per day by 2041**
286. Evidence presented to us outlined the key action points from the Land Use Recovery Plan (LURP) and the response of the Waimakariri District Council to the required Action Points of the LURP. From a land use planning perspective this provided the platform for ongoing growth within the District. The NoR is a response to that.
287. The expert evidence of Dr Turner and Mr Stuart Woods adequately demonstrated that the network as it exists would not cope with the anticipated future volumes. This is not to say that improvements to the existing network would not be able to cater for these flows, but on balance we do not consider that this is an issue relevant to the objective.
288. That aside, the evidence of Dr Turner and Mr Woods confirms that the proposal is a "strategic" fit within the NZTA's management of the network and that the corridor could accommodate the anticipated increases in traffic volumes. This includes the sensitivity tests that were outlined in Mr Woods' supplementary evidence. To a large degree much of the discussion below on many of the remaining objectives has also been relevant to our consideration of this particular matter.

**Provide more predictable and improved travel times for all modes of transport on critical intra and inter-regional connections**

289. In this objective, we understand “predictable” to mean ‘consistent’ rather than ‘capable of being predicted’. Dr Turner described the concept of levels of service, and that as the level of service moves from A to F, congestion increases such that speeds become unstable and traffic flow erratic. Thus a ‘consistent’ travel time is more likely to be achieved where a road has a good level of service, rather than a poor level of service.
290. The “critical intra and inter-regional connections” were not defined in the evidence that we heard, nor within the NoR. However, given the statutory remit of NZTA, we anticipate that this refers to the state highway network and in particular the way in which that section of highway that is the subject of the NoR is utilised by vehicles travelling solely within Canterbury as well as vehicles that start and/or end their journey elsewhere.
291. Dr Turner described the results of the modelling work undertaken, which showed how the SEA would result in reduced travel times for traffic when compared to the current route through Woodend despite the SEA being a slightly longer journey distance. He helpfully split the journey time savings by light vehicles and heavy vehicles, and showed that the travel times were reduced for each. Dr Turner also set out that several intersections on the current highway alignment would offer a poor level of service in future, but that these would improve if the SEA was to be constructed. On this basis, we consider that this objective is achieved for vehicular traffic.
292. In passing, no distinction was drawn throughout the modelling assessment between intra and inter regional trips, but rather it appears that the two have been amalgamated. We are therefore unable to differentiate between the two, but in our view this is not material to our consideration of whether this objective is achieved.
293. The objective goes further than just motorised vehicles however, to explicitly include all modes of transport. Dr Turner set out that the main carriageway of the SEA did not in itself make provision for public transport, although the provision of additional traffic lanes (compared to the existing situation) would be beneficial. Insofar as this comment relates to improved roading levels of service and travel times, we agree.
294. Similarly, Dr Turner set out that no pedestrian or cycling facilities are proposed along the SEA corridor, but that specific provision is to be made at the new intersections and underpasses. No details were provided regarding the current levels of service or travel times for those walking or cycling in the area, and thus the extent to which these would be improved has not been quantified. Regardless, in our view, the provision made will certainly assist pedestrian and cyclist movements even if the change is small, and thus journey times will be improved.
295. We are also mindful that, in itself, the reduction in traffic volumes through Woodend that would occur as a result of the SEA will assist pedestrians to cross the road and thus will reduce their overall journey time. This is quite apart from any other schemes that may be implemented in the town by the District Council where further travel time savings may be achieved.
296. Accordingly, we consider that this objective is met.

