M2PP-121-D-PLNM-0003

Site Specific Management Plan 003 - [sectors 360/370/380]
MacKays to Peka Peka Expressway

01 SEPTEMBER 2014 - CERTIFIED ISSUE - REV C

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

SITE SPECIFIC MANAGEMENT PLAN - WHAREMAUKU BASIN [SSMP 3 - SECTOR 360, 370, 380]

For the purposes of the SSMP certification it is assumed that the consent conditions for the MacKays to Peka Peka Expressway, as determined by the Board of Inquiry under Section 149R of the Resource Management Act (1991) will be read in conjunction.

SSMP Exclusions or omissions:

- *If there are discrepancies between master plans and the detailed planting plans the detailed plans take precedence.*

1.0 SSMP REVISION HISTORY			
REVISION NO:	DATE:	STATUS:	ISSUED TO:
REV A	10.07.2014	Draft for review	KCDC
REV B	04.08.2014	Issue for certification	KCDC
REV C	01.09.2014	Certification issue	KCDC

2.0 SSMP CERTIFICATION DETAILS POSITION				
PREPARED BY M2PP ALLIANCE	NAME:	POSITION:	SIGNATURE:	DATE:
	Bron Faulkner	Landscape Architect		05.08.14
	Frazer Baggaley	Urban Design		05.08.14
	Matiu Park	Ecologist		05.08.14
	Steve Dunn	Landscape Architect		05.08.14
M2PP ALLIANCE APPROVAL	NAME:	POSITION:	SIGNATURE:	DATE:
	Doug Stirrat	Sector Manager		05.08.14
	Peter Bradshaw	Design Manager	pp P. Bradshaw	06.08.14
	Dennis Hunt	Technical Director		06.08.14
	Malory Osmond	Consents/Compliance Manager		05.08.14
CERTIFICATION	NAME:	POSITION:	SIGNATURE:	DATE:
Reviewed by Julia Williams, Landscape, KCDC. Deyana Popova, Urban Design, KCDC	Andrew Guerin	KCDC		01.09.14

2.1 POST CERTIFICATION CHANGES							
DRAWING/PAGE TITLE:	DRAWING NUMBER:	DRAWINGS STATUS:	REVISION NO:	DESCRIPTION OF CHANGE:	ISSUED TO:	CERTIFIED BY:	DATE:
SHEET 26 - CWB sign type summary	M2PP-121-D-DWG-8901	Revision/Update	D	Signs updated to include horse symbol- All CWB signs to be updated as per this sheet	KCDC		3.5.16
Kapiti Road interchange planting plan SHEET 1	M2PP-38R-D-DWG-8201	Revision/Update	2	Removed planting in median strip (supersedes all other drawings that may show planting)	KCDC		3.5.16
Kapiti Road interchange planting plan SHEET 2	M2PP-38R-D-DWG-8202	Revision/Update	2	Removed planting in median strip (supersedes all other drawings that may show planting)	KCDC		3.5.16
Kapiti Road interchange planting plan SHEET 3	M2PP-38R-D-DWG-8203	Revision/Update	2	Removed planting in median strip (supersedes all other drawings that may show planting)	KCDC		3.5.16
Kapiti Road interchange planting plan SHEET 4	M2PP-38R-D-DWG-8204	Revision/Update	2	Removed planting in median strip (supersedes all other drawings that may show planting)	KCDC		3.5.16
SSMP 3 SHEET 28 - Type 1 CWB entrance detail	M2PP-121-D-DWG-8802	New Sheet added	A	CWB entrance structures- design change to precast units. To replace Type 1 on sheet 18	KCDC		3.5.16
SSMP 3 SHEET 29 - Te Atiawa Column Design	M2PP-121-D-DWG-8803	New Sheet added	A	Page added to illustrate Te Atiawa design to be applied to Kapiti bridge columns (sand blasted etching)	KCDC		3.5.16

SITE SPECIFIC MANAGEMENT PLAN WHAREMAUKU BASIN [SSMP 3 – SECTORS 360, 370, 380]
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1. SSMP CERTIFICATION DETAILS		Signature	Date
PREPARED BY M2PP ALLIANCE:	Bron Faulkner (Landscape Architect)		5.8.2014
	Frazer Baggaley (Urban Design)		05/08/2014
	Matiu Park (Ecologist)		05/08/2014
	Steve Dunn (Landscape Architect)		05/08/2014
M2PP ALLIANCE APPROVAL	Doug Stirrat (Sector Manager)		5/8/14
	Peter Bradshaw (Design Manager)	pp P. Bradshaw	6 August 2014
	Dennis Hunt (Technical Director)		6 August 2014
	Malory Osmond (Consents Manager)		5/8/2014
CERTIFICATION	**Andrew Guerin (KCDC) [Reviewed by Julia Williams, Landscape Architect and Deyana Popova, Urban Designer]**		1/9/2014

2. INTRODUCTION

A. PURPOSE

The consent conditions for the MacKays to Peka Expressway, as determined by the Board of Inquiry under Section 149R of the Resource Management Act (1991), set out the matters to be covered in the Site Specific Management Plans (SSMP).

A total of 11 SSMPs will be prepared that address all the required sectors of the Expressway. The level of detail in the SSMP varies according to whether landscape, ecology or urban design aspects are being addressed and the nature of the environment the Expressway traverses at any particular point.

The purpose of the SSMP is to assist the implementation of the applicable management plans by providing site specific detailed design and construction responses to address specific context and environmental conditions and circumstances of each applicable sector of the route and in accordance with the staging identified in the programme. Each SSMP must be consistent with, and be implemented in accordance with, the respective Management Plan and consent conditions.

This document (including Appendix 1 Plans) incorporates interrelated SSMPs, covering landscape, urban design, and cycle, walking and bridleway (CWB). The intention of combining these SSMPs is to ensure integration between all disciplines, maximise the benefits of mitigation works within each sector and to reduce reporting and monitoring requirements. The consent conditions (DC.64) also require the preparation of a Network Integration Plan (NIP). This SSMP shall address the requirements of DC.64 a) and b) ii) as they relate to the details of the CWB.

SSMPs are to be prepared in consultation with various stakeholders including iwi, interest and residents' groups as directed by conditions. Appendix 2 describes the matters raised in consultation and the responses made.

The SSMPs have been prepared through an iterative process to allow discussion between the Alliance and certifiers. This has included further advancement of design in response to feedback on the preliminary issue. The aim will be to establish and agree as much of the landscape, ecology, urban design and CWB design through the initial 'confirmation of design' phase (refer to section D below) to give the best possible definition to the Project design elements as early as possible.

Note: this SSMP does not include any ecological mitigation requirements. The Wharemauku / Drain 7 SSEMP Site mitigation requirements set out in the Ecological Management Plan (Figure 6) are located south of this area in Sector 350 and will be detailed in the appropriate SSEMP.

B. GENERAL PROJECT DESCRIPTION

REFER APPENDIX 1 SHEETS 1, 2, 3, 4, 5

This SSMP covers the area of the Expressway from the southern side of the Wharemauku Stream to the Kāpiti Road interchange including the on/off ramps (800m north of Kāpiti Road). This SSMP addresses the following key elements:

- Wharemauku Stream Expressway split-deck bridge, with rip rap under bridge deck.
- Excludes the CWB bridge over the Wharemauku Stream, this will be included in SSMP 2.
- Timber noise fences on residential property boundaries on the west side of the Expressway between Wharemauku and Kāpiti roads.
- Full interchange at Kāpiti Road including Expressway ramps, split deck bridge, and abutments
- Form and finish of concrete noise walls
- New CWB on the west side of the Expressway.
- New CWB connection at Kāpiti Road. (the new connection to the existing CWB on the south side of Wharemauku Stream will be designed with the pedestrian stream bridge as part of Sector 350 & SSMP2)
- Lighting of CWB, under bridge and interchange ramps.
- Widening of Kāpiti Road in the vicinity of the Expressway, to integrate with future upgrades planned by KCDC.
- Planting of stormwater treatment wetland 4 and storm water swales.
- Mass planting of indigenous species along Expressway and cycleway, with more formalised civic planting at interchange.

C. SSMP EXISTING AREA DESCRIPTION

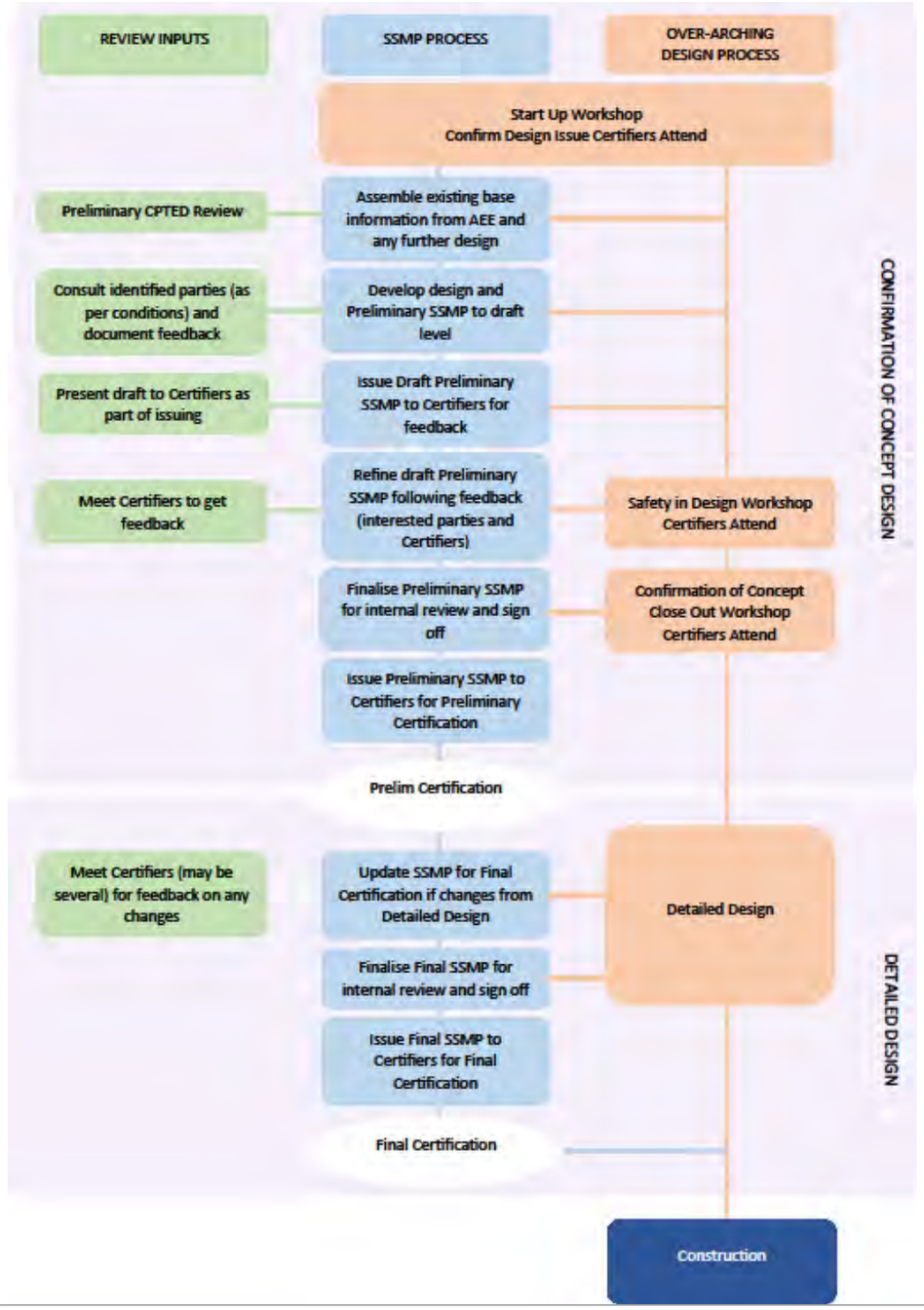
REFER APPENDIX 1 SHEETS 2, 3, 4, 5 AND ULDF SECTION 3.10

- The channelised Wharemauku Stream is a significantly modified stream that is characterised by steep banks, lack of riparian vegetation, and a straight alignment (that is maintained by KCDC to manage flood hazards along the stream and upstream). An existing CWB is located on the south of the Stream.
- The Expressway cuts through an area of dunes just north of Wharemauku Stream.
- Residential properties bound most of the western side of the Expressway designation between Wharemauku Stream and Kāpiti Road (Midlands Subdivision). The eastern side of the designation is undeveloped land.
- Kāpiti Road crosses the designation and is subject to current and future upgrade works by KCDC. Industrial development occupies the land both north and south of Kāpiti Road on the west side of the expressway where the interchange will be. On the eastern side residential development extends all the way between Kāpiti and Mazengarb Roads.
- The Expressway designation between Kāpiti and Mazengarb Roads is relatively narrow (about 100m wide) with residential properties immediately adjacent on both side for much of its length.
- While there is still an area of undeveloped land at the intersection of Kāpiti Road and the Expressway the area is in the heart of Paraparaumu Commercial and residential areas, and consequently comprises an urban environment.
- Upstream areas of the Wharemauku Stream are significant flood plain storage that will preclude significant urban development

D. PROCESS

DIAGRAM 1 – SSMP DEVELOPMENT PROCESS

The process followed in preparing the SSMPS has followed is described in Diagram 1 below.



E. CONDITIONS OF CONSENT [SUMMARY]	**General** • Requirement to develop Site Specific Management Plans (SSMPs) for landscape and urban design purposes (DC.7), ecological purposes (G.42C), and CWB (DC.59A g). **Landscape** • Condition DC57(f) lists the matters to be provided and in summary includes: - Vegetation to be retained; - Vegetation protection measures; - Proposed Planting (including the stages) - Fernbird habitat created; - Maintenance standards; - Detailed specifications; - A maintenance regime; - Landscape treatment of any noise barriers; - Landscape treatment for pedestrian and cycle facilities. **Ecology** • An SSEMP is not required for SSMP 3 • SSEMPs are to be prepared for each ecological mitigation area set out in Condition G42. • There are no ecological mitigation areas identified in this SSMP 3 area. **Urban Design** • Condition DC.59A e) requires SSUDPs to be prepared for locations where the Expressway interacts with local vehicular and non-vehicular pedestrian/cyclist movement. • DC.59A f) lists the matters to be provided and in summary includes detailed design of for the benefit of pedestrians, cyclists and others: - Lighting; - Footpath and on-road cycle lane design (1.5m on road and 2.0m footpaths); - Safe crossing points for CWB; - Visual treatment of structures and landscape (retaining walls, noise mitigation structures and landforms); - Local property access; - Landscape treatment (LMP and SSMLPs); - Bridge piers, riprap and abutment design (location of piers, scale and materials); - Signage; • ConditionDC.59A g) requires preparation of a SSUDP for the Cycleway, Walkway and Bridle (CWB) path network and include: - Final alignment and form of CWB. - Provision for a 3.0m wide two-way path - Connections - Boardwalks; - Lighting, safety provisions for crossing of local roads - CPTED review. Network Integration Plan Condition DC.64 a) in relation to the CWB; Condition DC.64 b) ii) in relation to lighting.

	• Condition DC. 59A i) requires that the following matters shall be considered as part of the development of the SSUDP…: *(iv) Ihakara extension/Wharemauku Stream* 1. *Safety of pedestrian and cycle crossing at the future local road Ihakara Street Extension* 2. *Provision for future road connection in relation to the Wharemauku Stream and CWB* 3. *Gradient and direction of CWB in relation to the slope up to Milne Drive* *v) Kāpiti Road* 1. *Development of a distinctive gateway in terms of the bridge form, and legibility of connections to the future town centre development* 2. *Wetland and designated land on Kāpiti Road being integrated with this gateway design as a transitional space between the Expressway and town centre* 3. *Future upgrades to Kāpiti Road and the safety and convenience of the walking and cycling crossings for the upgraded Kāpiti Road* 4. *Provision of a safe and convenient walking link between Kāpiti Road and Makarini Street (via Makarini Street Reserve)*
3. CONSULTATION	• The preparation of the SSLMP and SSUDP (under Conditions DC.57 e), DC.57A, G42 d) and DC.59A j)) requires consultation with the following parties: - Te Āti Awa ki Whakarongotai; - Kāpiti Coast District Council (KCDC). - Friends of Wharemauku Stream - Kāpiti Cycling Incorporated and the Implementation Group of the Kāpiti Coast District Council Advisory on Cycleways, Walkways and Bridleways in respect of the CWB and any cycle or pedestrian connections. - Relevant Landscape focus areas DC 57A a) Detailed below SSMP 3 contains two Landscape Focus Areas *When developing landscape design solutions as part of preparing the SSLMP's, the Requiring Authority shall undertake consultation with residents whose properties are located close to the Expressway in the following Landscape Focus Areas (identified for their sensitivity to visual effects):* *ii) Eastern side of the designation between Kāpiti Road and Mazengarb Road including Greenwood Place, Elder Grove, Cypress Grove, Spackman Crescent, Makarini Street, Palmer Court, St James Court and Chilton Drive;* *v) Milne Drive through to Quadrant Heights;*

4. URBAN DESIGN	CONDITIONS – URBAN DESIGN	RESPONSES – URBAN DESIGN
A. LIGHTING REFER APPENDIX 1 SHEETS 21-24	DC.59 f) i) Lighting for the benefit of pedestrians and cyclists DC.64 a), b), ii) integration with local network	The CWB will be lit by overhead lights. The light pole, luminaire detail and pole spacing will be finalised for the whole project at the end of detailed design. The Expressway and ramps will be lit over the extent of the interchange. Light pole spacing will enable the Expressway bridge to be lit from either end with no light poles required on the bridge itself. Kāpiti Road is currently lit and there will be lighting under the Expressway bridge for pedestrian and road user safety. Architectural lighting under the bridge will also highlight the underside of the bridge deck and abutment faces to enhance the aesthetics and experience of the under bridge environment.
B. CWB REFER TO APPENDIX 1 SHEETS 2-6, 10, 20 45,26 ALSO REFER TO CPTED CONSIDERATIONS SHEET 2&3	DC.59A f) ii) and iii) and DC59A g), DC.59A i) xi) and DC.57 c) DC.64 a), b), ii). • Footpath and on road cycle lane on-road (2.0m and 1.5m) • Intersection of the CWB and Local Roads to be safe for crossing • Alignment of CWB • Provision for a 3.0 m wide two way path that is generally parallel with Expressway • Locations for connections (immediate and future) • Boardwalks • Lighting and safety provisions for local road crossings • CPTED review	CWB is aligned between the Expressway and residential properties to the west. It is comprised of a formed 3.0 m wide (chip seal) section and where practicable a grass verge of up to 1.0m wide for horse riders. The south end of the CWB will connect to the existing CWB that runs along the south side of the Wharemauku Stream. The Wharemauku Stream CWB bridge and connection are not included in SSMP 3 (see SSMP 2/ Sector 350). A series of low gabion blocks (700mm high) at the intersections of the CWB and Kāpiti Road, signal the imminent crossing point as CWB users approach the intersection and also mark the CWB entry point for people using Kāpiti Road. Details of the intersections are shown on Sheets 20 . Low planting will be established adjacent to the gabion blocks. Independently operated cycle lights and pedestrian lights will provide a controlled CWB crossing across Kāpiti Road for either cyclists or pedestrians. The same controlled crossings will be provided for the shared path on the south side of Kāpiti Road where it crosses the south bound on ramp and northbound off ramp. Planting will generally be kept at low heights adjacent to the CWB to maintain sightlines along the CWB. At isolated locations, as requested by immediate residential neighbours, taller vegetation will be planted to provide visual screening. In addition to CWB an additional pedestrian link will be constructed on the north side of Kāpiti Road on the east of the expressway, linking Kapiti Road and Makarini Street (via the Makarini Street reserve). (DC.59A e) iv The CWB will be lit but the Makarini pedestrian link will not be lit. (see C Lighting) An initial CPTED review of the project identified the key design considerations: • No tall elements that could create ‘outside rooms’ or places to hide. • Clear sight lines at intersections. • Ensure clear views to the exits of CWB. • Remove tall vegetation from CWB intersections • Low planting adjacent to CWB (3-5m wide strip for the majority of the CWB) and at bridge abutments.

