Before a Board of Inquiry
MacKays to Peka Peka Expressway Proposal

under: the Resource Management Act 1991

in the matter of: Notice of requirement for designation and resource consent applications by the NZ Transport Agency for the MacKays to Peka Peka Expressway Proposal

applicant: **NZ Transport Agency**
Requiring Authority

Statement of evidence of **Stephen Hewett** (Temporary Traffic Effects) for the NZ Transport Agency

Dated: 4 September 2012

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STATEMENT OF EVIDENCE OF STEPHEN HEWETT FOR THE NZ TRANSPORT AGENCY

QUALIFICATIONS AND EXPERIENCE

1 My full name is Stephen Desmond Hewett.

2 I hold a Bachelor of Engineering (Civil) from Auckland University and am currently a Technical Director of Transport with Beca Infrastructure Ltd. I am a Member of the Road Engineering Association of Asia and Australasia (REAAA), the Chartered Institute of Logistics and Transport (MCILT) and the Institute of Transportation Engineers (MITE).

3 My work experience includes more than 20 years as a traffic and transport consultant working on the planning and assessment of a wide range of transport projects. These include traffic management associated with Pakuranga to Penrose Reinforcement project and Hunua No. 4 Watermain Project for utility providers, and Victoria Park Tunnel; Newmarket Viaduct Replacement; Manukau Harbour Crossing and the Travel Demand Management construction contract for the NZTA on the State Highway network. These projects required traffic management on local, arterial and motorway networks.

4 My evidence is given in support of the Notice of Requirement (*NoR*) and applications for resource consent lodged with the Environmental Protection Authority (*EPA*) by the NZ Transport Agency (*NZTA*) for the construction, maintenance and operation of the MacKays to Peka Peka Expressway Proposal (*the Project*).

5 I am familiar with the area that the Project covers and the State highway and local roading network in the vicinity of the Project.

6 I am the reviewer of the Assessment of Temporary Traffic Effects technical report[1] that formed part of the Assessment of Environmental Effects (*AEE*) lodged in support of the Project. The report was written by my colleague Jamie Minchington at Beca under my supervision.

7 I have read the Code of Conduct for Expert Witnesses as contained in the Environment Court Consolidated Practice Note (2011), and I agree to comply with it as if this Inquiry were before the Environment Court. My qualifications as an expert are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

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[1] Technical report 33.

SCOPE OF EVIDENCE

8 My evidence will deal with the following:

8.1 Background and role;

8.2 Overview of construction traffic management;

8.3 Project construction in the vicinity of the Existing network;

8.4 Traffic control activities, effects and proposed mitigation;

8.5 Construction vehicle movements;

8.6 Effects on existing pedestrian and cycle facilities;

8.7 Passenger transport;

8.8 Utilities;

8.9 Response to submissions;

8.10 Response to section 149G(3) key issues reports;

8.11 Proposed conditions and management plans; and

8.12 Conclusions.

EXECUTIVE SUMMARY

9 In my opinion, the temporary traffic effects resulting from the Project can be satisfactorily managed. In my view, adverse construction traffic effects are best managed through management plans, where traffic conditions at the time of construction can be considered and effects adequately managed. The management plan process also allows for methods of mitigation to be adapted as the Project progresses.

10 In this evidence, I will describe the traffic effects that can be expected to arise from construction of the Project, and how these effects will be avoided, remedied or mitigated.

11 In my opinion the traffic effects are not anticipated to be greater than, or unusual compared with, other major road construction projects completed in the Wellington region in the last ten years.

12 This Project can be primarily constructed off-line and away from the existing roading network. Temporary traffic effects will arise when construction occurs in the vicinity of the existing network. The management plans will ensure that the existing SH1 and all east-

west connections will be maintained during construction. Detours will normally only be required overnight when bridge beams are placed. In paragraphs 100-101 below, I discuss the potential for Mazengarb Road bridge beams to be installed between the hours of 9am and 3pm (the interpeak period) to mitigate the potential noise impacts on the Metlifecare retirement village at night. This would result in the closure of Mazengarb Road and the use of a detour during the day. The noise effects on these residents are addressed in the construction noise evidence of **Ms Siiri Wilkening**.

13 I have reviewed all the submissions raising construction traffic issues and confirm that my views expressed in my evidence are unchanged, with the exception of the day time closure of Mazengarb Road as a result of the submission by Metlifecare Kapiti Ltd (0608).

BACKGROUND AND ROLE

14 I am responsible for the assessment of construction traffic effects arising from the Project and the management of those effects. In this role, I was responsible for reviewing the assessment of temporary construction traffic effects and modelling the mitigation strategies for Technical Report 33 – *Assessment of Temporary Traffic Effects* (*TR33*) and CEMP Appendix O – *Construction Traffic Management Plan* (*CTMP*).

15 I was responsible for reviewing the intersection assessments using the intersection models built in SIDRA 5.1. This covered all of the intersections where construction traffic is considered to have a significant impact on the operation of the intersections during the construction phase. Construction traffic volumes have been estimated by the construction team in the form of total daily round trips. Turning volumes for each of the intersections affected by the construction traffic were extracted from the project assignment model detailed in the Traffic Modelling Report.[2]

16 I attended a meeting on 18 November 2011 with Don Wignall to work through Kāpiti Coast District Council's (*KCDCs*) concerns with the Project team's assessment of the construction traffic effects and the proposed mitigation measures, including the CTMP.

17 My evidence relates to that of **Mr Andrew Murray** who addresses the traffic modelling and assessment of operational traffic and transport effects. **Mr Murray** will specifically discuss the effects associated with the Expressway and local road network once the Project has been constructed and is operational.

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[2] Technical Report 34 (*TR34*). The model is discussed in the evidence of **Mr Murray**.

OVERVIEW OF CONSTRUCTION TRAFFIC MANAGEMENT

18 The scale of the Project means that construction is expected to take place over a period of 4-5 years (although in a staged manner).

19 While the construction of the Project will take place largely away from existing roads, construction activity has the potential to create adverse effects on the existing road network. This is especially the case where construction is in the vicinity of the existing roading network and through additional construction traffic movements.