**Improve access to work, shops and social amenity locally and in Christchurch through congestion relief**

297. In our view, this particular objective has two distinct but related parts; being improved access to work, shops and social amenity within Woodend and its environs through congestion relief, and improved access to Christchurch.
298. Regarding the first of these parts, Mr Woods described how new structures and intersections would be able to accommodate walking and cycling movements, noting particularly that there would be provision made at the Pineacres and Pegasus intersections, and the Woodend Beach Road and Gladstone Road underpasses. He also set out that public transport should experience reduced travel times, and also commented that the significant (and increasing) traffic volumes using the highway through Woodend created adverse access and social effects, but did not go into these in any detail.
299. Dr Turner described, but did not quantify, the safety benefits of the proposed infrastructure for pedestrian and cyclists. He set out how levels of service would beneficially change at intersections within Woodend as a result of reduced traffic volumes, and although he did not explicitly say, we anticipate that these would assist in improving access to amenities. He also described how the reduced traffic flows within Woodend would assist bus movements in the town.
300. Although several witnesses mentioned that the SEA would improve social amenity, we received no expert evidence in this matter. Rather, it appeared to us that witnesses inferred that a reduction in traffic on the current alignment of the highway would automatically translate into improved social amenity. That said, we also did not receive any expert evidence that the SEA would be detrimental to social amenity, although several submitters described the particular effects that the SEA would have upon them.
301. Overall, we do not find that the lack of direct evidence on this matter is particularly surprising, as several witnesses stressed that once the SEA was constructed, the current alignment through Woodend would likely have its state highway designation revoked, and would revert to be a local road under the control of the District Council. At this point, NZTA has no further role to play in how the road is managed, and it becomes a matter for the District Council to consider how best to realise any benefits from the lower traffic volumes. We were told that any benefits associated with any Council-led scheme in this regard were not taken into account within the scheme assessments.
302. On balance, we consider that the SEA provides some, but limited, improvements for access to work, shops and social amenity within Woodend, but it creates a significant opportunity for much greater benefits to be achieved by the Council through management of the revoked highway in a manner which better meets the needs of all road users.
303. In respect of improving access to Christchurch, Dr Turner outlined the results of the modelling exercise that showed how the SEA would result in reduced travel times for traffic when compared to the current route through Woodend. When considered as a component of a journey over a much longer distance, the scale of this reduction could be considered small. However we acknowledge that from a practical perspective, it is simply not possible for a NoR to cover the whole of the state highway network nor to seek to provide an upgraded network over the extended sections of the network simultaneously. Rather, works will inevitably be carried out on a project-by-project basis, and involve shorter sections of highway.

304. We therefore consider that both parts of this objective are met, to the extent that the NoR is capable of meeting them.

**Improve the efficiency of passenger transport through congestion relief**

305. In their evidence, both Mr Woods and Dr Turner noted that bus routes presently turn right from Williams Street and are therefore delayed by the traffic volumes on the current state highway. As the SEA would result in an overpass being constructed in this location, the delays experienced would be reduced. They also noted that passengers would find it easier to cross the roads through Woodend, again due to the reduced traffic volumes anticipated. We therefore anticipate that "efficiency" in the context of this objective relates to improvements in the public transport journey time, and the ease with which passengers can reach bus stops.
306. No views were expressed by other parties that the SEA would be detrimental to the efficiency of public transport in the area.
307. Although both experts' opinions do not seem unreasonable, we did not hear any evidence which quantified the benefits of the SEA in these matters nor gave any further details of the particular difficulties experienced by bus services or passengers. The documents supporting the NOR are similarly qualitative. That said, we agree that reduced traffic volumes will assist in both regards, although the extent of this cannot be stated with certainty. Consequently, we consider that the objective is achieved.

**Reduce the public health impacts of transport through urban areas**

308. In respect of this particular objective we noted in our Minute number three that:  
*We have received assessments and evidence from Dr Heveldt on air quality outcomes. There is an inference in his evidence that this translates to human health outcomes. We do not see, however, expert evidence on this matter.*
309. Ms Anderson addressed this request in her supplementary evidence (19 October) and, in particular, provided her view on the issue from a planning perspective. In short Ms Anderson, drawing on the expert advice of other members of the project team, highlighted a number of factors that could be interpreted to demonstrate the objective is met; namely:
- Improving safety on the road network, by reference to crash reduction, and benefits to cyclists and pedestrians on the existing state highway alignment by virtue reduced vehicle volumes
  - By the provision of dedicated cycle and pedestrian facilities along the route, thereby encouraging these modes of transport
  - Improvements in air quality through Woodend
310. While we acknowledge the above, we do not consider the evidence to be overwhelming.
311. We considered also that the objective could be considered somewhat self-fulfilling. By this we mean that we have spent some time debating the meaning of the objective. The reference to "urban" can only mean Woodend, as this is the only urban area that the current state highway passes through within the confines of this project. Given that the proposed alignment will result in less traffic through Woodend, it automatically follows that any adverse public health impacts associated with that traffic should reduce. Within that context the project achieves the objective, but any other "health" benefits that accrue outside of Woodend are irrelevant.