		• The 'tagability' of surface materials. A CPTED assessment of this SSMP has subsequently been completed and considers the design meets the CTPTED requirements.
C. RETAINING WALLS AND NOISE MITIGATION STRUCTURES REFER TO APPENDIX 1 SHEETS 14-19	DC.59A f) iv) Retaining wall structures, in terms of their scale, and materials and noise mitigation structures and landforms in terms of their fit in the landscape and visual treatment.	The noise mitigation structures in this SSMP. • 1.1m concrete barriers on the bridge (1.1m TL 4 road barriers). • Planted earth noise bund on west side north of Wharemauku Stream • 2.0m high timber noise fences for properties between Milne Drive and Quadrant heights. • 3.0 and 2.0m high concrete noise walls are constructed as separate walls located 400mm back from the TL4 barrier. The concrete noise walls comprise concrete panels fixed to H beam posts at approximately 3.0m centres. Design of the concrete noise walls has considered the aesthetics of both sides, the Expressway and non-Expressway. Generally, planting will be established on the non-Expressway side of the noise walls, particularly the taller ones, to visually interrupt the mass of the walls for pedestrians and neighbours. Each of the residential neighbours where the timber noise fence will be built has been visited and the details of the fence discussed. There are no retaining walls in these sectors apart from the bridge abutments which are addressed elsewhere.
D. LOCAL PROPERTY ACCESS REFER TO APPENDIX 1 SHEET 3,9 & 11	DC.59A f) v) Local property access to provide for existing and future needs	Access to properties with existing access to Kāpiti Road will be maintained.
E. BRIDGE ABUTMENTS REFER TO APPENDIX 1 SHEET 7,12, AND APPENDIX 3	DC.59A f) iv) Bridge piers and abutments design to address the location of piers and the treatment of abutments to address their scale and materials	Detail of both bridge designs and finishes are in Appendix 3, which also notes design changes since NOR /AEE documentation. The Wharemauku Stream bridge has been designed to accommodate a proposed future local road which will pass under the Expressway beside the Wharemauku Stream. The bridge consists of two separate decks supported by two columns each, one either side of the steam. The south abutment, adjacent to the existing CWB, is inclined at a 2:1 batter, and the north abutment is vertical. Exposed aggregate precast panels will face the abutments, reflecting and relating to the materials and texture of the riprap under the bridge. Riprap to protect the bridge abutments and columns, will be installed in all areas under the bridge decks, extending 1.5m min beyond the bridge deck extent. The Kāpiti Expressway bridge consists of two separate decks each supported with two central columns. The bridge abutments will be faced with precast concrete panels (2:1 batter) with 45 degree diagonal formliner surface texture. The concrete panels will be finished with fair faced concrete with Kiem white wash and graffiti guard as for the bridge barrier. A narrow concrete vertical boarder between the panels provides a potential space to incorporate surface patterning if required. This bridge is the most urban of all the project's bridges and will have the highest use for motorists and pedestrians. Therefore the abutment and under bridge treatment differs from the other Expressway bridges to make this a distinctive element of the journey

		along Kāpiti Road. As such, the abutment facing presents a light coloured clean and refined surface that provides textural interest both day and night. Architectural feature lighting under the bridge deck will further enhance the under bridge environment and visual amenity by minimizing a potentially dark cavernous space. The 3.0m wide gap between the two bridge decks allows a shaft of light into the 27.0m x 47.0m under-bridge space. The bridge columns for both bridges retain the sculptured form as for the other bridges on the project.
F. OTHER URBAN DESIGN CONDITIONS	• Condition 59A i) iv & v): *iv) Ihakara extension/Wharemauku Stream:* *5. Safety of pedestrian and cycle crossing at the future local road Ihakara Street Extension* *6. Provision for future road connection in relation to the Wharemauku Stream and CWB* *7. Gradient and direction of CWB in relation to the slope up to Milne Drive* *v) Kāpiti Road Interchange:* *8. Development of a distinctive gateway in terms of the bridge form, and legibility of connections to the future town centre development.* *9. Wetland and designated land on Kāpiti Road being integrated with this gateway design as a transitional space between the Expressway and town centre.* *10. Future upgrades to Kāpiti Road and the safety and convenience of the walking and cycling crossings for the upgraded Kāpiti Road* *11. Provision of a safe and convenient walking link between Kāpiti Road and Makarini Street (via Makarini Street Reserve)*	5. Refer Sheet 2 the remainder of this intersection will be detailed in SSMP 2 (Sector 350) 6. Refer Sheet 2 the remainder of this intersection will be detailed in SSMP 2 (Sector 350) 7. Potential CWB link identified toward the northern end Milne Drive, gradients suitable. Formation of this link is currently subject to property agreements. 8. The distinctiveness of the 'gateway' is provided through the planting design as well as the detailing of the under bridge space. Both the planting design and bridge abutment finishes are unique to the Kapiti interchange and provide a definite contrast to the rest of the Expressway. The formalised placement of the trees will set up a distinctive rhythm as users cross the Kapiti bridge or use the on/off ramps. It will be very apparent to Expressway users that they are entering a 'different' place. In addition, views to Kapiti Island (especially for south bound traffic) through the gaps in the tree planting will add to the experience. The tree planting either side of the on/off ramps will create an 'avenue gateway' approaching or leaving Kapiti Road. For people passing under the Expressway on Kapiti Road, the under bridge surface finishes present an urban response, with light coloured and distinctively textured abutment panels. The abutment toe walls continue beyond the bridge integrating with the planting on the embankments (see Sheets 10-13). 9. See Sheets 3, 4, 11 10. See sheet 10 refer text in B CWB page 7 11. See Sheet 3 and refer Text in B CWB page 7

5. LANDSCAPE + ECOLOGY	CONDITIONS – LANDSCAPE + ECOLOGY	RESPONSES – LANDSCAPE + ECOLOGY
A. DUNES AND DRYLAND VEGETATION REFER TO APPENDIX 1 SHEETS 2, 3 &	There are no areas identified as valued indigenous vegetation by Condition G.41 c). Condition DC.57 f) specifies exotic trees to be retained. Re-shaping of dune landforms disturbed by construction of the Expressway.	Exotic trees to be retained are identified on the 'Vegetation to be Retained' plan. Consultation and site visits to neighbors on the western side of the Expressway where a timber noise fence will be constructed has identified the exotic vegetation that could be retained close to the boundaries. Some vegetation will need to be cleared to enable the noise fence to be constructed. Dune landforms are addressed under the Landform section below. Also see dune shaping instruction (M2PP-23R-D-DWG-8904). Final contouring of disturbed dunes will be incorporated into earthworks to replicate natural dune forms.

		There are no identified valued areas of terrestrial indigenous vegetation within this SSMP.
B. STREAMS AND RIPARIAN WORKS	Condition G.42 b) requires specific lengths of stream mitigation. There are no ecological mitigation requirements within this SSEMP.	*Note: no ecological mitigation works are proposed in this SSMP – and the Wharemauku / Drain 7 SSEMP Site set out in the Ecological Management Plan is located south of this area in Sector 350.* A temporary stream diversion is required within the Wharemauku Stream as part of the construction of the Wharemauku Stream bridge and riprap placement. A detailed methodology will be developed in conjunction with GWRC for these works to ensure fish passage is maintained and effects on water quality are minimized consistent with the EMP requirements. This will include as a minimum: • Maintaining fish passage and consideration of migratory fish requirements. • Sediment monitoring via in-stream logger is required at temporary diversion creation and livening as set out in the EMP. • Fish salvage shall be undertaken prior to dewatering (as set out in the EMP).
C. WETLANDS REFER TO APPENDIX 1 SHEET 11	Condition G.42 b) requires specific areas of wetland mitigation.	There are no ecological mitigation requirements within this SSMP. *Note: Wetland 4 functions as a stormwater treatment wetland and is not included as an ecological offset wetland.* In terms of landscape amenity, wetland 4 located where it is, at a busy interchange, will provide a large area of planted green open space. This will contrast with the very busy road corridor and urban environment that already exists on Kāpiti Road as well as the open space visual amenity it will provide in the future as part of the planned town centre development.
D. SALVAGE	Condition G.34 m) sets out the salvage requirements for vegetation in SSMP 5.	*There are no ecological mitigation requirements within this SSMP*.
E. VEGETATION TO BE RETAINED REFER TO APPENDIX 1 SHEETS 2, 3 & VEGETATION TO BE RETAINED PLANS M2PP-37R-D-DWG-8701 to 8705	Conditions: DC.57 f) i) and DC.42C c) i) and G.34m) – identification of vegetation to be retained. Refer: Landscape Management Plan, sections 8.21 to 8.28 and Attachment 2: Principles, Methods and Procedures: Pre-construction. Ecological Management Plan, sections 7.1 to 7.18.	Vegetation to be retained plans have been certified by KCDC. There are no identified areas of valued indigenous vegetation that require consideration within this SSMP. Indigenous and/or exotic vegetation growing close to the residential properties on the west between Wharemauku and Kāpiti will be retained with the exception of removal to enable the construction of the noise fence.
F. VEGETATION TO BE CLEARED	Conditions: DC.57 f) i) and DC.42C c) i) identification of vegetation to be removed. Refer: Landscape Management Plan, sections 8.21 to 8.28 and Attachment 2: Principles, Methods and Procedures: Pre-construction. Ecological Management Plan, sections 7.1 to 7.18.	Project Landscape Architect to provide briefing to Constructors prior to vegetation clearance and protection work commencing; briefing to identify any hold points during vegetation clearance process. Vegetation to be mulched and stockpiled shall exclude aggressive weed species that could result in potential ongoing management problems (e.g. blackberry, gorse, *Convolvulus*, and willows). Stored mulch to be periodically inspected for evidence of aggressive weed species and if present sprayed with appropriate herbicide.
G. INDIGENOUS FAUNA	Conditions G.34 n) and the EMP (Appendix 3, section 7) - freshwater fish requirements for diversions and culverts in perennial and intermittent waterbodies (including drains).	Immediately prior to any temporary stream diversion in the Wharemauku Stream (as part of bridge construction works), the section of the watercourse subject to works shall be isolated by bunds (or other method specified), and fish present shall be safely captured for translocation by accepted methods as provided in the EMP.

		Prior to livening of the diverted section of the Wharemauku Stream an extensive fish capture and removal will be required as set out on the EMP. All fish that are captured shall be transferred upstream to the nearest equivalent habitat to limit their exposure to any increased turbidity that is caused during the stream reclamation process / diversion / installation. The Kiwi Pond area south of the Wharemauku Stream (in SSMP 2) is an identified area of potential habitat for the grey duck. Any enabling works associated with the Wharemauku Stream bridge within this SSMP area shall take into account the grey duck protection mechanisms outlined in the EMP.
H. LANDFORMS REFER TO APPENDIX 1 SHEETS 2-5 SHEET 27 (M2PP-23R-D-DWG-8904)	Condition DC.57 c) - SSLMPs shall be consistent with the Landscape Management Plan, ULDF (Technical Report 5), the Ecological Management Plan, the relevant Site Specific Urban Design Plan, and the Network Integration Plan as relevant.	The SSMP 3 Designation corridor is relatively narrow with the Expressway earthworks footprint occupying much of the space. Where remnants of dunes remain and noise bunds are constructed, they will be finished to appear as 'natural' as possible and be integrated with any undisturbed landforms. Organic material (i.e. the limited topsoil development on the dunes and peat in the interdunal hollows) shall be stripped and stockpiled separately for future use. Contract documentation and the Landscape Specifications (Appendix 4) provides details on topsoil stripping and storage. Project Landscape Architect to be involved in design of final shaping of dune profiles to ensure 'natural' appearance. A standard detail has been developed which explains and illustrates how final shaping of the dunes should be carried out (M2PP-23R-D-DWG-8904) Where seasonal conditions prevail hydroseeding of exposed sand areas once re-shaping is completed. Alternative treatment to exposed sand areas where hydroseeding not feasible (eg organic mulch, straw / brush). All exposed sand areas shall be temporarily protected with straw or proprietary materials during re-shaping to limit erosion from wind and rain and also to minimise dust issues in adjoining properties.
I. WETLAND CREATION AND RESTORATION	Condition G. 41 c) ii)	*N/A There are no ecological mitigation requirements within this SSEMP.* *Note: Wetland 4 functions as a stormwater treatment wetland and is not included as an ecological offset wetland.*
J. STREAM CREATION AND RESTORATION	Condition G.42 and G.42C - creation of large areas of new stream south of the Wharemauku Stream	N/A *There are no ecological mitigation requirements within this SSEMP.*
K. CULVERT INSTALLATION	N/A no culverts	N/A – *there are no permanent culverts in perennial or intermittent watercourses within this SSMP.*
L. MITIGATION PLANTING	Conditions DC.57 f) - Landscape mitigation requirements -	There are five planting types within this SSMP required for landscape and visual and ecological mitigation as follows: ***Massed planting:*** Planting plans illustrate typical planting layout and species composition. Plant grades will be a mix of 0.5 and 1.0 litre grades planted at 1.0m centres. In areas subject to enrichment planting (i.e. the section just north of Wharemauku Stream, which will occur in the following planting season after mass planting), plant grades shall be PB 18 or equivalent. ***Stormwater wetland species mix***: Planting plans illustrate proposed layout and species mix. Plant grades will be a mix of 0.5 and 1.0 litre (or equivalent) planted at 0.75m centres.

		Specimen trees: The planting plans and details describe this planting that will occupy the Kāpiti interchange and ramps. Specimen trees will be PB 40 grade, located at specified spacings. These trees will be staked and wind protection structures provided until well established. The selection of tree species on the interchange embankments recognizes the challenging growing environment of strong winds and limited root run into compacted fill. ***Median planting:*** Where the Expressway median is 6.0m or wider the median will be planted. Over the interchange and north. Knobby club rush - (*Ficinia nodosa)* ***Planted swales:*** Stormwater swales will be planted with oioi (*Apodasmia similis)*
M. PLANTING METHODS AND SPECIFICATIONS REFER TO APPENDIX 4	DC 57 f) - planting methods and specifications Refer: Landscape Management Plan, sections 8.41 – 8.59 and Attachment 2: Principles, Methods and Procedures: Pre-construction and Construction.	Planting shall be undertaken during 3 month planting window only (beginning June until the end of August). Planting may be carried out during a 2- week shoulder period either side of this but it will depend on environmental conditions. No planting shall be undertaken outside the June-August planting window unless approved by Project Landscape Architect. Planting substrate shall be a minimum of 300mm deep, consolidated, and free from rilling and erosion before mulch placement. Planting on the Kāpiti Road interchange embankments will require excavation of tree pits into the compacted fill. M2PP-23R-D-DWG-8900 (standard detail). Each specimen tree will include a 1.0m long x 65mm diameter perforated plastic pipe set vertically beside the rootball with the top projecting 50mm above the mulch finish level. No planting shall be undertaken until site is approved by Project Landscape Architect to be free of aggressive pest plant species. Planting shall be delayed in areas where aggressive pest plants are detected until these are removed or sufficiently controlled. Plant supplier to confirm all plants are well hardened off prior to planting. Species composition shall be in accordance with species percentages. All indigenous plant set out and groupings to be random, but reflecting natural assemblages as directed by Project Landscape for the relevant mitigation requirements. Plant selection shall take into account engineering and service constraints. All planted areas shall be temporarily fenced to assist with plant protection. Enrichment planting shall be undertaken in year 2 as directed by the Project Landscape Architect – and in response to mitigation success requirements as set out in the LMP.
N. WEED CLEARANCE REFER TO APPENDIX 4	Conditions: DC.57 f) vii) B Refer: Landscape Management Plan, sections 8.16 to 8.20 and Attachment 2: Principles, Methods and Procedures: Pre-construction and Construction.	All invasive plants shall be controlled in planting areas prior to planting in accordance with the GWRC Regional Pest Management Strategy (2002-22) and as directed by the Project Landscape Architect in relation to landscape mitigation areas.
O. GROUND PREPARATION REFER TO APPENDIX 4	Condition DC.57 f) Refer: Landscape Management Plan, sections 8.35 to 8.40 and Attachment 2: Principles, Methods and Procedures: Pre-construction and Construction.	All areas to be planted shall be sprayed with a certified and approved herbicide. All areas to be planted shall be free of actively growing grass, weeds, and any extraneous material removed.

		Any localised rilling or erosion of planted areas shall be remedied prior to placement of approved soil mix. Project Landscape Architect to approve all finished earthwork areas prior to placement of approved soil mix. Approved soil mix comprising salvaged peat, stripped topsoil, sand and compost shall be placed and lightly compacted to a depth of 300mm over all areas to be planted.
P. MULCHING REFER TO APPENDIX 4	Condition DC.57 f) Refer: Landscape Management Plan, sections 8.41 – 8.59 and Attachment 2: Principles, Methods and Procedures: Pre-construction and Construction.	100mm of organic mulch shall be placed lightly over all areas to be planted (with the exception of temporarily or permanently inundated areas as outlined above). Organic mulch shall be placed over the area to be planted at least 2 weeks prior to planting to allow for settlement. *Note: organic mulch shall not be used within the areas of wetland and stormwater swales and streams that are subject to temporary or permanent inundation. For these areas, alternative plant protection techniques will be used (e.g. staking and proprietary matting mechanisms).*
Q. PLANT SUPPLY REFER TO APPENDIX 4	Condition DC.57 f) Refer: Landscape Management Plan, sections 8.41 – 8.59 and Attachment 2: Principles, Methods and Procedures: Pre-construction and Construction.)	All indigenous plants shall be sourced from Manawatu Ecological Region, with a focus on the Foxton Ecological District. All plants shall be hardened off prior to planting.
R. PLANTING PROGRAMME / STAGING	Condition DC.57 f) Refer: Landscape Management Plan, sections 8.41 – 8.59 and Attachment 2: Principles, Methods and Procedures: Pre-construction and Construction.	Planting shall be staged according to completion of construction works. No planting shall be carried out in areas where there is a risk of damage from adjoining construction activities. Construction Manager shall confirm areas where construction is completed and area is ready for planting. Planting shall be completed only within June-August planting window unless otherwise approved by Project Landscape Architect. All areas to be planted shall be photographed and details recorded to form part of baseline information.
S. PLANT MAINTENANCE REFER TO APPENDIX 4	Condition DC.57 f) Refer: Landscape Management Plan, sections 8.60 – 8.62 and Attachment 2: Principles, Methods and Procedures: Post-Construction.	All planted areas shall be photographed on completion of planting and details recorded to be included as part of baseline information. Terrestrial planting, both indigenous and exotic shall be maintained for 3 years. Riparian and stormwater wetland planting shall be maintained for 4 years. Planting shall be maintained according to the maintenance plan as set out in the Landscape specifications (Appendix 4). Monitoring reports on plant survival and establishment and the frequency and success of the maintenance regime shall be completed by the Project Landscape Architect (in consultation with the Project Ecologist in relation to riparian planting) as follows: • 1 month after planting completed and then • 3 months • 6 months • 12 months

		• 2 years; and • Twice yearly thereafter until the end of the maintenance period. Monitoring reports shall include dates of visits, condition of vegetation, condition of fencing, issues arising, actions required, together with photographs. Monitoring reports on completion shall be provided to KCDC Landscape Reviewer. Monitoring reports shall cease to be prepared for those areas where the performance standards have been met ahead of the maintenance period.
T. PEST PLANT MANAGEMENT REFER TO APPENDIX 4	DC.57 f), G.42C c) control of pest plants.	Weed surveys shall be carried out annually in spring to track the introduction of weeds and their spread and to recommend appropriate management in accordance with the GWRC Regional Pest Management Strategy (2002-22).
U. PEST ANIMAL MANAGEMENT REFER TO APPENDIX 4	DC.57 f), G.42C c) control of pest animals.	Pest monitoring shall be carried out annually in spring to track the introduction of browsing animal pests and their spread and to recommend appropriate management in accordance with the GWRC Regional Pest Management Strategy (2002-22).
V. PROTECTION REQUIREMENTS REFER TO APPENDIX 4	Condition DC.57 c) temporary and permanent protection.	Temporary fences shall be erected as part of the protection of valued vegetation to be retained. All areas of landscape mitigation planting within the operational designation shall be fenced following planting, maintained and protected in accordance with the consent conditions as outlined in the LMP.
W. LANDSCAPE AND ECOLOGICAL SUCCESS MONITORING – POST CONSTRUCTION	DC. 57 c) - monitoring and adaptive management requirements to confirm landscape mitigation success has been achieved are as follows (as outlined in the LMP): DC.53 c), DC.57 f)) - 3 year Defects Liability and Maintenance Period for all terrestrial planting and a 4 year Defects Liability and Maintenance Period for wetland and riparian planting. DC. 57 c) - at the completion of planting, each area of mitigation will be reviewed by the Project Landscape Architect and a report prepared on the parameters above.	*No ecological mitigation works are proposed in this SSMP – and the Wharemauku / Drain 7 SSEMP Site set out in the Ecological Management Plan is located south of this area in Sector 350.* In relation to landscape mitigation planting, success measures are as follows: • 80% canopy closure at the time of Final Completion whereby a sustainable plant community has been established and where plants have grown to create a canopy that shades the ground and suppresses weed growth. • Invasive terrestrial weed species successfully controlled. Shelterbelts and amenity rural tree planting shall require 100% plant survival, with 100% of trees in full leaf at the time of Final Completion.
X. ADAPTIVE MANAGEMENT – POST CONSTRUCTION	Condition DC.57 c)	In the event that mitigation planting does not achieve the objectives within the consent timeframes, the Project Landscape Architect will prepare a report, including recommendations for remedial work or additional mitigation, and ongoing monitoring and reporting through the Adaptive Management process.