20 The construction methodology is outlined in the evidence of **Mr Andrew Goldie** and from this methodology the Project team have developed a package of measures to control adverse effects on the road network. A draft CTMP has been prepared to identify the traffic control activities required in each sector and the typical mitigation measures. The traffic control activities identified for this Project are:[3]

20.1 Footpath closures and detours;

20.2 Cycle lane closures and detours;

20.3 Property access closures;

20.4 Shoulder closures;

20.5 Lane closures;

20.6 Road closures and detours;

20.7 Provision of site access for construction traffic;

20.8 Temporary speed limits.

21 These traffic control activities will be required throughout the length of the Expressway in locations where construction is in the vicinity of the existing road network.

22 The effects of these traffic control activities include inconvenience to road users, pedestrians and cyclists; reduced safety; no room for break downs; reduced capacity and increased congestion; disconnection from bus stops and disruption to bus routes.[4]

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[3] Table 2.1 CTMP.

[4] A full list of all the traffic effects resulting from traffic control activities is provided in Table 2.1 of the CTMP.

23 The CTMP is a working document that governs the development and approval of Site Specific Traffic Management Plans (*SSTMPs*). The CTMP also sets out the structure and requirements for the SSTMPs.

24 The SSTMPs will identify the traffic control activities for each site and the mitigation measures for managing the effects. A SSTMP will be prepared for every construction activity that impacts the road network. The SSTMPs are a requirement of proposed designation condition DC.18 and specifically require a SSTMP to address:

24.1 Temporary traffic management measures required to manage impacts on the road users;

24.2 Assessment of delays;

24.3 Capacity of detour routes;

24.4 Measures to maintain existing access to adjacent properties;

24.5 Measures to maintain safe and clearly identified pedestrian and cyclist access;

24.6 Measures to maintain passenger transport services;

24.7 Proposed temporary changes in speed limit;

24.8 Provision for safe and efficient access for construction vehicles; and

24.9 Measures to communicate to affected road users and stakeholders.

25 The SSTMPs will ensure construction activities are carried out using an approved traffic management methodology, with the agreed mitigation measures in place and to the correct standard. Together the CTMP and SSTMPs define a range of procedures to ensure public safety is protected, disturbance is kept to a minimum, and residents and other stakeholders are consulted and kept informed.

26 I have outlined the Traffic Management Plan Process in **Annexure B** to my evidence as a flow diagram.

PROJECT CONSTRUCTION IN THE VICINITY OF THE EXISTING ROADING NETWORK

27 In this section of my evidence, I will describe the construction methodology in the vicinity of the existing network. That is where construction of the Expressway will impact upon the current roading

network.[5] For each section and stage of work, I will provide a footnote reference to the drawings illustrating the traffic control activities and detour routes.[6]

Sector 1 - Raumati South

28 At the southern end of the Project (north of MacKays Crossing), the Expressway will be constructed to connect into an existing divided 4-lane highway at Poplar Avenue.

29 Poplar Avenue and its existing intersection with State highway 1 (*SH1*) are planned to be realigned under three stages to allow for the off line construction of the new Poplar Avenue interchange. Construction is expected to span three years.[7]

30 Stage 1 involves realigning Poplar Avenue by remarking lanes and reducing the carriageway. The existing intersection of SH1 and Leinster Avenue will be closed permanently. Traffic using the existing Leinster Avenue/SH1 intersection will be diverted to the SH1/Poplar Avenue intersection.

31 Stage 2 involves the construction of a temporary Poplar Avenue/SH1 intersection to facilitate the construction of the new permanent interchange.

32 Stage 3 involves the construction of the connections between the existing SH1, the proposed alignment and Poplar Avenue. During this stage, there will be lane closures, alternating flow and temporary lane realignments.

Sector 2 - Paraparaumu

33 Sector 2 includes the construction of the Raumati Road and Mazengarb Road overbridges, the Wharemauku Stream Bridge and Kāpiti Road Interchange. Each is summarised below.

Raumati Road overbridge

34 The construction of the overbridge on Raumati Road is expected to take less than 12 months and can be constructed off-line. Safety barriers will be used to isolate the work site from passing traffic, pedestrians and cyclists.[8] Bridge beams will be lifted in place at night under a temporary traffic management detour.[9]

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5 More detail is provided in sections 6-9 of TR33.

6 These drawings can be found in the AEE, Volume 5 Plan Set, Folder 1 "Construction".

7 Drawings CV-CM-301-304.

8 Drawing CV-CM-305.

9 The detour route is shown on drawing CV-CM-306.

Wharemauku Stream pedestrian and cyclist trail

35 During the Wharemauku Stream Bridge construction, pedestrians and cyclists using the Wharemauku Stream trail will be temporarily diverted around the construction area. It is expected that the construction site will be operational for approximately 18 months.[10]

Kāpiti Road interchange

36 The construction of the Kāpiti Road Interchange is planned to be undertaken in three stages for approximately 18 months. Kāpiti Road, which carries approximately 20,600 vehicles per day, will be realigned in each stage around the construction area with narrowed lane widths. The majority of the construction can occur off-line. Bridge beams will be lifted in place at night under a full road closure and detour.[11]

37 Stage 1 involves widening Kāpiti Road to the south, using temporary shoulder closures and temporary lane realignments.[12]

38 Stage 2 involves reconstruction of the existing Kāpiti Road carriageway.[13]

39 Stage 3 involves the construction of the Interchange ramp connections and traffic islands.[14]

Mazengarb Road overbridge

40 The construction of the Mazengarb Road overbridge and the lowering of Mazengarb Road can be done off-line in less than 12 months. The Mazengarb Road lanes and shoulder are proposed to be narrowed and realigned to allow vehicles to travel around the construction works. Pedestrians will be diverted to the footpath opposite the constructions area.[15] Bridge beams would normally be be lifted in place at night under a temporary traffic management detour.[16] As a result of the submission by Metlifecare Kāpiti Ltd I have considered whether these works could occur during the day between 9am and 3pm. I consider this could be managed with minimal impact on the local road network. I discuss this further below.

Sector 3 - Otaihanga/Waikanae

41 In Sector 3, construction of the Otaihanga Road Project yard, the Otaihanga Road overbridge, Waikanae River Bridge, and Te Moana

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10 Drawing CV-CM-307.

11 Detour route is shown in drawing CV-CM-310.

12 Drawing CV-CM-308.

13 Drawing CV-CM-309.

14 For further detail see Section 7.3 of TR33.

15 Drawings CV-CM-311-312.

16 Detour in shown on drawing CV-CM-313.

Road Interchange will create temporary traffic effects that will need to be managed.