**Reduce severance and social issues due to increasing traffic volumes**

312. Again, this was an objective where we sought additional evidence in or Minute. In particular we said:
- From evidence provided at the hearing we have concluded that this Objective is a direct reference to the outcomes of reduced traffic volumes through the Woodend urban area. While we have heard evidence relating to reduced "severance" arising from reduced vehicle numbers, we are uncertain as to the intent of the term "social issues" nor of the nature or scale of the issues. As above, we do not see expert evidence on this matter.*
313. Ms Anderson responded to this in her supplementary evidence. In paragraph 33 she stated:
- "In my opinion...the objective...seeks to address effects on the health and sustainability of communities, transportation effects, disruption to people's lives during construction, current and potential future issues relating to: uncertainty due to increased severance that would occur through four-lanning through Woodend, and severance all within the urban environment."*
314. The detail of Ms Anderson's evidence is contained in paragraphs 31-46 of her supplementary evidence. We do not propose to discuss this objective and the evidence in any great detail. The inference is that less traffic means less severance and that there is a link between severance and social issues, and a link between social issues and health effects and community sustainability. The evidence demonstrates a reduction in traffic volumes through Woodend, and we accept that there should be a reduction in severance issues resulting from that reduction. We are not convinced, however, as to the social issues connection from the evidence we have received. Part of our reason for this is that the term has not been satisfactorily defined in our view.
315. Overall, the project goes some way to achieving the objective.

**Reduce environmental effects through improved treatment with new design standards**

316. This objective suggests a goal for minimising adverse environmental impacts through design. It is clearly a reference to "design" and thus is not relevant to the issue of traffic reduction through Woodend, or to improved roading design addressing operational or safety benefits.
317. While the evidence we heard from a range of experts indicates the noise, landscape and general amenity effects can be appropriately managed, we did not hear direct evidence on the how new design standards may reduce environmental effects.
318. We do acknowledge, however, that the conditions as drafted, and the approach of using management plans, will enable new technologies and evolving design to influence environmental outcomes as the project is rolled out in the future. Examples could include improvements in road surface and acoustic barrier design that will have a direct impact on acoustic outcomes.

**Improve safety standards on new infrastructure and reduced exposure on existing infrastructure**

319. Although this objective clearly refers to an improved level of road safety, we found the wording a little ambiguous, since any new infrastructure will necessarily be constructed to current standards, or with deviations that are subject to a detailed safety audit, and as such can therefore be considered 'safe'. The particular wording chosen could be read as indicating that not only will new infrastructure

meet current safety standards, it will improve upon them. Since this is not a function of an NOR, we consider that the objective is better interpreted as improving road safety performance via the provision of new infrastructure, and our comments should be read in that light.

320. Dr Turner described the current road safety record of the section of highway that would be affected by the SEA in some detail, not only in respect of severity but also in terms of the type of accident, and particularly highlighted the Pineacres intersection as being an accident black-spot. Importantly, he then went on to quantify the expected changes in accident savings associated with the SEA using a method set out in the NZTA Economic Evaluation Manual, finding that the project would result in savings in the order of \$12.3M over the thirty-year life of the project, equivalent to a reduction of 2.67 fatal or serious crashes per year.
321. No parties disputed this calculation or raised any concerns that the SEA as a whole would somehow lead to a worsening of the accident record.
322. We recognise that at this stage, the SEA is not a detailed design but rather, is potentially best described as being a detailed concept. As such, changes may be made in future to the alignment and other aspects of the scheme, and these may change the number and nature of accidents expected. However, in our view it is unlikely that the extent of these changes would be sufficient to hugely erode the calculated savings and thus we consider that this objective is met.

### **Conclusion**

323. Overall, it is our view that both the designation and the project are '*reasonably necessary*' to achieve the objectives of the requiring Authority.

### **S171 (1)(d) – Other Matters**

324. We are not aware of any other matter that is relevant to our considerations.

### **Part 2 of the Act**

325. Our overarching consideration of this matter must occur within the context of Part 2 of the Act. This includes an evaluation as to whether or not the proposal has sufficiently recognised and provided for all matters of national importance (section 6), and whether or not it has given sufficient regard to the other matters outlined in section 7 and the principles of the Treaty of Waitangi (s8).

### **Section 6 – Matters of National Importance**

326. Section 6 sets out the matters of national importance which are to be recognised and provided for in relation to all decisions under the Act, including this NoR. Of particular relevance to this Recommendation is:
- *Section 6 (f) - the protection of historic heritage from inappropriate subdivision, use, and development*
  - *Section 6(e) – relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga*

327. We have canvassed in some detail our views with respect to the section 6(f) matter as it relates to the property located at 110 Parsonage Road. Similarly from the evidence, and in terms of our assessment above, we are satisfied that the processes and procedures for dealing with tangata whenua interests will be appropriately managed. This includes our consideration of the issues raised in the submissions of Mr MacDonald.