6. REFERENCES	
	• Ecological Management Plan (EMP), July 2013. • Landscape Management Plan (LMP), July 2013 • Urban and Landscape Design Framework, Technical Report 5, MacKays to Peka Expressway • Assessment of Landscape and Visual Effects, including Appendices A and B, Technical Report 7 • Assessment of Ecological Impacts Report, including Technical Reports 27 – 31 (Terrestrial Vegetation and Habitats, Herpetofauna, Avifauna, Freshwater and Marine), • Assessment of Hydrology and Stormwater Effects, Technical Report 22.

M2PP-121-D-PLNM-0003

Appendix 1: DRAWING SET

Site Specific Management Plan 003 - [sectors 360/370/380]
MacKays to Peka Peka Expressway

01 SEPTEMBER 2014 - CERTIFIED ISSUE - REV C

NZ TRANSPORT AGENCY
WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Drawing Plotted:

SSMP#	SECTOR	NAME	NOTES
SSMP1	320	[RAUMATI SOUTH]	
SSMP2	330/340/350	[RAUMATI NORTH]	
SSMP3	360/370/380	[WHAREMAUKU BASIN]	
SSMP4	410/420	[KAPITI MAZENGARB]	
SSMP5&6	430/440/460	[OTAIHANGA NORTH&SOUTH]	
SSMP7	470	[WAIKANAE RIVER]	
SSMP8	480/510	[TE MOANA]	
SSMP9	520	[NGARARA]	
SSMP10	530/540/550/580	PEKA PEKA SOUTH	ISSUED IN TWO PARTS: -SSMP10-550 -SSMP10-580/540/530
SSMP11	560/570	[[PEKA PEKA NORTH]	

LEGEND

ROAD
SSMP BOUNDARY
SSMP SHEET (ROAD)
CURRENT SSMP SHEET (ROAD)
SSMP SHEET (BRIDGE)
CURRENT SSMP SHEET (BRIDGE)
PARCEL BOUNDARIES
CONSTRUCTION BOUNDARY

A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

No.	Revision	By	Chk	Chk V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) 1:25,000 Reduced Scale (A3) 1:50,000	Design	FB	18/07/14	Approved For Construction* Date
	Drawn	VB	18/07/14	
	Dsg Verifier			
	Dwg Check			
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI
MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 3 [350/370/380] - SHEET 1 LOCATION PLAN

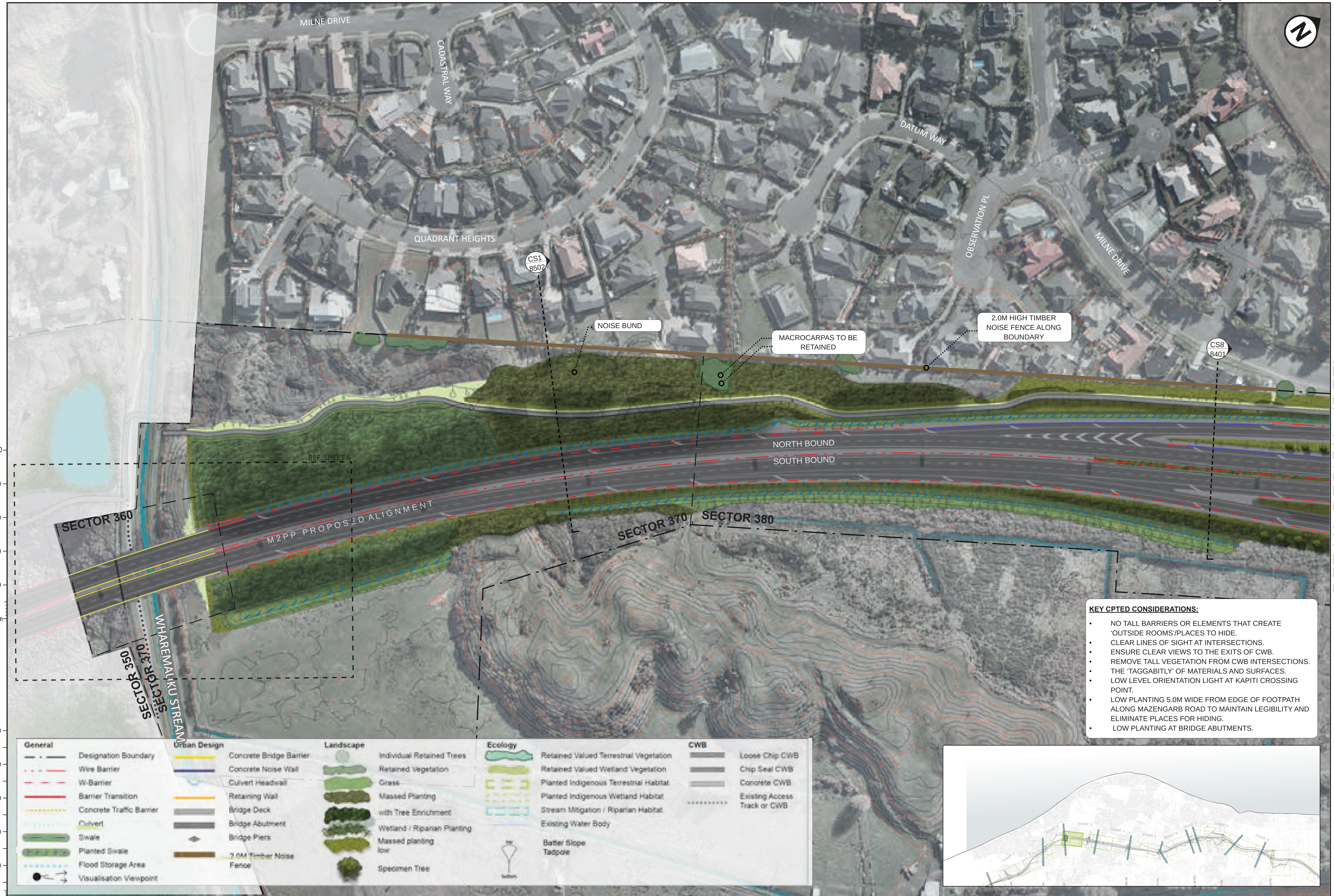
Drawing No: M2PP-121-D-DWG-8001

Rev. C

Document No.

DETAIL DESIGN (DET)

Drawing Plotted:



KEY CPTED CONSIDERATIONS:

- NO TALL BARRIERS OR ELEMENTS THAT CREATE 'OUTSIDE ROOMS'/PLACES TO HIDE.
- CLEAR LINES OF SIGHT AT INTERSECTIONS.
- ENSURE CLEAR VIEWS TO THE EXITS OF CWB.
- REMOVE TALL VEGETATION FROM CWB INTERSECTIONS.
- THE 'TAGGABITLY' OF MATERIALS AND SURFACES.
- LOW LEVEL ORIENTATION LIGHT AT KAPITI CROSSING POINT.
- LOW PLANTING 5.0M WIDE FROM EDGE OF FOOTPATH ALONG MAZENGARB ROAD TO MAINTAIN LEGIBILITY AND ELIMINATE PLACES FOR HIDING.
- LOW PLANTING AT BRIDGE ABUTMENTS.

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) 1:1000	Design	FB	18/07/14	Approved For Construction*
Reduced Scale (A3) 1:2000	Drawn	VB	18/07/14	
	Dsg Verifier			
	Dwg Check			Date

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI — MacKays to Peka Peka — Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 3 [350/370/380] - SHEET 2 MASTER PLAN

Drawing No: M2PP-121-D-DWG-8101

Rev. C

Document No.

Document created for NZTA by M2PP Alliance, Level 2, 17-21 Whitmore St, WELLINGTON

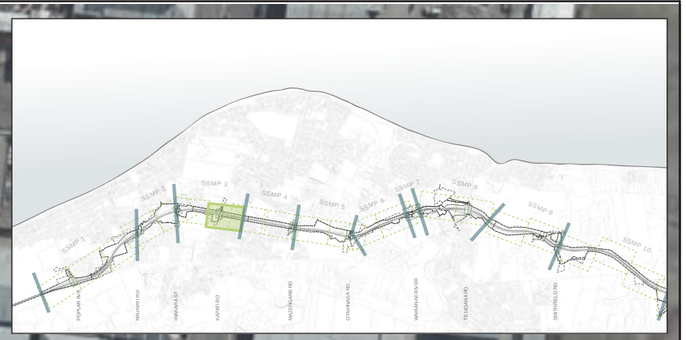
DO NOT SCALE

IF IN DOUBT ASK.

Drawing Plotted:

KEY CPTED CONSIDERATIONS:

- NO TALL BARRIERS OR ELEMENTS THAT CREATE 'OUTSIDE ROOMS'/PLACES TO HIDE.
- CLEAR LINES OF SIGHT AT INTERSECTIONS.
- ENSURE CLEAR VIEWS TO THE EXITS OF CWB.
- REMOVE TALL VEGETATION FROM CWB INTERSECTIONS.
- THE 'TAGGABITLY' OF MATERIALS AND SURFACES.
- LOW LEVEL ORIENTATION LIGHT AT KAPITI CROSSING POINT.
- LOW PLANTING 5.0M WIDE FROM EDGE OF FOOTPATH ALONG MAZENGARB ROAD TO MAINTAIN LEGIBILITY AND ELIMINATE PLACES FOR HIDING.
- LOW PLANTING AT BRIDGE ABUTMENTS.



REF. SHEET 9

REF. SHEET 10

REF. SHEET 11

SHEFFIELD STREET

MILNE DRIVE

CS3 8401

CS2 8502

M2PP PROPOSED ALIGNMENT

NORTH BOUND

SOUTH BOUND

WETLAND 4

2.0M TIMBER FENCE

3.0M MAINTENANCE ACCESS TRACK THROUGH MAKARINI ST RESERVE

OUTLET STRUCTURE PIPED TO OUTLET HEADWALL AT DRAIN 5

DRAIN 5

KAPITI ROAD

GREENWOOD PLACE

MAKARINI ST

ELDER GROVE

CYPRESS GROVE

A1 REPRODUCTION SCALE

100 80 60 40 20 0mm

A3 REPRODUCTION SCALE

50 40 30 20 10 0mm

General
- Designation Boundary
- Wire Barrier
- W-Barrier
- Barrier Transition
- Concrete Traffic Barrier
- Culvert
- Swale
- Planted Swale
- Flood Storage Area
- Visualisation Viewpoint

Urban Design
- Concrete Bridge Barrier
- Concrete Noise Wall
- Culvert Headwall
- Retaining Wall
- Bridge Deck
- Bridge Abutment
- Bridge Piers
- 2.0M Timber Noise Fence

Landscape
- Individual Retained Trees
- Retained Vegetation
- Grass
- Massed Planting
- with Tree Enrichment
- Wetland / Riparian Planting
- Massed planting low
- Specimen Tree

Ecology
- Retained Valued Terrestrial Vegetation
- Retained Valued Wetland Vegetation
- Planted Indigenous Terrestrial Habitat
- Planted Indigenous Wetland Habitat
- Stream Mitigation / Riparian Habitat
- Existing Water Body
- top / bottom — Batter Slope Tadpole

CWB
- Loose Chip CWB
- Chip Seal CWB
- Concrete CWB
- Existing Access Track or CWB

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) 1:1000	Design	FB	18/07/14
	Drawn	VB	18/07/14
Reduced Scale (A3) 1:2000	Dsg Verifier		
	Dwg Check		
	* Refer to Revision 1 for Original Signature		

Approved For Construction* Date

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka — Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 3 [350/370/380] - SHEET 3 MASTER PLAN

Drawing No: M2PP-121-D-DWG-8102

Rev. C

Document No.

DETAIL DESIGN

Drawing Plotted:

SITE CONTEXT PLAN-M2PP-121-D-GPH-8101

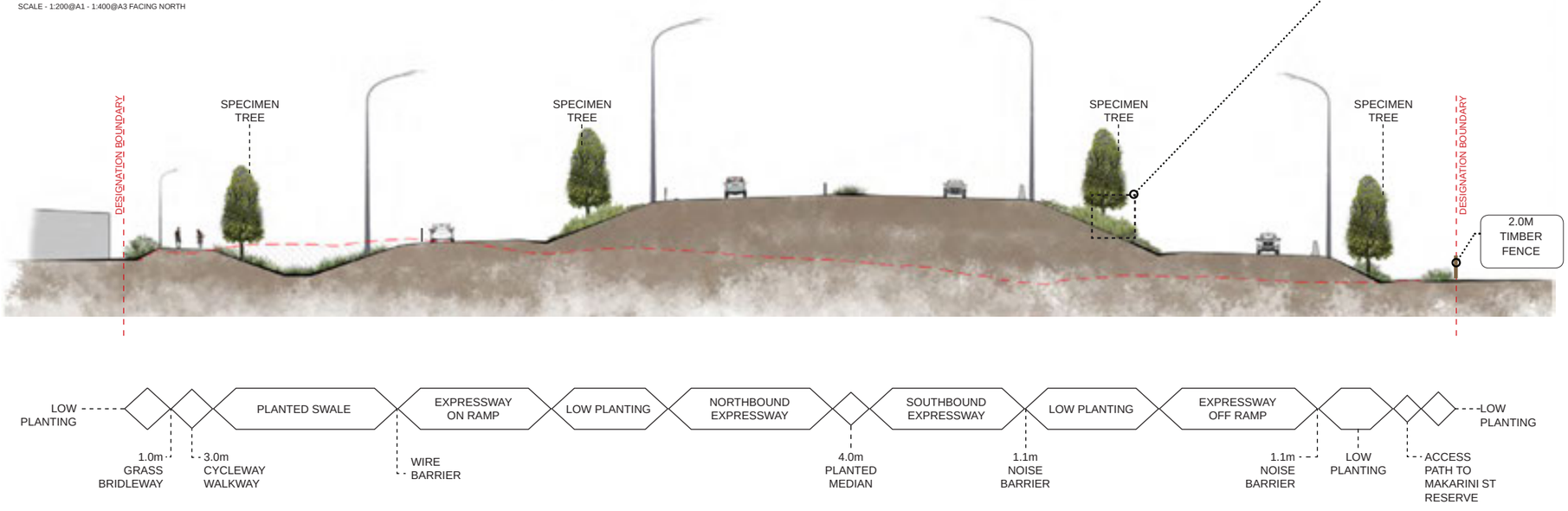
CS1 - CROSS SECTION-NOISE BUND

SCALE - 1:250@A1 - 1:500@A3 FACING NORTH

SITE CONTEXT PLAN-M2PP-121-D-GPH-8102

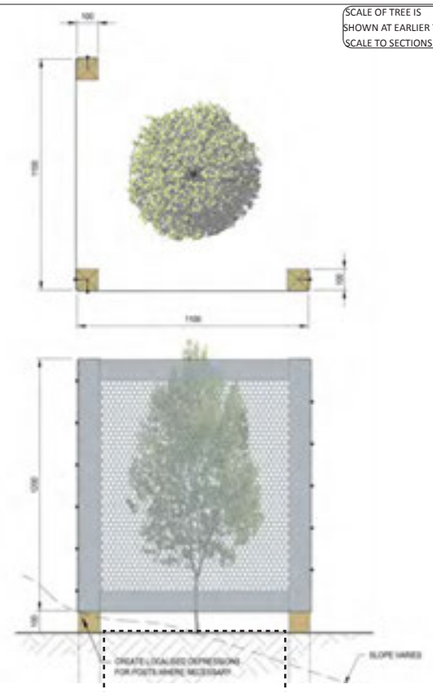
CS2 - CROSS SECTION-EXPRESSWAY NORTH OF KAPITI ROAD

SCALE - 1:200@A1 - 1:400@A3 FACING NORTH



TREE WIND SHELTER DETAIL

SCALE OF TREE IS SHOWN AT EARLIER TIME SCALE TO SECTIONS



FOR TREE PIT DETAIL REFER TO DWG. 8900 FOLLOWING PLANTING PLANS

A1 REPRODUCTION SCALE: 100 80 60 40 20 0mm

A3 REPRODUCTION SCALE: 50 40 30 20 10 0mm

DETAIL DESIGN

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1)	Design	FB	18/07/14	Approved For Construction*
AS SHOWN Reduced Scale (A3)	Drawn	VB	18/07/14	
AS SHOWN	Dsg Verifier			
	Dwg Check			Date
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP3[360/370/380] SHEET 4 CROSS SECTIONS

Drawing No: M2PP-121-D-DWG-8502

Rev. C

Document No.

Drawing Plotted:
10:41AMWEDNESDAY3SEPTEMBER2014

CS3 - CROSS SECTION- WETLAND 4

FACING WEST SCALE - 1:200@A1 1:400@A3

SITE CONTEXT PLAN-M2PP-121-D-GPH-8301

CWB | OFFRAMP TO KAPITI RD | PLANTED EMBANKMENT | NORTHBOUND EXPRESSWAY | SOUTHBOUND EXPRESSWAY | PLANTED EMBANKMENT | ON RAMP FROM KAPITI RD | MASS PLANTING WITH SPECIMEN TREES

1.0M GRASS BRIDLEWAY

MASS PLANTING WITH SPECIMEN TREES

CONTINUES BELOW

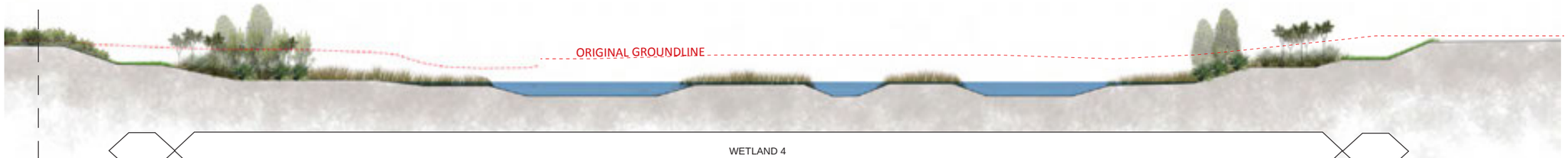
MAINTENANCE ACCESS - GRASS

LOW MASS PLANTING

15 m

10 m

5 m



WETLAND 4

CONTINUES ABOVE

MAINTENANCE ACCESS - GRASS

MAINTENANCE ACCESS - GRASS

A1 REPRODUCTION SCALE

100 80 60 40 20 0mm

CS8 - CROSS SECTION- THROUGH 51 MILNE DRIVE

FACING WEST SCALE - 1:125@A1 1:250@A3

SITE CONTEXT PLAN-M2PP-121-D-GPH-8101

LOW MASS PLANTING WITH SMALL SCREEN TREES | CWB 3.0M | PLANTED SWALE | OFFRAMP TO KAPITI RD | NORTHBOUND EXPRESSWAY | SOUTHBOUND EXPRESSWAY | ON RAMP FROM KAPITI RD | PLANTED SWALE

1.0M GRASS BRIDLEWAY

A3 REPRODUCTION SCALE

50 40 30 20 10 0mm

20m 15m 10m 5m

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1)	Design	FB	18/07/14	Approved For Construction*
AS SHOWN Reduced Scale (A3)	Drawn	VB	18/07/14	
AS SHOWN	Dsg Verifier			Date
	Dwg Check			
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY | MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 3[350/370/380] - SHEET 5 WETLAND LONG SECTION

Drawing No: M2PP-121-D-DWG-8401

Rev. C

Document No.