Otaihanga Road project office and yard

42 The main Project office and yard will be established off Otaihanga Road, within the Otaihanga/Waikanae sector.[17] Construction traffic to and from this yard will create significant traffic effects at the Otaihanga Road and SH1 intersection. This is addressed at section 8.2 of TR33 and the modelling results are included as an appendix. In my view, the construction of a roundabout at the existing intersection of SH1 and Otaihanga Road is required to accommodate the high volumes of construction traffic. I understand that the roundabout is to be progressed as an upgrade to the existing SH1 alignment so that it is in place in time to mitigate the significant traffic effects caused by the construction of the Project.

Otaihanga Road overbridge

43 The construction of the Otaihanga Road Bridge can occur off-line. Construction of the piers and bridge approaches will be carried out under shoulder closures or temporary lane closures. The bridge beams will be lifted in place at night under a temporary traffic management detour.[18]

Waikanae River Bridge

44 The construction of the Waikanae River Bridge will proceed sequentially across the river and is expected to take less than 12 months.[19] The construction will require realignment of the Waikanae River Trail when construction impacts on one of the trail paths. Pedestrians and cyclists will be diverted to the opposite bank using the existing footbridges at the Otaihanga Domain and the Te Arawai footbridge near Nimmo Avenue as shown in **Annexure A**.

45 The section of trail impacted, on one side of the River at a time, would be approximately 3km. The construction site is located approximately 2km from Te Arawai footbridge and just under 1km from the Otaihanga Domain footbridge. The trail would be closed just around the construction area. For residents and users who access the trail between the two footbridges, there would be a diversion required to bypass the construction area.

46 For pedestrians and cyclists travelling along the full length of the trail, the construction of the Bridge would not result in any delays as signage would located at each of the overbridges informing users of the trail closure ahead. Users would be diverted to the other side of the river.

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[17] Drawing CV-CM-314.

[18] Detour is shown on drawing CV-CM-315.

[19] Drawing CV-CM-316.

Te Moana Road interchange

47 The Te Moana Road interchange is planned to be constructed off-line, with Te Moana Road being realigned around the construction area with narrowed lanes. Construction is expected to take less than 12 months. Lane closures and alternate traffic flow may potentially need to be used when constructing the roundabouts.[20] The Te Moana Road Bridge beams are planned to be lifted in place at night under a temporary traffic management detour.[21]

Sector 4 – Peka Peka

48 Sector 4 includes that Ngarara Road overbridge, Smithfield Road extension and overbridge and the Peka Peka Interchange.

Ngarara Road overbridge

49 The majority of the Ngarara Road overbridge and realignment can be constructed off-line and is expected to take less than 12 months. Where necessary single lane traffic flow operation will be used, controlled by temporary traffic signals.[22]

Smithfield Road extension and overbridge

50 The Smithfield Road extension and overbridge can also be constructed off-line and is expected to take less than 12 months.[23] The connection with Ngarara Road will be constructed using a shoulder closure, lane closure and single lane traffic flow operation. Construction vehicles will access the site along the designation route from Peka Peka Road meaning that construction traffic will not impact on the road network.

Peka Peka Road interchange

51 The Peka Peka Interchange is planned to be constructed off-line in three stages over a period of three years. Two service roads will be constructed first and will then be used to divert traffic while the interchange is completed.

52 Stage 1 involves the creation of two site access points on Peka Peka Road, construction of the connection between the northern roundabout and Peka Peka Road, and construction of a temporary intersection with the existing SH1 at the location of the southern roundabout of the new interchange.[24]

53 Stage 2 involves diverting traffic using Peka Peka Road down the proposed service road to the temporary intersection. Construction can then occur on another service road between Peka Peka Road

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[20] Drawings CV-CM-317-319.

[21] Detour in shown on drawing CV-CM-320.

[22] Drawings CV-CM-321-322.

[23] Drawing CV-CM-323.

[24] Drawing CV-CM-324.

and Te Kowhai Road, the northbound on ramp and the alignment over the existing Peka Peka Road. Once the service road between Peka Peka Road and Te Kowhai Road is completed and opened, the existing Te Kowhai Road intersection with SH1 will be permanently closed.[25]

54 Stage 3 involves the interchange connection works and reconstruction of the existing SH1. Stage 3 will be completed using short term traffic management measures such as shoulder closures, and lane closures with alternating traffic flow.[26]

55 The construction activities and required traffic management for each of the above sectors has been assessed to determine their expected traffic impacts and mitigation measures are proposed to address those effects.

TRAFFIC CONTROL ACTIVITIES, EFFECTS AND PROPOSED MITIGATION

56 This section of my evidence describes the traffic control activities required as a result of construction activities, the effects of those activities and proposed mitigation measures. As set out above, the specific requirements for each site will be determined through the SSTMP process.

57 In my opinion, adverse effects on road users arising from the Project's construction will mostly be limited to the discrete construction sites where the proposed Expressway connects to or crosses the existing road network (as discussed above). The majority of these construction sites are expected to have similar traffic effects because the nature of the construction activities are the same at each site, including bridge construction, and intersection and interchange construction.

58 TR33 and the CTMP identify the potential traffic effects and typical mitigation measures when undertaking each anticipated traffic control activity.

Footpath closures and detours

59 The effects of footpath closures and detours are: inconvenience to pedestrians and residents along the route, disconnection from bus stops and increased exposure of pedestrians to traffic.

60 Mitigation measures include letter drops in advance of the works, warning and advisory signage during the closure, additional pedestrian crossings and refuges, providing convenient pedestrian

[25] Drawing CV-CM-325.

[26] Drawing CV-CM-326.

detour routes and temporary access to properties within the construction corridor.

Cycle lane closures and detours

61 Cycle lane closures and detours are likely to result in inconvenience to users and increased exposure of cyclists to traffic.

62 Mitigation measures include letter drops in advance of works, provision of convenient detour routes, installation of signage prior to construction activities to allow cyclists to alter travel patterns, warning signage to alert motorists of cyclists and the use of temporary speed limits.

Property access closures

63 Closures to property access will result in inconvenience to residents and businesses along the route. When a closure to property access is required, a member of the Project team will personally visit the affected resident or business to discuss the impacts of the closure. Other mitigation measures include letter drops prior to construction, provisions of temporary car parking, provision of metal-plate crossings where feasible and safe and the scheduling of works during holidays or low-demand periods.