### **Section 7 – Other Matters**

328. Section 7 includes matters that we are required to have particular regard to. In this case the relevant section 7 matters are as follows:
- *Section 7(a) - Kaitiakitanga*
  - *Section 7(aa) - The ethic of stewardship*
  - *Section 7(b) - The efficient use and development of natural and physical resources*
  - *Section 7(c) - The maintenance and enhancement of amenity values*
  - *Section 7(d) - Intrinsic values of ecosystems*
  - *Section 7(f) - Maintenance and enhancement of the quality of the environment.*
329. The preparation of the Cultural Impact Assessment, establishment of the CAG and the related conditions dealing with the obligations of the NZTA and Te Ngai Tuahuriri embody the principles of sections 7(a) and (aa).
330. Our conclusions regarding the need for the alignment and the modelled outcomes that will result, indicates that the proposal will provide positive outcomes for the state highway network and, to a degree, elements of the adjoining local road network (section 7(b)).
331. The terrestrial and aquatic ecology assessments, combined with conditions, indicates that values associated with existing ecosystems will be maintained, if not enhanced in some cases (section 7(d)).
332. We do consider that there is potentially a tension with sections 7(c) and (f). As we have previously acknowledged, for some along the route there will be a change in character with the introduction of structures and activities, loss of existing views and increased noise exposure. Our consideration of this within the context of sections 7(c) and (f) is twofold. First, we accept that at the micro level there will be change experienced by individuals, but there are processes and assessments built into the suite of conditions designed to address the amenity issues. Some will argue that the conditions will not deal with all of the amenity issues appropriately or, indeed, that the project should not proceed at all. That is not our position, however, based upon the evidence we have heard. Second, at a macro level we have considered the overall benefits that will accrue from this project, and from the certainty that arises from securing the designation at this point in time.
333. Within that context, and from a judgement on the project as a whole, we are comfortable that the proposal is aligned with the relevant aspects of section 7.

### **Section 8 - Treaty of Waitangi**

334. Mr Hullen advised in his evidence that he considered that the principles of the Treaty had been taken into account during consultation with tangata whenua. He confirmed that Treaty principles of

Rangatiratanga, partnership, consultation and active protection were all embodied in the processes and procedures followed by the NZTA. Moreover, that consultation would continue.

335. We appreciate that Mr MacDonald may hold a contrary view on this, but it is not one shared by this Panel.

### Section 5

336. The overarching purpose of the Act is to promote sustainable management of natural and physical resources. Section 5 of the Act imposes a duty to promote sustainable management while endeavouring to avoid, remedy or mitigate adverse effects of activities on the environment. The term sustainable management is defined in section 5(2). In simple terms, the definition places emphasis on enabling people and communities to undertake activities, while ensuring that the 'bottom line' standards specified in subsections (a) – (c) are met.
337. Section 5(2)(c) deals with avoiding, remedying, or mitigating any adverse effects on the environment, within a sustainable management context. Given the conclusions drawn earlier concerning the nature and scale of environmental effects and the techniques being employed to assess and manage such effects, we considered the project to be aligned with s5(2)(c).
338. In our view, the proposal will ensure ongoing sustainable management of this part of the state highway network. Within that context it will be important in assisting the community in providing for their social, cultural and economic wellbeing and particularly their health and safety.

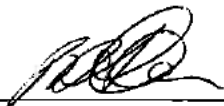
### RECOMMENDATION

339. We have considered the NoR within the context of section 171 and part 2 of the RMA. Overall we are satisfied that the proposal will achieve the Purpose and Principles of the Act. In forming this view we acknowledge that there has been a significant reliance on conditions, management plans, future Outline Plan and certification processes. We also recognise that there will be a raft of resource consents required for this project once detailed design proceeds. Overall we support the approach adopted by the NZTA to secure the roading corridor via a designation process at this point in time.
340. Given this, it is our Recommendation pursuant to Section 171(2) of the Act that the designation be confirmed, subject to the conditions contained in Appendix One.