DETAIL DESIGN (DET)

Drawing Plotted:

TOP OF SHAPED LANDFORM (FILL)

SSMP 2 - SECTOR 350

SSMP 3 - SECTOR 360

CS6 7

CS5 7

CS4 7

BRIDGE CROSSHEADS AND COLUMNS SHOWN BELOW

ACCESS TRACK OVER RIP RAP TO TIE IN WITH EXISTING ACCESS TRACK

ACCESS TRACK OVER RIP RAP TO TIE IN WITH EXISTING INFORMAL ACCESS TRACK

NORTH BOUND

SOUTH BOUND

HEADWALL- SWALE OUTLET

EXISTING PUBLIC ACCESS TRACK

WHAREMAUKU STREAM

FUTURE PROPOSED IHAKARA ST EXTENSION SHOWN DASHED. NOT CONSIDERED IN THIS SCOPE OF WORK

General	Urban Design	Landscape	Ecology	CWB
Designation Boundary	Concrete Bridge Barrier	Individual Retained Trees	Retained Valued Terrestrial Vegetation	Loose Chip CWB
Wire Barrier	Concrete Noise Wall	Retained Vegetation	Retained Valued Wetland Vegetation	Chip Seal CWB
W-Barrier	Culvert Headwall	Grass	Planted Indigenous Terrestrial Habitat	Concrete CWB
Barrier Transition	Retaining Wall	Massed Planting	Planted Indigenous Wetland Habitat	Existing Access Track or CWB
Concrete Traffic Barrier	Bridge Deck	with Tree Enrichment	Stream Mitigation / Riparian Habitat	
Culvert	Bridge Abutment	Wetland / Riparian Planting	Existing Water Body	
Swale	Bridge Piers	Massed planting low	Batter Slope Tadpole	
Planted Swale	2.0M Timber Noise Fence			
Flood Storage Area		Specimen Tree		
Visualisation Viewpoint				

100 80 60 40 20 0mm A1 REPRODUCTION SCALE

50 40 30 20 10 0mm A3 REPRODUCTION SCALE

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) 1:250	Design	FB	18/07/14	Approved For Construction*
	Drawn	VB	18/07/14	
Reduced Scale (A3) 1:500	Dsg Verifier			
	Dwg Check			Date
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 3 [350/370/380] - SHEET 6 WHAREMAUKU BRIDGE

Drawing No: M2PP-121-D-DWG-8401

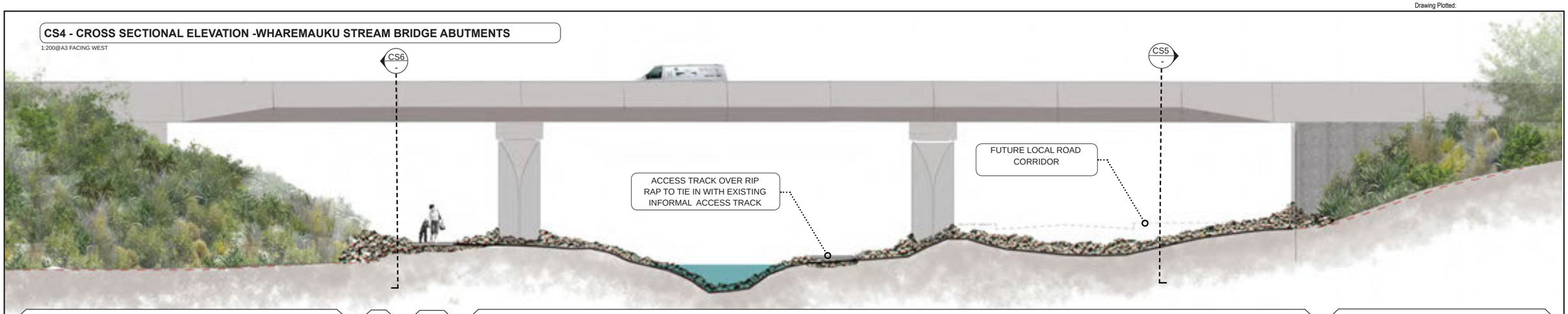
Rev. C

Document No.

Drawing Plotted:

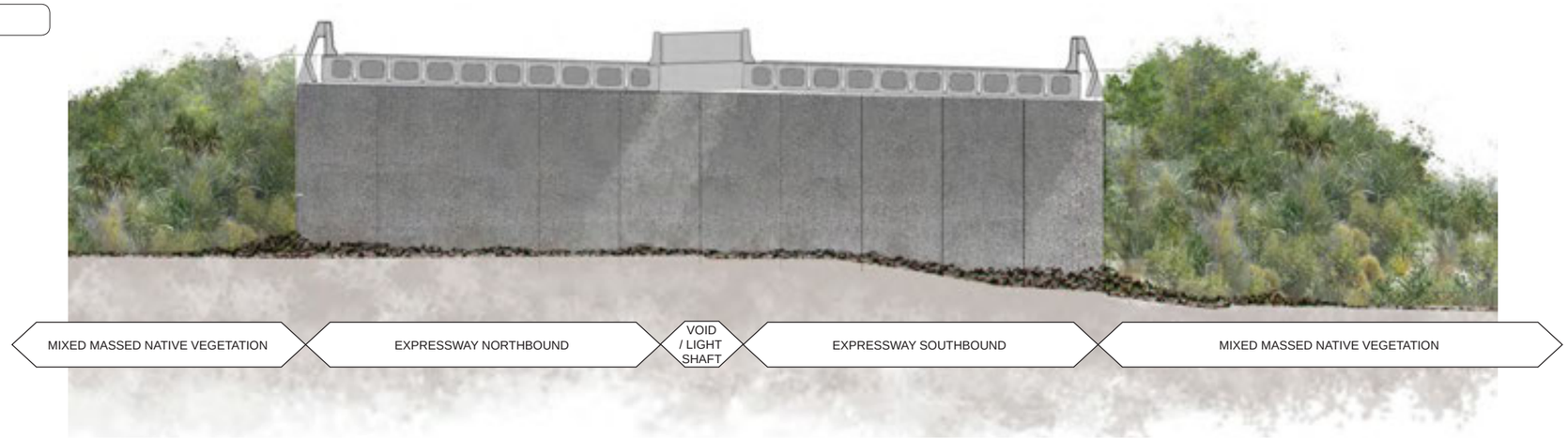
CS4 - CROSS SECTIONAL ELEVATION -WHAREMAUKU STREAM BRIDGE ABUTMENTS

1:200@A3 FACING WEST



CS5 -NORTH ABUTMENT

1:200@A3 FACING NORTH



CS6- SOUTH ABUTMENT

1:200@A3 FACING SOUTH

A1 REPRODUCTION SCALE: 100, 80, 60, 40, 20, 0mm

A3 REPRODUCTION SCALE: 50, 40, 30, 20, 10, 0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) AS SHOWN Reduced Scale (A3) AS SHOWN	Design	FB	18/07/14	Approved For Construction* Date
	Drawn	VB	18/07/14	
	Dsg Verifier			
	Dwg Check			
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI — MacKays to Peka Peka, Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 3[350/370/380] - SHEET 7 ROAD SECTIONS

Drawing No: M2PP-121-D-DWG-8501

Rev. C

Document No.

DETAIL DESIGN (DET)

Drawing Plotted:

A1 REPRODUCTION SCALE
100
80
60
40
20
0mm

PROPOSED VISUALISATION - WHAREMAUKU STREAM BRIDGE (EAST SIDE OF EXPRESSWAY LOOKING WEST)

NOTE: TO BETTER REPRESENT THE BRIDGE, THE PROPOSED VISUALISATION HAS BEEN DRAWN FROM A VANTAGE POINT THAT IS CLOSER TO THE BRIDGE THAN THE ORIGINAL AEE RENDER

NOTE: CWB BRIDGE NOT SHOWN

A3 REPRODUCTION SCALE
50
40
30
20
10
0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) AS SHOWN Reduced Scale (A3) AS SHOWN	Design	FB	18/07/14	Approved For Construction* Date
	Drawn	VB	18/07/14	
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	Dwg Check			
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 3[350/370/380] - SHEET 8 WHAREMAUKU STREAM

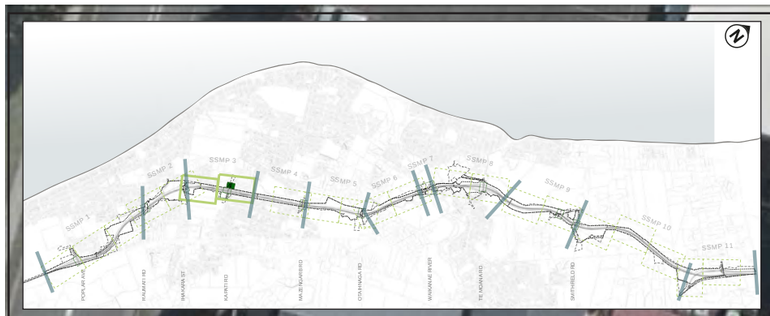
Drawing No: M2PP-121-D-DWG-8801

Rev. C

Document No.

DETAIL DESIGN (DET)

Drawing Plotted:



Landscape
- Individual Retained Trees
- Retained Vegetation
- Grass
- Massed Planting
- with Tree Enrichment
- Wetland / Riparian Planting
- Massed planting low
- Specimen Tree

Ecology
- Retained Valued Terrestrial Vegetation
- Retained Valued Wetland Vegetation
- Planted Indigenous Terrestrial Habitat
- Planted Indigenous Wetland Habitat
- Stream Mitigation / Riparian Habitat
- Existing Water Body
- Batter Slope
- Tadpole

CWB
- Loose Chip CWB
- Chip Seal CWB
- Concrete CWB
- Existing Access Track or CWB

KEY CPTED CONSIDERATIONS:

- NO TALL BARRIERS OR ELEMENTS THAT CREATE 'OUTSIDE ROOMS'/PLACES TO HIDE.
- CLEAR LINES OF SIGHT AT INTERSECTIONS.
- ENSURE CLEAR VIEWS TO THE EXITS OF CWB.
- REMOVE TALL VEGETATION FROM CWB INTERSECTIONS.
- THE 'TAGGABITLY' OF MATERIALS AND SURFACES.
- LOW LEVEL ORIENTATION LIGHT AT OTAIHANGA CROSSING POINT.

KAPITI ROAD

A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) 1:250	Design	FB	18/07/14	Approved For Construction*
	Drawn	VB	18/07/14	
Reduced Scale (A3) 1:500	Dsg Verifier			Date
	Dwg Check			
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 3[350/370/380] - SHEET 9 BRIDGE MASTERPLAN

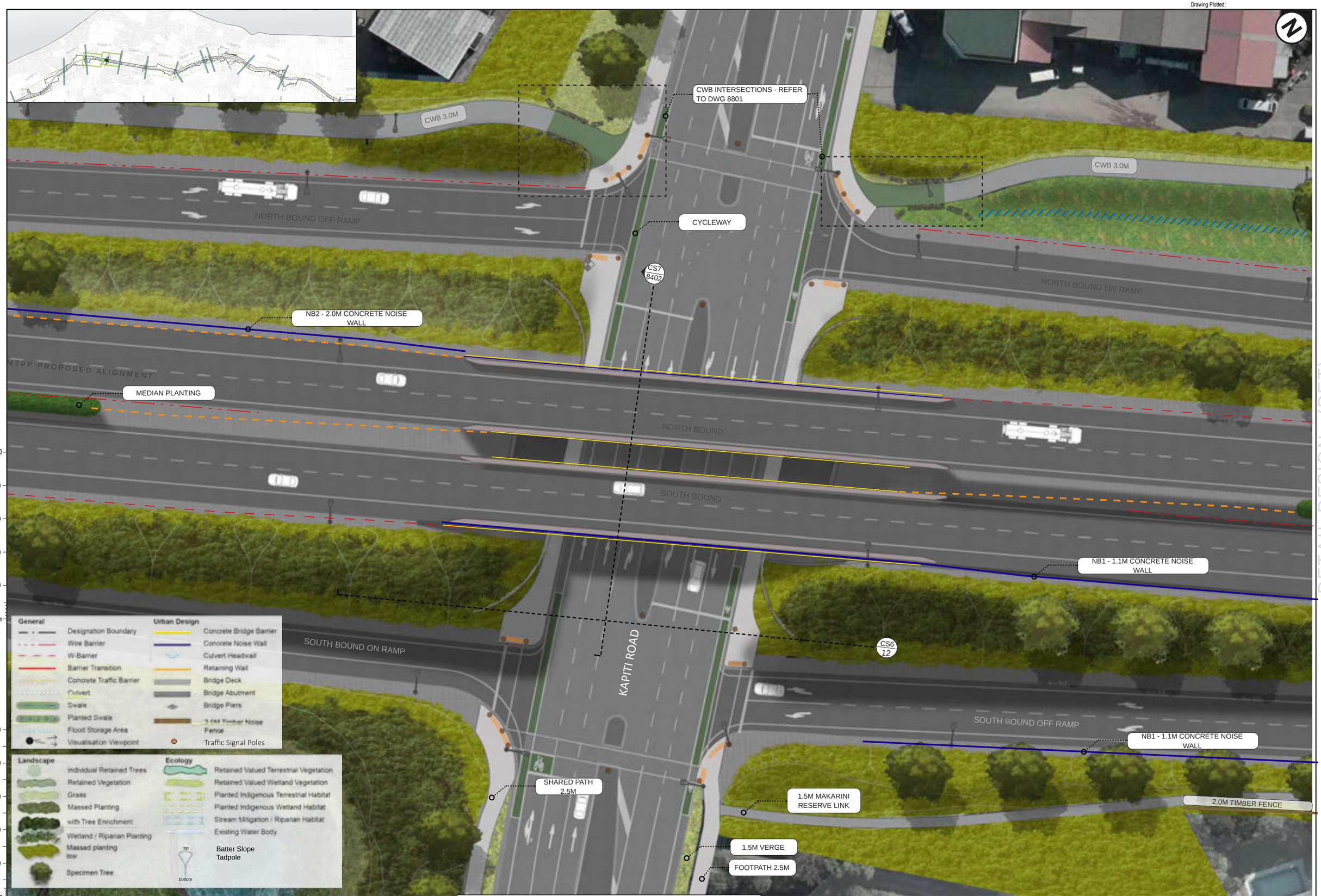
Drawing No: M2PP-121-D-DWG-8301

Rev. C

Document No.

DETAIL DESIGN

Drawing Plotted:



A1 REPRODUCTION SCALE: 100 80 60 40 20 0mm

A3 REPRODUCTION SCALE: 50 40 30 20 10 0mm

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) 1:250	Design	FB	18/07/14
Reduced Scale (A3) 1:500	Drawn	VB	18/07/14
	Dsg Verifier		
	Dwg Check		

Approved For Construction* Date

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka — Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 3[350/370/380] - SHEET 10 KAPITI BRIDGE

Drawing No: M2PP-121-D-DWG-8302

Rev. C

Document No.

Drawing Plotted:

GABION SPILL THROUGH

SHARED PATH 2.5M

FOOTPATH 2.5M

KAPITI ROAD

STORMWATER WETLAND 4

CYCLEWAY

1.5M VERGE

CYCLEWAY

OUTLET STRUCTURE

MAINTENANCE ACCESS GATE

Landscape

- Individual Retained Trees
- Retained Vegetation
- Grass
- Massed Planting
- with Tree Enrichment
- Wetland / Riparian Planting
- Massed planting low
- Specimen Tree

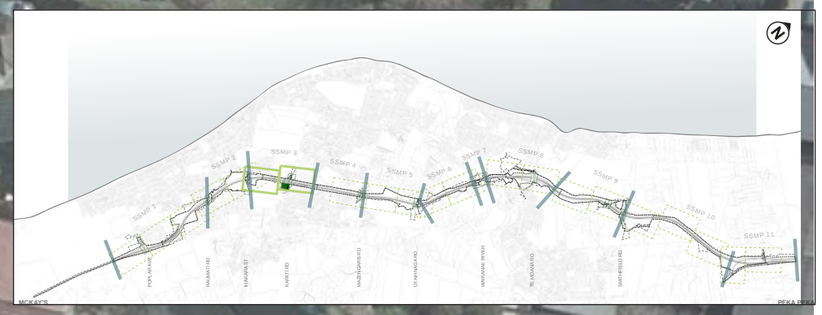
Ecology

- Retained Valued Terrestrial Vegetation
- Retained Valued Wetland Vegetation
- Planted Indigenous Terrestrial Habitat
- Planted Indigenous Wetland Habitat
- Stream Mitigation / Riparian Habitat
- Existing Water Body

top
bottom
Batter Slope
Tadpole

CWB

- Loose Chip CWB
- Chip Seal CWB
- Concrete CWB
- Existing Access Track or CWB



A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) 1:250
Reduced Scale (A3) 1:500

Design			18/07/14
Drawn	VB		**18/07/14**
Dsg Verifier			
Dwg Check			

Approved For Construction* Date

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 3[350/370/380] - SHEET 11
BRIDGE MASTERPLAN

Drawing No: M2PP-121-D-DWG-8303

Rev: C

Document No.