Shoulder closures

64 Shoulder closures can result in reduced safety, no room for incident management and break downs, and increased congestion. The mitigation measure for these effects is the installation of temporary speed limits.

Lane closures

65 Lane closures (alternating flow operation, contra-flow operation or one-direction closures) can result in inconvenience to road users, reduced traffic capacity, increased side friction, construction activities being visible to motorists (resulting in 'rubber-necking'), and the diversion of traffic onto inappropriate routes such as residential streets, past schools or other sensitive locations.

66 Mitigation for effects of lane closures is focussed around two aspects: first, communication with the public, and second, the installation of barriers, sight screens and secondary detours routes. Communication would include public notification on local and regional newspapers, letter drops to residents and businesses, and the use of variable message signs for recommending alternative routes. The use of alternative routes may result in a need to review and optimise traffic signals on those routes.

Road closures

67 Full roads closures and associated detours during bridge beam placement will significantly increase the time and distance that road users have to travel. The closures will occur overnight, during low

traffic flow to minimise the impact on roads users, with the exception of Mazengarb Road as discussed. Impacts include inconvenience to road users and residents and business within the closed road segment, congestion on detour routes, use of inappropriate alternative routes through residential areas and near schools and other sensitive activities, disconnection of bus routes and access to bus stops.

68 Variable message signs will be installed prior to the closure and on the night to alert road users to the closure and allow them to make early decisions on their choice of route. Letters will be distributed to residential and commercial properties in the area well before the road closure. Personal visits will be made to residents and businesses affected by the closures, along with public notification in local and regional newspapers.

69 Other mitigation measures include scheduling work during school holidays and other low demand times, staging of works, provision of barricades on the approaches to the closed road to prevent public access, provision of access via temporary corridor or narrow lanes for residents and business, where possible.

Over-dimension Routes

70 The NZTA Over-dimension Vehicle Route Maps identify the existing SH1, Marae Lane, Te Moana Road and Ngaio Road as an Over – dimension Vehicle Route. These routes will be maintained throughout the duration of the works and there will be no adverse effects caused to over-dimension vehicles.

Temporary speed limits

71 Reducing speed limits around construction activities can be an inconvenience to road users and can potentially result in non-compliance. Where lower speed limits are used, public notification will occur in local and regional newspapers and speed controlling measures may be put in place such as lane narrowing or the introduction of horizontal curves.

Site Access

72 Where possible site access points will be located off the existing SH1 and in slower speed environments, to minimise impacts on traffic. Typical effects caused by site accesses are reduced traffic capacity, reduced safety due to truck manoeuvring and increased traffic on access roads causing congestion.

73 Site access points on the local network will be designed in accordance with KCDC requirements and will consider appropriate visibility and turning bays for vehicles entering the access. Where the existing pavement cross-section fronting a site access point does not allow for construction vehicles to pull off the through lane before turning into the site, additional pavement will be constructed

to allow this manoeuvre. Construction traffic will also avoid peak traffic flow periods, where possible.

74 A strategy that employs a combination of these mitigation measures will be developed by the NZTA in consultation with affected parties and KCDC prior to the development and approval of the SSTMPs.

CONSTRUCTION VEHICLE MOVEMENTS

75 The construction of the Project will generate periods of significant construction vehicle movements around particular locations in the Project area. I have analysed the increased movements due to construction traffic for each link road and intersection that construction vehicles are expected to use. A comprehensive description of the type of effects anticipated is contained in TR33.

76 My analysis revealed that the adverse traffic effects caused by an increase in construction vehicles will be greatest on the existing SH1/Poplar Avenue intersection (including traffic re-routed from the closed Leinster Avenue intersection), Otaihanga Road, and the existing intersection of SH1 and Otaihanga Road.[27]

Poplar Avenue

77 The potential significant impact on the SH1/Poplar Avenue intersection relates to construction traffic using this intersection during the evening peak period. In my opinion, construction traffic should be required to avoid using this intersection during the evening peak periods, particularly when Leinster Avenue is closed. I am comfortable that this can be managed through the SSTMP process.

Otaihanga Road

78 The main Project office and yard area will be established off Otaihanga Road. The carrying capacity and traffic speed on Otaihanga Road will be affected by the addition of an estimated 535 construction vehicle movements per day. In my opinion, the impact on speed of traffic is likely to be minor. The adverse effect on carrying capacity will be experienced mostly at the existing SH1/Otaihanga Road intersection and at the access point to the yard.

79 The impact of the Otaihanga Road yard access point can be mitigated by installing a clear site access point, including pavement widening and intersection markings in accordance with KCDC requirements.

80 KCDC raised concerns with the Project team over the increased number of construction vehicles on Otaihanga Road and their impact

[27] See Table 5.3 and 5.4 in TR33.

on the maintenance of Otaihanga Road. This issue has been addressed by proposed designation condition DC.24. The NZTA will contribute fair and reasonable costs towards maintenance of Otaihanga Road caused by the increased heavy vehicle movements related to the Project.

Otaihanga Road/SH1 intersection

81 In my view, to mitigate the impact of increased construction traffic through the SH1/Otaihanga Road intersection, the priority control will need to be upgraded to a roundabout intersection before the commencement of the Project. In my opinion, this is an appropriate mitigation measure to maintain the current efficiency and improve operational safety of the intersection.

EFFECTS ON EXISTING PEDESTRIAN AND CYCLE FACILITIES

82 The construction of the Project will affect a number of pedestrian and cycle facilities, mainly associated with Kāpiti Road, Te Moana Road and the river trails.[28] Pedestrian and cycle facilities will be maintained where feasible and safe on each side of the road where current facilities exist.

83 In the case of pedestrians, if it is not possible to maintain the existing facilities, pedestrians will be directed onto the opposite footpath, or onto a temporary path, or detour down an alternative route. As part of the SSTMP, appropriate traffic controls (for example traffic signals, marked crossing, Stop/Go control or pedestrian refuge and pedestrian ramps) will be installed to provide a safe and clear temporary pedestrian route.

84 Cycle routes will be maintained in the existing traffic lanes through the construction area where possible or a temporary cycle route will be established. In addition, temporary speed limits could be installed where appropriate to make it safe for cyclists.