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Commissioner Darryl Millar (Chair)



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Councillor Peter Allen



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Commissioner Andy Carr

**Dated at Rangiora this 18<sup>th</sup> day of May 2015**

## APPENDIX ONE: RECOMMENDED CONDITIONS

### Definitions

|                                  |                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ACSMP</b>                     | Means the Archaeological and Cultural Sites Management Plan                                                                                                                                                                                                                                                                                           |
| <b>AEP</b>                       | Means Annual Exceedance Probability                                                                                                                                                                                                                                                                                                                   |
| <b>Archaeological site</b>       | Means any place in New Zealand that:<br>(a) either:<br>i. was associated with human activity that occurred before 1900; or<br>ii. is a site of the wreck of any vessel where that wreck occurred before 1900 and<br>(b) is or may be able through investigation by archaeological methods to provide evidence relating to the history of New Zealand. |
| <b>BPO</b>                       | Means the Best Practicable Option                                                                                                                                                                                                                                                                                                                     |
| <b>CAG</b>                       | Means the Cultural Advisory Group                                                                                                                                                                                                                                                                                                                     |
| <b>CAQMP</b>                     | Means the Construction Air Quality Management Plan                                                                                                                                                                                                                                                                                                    |
| <b>CBR</b>                       | Means California Bearing Ratio                                                                                                                                                                                                                                                                                                                        |
| <b>Certification</b>             | 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                                                                                          |
| <b>CESMP</b>                     | Means the Construction Environmental and Social Management Plan                                                                                                                                                                                                                                                                                       |
| <b>CPT</b>                       | Means Cone Penetration Test                                                                                                                                                                                                                                                                                                                           |
| <b>Commencement of Works</b>     | Means the time when the first works that are the subject of this designations commence                                                                                                                                                                                                                                                                |
| <b>CNVMP</b>                     | Means the Construction Noise and Vibration Management Plan                                                                                                                                                                                                                                                                                            |
| <b>Council</b>                   | Means Waimakariri District Council                                                                                                                                                                                                                                                                                                                    |
| <b>District Plan</b>             | Means the Waimakariri District Plan                                                                                                                                                                                                                                                                                                                   |
| <b>ESCMP</b>                     | Means the Erosion and Sediment Control Plan                                                                                                                                                                                                                                                                                                           |
| <b>HMP</b>                       | Means the Heritage Management Plan                                                                                                                                                                                                                                                                                                                    |
| <b>LLUR</b>                      | Means the Listed Land Use Register                                                                                                                                                                                                                                                                                                                    |
| <b>Noise Assessment</b>          | Means the Road-Traffic Noise Assessment Report in accordance with condition 92                                                                                                                                                                                                                                                                        |
| <b>Noise Criteria Categories</b> | 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                                                                    |
| <b>NZS 6806:2010</b>             | Means New Zealand Standard NZS 6806:2010 Acoustics – Road-traffic noise – New and altered roads                                                                                                                                                                                                                                                       |
| <b>PPFs</b>                      | 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.                                                                                                          |
| <b>Project</b>               | Means the construction, maintenance, operation of the Woodend Corridor that is subject to this Notice of Requirement |
| <b>Requiring Authority</b>   | Means the NZ Transport Agency                                                                                        |
| <b>RMA</b>                   | Means Resource Management Act 1991                                                                                   |
| <b>SRP</b>                   | Means the Spill Response Plan                                                                                        |
| <b>Structural Mitigation</b> | Has the same meaning as in NZS 6806:2010                                                                             |
| <b>TMP</b>                   | Means the Traffic Management Plan                                                                                    |
| <b>ULDF</b>                  | Means the Urban and Landscape Design Framework                                                                       |
| <b>ULDMP</b>                 | Means the Urban and Landscape Design Management Plan                                                                 |
| <b>VEMP</b>                  | 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 Resource Management Act 1991. 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 Resource Management Act 1991 (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 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 ~~10-20~~ 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<br>construction (dBA) |                    |
|------------------|-------------|--------------------------------------------|--------------------|
|                  |             | L <sub>Aeq</sub>                           | L <sub>AFmax</sub> |
|                  |             |                                            |                    |

| Time of the week                                   | Time period | "Long-term" construction (dBA) duration |                   |
|----------------------------------------------------|-------------|-----------------------------------------|-------------------|
|                                                    |             | L <sub>Aeq</sub>                        | L <sub>Amax</sub> |
| 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 the 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 Kurataiao 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 Kurataiao 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
- 18) Consist of low maintenance materials.  
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 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); and~~
- ~~15)~~
- 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.