DETAIL DESIGN (DET)

Drawing Plotted:

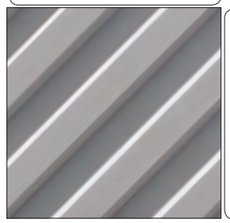
CS6 - CROSS SECTIONAL ELEVATION-KAPITI BRIDGE

FACING WEST SCALE - 1:200@A3

MATERIAL A

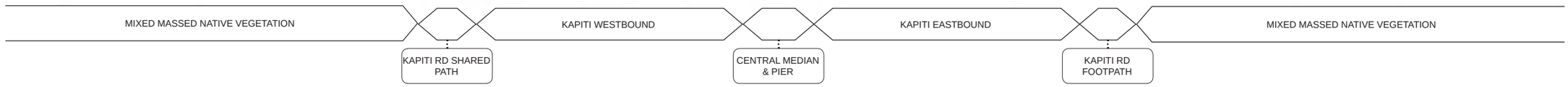
BRIDGE BARRIER: PRECAST CONCRETE WITH 2 COATS WHITE KIEM COATING & ANTI GRAFFITI PROTECTION- PENDING SAMPLE PANEL APPROVAL

MATERIAL B



BRIDGE ABUTMENT: PRECAST CONCRETE PANEL WITH FORMLINER PATTERN ALTERNATING BETWEEN EACH PANEL. MATT GRAFFITI PROTECTION - PENDING SAMPLE PANEL APPROVAL

SITE CONTEXT PLAN-M2PP-121-D-GPH-8102



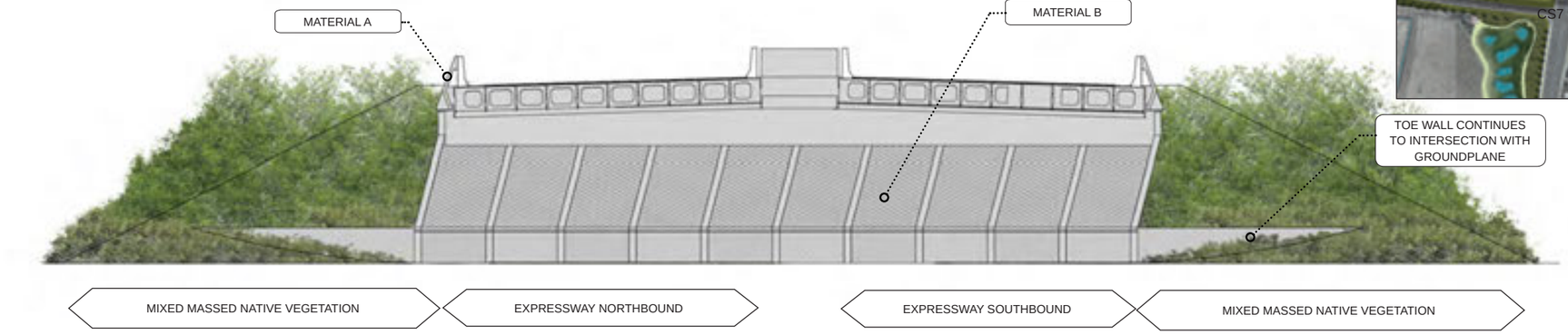
A1 REPRODUCTION SCALE

100 80 60 40 20 0mm

CS7-CROSS SECTIONAL ELEVATION-ABUTMENT

FACING NORTH SCALE - 1:200@A3

SITE CONTEXT PLAN-M2PP-121-D-GPH-8102



A3 REPRODUCTION SCALE

50 40 30 20 10 0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) AS SHOWN Reduced Scale (A3) AS SHOWN	Design	FB	18/07/14	Approved For Construction* Date
	Drawn	VB	18/07/14	
	Dsg Verifier			
	Dwg Check			
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

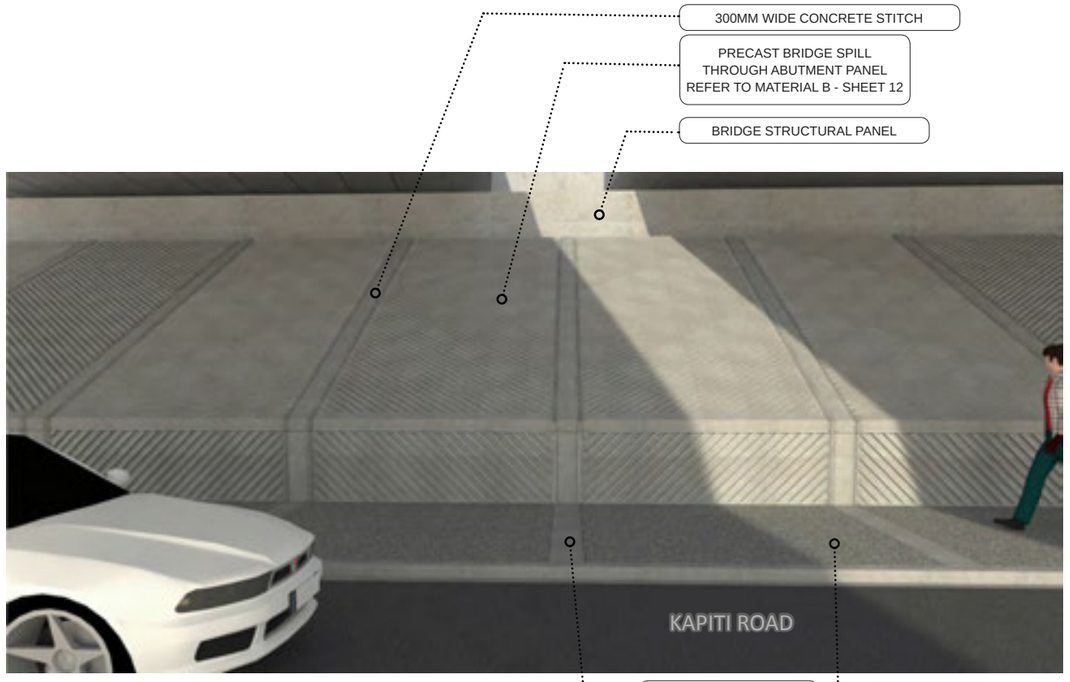
Title: SSMP 3[350/370/380] - SHEET 12 ROAD SECTIONS

Drawing No: M2PP-121-D-DWG-8402

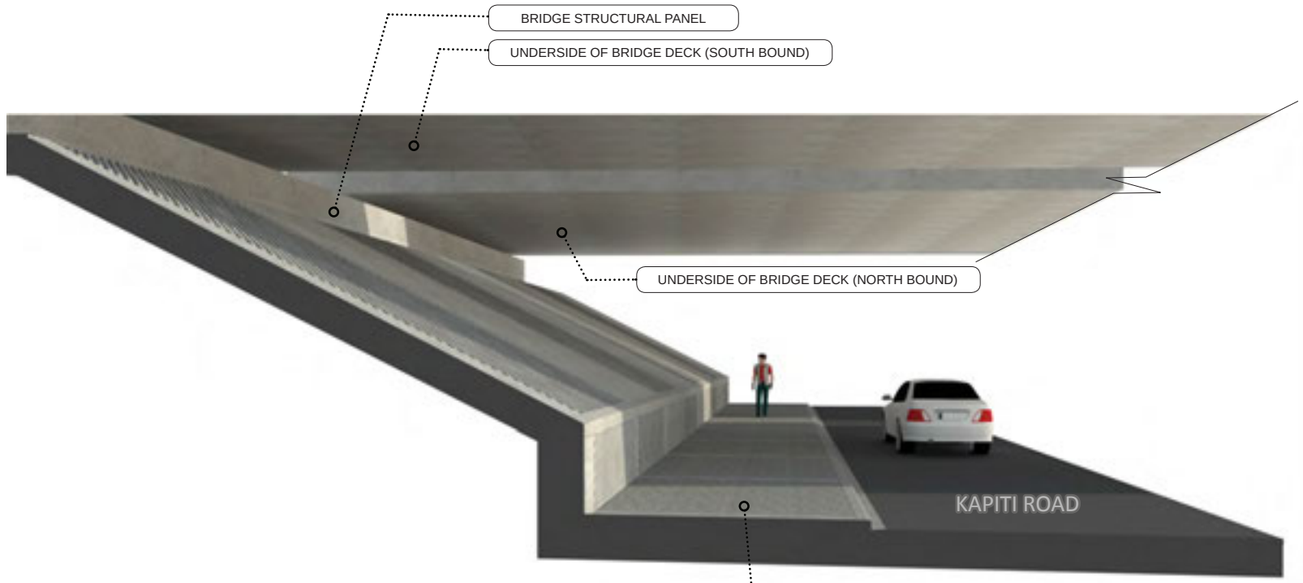
Rev. C

Document No.

DETAIL DESIGN (DET)



KAPITI BRIDGE ABUTMENT AND FOOTPATH FINISH



A1 REPRODUCTION SCALE
100
80
60
40
20
0mm

A3 REPRODUCTION SCALE
50
40
30
20
10
0mm

VISUALISATION - KAPITI ROAD BRIDGE CROSSING (EAST SIDE OF EXPRESSWAY LOOKING WEST)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1)	Design	FB	18/07/14	Approved For Construction*
AS SHOWN Reduced Scale (A3)	Drawn	VB	18/07/14	
AS SHOWN	Dsg Verifier			
	Dwg Check			Date
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 3[350/370/380] - SHEET 13 KAPITI ROAD

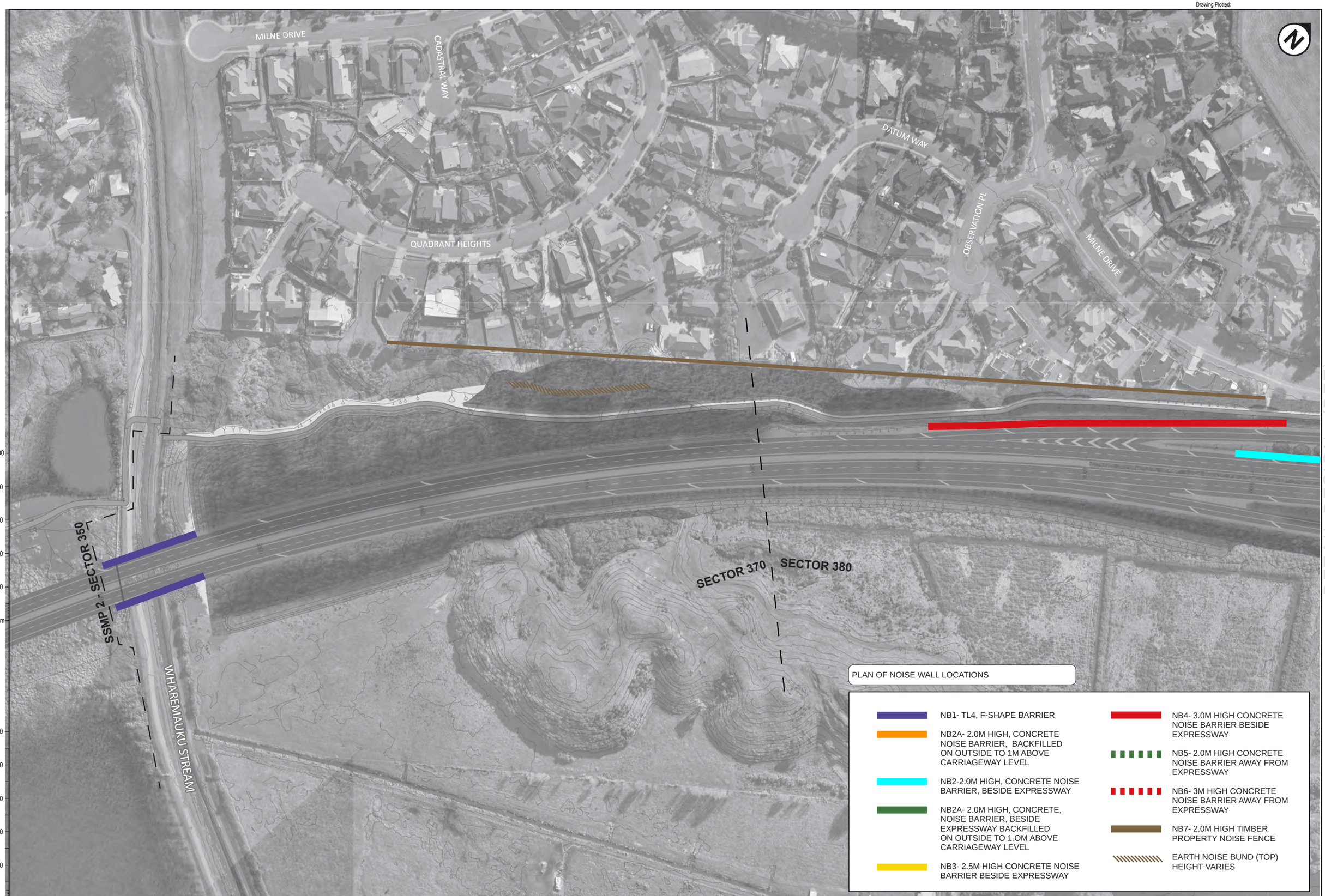
Drawing No: M2PP-121-D-DWG-8802

Rev. C

Document No.

DETAIL DESIGN (DET)

Drawing Plotted:



A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) 1:1000	Design	FB	18/07/14	Approved For Construction*
	Drawn	VB	18/07/14	
Reduced Scale (A3) 1:2000	Dsg Verifier			Date
	Dwg Check			

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

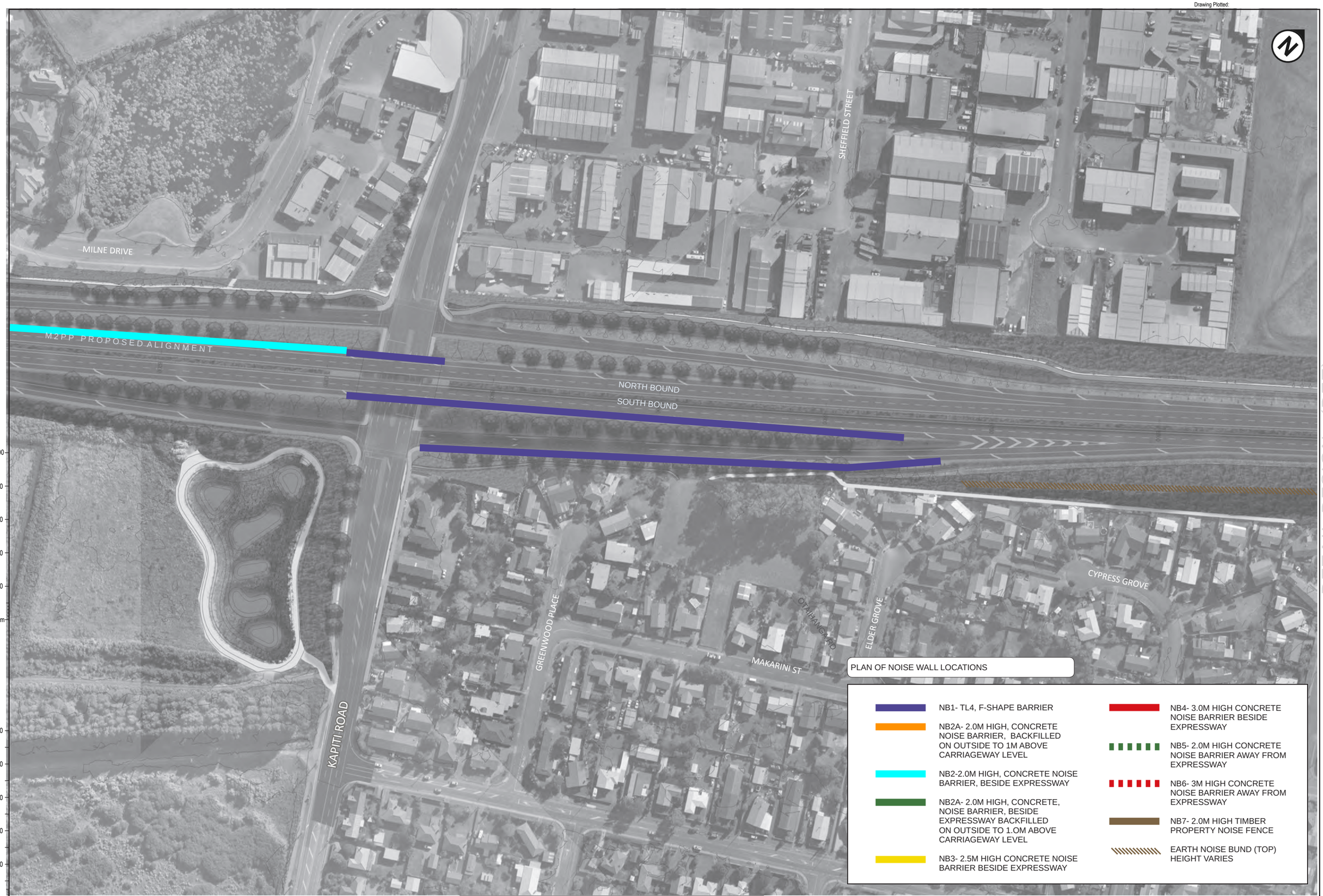
Title: SSMP 5 & 6 - SHEET 14
NOISE WALL LOCATIONS

Drawing No: M2PP-121-D-DWG-8601

Rev. C

Document No.

Drawing Plotted:



PLAN OF NOISE WALL LOCATIONS

- NB1- TL4, F-SHAPE BARRIER
- NB2A- 2.0M HIGH, CONCRETE NOISE BARRIER, BACKFILLED ON OUTSIDE TO 1M ABOVE CARRIAGEWAY LEVEL
- NB2-2.0M HIGH, CONCRETE NOISE BARRIER, BESIDE EXPRESSWAY
- NB2A- 2.0M HIGH, CONCRETE, NOISE BARRIER, BESIDE EXPRESSWAY BACKFILLED ON OUTSIDE TO 1.OM ABOVE CARRIAGEWAY LEVEL
- NB3- 2.5M HIGH CONCRETE NOISE BARRIER BESIDE EXPRESSWAY
- NB4- 3.0M HIGH CONCRETE NOISE BARRIER BESIDE EXPRESSWAY
- NB5- 2.0M HIGH CONCRETE NOISE BARRIER AWAY FROM EXPRESSWAY
- NB6- 3M HIGH CONCRETE NOISE BARRIER AWAY FROM EXPRESSWAY
- NB7- 2.0M HIGH TIMBER PROPERTY NOISE FENCE
- EARTH NOISE BUND (TOP) HEIGHT VARIES

A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) 1:1000
Reduced Scale (A3) 1:2000

Design	FB	18/07/14	Approved For Construction*
Drawn	VB	18/07/14	
Dsg Verifier			
Dwg Check			Date

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP3[360/370/380]- SHEET 15 NOISE WALL LOCATIONS

Drawing No: M2PP-121-D-DWG-8602

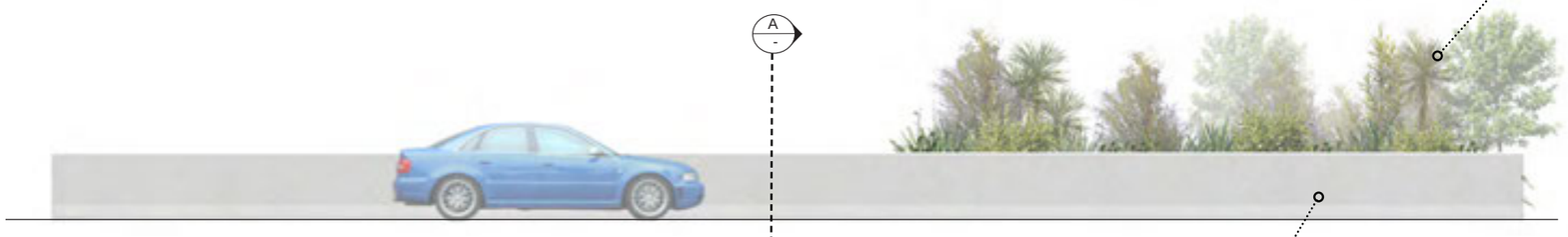
Rev. C

Document No.

DETAIL DESIGN

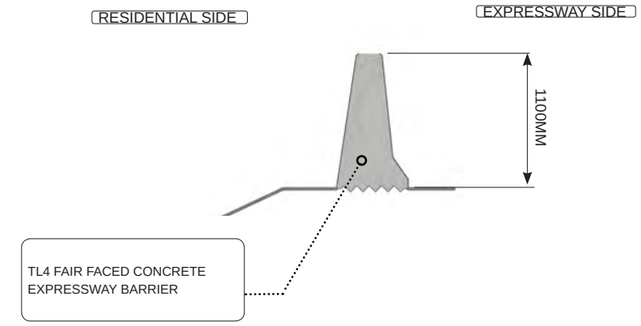
Drawing Plotted:

ELEVATION 1 - NOISE WALL NB1(TL4)- EXPRESSWAY SIDE



SECTION A - NOISE WALL NB1 (TL4)

SCALE - 1:25@A3



ELEVATION 2 - NOISE WALL NB1 (TL4)- RESIDENTIAL SIDE

VISUALISATION EXPRESSWAY SIDE

VISUALISATION RESIDENTIAL SIDE

A1 REPRODUCTION SCALE
100
80
60
40
20
0mm

A3 REPRODUCTION SCALE
50
40
30
20
10
0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
B	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1)	Design	FB	18/07/14	Approved For Construction*
AS SHOWN Reduced Scale (A3)	Drawn	VB	18/07/14	
AS SHOWN	Dsg Verifier			
	Dwg Check			Date
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI
MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SHEET 16
NOISE WALL NB1

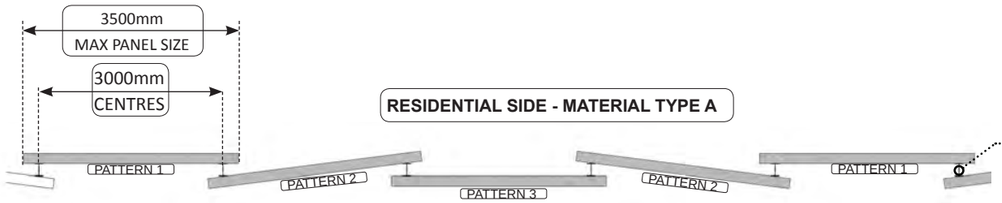
Drawing No: M2PP-121-D-DWG-8606

Rev. B

Document No.