PASSENGER TRANSPORT

85 Most of the Kāpiti Bus routes pass through the Project area, particularly on Raumati Road, Kāpiti Road, Mazengarb Road, and Te Moana Road. As part of the CTMP, the Project work will not stop or significantly impede traffic flow through these routes, except during night closures, where an alternative route will be used. The frequency of bus services is currently low during the night and is expected to remain low during the Project works and hence the impact on these bus services is expected to be minor. Greater Wellington Regional Council and the local bus companies will be made aware of how and when the Project works will affect any route prior to commencement of any construction works.

[28] A full list of affected facilities is provided at section 5.4 of TR33.

86 Some bus stops on Kāpiti Road, Mazengarb Road and Peka Peka Road will be required to be relocated as part of the construction methodology. Suitable locations, pedestrian access, signage, markings and advertising will be agreed with KCDC and Greater Wellington Regional Council, before commencement of construction works in the area.

UTILITIES

87 Traffic management activities to facilitate the utility works will be limited to areas surrounding the proposed Expressway interchanges and bridges. The utility works are expected to be undertaken within the traffic management required for road and bridge construction and in my opinion with no additional traffic effects.

RESPONSE TO SUBMISSIONS

Traffic Effects during Construction

88 Several submitters raise issues associated with construction traffic effects.[29] Many of these submissions raise general concerns about construction traffic effects without providing any specific details. As I have explained in my evidence, and in TR33, the CTMP and SSTMPs describe the process for managing the potential traffic effects. I am confident that the effects will be satisfactorily mitigated through the proposed designation conditions.

89 Various submitters[30] raise issues over the potential effects of detour routes. As outlined in paragraphs 67-68 of my evidence road closures and detours will be managed through the development of a SSTMP, and I have explained the typical mitigation measures. I am confident the adverse effects associated with detours can be satisfactorily mitigated through the proposed designation conditions and management plans.

90 Some submitters[31] raise an issue over the use of the designation route as a haulage road. In my opinion, using the designation route will reduce the number of construction vehicles of local roads and result in the early construction of the bridges.

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29 Bunch (0124), Mansell (0203), McCarroll (0269), Pomare (0309), Saxby and Mountier (0327), P Sisarich (0328), W Sisarich (0331), W and P Sisarich (0332), Laing (0337), I Mackey (0402), R Mackey (0404), Waterhouse (0432), K Pomare (0465), Lattey (0466), R Love (0470), Waikanae Property Development Ltd (0474), Whibley (0482), Kieboom (0494), Save Kapiti Incorporated (0505), Short and Schwass (0531), Z Beechey Gladwell (0597), Smith (0602), W Love (0606), N & R Neison (0619), M O'Sullivan (0675), M and J Anderson (0678), Peters (0693), Raumati South Resident Association Inc (0707) and Wood (0723).

30 R Love (0470), Kieboom (0494), W Love (0606) and K Saint (0607).

31 Pomare (0309), Short and Schwass (0531), and M O'Sullivan (0675).

Effects on Waikanae River Trail during Construction

91 Submitters[32] raise issues with the width of El Rancho access under the Waikanae River bridge and the use of the Puriri and Kauri Roads by construction vehicles and effects of the river trail.

92 The El Rancho access is an operational issue and is discussed in the evidence of **Mr Murray**. Access to the worksite between Waikanae River and Te Moana Road (including the north bank of the Waikanae River) will be via the Expressway route from Te Moana Road. Only light traffic, such as a supervisor's vehicle, is expected to use the Greenaway Road/Puriri Road/Kauri Road access route.

93 In my paragraphs 44-46 I have explained the effects on the Waikanae River Trail and the mitigation proposed. I am confident that the CTMP and SSTMP will manage the potential effects on the Waikanae River Trail.

Effects on Wharemauku Stream Trail during Construction

94 One submitter[33] raises issues regarding the retention of the Wharemauku Stream trail during construction. I have addressed the Wharemauku Stream Trail in paragraph 35 of my evidence. The trail will be temporarily diverted around the construction area and this will be covered by the SSTMP process.

Pedestrian and Cycle effects during Construction

95 Various submitters[34] raise issues related to pedestrians and cyclists through construction areas. I have discussed the impacts on pedestrians and cyclists throughout my evidence and do not propose to repeat that assessment here, except to say that I am confident the effects will be satisfactorily mitigated through the proposed process.

Accessibility

96 Some submitters[35] raise concerns related to the accessibility to the local road network during construction, with a particular focus on Poplar Avenue and Raumati Road.

97 I can confirm that all road links and their existing capacity will be maintained during construction. The development of the SSTMPs will ensure accessibility is maintained and any road closures would

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[32] P Sisarich (0328), W Sisarich (0331), W and P Sisarich (0332), Laing (0337), Lattey (0466), Waikanae Christian Holiday Park Inc (0477), and Implementation Group of KCDC Advisory on CWB (0485).

[33] Kapiti Cycling Incorporated (0601).

[34] Watson (0241), Kapiti Cycling Incorporated (0601), N & R Neison (0619), Kāpiti Coast District Council (0682) and Raumati South Residents Association (0707).

[35] Saxby and Mountier (0327), T Daniell (0417), Paraparaumu Raumati Community Board (0501), and K Saint (0607).

only be for a short period during low traffic flow and detours would be put in place.

Paraparaumu Medical Centre (0521)

98 Paraparaumu Medical Centre has identified a number of issues that would make operating the facility during construction of the Expressway very difficult. Due to the proximity of the Medical Centre to the proposed Kāpiti Road interchange the existing access cannot be maintained.

99 **Mr Andrew Quinn** addresses this submission in his evidence and explains that the NZTA are working with the owners of this property.

Metlifecare Kāpiti Ltd (0608)

100 This submitter has raised concerns relating to construction noise (addressed in the construction noise evidence of **Ms Wilkening**). As a result, I have been asked to comment on the possibility of installing the Mazengarb Road bridge beams during the day. This would involve closing Mazengarb Road between the hours of 9am and 3pm for no more than five days. This could be managed through the SSTMP for the site, and as outlined in my evidence, the construction programme would endeavour to carry out these works during a school holiday period to minimise the impact on the Paraparaumu College.

101 I have had the opportunity to model this revised scenario. Based on the Kāpiti 2016 interpeak Traffic model, the closure of Mazengarb Road would divert traffic to Guildford Drive, Ream Drive and Te Roto Drive. The model indicated that traffic would be estimated to increase by between 70 and 90 vehicles per hour (less than 2 vehicles per minute). In my opinion, based on the modelling, the Mazengarb Road bridge beams could be installed during the day, under temporary road closure and detour, with minimal impact on the local road network.

Kāpiti Coast District Council (0682)

102 The KCDC submission raises the following construction traffic related issues:

102.1 The inclusion of safe, adequate and convenient facilities for local movement by all transport modes (including facilities of both sides of the road for pedestrian and cyclists). Twenty four hour access also needs to be provided for all emergency services through construction works areas.

102.2 Restitution proposals for impacts on local roads to be agreed by the Council prior to any construction works being undertaken

103 In my view, the CTMP and SSTMP process that I have described in my evidence will provide for safe and adequate movement by all transport modes. Twenty four hour access will be provided at all times, and when road closures are proposed a detour will be available. The SSTMP process set out in proposed designation condition DC.18 requires consultation with KCDC and proposed condition DC.19 requires consultation with emergency services before preparation of the SSTMP. I am confident that the effects will be satisfactorily mitigated through these proposed processes.

104 As outlined in paragraph 113 of my evidence below, I have recommended that proposed designation condition DC.24 be split into two separate conditions and I am of the opinion that these two separate conditions appropriately address the restitution issue raised by KCDC. The NZTA will be required to contribute fair and reasonable costs towards repair of damage to roads resulting from the construction of the Project.

RESPONSE TO SECTION 149G(3) KEY ISSUES REPORT

105 I have read the section 149G(3) key issues reports prepared by KCDC and Greater Wellington Regional Council. The KCDC report identifies the impact of the Expressway during the construction phase on the ability of the local road network to operate efficiently and on pedestrian and cycle access across the proposed Expressway.[36] These issues have been addressed throughout my evidence and I do not propose to repeat them here.

PROPOSED CONDITIONS DC.17 - DC.25

106 Proposed designation conditions DC.17 – DC.25 are directly related to construction traffic. I support these conditions as the appropriate means to manage any adverse construction traffic effects. A copy of the conditions is attached to my evidence as **Annexure C**. I suggest a minor amendment to proposed designation condition DC.24, explained below and also shown in **Annexure C**.

DC.17

107 DC.17 requires the Construction Traffic Management Plan to be finalised and submitted to KCDC 15 working days prior to construction. The Construction Traffic Management Plan outlines structure, requirements and approval process for the SSTMPs associated with each construction activity. It also outlines the process for monitoring the implementation of the Site Specific Traffic Management Plans and the roles and responsibilities of each organisation.

[36] Pages 12 and 39 of the KCDC Key Issues Report, 8 June 2012.

DC.18 and DC.19

108 DC.18 and DC.19 set out the requirements for SSTMPs and the key stakeholders who will be consulted prior to development of the SSTMPs. DC.18 b) defines a "minor" SSTMP involving works of 5 or fewer days in duration and a "major" SSTMP involving works of more than 5 days in duration. A minor SSTMP must be provided to KCDC at least 5 working days before commencement of work; a major SSTMP must be provided to KCDC at least 10 working days before commencement of work. In my opinion, these definitions and time frames are appropriate.

DC.20

109 DC.20 states that the CTMP and the SSTMPs shall be consistent with the NZTA Code of Practice for Temporary Traffic Management and where is is not possible to adhere to this standard the prescribed Engineering Exception Decision process will be followed. In my opinion this is the correct process to follow.

DC.21

110 DC.21 provides that the CTMP and the SSTMPs be reviewed by a suitable qualified independent person prior to be submitted to the Council for certification. In my opinion this is the correct process to follow.

DC.22

111 DC.22 requires the NZTA to appoint an independent party to carry our random auditing of temporary road closures at regular intervals throughout the Project construction. A copy of the audit will be provided to KCDC.

DC.23

112 DC.23 requires the NZTA to undertake a pre-construction condition survey of the carriageways along those local roads affected by the Project for which KCDCis the road controlling authority. The purpose of this condition is to establish the current baseline condition of these roads.

DC.24 – with recommended amendments

113 DC.24 contains two separate obligations on the NZTA. The first is to contribute fair and reasonable cost towards the maintenance of Otaihanga Road caused by increased heavy vehicles movement during the Project construction. The second requires the NZTA to carry out regular inspection of the road networks affected by the Project construction to ensure that all potholes and other damage resulting from the construction of the Project are identified.

114 My concern with this condition is that the second obligation does not require the NZTA to fix the damage identified and does not specify that the NZTA will contribute to the fair and reasonable cost. I

would prefer DC.24 to be split into two separate conditions and amended as follows (new text underlined):

> *DC.24 The Requiring Authority shall contribute fair and reasonable costs towards the maintenance of Otaihanga Road caused by the increased heavy vehicle movements related to the construction of the Project.*
>
> *DC.24A The Requiring Authority shall carry out regular inspections of the road networks affected by the Project during construction to ensure that all potholes and other damage resulting from the construction of the Project are identified as soon as practicable. <u>The Requiring Authority shall contribute fair and reasonable costs towards repair and maintenance of potholes and other damage resulting from the construction of the Project.</u>*

DC.25

115 DC.25 requires the NZTA to undertake a post-construction condition survey of the road network affected by the Project and undertake remediation works where damage has resulted from the impact of construction of the Project. The post-construction survey will be compared to the pre-construction survey required under DC.23.

116 In my opinion proposed designation conditions DC.23, DC.24 and DC.25 identify and provide for the correct process to address impacts on the local road network from construction of the Project.

CONCLUSIONS

117 In my opinion, the traffic effects during construction can be appropriately managed and mitigated to an acceptable level based on the methodology outlined in the CTMP. The effects are not anticipated to be greater than or unusual compared with other major road construction projects completed in the Wellington region in the last ten years.