DETAIL DESIGN (DET)

Drawing Plotted:

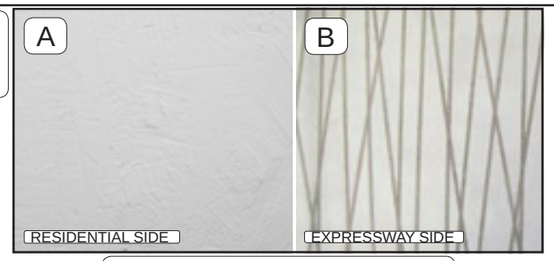


RESIDENTIAL SIDE - MATERIAL TYPE A

PAINTED STEEL H-PILE POST

EXPRESSWAY SIDE - MATERIAL TYPE B

FAIR FACED CONCRETE FINISH WITH MATT GRAFFITI GUARD

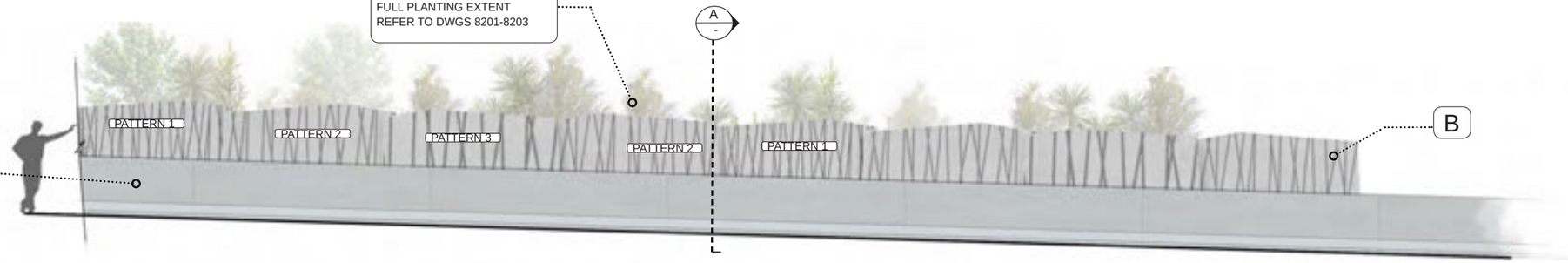


MATERIALITY/FINISHES/EXAMPLES

-FAIR FACED CONCRETE WITH EXPOSED CONCRETE PATTERN.
-CONCRETE PATTERN: VERTEX BY GRAPHIC CONCRETE
-3 PATTERN SIZES:
- PATTERN 1: SMALL
- PATTERN2: MEDIUM
- PATTERN 3: LARGE

ELEVATION 1 - NOISE WALL NB2 & NB2A - EXPRESSWAY SIDE

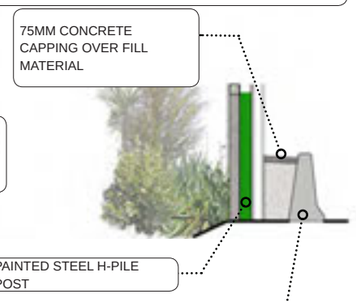
SCALE 1:100 @ A3



ELEVATION 2 - NOISE WALL NB2 & NB2A - RESIDENTIAL SIDE

SCALE 1:100 @ A3

SECTION A - NOISE WALL NB2 & NB2A - 2M



VISUALISATION-EXPRESSWAY SIDE

VISUALISATION-RESIDENTIAL SIDE

A1 REPRODUCTION SCALE
100
80
60
40
20
0mm

A3 REPRODUCTION SCALE
50
40
30
20
10
0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) AS SHOWN Reduced Scale (A3) AS SHOWN	Design	FB	18/07/14	Approved For Construction* Date
	Drawn	VB	18/07/14	
	Dsg Verifier			
	Dwg Check			
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SHEET 17
NOISE WALL NB2 - 2M

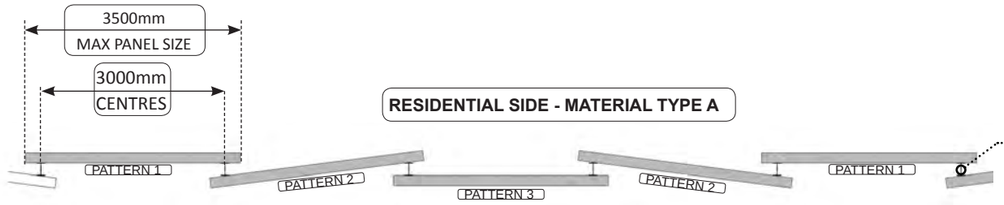
Drawing No: M2PP-121-D-DWG-8607

Rev. C

Document No.

DETAIL DESIGN (DET)

Drawing Plotted:

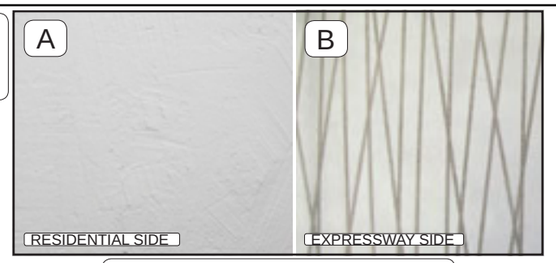


RESIDENTIAL SIDE - MATERIAL TYPE A

PAINTED STEEL H-PILE POST

EXPRESSWAY SIDE - MATERIAL TYPE B

FAIR FACED CONCRETE FINISH WITH MATT GRAFFITI GUARD

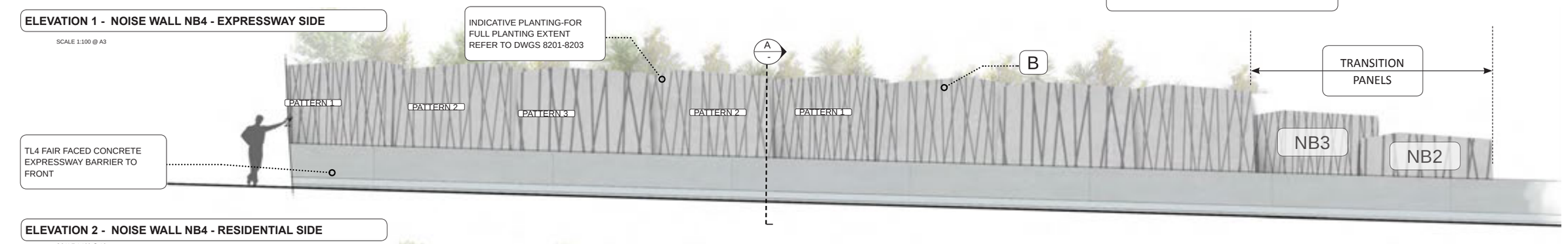


-FAIR FACED CONCRETE WITH EXPOSED CONCRETE PATTERN.
-CONCRETE PATTERN: VERTEX BY GRAPHIC CONCRETE
-3 PATTERN SIZES:
- PATTERN 1: SMALL
- PATTERN2: MEDIUM
- PATTERN 3: LARGE

MATERIALITY/FINISHES/EXAMPLES

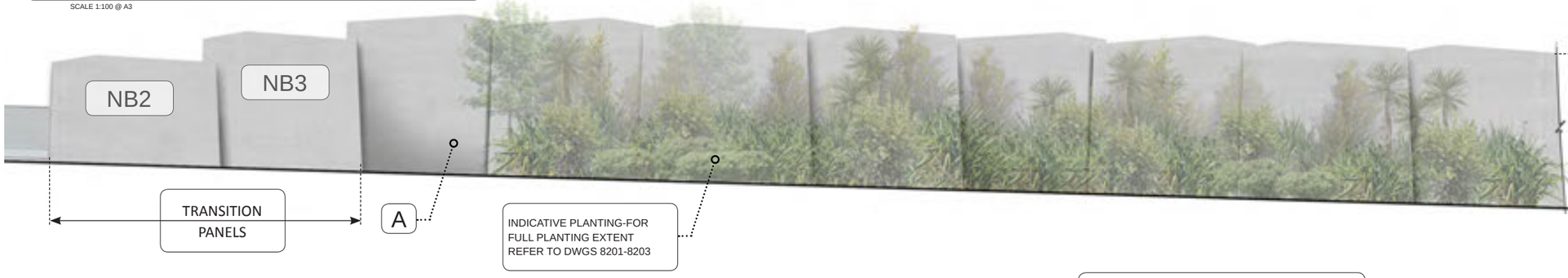
ELEVATION 1 - NOISE WALL NB4 - EXPRESSWAY SIDE

SCALE 1:100 @ A3



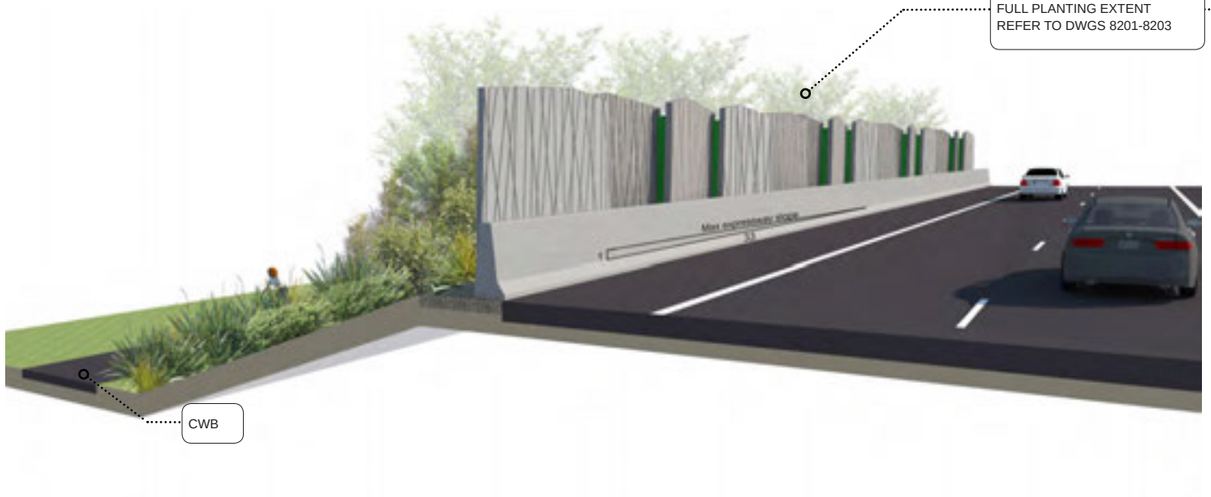
ELEVATION 2 - NOISE WALL NB4 - RESIDENTIAL SIDE

SCALE 1:100 @ A3



SECTION A - NOISE WALL NB4 - 3.0M

VISUALISATION-EXPRESSWAY SIDE



VISUALISATION-RESIDENTIAL SIDE

A1 REPRODUCTION SCALE
100
80
60
40
20
0mm

A3 REPRODUCTION SCALE
50
40
30
20
10
0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1)	Design	FB	18/07/14	Approved For Construction*
AS SHOWN Reduced Scale (A3)	Drawn	VB	18/07/14	
	Dsg Verifier			
AS SHOWN	Dwg Check			Date
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SHEET 18
NOISE WALL NB4-3M HIGH

Drawing No: M2PP-121-D-DWG-8608

Rev. C

Document No.

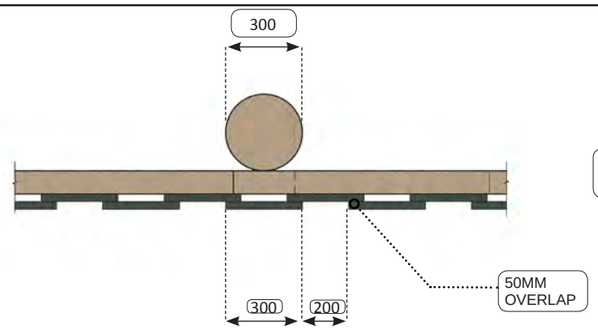
DETAIL DESIGN (DET)

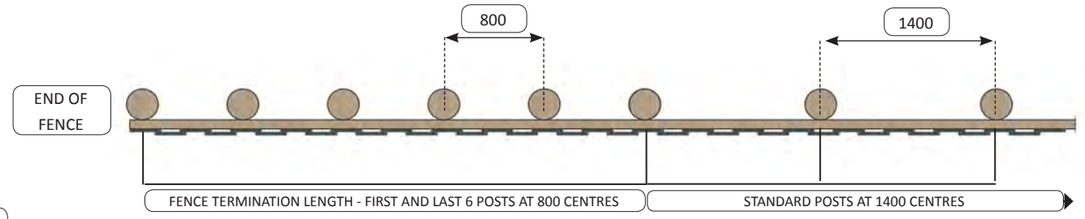
Drawing Plotted:

NB7 - DRIVEN POSTS

NB7 DRIVEN POSTS:

- DEPTH IN TO SAND 2000MM
- DEPTH INTO PEAT 3000MM
- POLES TO BE H5 TREATED
- FIRST AND LAST 6 POSTS FROM END OF FENCE TO BE AT 800MM CENTRES
- ALL POSTS IN BETWEEN TO BE AT 1400 CENTRES
- PALINGS 100MM IN TO GROUND

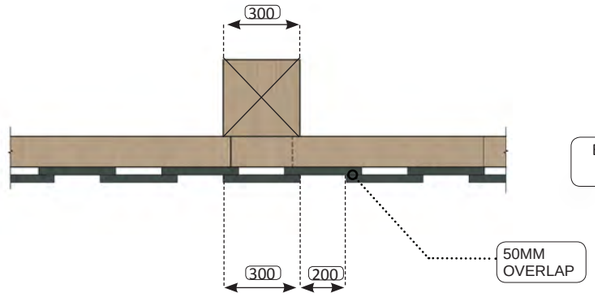


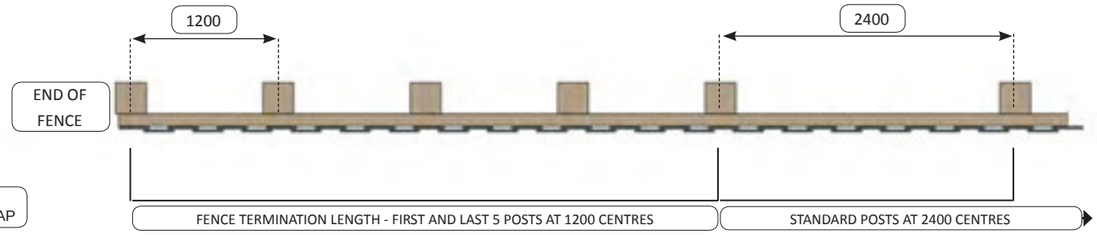


NB7 - BORED POSTS

NB7 BORED POSTS:

- DEPTH IN TO SAND 2000MM
- DEPTH INTO PEAT 3000MM
- POLES TO BE H5 TREATED
- FIRST AND LAST 5 POSTS FROM END OF FENCE TO BE AT1200MM CENTRES
- ALL POSTS IN BETWEEN TO BE AT 2400 CENTRES
- PALINGS 100MM IN TO GROUND

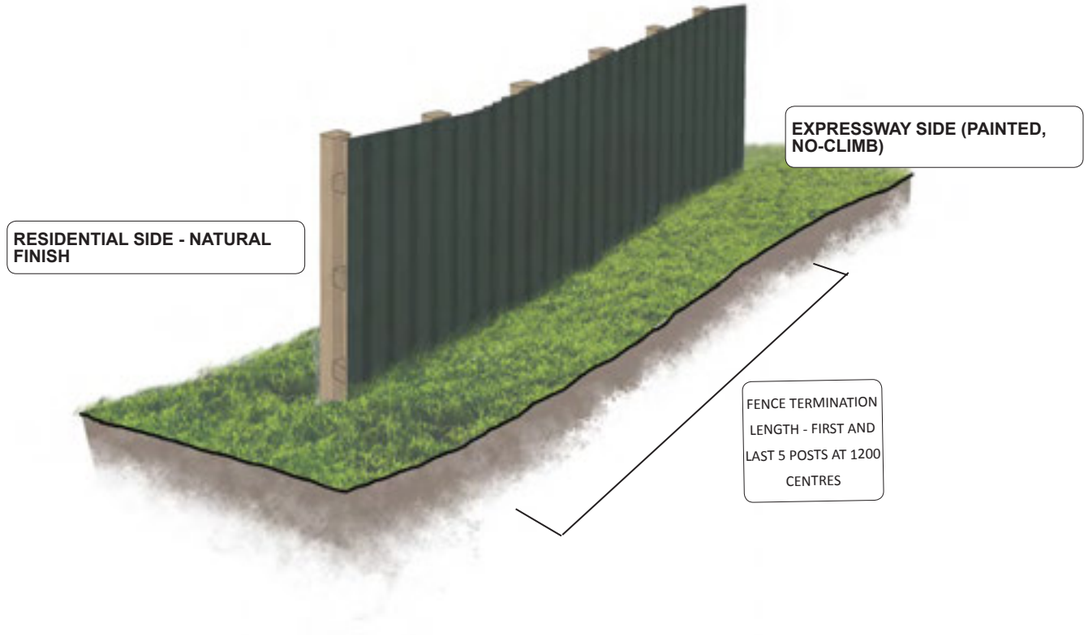




NB7 - TYPICAL ELEVATION - EXPRESSWAY SIDE

NOT TO SCALE

NB7 - TYPICAL PERSPECTIVE - EXPRESSWAY SIDE (BORED POSTS)



NB7 TIMBER NOISE FENCE:

- 2.0M HIGH
- OVERLAPPING TIMBER PALINGS
- NO-CLIMB SIDE FACING EXPRESSWAY
- NZTA APPROVED STAIN - DARK GREEN / GREY
- 30 YEAR DESIGN LIFE

COLOUR:
WOODSMAN
WATERBORNE
RESENE DATA SHEET
D57A

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1)	Design	FB	18/07/14	Approved For Construction*
AS SHOWN	Drawn	VB	18/07/14	
Reduced Scale (A3)	Dsg Verifier			
AS SHOWN	Dwg Check			Date
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SHEET 19 **NOISE WALL NB7-2.0M HIGH TIMBER PROPERTY BOUNDARY NOISE FENCE**

Drawing No: M2PP-121-D-DWG-8609

Rev. C

Document No.

DETAIL DESIGN (DET)

A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

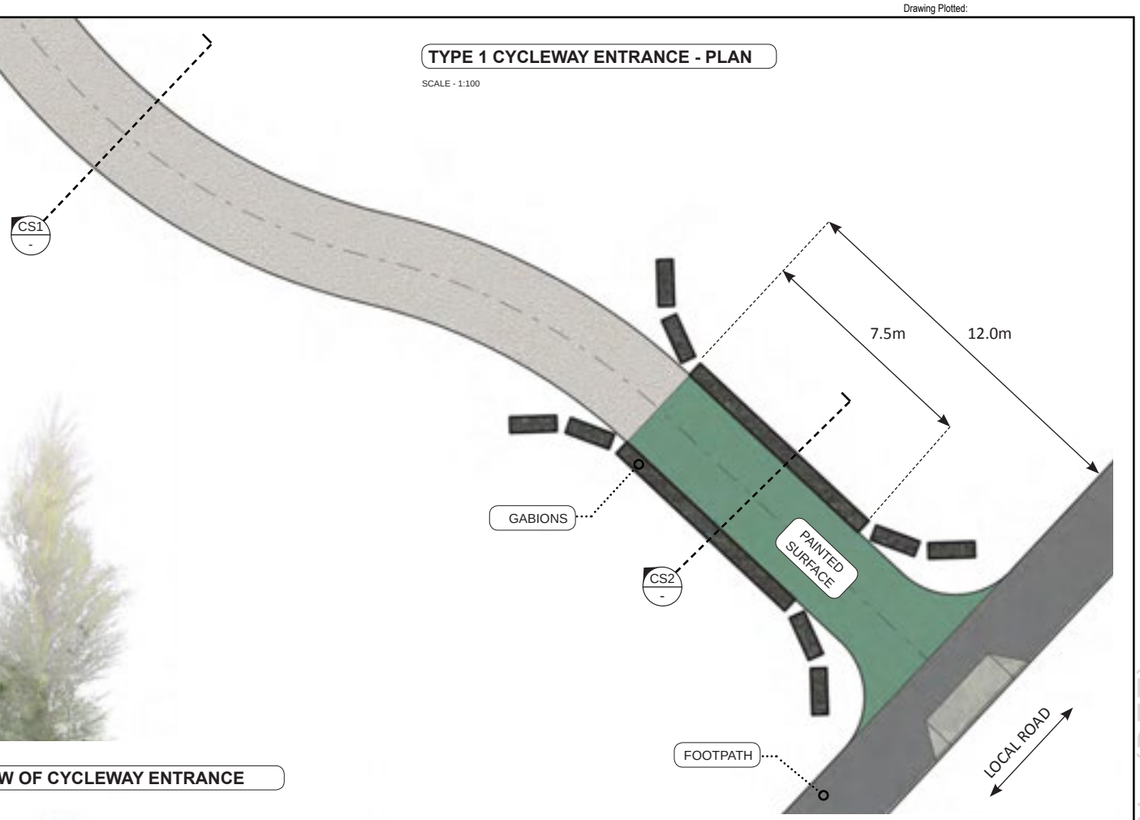
Drawing Plotted:

CS1 - TYPICAL CYCLEWAY SECTION

SCALE - 1:50

TYPE 1 CYCLEWAY ENTRANCE - PLAN

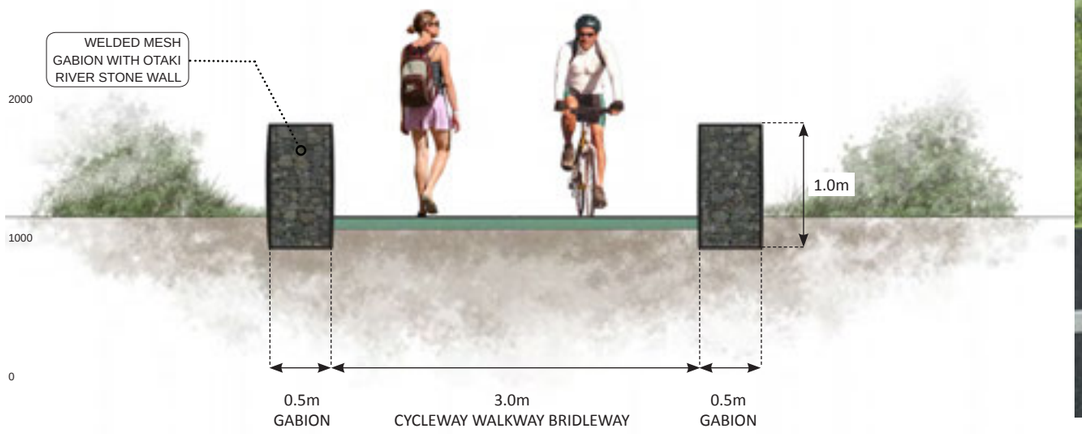
SCALE - 1:100



GROUND LEVEL VIEW OF CYCLEWAY ENTRANCE

CS2 - TYPE 1 CYCLEWAY ENTRANCE

SCALE - 1:50



A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) AS SHOWN Reduced Scale (A3) AS SHOWN	Design	FB	18/07/14	Approved For Construction* Date
	Drawn	VB	18/07/14	
	Dsg Verifier			
	Dwg Check			
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY MAKA KOTAHI
MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SHEET 20 **CWB INTERSECTIONS**

Drawing No: M2PP-121-D-DWG-8801

Rev. C

DETAIL DESIGN

Document No.

Drawing Plotted:

PLAN OF LIGHTING LOCATIONS

P - CWB

D-ROAD LIGHTING

G-ROAD LIGHTING

U-UNDER BRIDGE LIGHTING

Z-ROAD LIGHTING

NOTE: INDICATIVE LIGHTING FROM TOC DESIGN - POLE HEIGHTS AND SPACING BY OTHERS

A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) 1:1000	Design	FB	18/07/14
	Drawn	VB	18/07/14
Reduced Scale (A3) 1:2000	Dsg Verifier		
	Dwg Check		
* Refer to Revision 1 for Original Signature			Approved For Construction* Date

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SHEET 21
LIGHTING PLAN

Drawing No: M2PP-121-D-DWG-8701

Rev. C

Document No.

Drawing Plotted:

PLAN OF LIGHTING LOCATIONS

P-CWB

D-ROAD LIGHTING

G-ROAD LIGHTING

U-UNDER BRIDGE LIGHTING

Z-ROAD LIGHTING

NOTE: INDICATIVE LIGHTING FROM TOC DESIGN - POLE HEIGHTS AND SPACING BY OTHERS

A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) 1:1000	Design	FB	18/07/14	Approved For Construction*
	Drawn	VB	18/07/14	
Reduced Scale (A3) 1:2000	Dsg Verifier			Date
	Dwg Check			
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

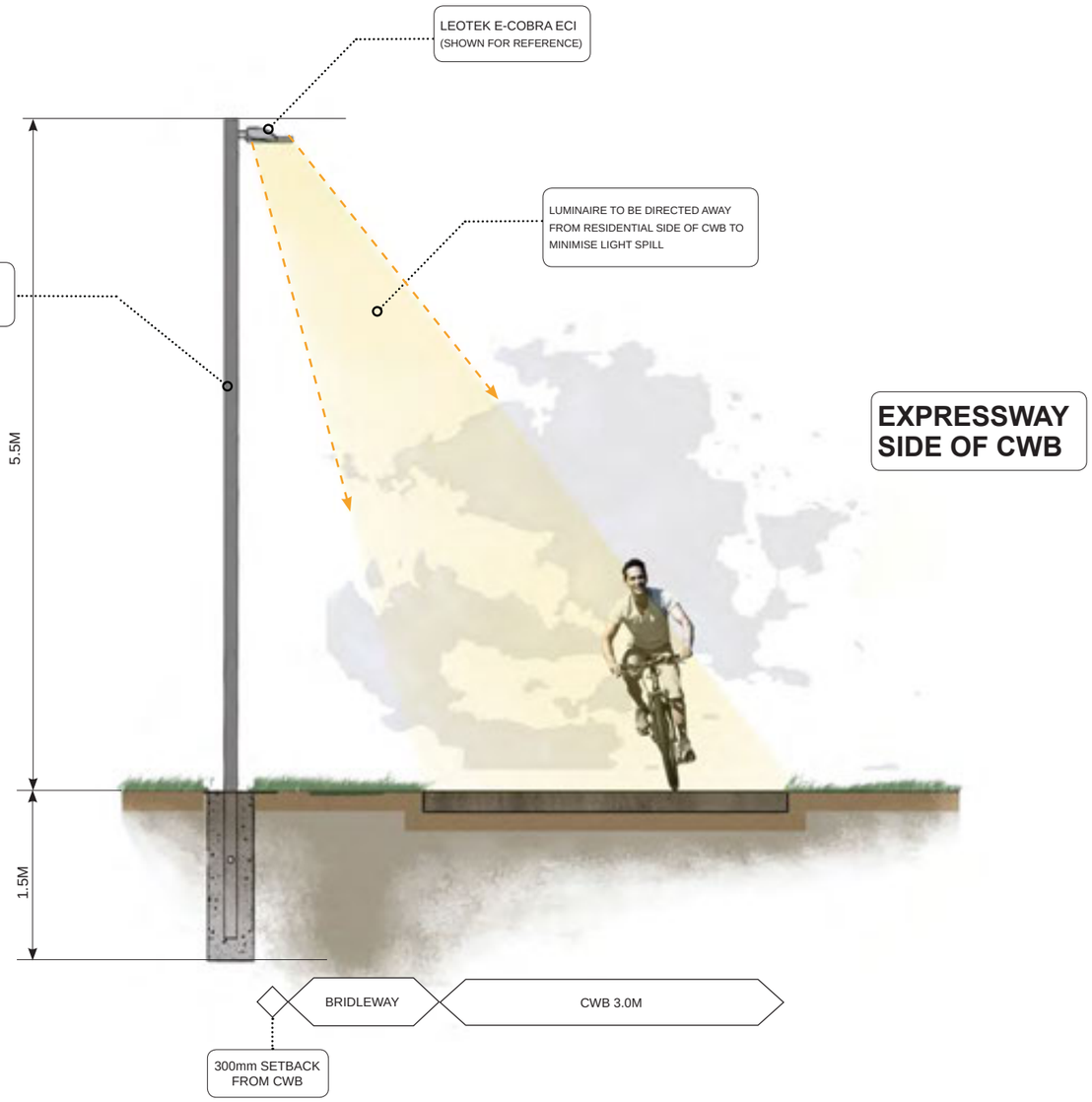
Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SHEET 22
LIGHTING PLAN

Drawing No: M2PP-121-D-DWG-8702

Rev. C

Document No.



POLE HEIGHT	POLE SPACING	EXTRAPOLATED PROJECT QUANTITY
4.5M	26M	135
5.0M	28M	126
5.5M	30M	117
6.0M	31M	114
6.5M	32M	110

OPTIMUM POLE SPACING - COLUMN HEIGHT RATIO WITH SUGGESTED LUMINR (LEOTEK E-COBRA ECI)

DETAIL DESIGN (DET)

A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1): AS SHOWN
Reduced Scale (A3): AS SHOWN

Design	FB	18/07/14	Approved For Construction*
Drawn	VB	18/07/14	
Dsg Verifier			
Dwg Check			Date

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY | MacKays to Peka Peka – Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SHEET 23 **INDICATIVE LIGHT POLE CONFIGURATION**

Drawing No: M2PP-121-D-DWG-8703

Rev. C

Document No.

Drawing Plotted:

LIGHTING VISUALISATION - KAPITI ROAD BRIDGE CROSSING (EAST SIDE OF EXPRESSWAY LOOKING WEST)

Urban Bridges - Architectural Lighting Design Principles.

1. Uplight the undersides of the bridges from the gap between the top of spill though or vertical abutments and the bridge deck.
2. Where the bridge has columns, softly uplight the columns to accentuate the forms of the columns.
3. Stronger lighting in the more urban areas and lower/softer in the less urban.
4. White - Cool White light colours/shades to be used. Exact colours to be confirmed

A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) AS SHOWN Reduced Scale (A3) AS SHOWN	Design	FB	18/07/14	Approved For Construction* Date
	Drawn	VB	18/07/14	
	Dsg Verifier			
	Dwg Check			
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI — MacKays to Peka Peka — Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

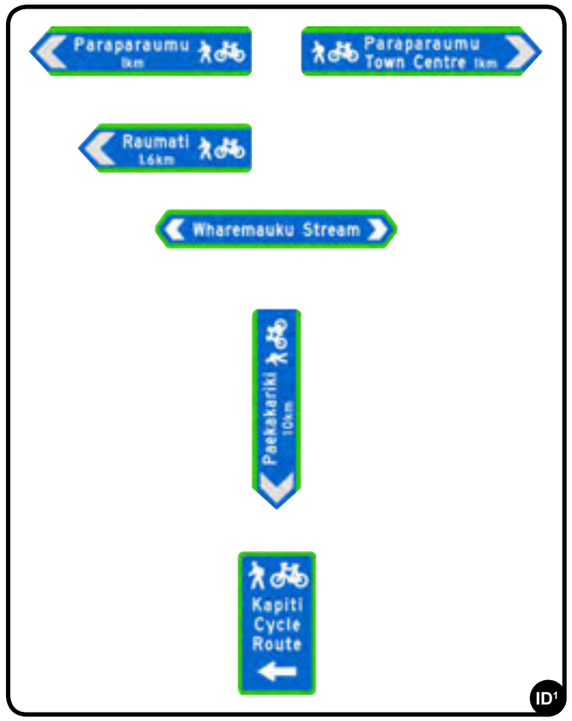
Title: SHEET 24 **INDICATIVE KAPITI BRIDGE LIGHTING**

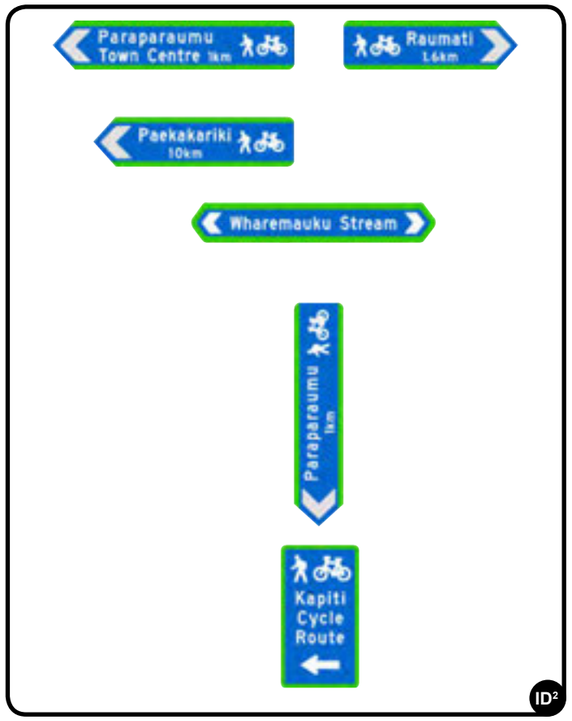
Drawing No: M2PP-121-D-DWG-8704

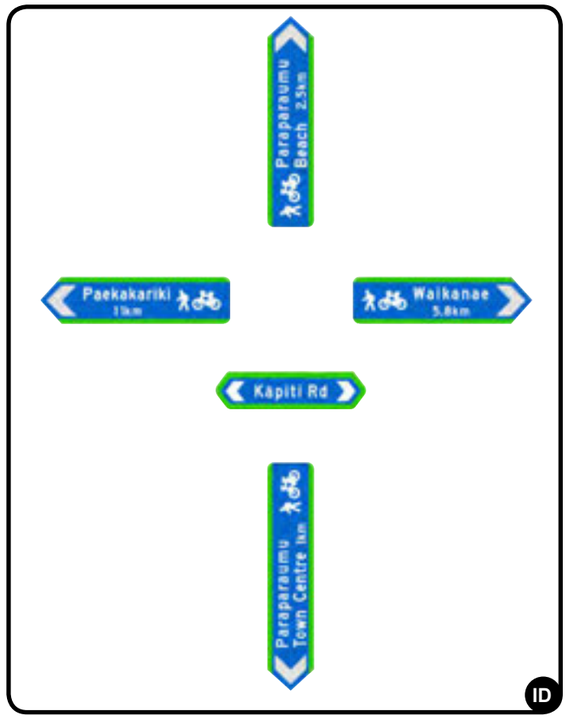
Rev. C

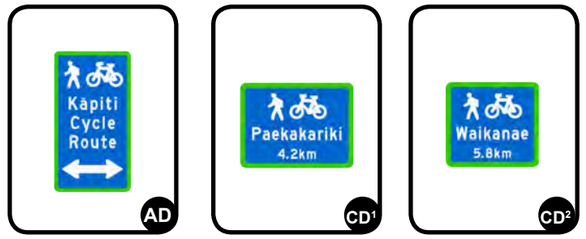
DETAIL DESIGN (DET)

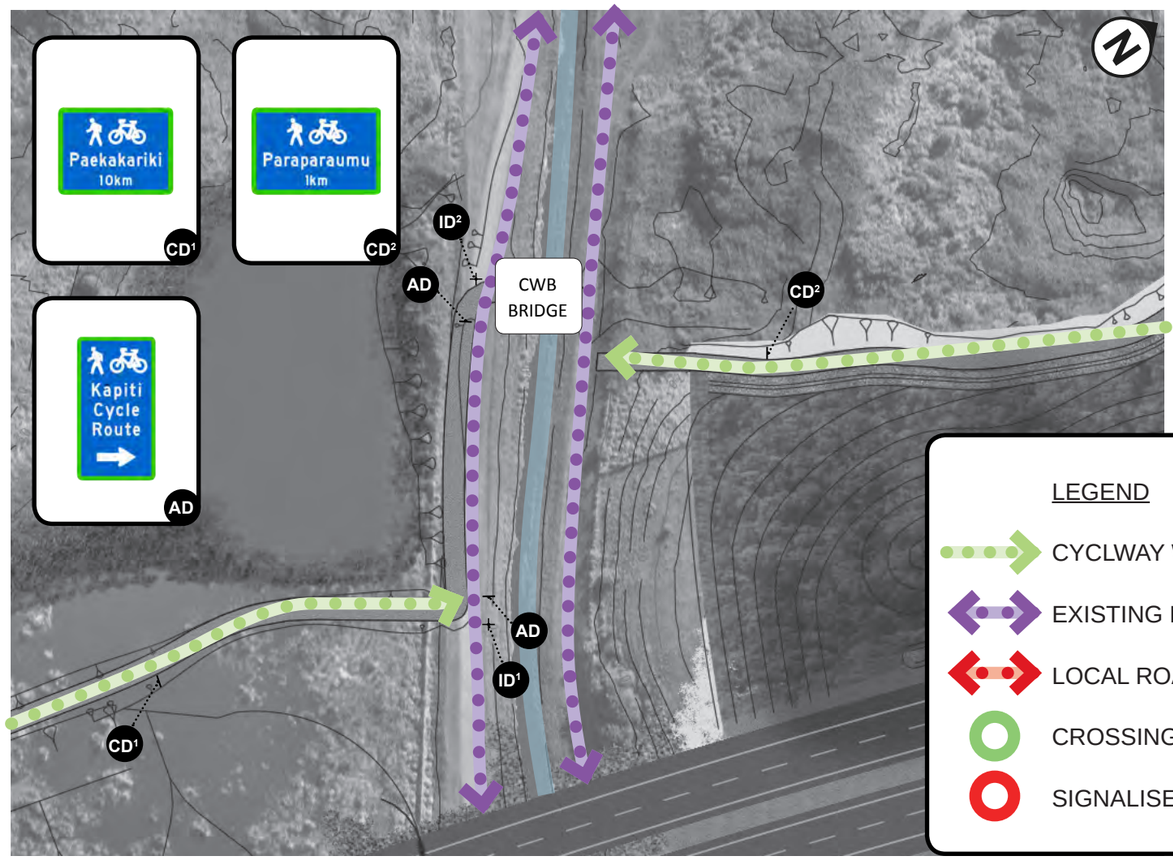
Document No.

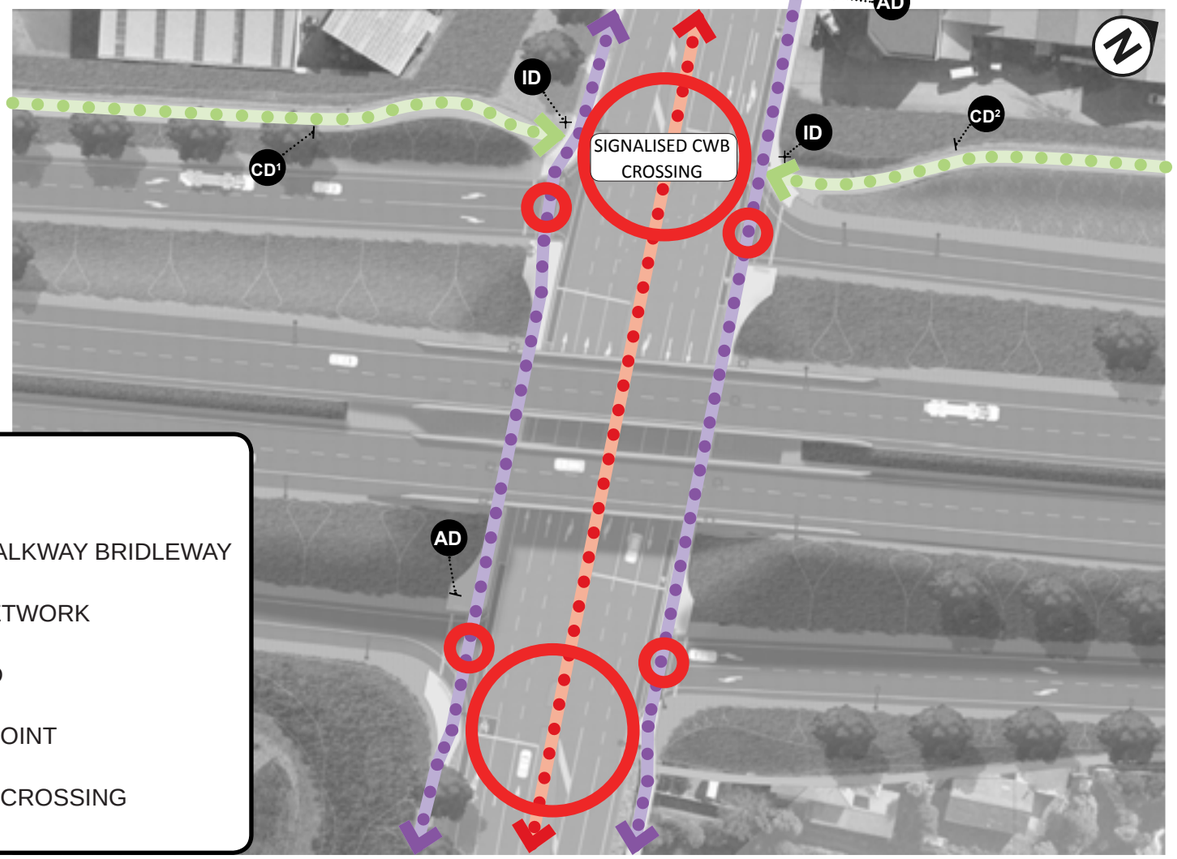












LEGEND

- CYCLWAY WALKWAY BRIDLEWAY
- EXISTING NETWORK
- LOCAL ROAD
- CROSSING POINT
- SIGNALISED CROSSING

A1 REPRODUCTION SCALE 100 80 60 40 20 0mm

A3 REPRODUCTION SCALE 50 40 30 20 10 0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) 1:500 AS SHOWN Reduced Scale (A3) AS SHOWN	Design	FB	18/07/14	Approved For Construction* Date
	Drawn	VB	18/07/14	
	Dsg Verifier			
	Dwg Check			

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SHEET 25 SIGNAGE LOCATION PLAN

Drawing No: M2PP-121-D-DWG-8902

Rev. C

Document No.