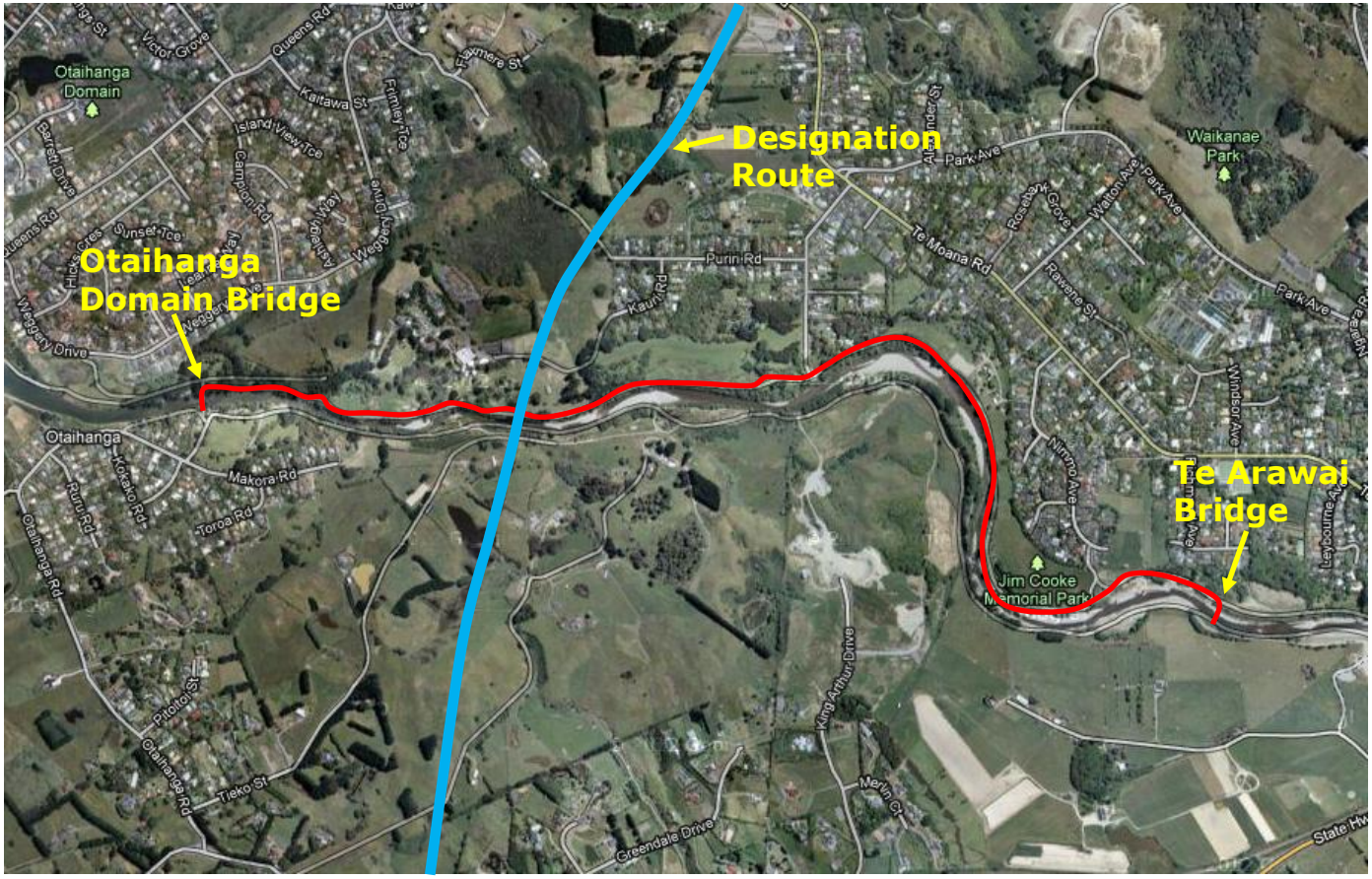
118 In my opinion, the proposed management plans will satisfactorily avoid, mitigate or remedy the temporary traffic effects of the Project, which will be limited to the duration of construction. Co-ordination will be required between the NZTA, affected parties and the Road Controlling Authorities (KCDC) during the preparation of the SSTMPs.

119 I have read the submissions raising construction traffic issues, and confirm my opinions are unchanged.

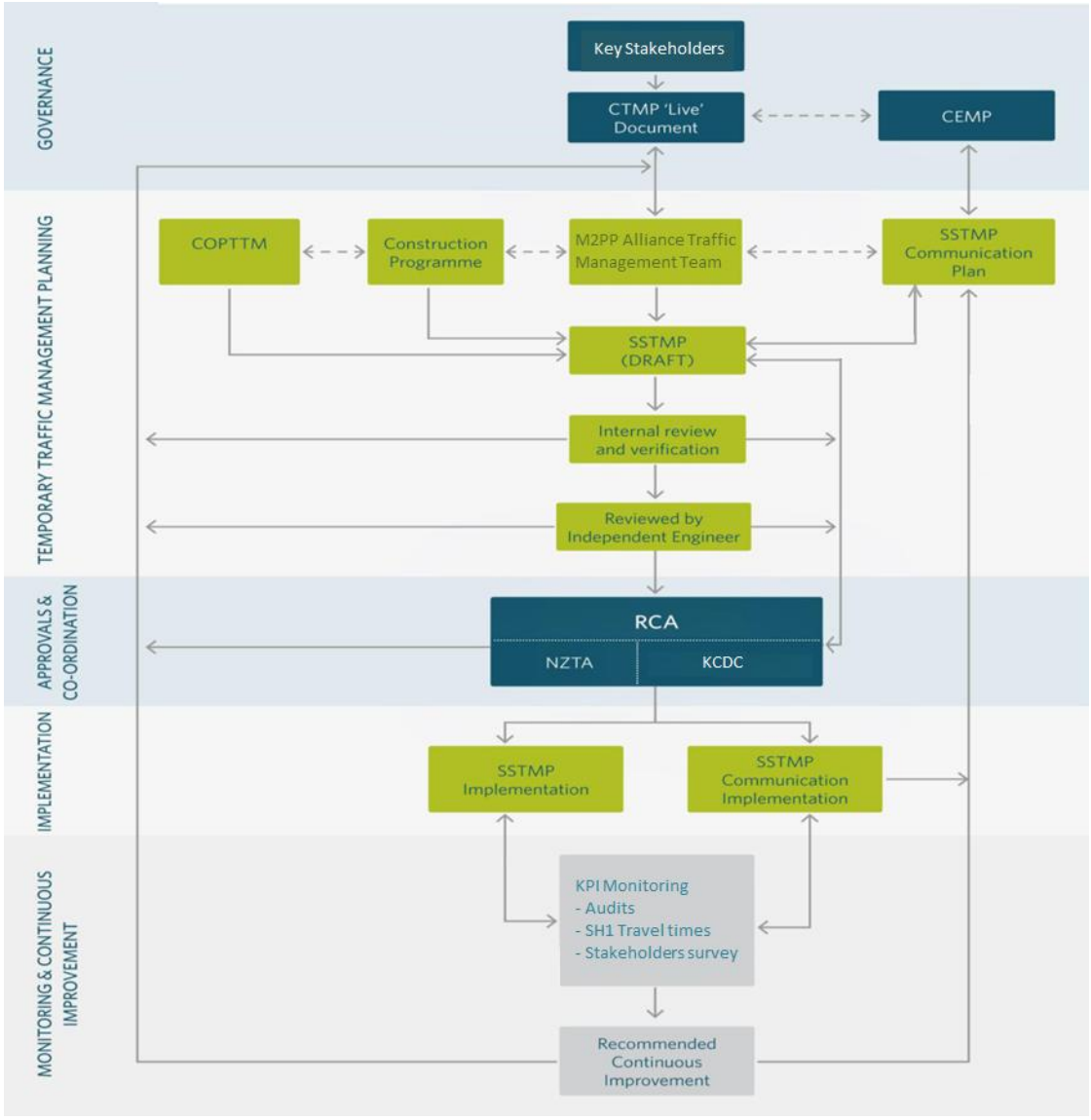
120 The desired outcomes will be achieved, in my opinion, through the proposed conditions, subject to the minor modification I have recommended.

Stephen Hewett
4 September 2012

ANNEXURE A–IMPACT OF CONSTRUCTION OF THE WAIKANAE RIVER BRIDGE ON THE RIVER TRAILS



ANNEXURE B–TRAFFIC MANAGEMENT PLAN (TMP) PROCESS



ANNEXURE C: PROPOSED DESIGNATION CONDITIONS RELEVANT TO CONSTRUCTION TRAFFIC

	Construction Traffic Management Plan
DC.17	a) The draft Construction Traffic Management Plan (CTMP) submitted with the application (dated XXX 2012) shall be updated, finalised and submitted to the Manager for certification, at least 15 working days prior to commencement of construction of the Project. b) The certified CTMP shall confirm the procedures, requirements and standards necessary for managing the traffic effects during construction of the Project.
DC.18	a) Site Specific Traffic Management Plans (SSTMP) shall be prepared in consultation with the Kāpiti Coast District Council and provided to the Kāpiti Coast District Council nominated person at least 5 working days for a "minor" SSTMP and at least 10 working days for a "major" SSTMP prior to the commencement of work in that area, and shall describe the measures that will be taken to manage the traffic effects associated with the construction of specific parts of the Project prior to construction of the relevant part(s) of the Project commencing. In particular, SSTMPs shall describe, where appropriate: i) Temporary traffic management measures required to manage impacts on road users during proposed working hours; ii) Assessment of delays associated with the proposed closure/s and detour routes; iii) The capacity of any proposed detour route(s) and their ability to carry the additional traffic volumes likely to be generated as a result of the construction of the Project and any known safety issues associated with the detour route, including any mitigation measures the Requiring Authority proposes to put in place to address any identified safety issues; iv) Measures to maintain existing vehicle access to adjacent properties and businesses; v) Measures to maintain safe and clearly identified pedestrian and cyclist access on roads and footpaths adjacent to the construction works. Where detours are necessary to provide such access the Requiring Authority shall provide for the shortest and most convenient detours which it is reasonably practicable to provide, having regard to safety; vi) Measures to maintain passenger transport services and facilities;

	vii) Any proposed temporary changes in speed limit; viii) Provision for safe and efficient access of construction vehicles to and from construction site(s); ix) The measures that will be undertaken by the Requiring Authority to communicate traffic management measures to affected road users and stakeholders. b) For the purposes of this condition, a "minor" SSTMP shall be defined as involving works of 5 or fewer days in duration, and a "major" SSTMP shall be defined as involving works of more than 5 days in duration.
DC.19	a) SSTMP(s) shall be prepared following consultation with the following key stakeholders: i) Emergency services (police, fire and ambulance). ii) Public health services iii) Schools, childcare centres and other educational activities with frontage or access to roads which works in relation to the Project will take place. b) Results of this consultation and responses from key stakeholders to any matters should be specified in the relevant SSTMP.
DC.20	The CTMP and SSTMP(s) shall be consistent with the version of the NZ Transport Agency Code of Practice for Temporary Traffic Management (COPTTM) which applies at the time the CTMP or the relevant SSTMP is prepared. Where it is not possible to adhere to this standard, the COPTTM's prescribed Engineering Exception Decision (EED) process will be followed, which will include appropriate mitigation measures agreed with the Road Asset Manager.
DC.21	The CTMP and SSTMP(s) shall be reviewed, by a suitably qualified independent person, prior to being submitted to the Council for certification. Any comments and inputs received from the independent reviewer shall be clearly documented, along with clear explanation of where any comments have not been incorporated and the reasons why.
DC.22	The Requiring Authority shall appoint an independent party to carry out random auditing of temporary road closure/s in accordance with COPTTM at regular intervals throughout the construction of the Project. The intervals shall be stated in the CTMP. A copy of the findings of each audit shall be provided to the Manager.
DC.23	Prior to the commencement of the Project, or any enabling works, the Requiring Authority shall undertake a pre-construction condition survey of the carriageway/s along those local roads affected by the Project for which the Council is the road controlling authority and submit it to the Manager and the

	Roading Asset Manager. The condition survey shall consist of a photographic or video record of the carriageway, and shall include roughness, rutting defects and surface condition.
DC.24	The Requiring Authority shall contribute fair and reasonable costs toward the maintenance of Otaihanga Road caused by the increased heavy vehicle movements related to the construction of the Project.
DC.24A	The Requiring Authority shall carry out regular inspections of the road networks affected by the Project during construction to ensure that all potholes and other damage resulting from the construction of the Project are identified as soon as practicable. The Requiring Authority shall contribute fair and reasonable costs towards repair and maintenance of potholes and other damage resulting from the construction of the Project.
DC.25	As soon as practicable following completion of construction of the Project the Requiring Authority shall, at its expense, conduct a post-construction condition survey of the road network affected by the Project. The results of the pre and post construction surveys will be compared and where necessary, the Requiring Authority shall at its expense arrange for repair of any damage to the carriageways and footpaths (and associated road components), for which the Council is the road controlling authority, where that damage has resulted from the impacts of construction of the Project.