DETAIL DESIGN (DET)

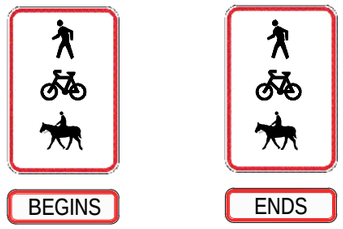
TYPICAL SIGN TYPES:

AI - ADVANCED INFO SIGNS

AT START OF ROUTE.
INCLUDES:
- MAP & INFO
- LENGTH & DURATION OF RIDE / WALK

AI - Advance Information Signs are not an essential requirement for public access tracks or cycle routes, nor are they standardised in terms of their design and layout. These signs may, if desired and appropriate, be installed at or near the start point of the route to provide detailed information, such as a map and information about the length and duration to ride etc. These signs should be clearly visible from the road, allowing cyclists and pedestrians a safe place to stop clear of the roadway or cycleway to read the information.

BE - BEGINNING AND ENDING SIGNS



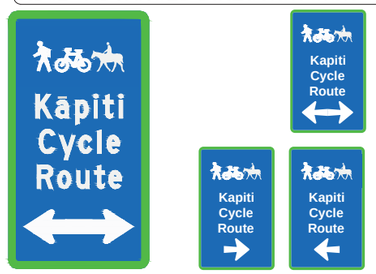
BE - Begins/Ends Signs are used to indicate the start and/or end point of a cycle route. They will include route specific information. Route Begins Signs should be installed on the left hand side of the CWB immediately beyond or adjacent to any advance information sign or at a logical starting point for the cycle route.

ID - INTERSECTION DIRECTION

ID - The Intersection Direction Sign is located at or as near as possible to the actual intersection. Should include both Information about the destination and the distance.

Multiple sighs and destinations to be on one post

AD01 - ADVANCED DIRECTION SIGN - ON LOCAL ROAD APPROACHING CWB



AD - The purpose of the Advance Direction Sign is to give cyclists prior warning, to enable them to make decisions and, if necessary, place themselves in the best position to make any change in direction required before they reach the intersection. These signs should be used in any situation where the cyclist could easily miss making a required turn at an approaching intersection.

To occur 40-60m in advance of an intersection and should only include Information about the destination, not the distance.

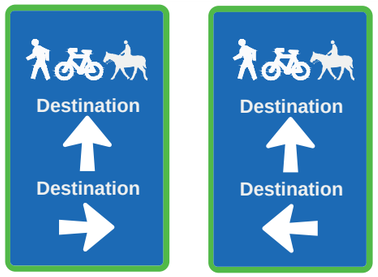
CD - CONFIRMATION DIRECTION

CD - The Confirmation Direction Sign is used to confirm the direction/ destination of travel after an intersection it is intended to provide assurance to cyclists. The CD sign features a straight ahead arrow and should include both Information about the destination and the distance.

As a general rule of thumb, these signs should be installed; between 20-50m beyond an intersection where an Advance Direction Sign has been used and should generally be visible from that intersection;

Cyclists should see a CD sign at least every 15-30 minutes of typical cyclist travel, or every 5-10 km.

AD - ADVANCED DIRECTION - ON CWB



AD - The purpose of the Advance Direction Sign is to give cyclists prior warning, to enable them to make decisions and, if necessary, place themselves in the best position to make any change in direction required before they reach the intersection. These signs should be used in any situation where the cyclist could easily miss making a required turn at an approaching intersection.

To occur 40-60m in advance of an intersection and should only include Information about the destination, not the distance.

LOCAL ROAD INTERSECTION SIGNS

LR + GW - Local road (LR) and Giveway (GW) signs should to be used where the CWB crosses a local road. These are to be located at or as near as possible to the actual intersection. Where possible the LR should be kept to one per intersection and be able to be read by people on either side of the intersection. Both the LR and GW should share the same post and or be incorporateted onto an existing post.

A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

DETAIL DESIGN (DET)

No.	Revision	By	Chk	Chk.V	Appd	Date
D	POST CERTIFICATION AMMENDMENT	MP				01/09/15
C	CERTIFIED ISSUE - REV C	VB			DS	18/07/14

Original Scale (A1) NTS Reduced Scale (A3) NTS	Design	FB	18/07/14	Approved For Construction* Date
	Drawn	VB	18/07/14	
	Dsg Verifier			
	Dwg Check			
* Refer to Revision 1 for Original Signature				

NZ TRANSPORT AGENCY WAKA KOTAHI
MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SHEET 26
CWB SIGN TYPE SUMMARY

Drawing No: M2PP-121-D-DWG-8901

Rev. D

Document No.

- **This guidance does not negate the requirement for the landscape architect to sign off these works prior to spreading topsoil.**
- The obligation to round earthwork cuts in the dune country, avoiding a geometric engineered finish, is a requirement of the consent conditions, the UDLF and the LMP (see below).
- Ideally, this shaping should have been incorporated into the earthworks design model, for implementation on site via the Trimble system. However, inclusion of flowing contours proved unworkable in the MX model so it was agreed that 'on site' instruction by the Design Team with the Construction Team was the best approach.
- Earthworks in sector 460 have been completed to a standard that meets the consent design requirements. Consequently, the dune shaping in 460 (depicted at right) is the design standard for 'dune rounding' for the entire M2PP project.

Consent Conditions

Condition DC.57 b) The purpose of each SSLMP shall be to help ensure detailed landscape design of the Project accords with the principles set out in the Urban and Landscape Design Framework (Technical Report 5) in order to achieve the outcomes and standards required under Condition DC.53C, having regard to the local character and context and ecological conditions within each sector or stage of the route. SSLMPs are required for all sectors/stages of the Expressway.

Condition DC.57 f) Each SSLMP shall include details of landscape design, including the following matters:
xi) Consideration of:
A. The landforms and character, including streams;

UDLF(Urban Design and Landscape Framework)

The dunes are the 'signature' landforms encountered along the Expressway corridor. In the first instance the route alignment seeks to avoid significant dunes if possible. However, loss or modification of some dunes will be inevitable in places given the confined corridor available and the scale of the Expressway footprint. Integrating the Expressway linear form into the dune landforms is a key design objective.

Design Concept
The dune forms and other natural landform features have been avoided as best they can in the alignment of the Expressway. However, the Expressway will create change to landforms and the approach will be to 'naturalise' the changes as far as practicable, to integrate those changes with local topographical patterns.

Design Principles
The following principles will apply to the landform design:

3. Design or modify landforms to acknowledge and reflect the local topographical pattern (scale, orientation, profile).

5. Shape (roll off) the tops of cut/ fill faces so the faces integrate with the existing dune profiles as far as practicable and minimise risk of water and wind erosion.

6. Shape visual and noise mitigation bunds to appear as 'natural' landform, avoiding engineered appearances unless these forms are a component of a designed 'land art' formation.

LMP(Landscape Management Plan)

Attachment 2: Principles, Methods and Procedures (pg.6)

Ensure finished earthworks physically and visually relate to adjoining landforms and that they reflect the Design Principles as set out in the Urban and Landscape Design Framework.

-Shape noise and visual mitigation bunds to appear as 'natural' landforms where practicable.

- Avoid unnecessary disturbance to natural landforms.

-Re-shaping of dunes to achieve a 'natural' appearance is likely to require extending earthworks into surrounding topography.

Best Practice Examples from Sector 460

Below are examples of successful dune rounding conducted in sector 460 (western side of alignment between approx. chainage 9700-10,000).

-Seamless blending with landforms beyond designation

-Rounding and gradients are a continuation of adjoining landforms

-Dune rounding at edge of boundary fits with existing profile

-Rounding and gradients are at a similar character and scale to surrounding landforms

-Horizontal shaping and undulation with similar character to surrounding dune context

-During dune rounding, form a positive fall across the earthworks and ensure there are no ruts, sags or ground depressions to avoid water collecting and potentially destabilising the slope.

-Natural appearance. Avoid uniform, engineered profiles.

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

A1 REPRODUCTION SCALE: 100 80 60 40 20 0mm
A3 REPRODUCTION SCALE: 50 40 30 20 10 0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
2	REVISED BASED ON GEOTECHNICAL INPUT	MP	MP	BF	DS	07.08.14
1	FOR CONSTRUCTION	MP	GFB	DH	DC	07.05.14

Original Scale (A1) NTS	Design	B FAULKNER	24.04.14	Approved For Construction* P BRADSHAW Date 09.05.14
Reduced Scale (A3) NTS	Drawn	V BILLETT	24.04.14	
	Dsg Verifier	B EVANS	05.05.14	
	Dwg Check	G F-B	05.05.14	
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI — MacKays to Peka Peka — Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

SHEET 27
DUNE ROUNDING DETAIL

Drawing No: M2PP-23R-D-DWG-8904

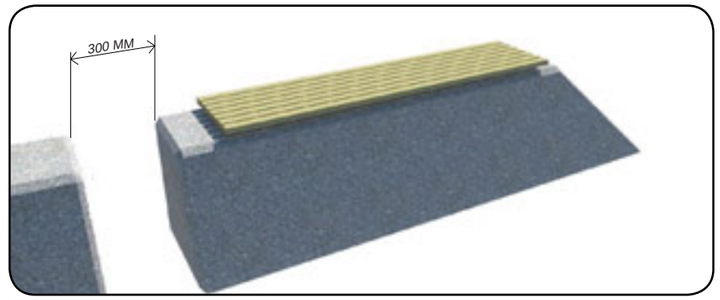
Rev. 2

Document No. M2PP-23R-D-DWG-8904.DWG

DO NOT SCALE IF IN DOUBT ASK.

CYCLEWAY ENTRANCE TYPE 1 - TYPICAL PLAN

SCALE - 1:150 @ A3



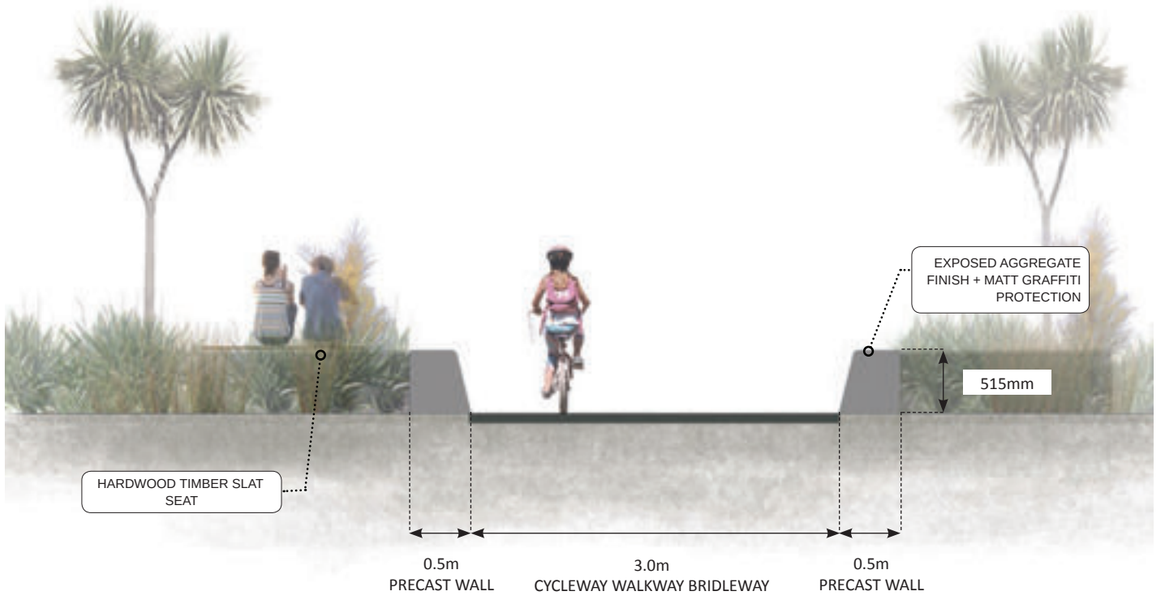
HARDWOOD TIMBER SLAT SEAT

HARDWOOD TIMBER SLAT SEAT EXAMPLE

GROUND LEVEL VIEW OF TYPICAL TYPE 1 CYCLEWAY ENTRANCE

CS1 - CYCLEWAY ENTRANCE TYPE 1 - TYPICAL SECTION

SCALE - 1:50 @ A3



A1 REPRODUCTION SCALE: 100 80 60 40 20 0mm

A3 REPRODUCTION SCALE: 50 40 30 20 10 0mm

No.	Revision	By	Chk	Chk V	Appd	Date
A	POST CERTIFICATION ISSUE	FB				01.09.15

Original Scale (A1)	Design	FB	01.09.15	Approved For Construction*
	Drawn	MP	01.09.15	
Reduced Scale (A3)	Dsg Verifier			
	Dwg Check			Date
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI — MacKays to Peka Peka, Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: SSMP 3 [330-340-350] SHEET 28 - TYPE 1 CWB ENTRANCE DETAIL

Drawing No: M2PP-121-D-DWG-8802

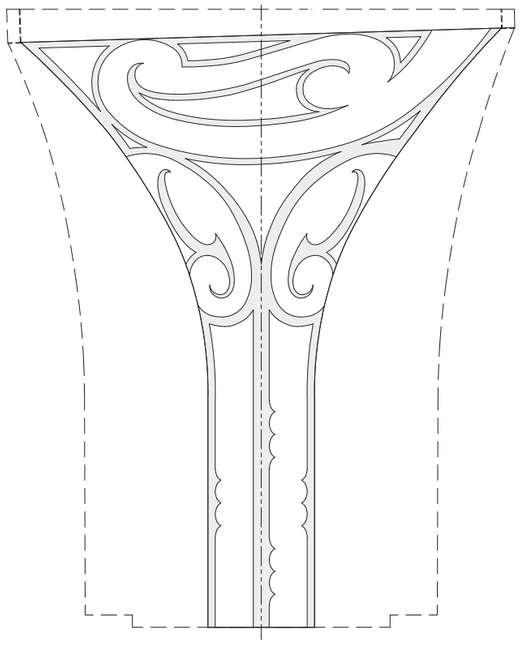
Rev. A

Document No.

DETAIL DESIGN (DET)

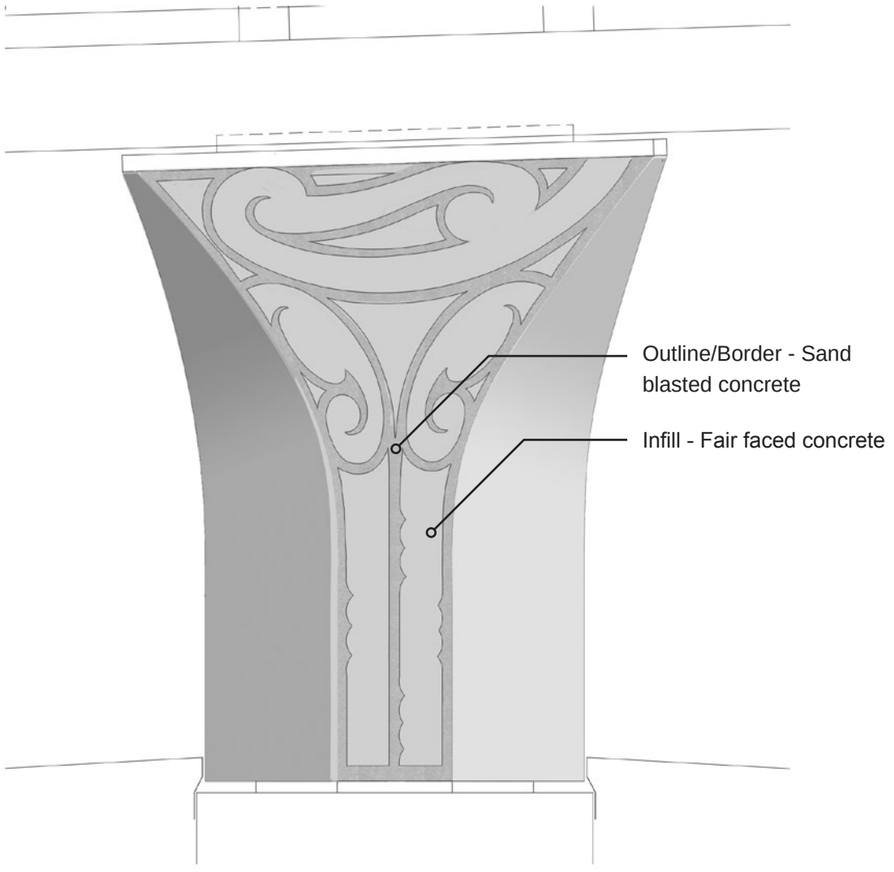
COLUMN TREATMENT - VECTOR DRAWING FOR STENCIL SETOUT

SCALE - 1:50 @ A3



COLUMN TREATMENT - RENDERED IMPRESSION

SCALE - 1:50 @ A3



A1 REPRODUCTION SCALE
100
80
60
40
20
0mm

A3 REPRODUCTION SCALE
50
40
30
20
10
0mm

No.	Revision	By	Chk	Chk.V	Appd	Date
A	POST CERTIFICATION ISSUE	FB				01.09.15

Original Scale (A1)
Reduced Scale (A3)

Design	FB	01.09.15	Approved For Construction*
Drawn	MP	01.09.15	
Dsg Verifier			
Dwg Check			Date

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI
MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: SSMP 3 - SHEET 28
TE ATIAWA COLUMN DESIGN

Drawing No: M2PP-121-D-DWG-8803

Rev. A

Document No.

DETAIL DESIGN (DET)

Drawing Plotted: 01 Sep 2014 10:07 a.m.

RETAIN

RETAIN

CONNIFERS TO BE ROMEVED AT ADJACENT LANDOWNER'S REQUEST. EUCALYPTUS TO BE RETAINED IF POSSIBLE

CYCLEWAY (CWB)

EXPRESSWAY NORTHBOUND

EXPRESSWAY SOUTHBOUND

5400

5500

5600

5700

350

370

360

370

350

360

370

380

370

350

370

A1 REPRODUCTION SCALE

100 80 60 40 20 0mm

A3 REPRODUCTION SCALE

50 40 30 20 10 0mm

VEGETATION TO BE RETAINED

- TERRESTRIAL VALUED VEGETATION (CONSENT CONDITION G.41 c) i))
- WETLAND VALUED VEGETATION (CONSENT CONDITION G.41 c) ii))
- TERRESTRIAL VEGETATION - NATIVE
- TERRESTRIAL VEGETATION - EXOTIC
- WETLAND VEGETATION - NATIVE
- WETLAND VEGETATION - EXOTIC / OPEN WATER
- LANDFORM TO BE RETAINED
- DESIGNATION

NOTES:

1. AREAS OF VEGETATION IDENTIFIED TO BE RETAINED ARE SUBJECT TO MARKING ON SITE BY AN ECOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO TEMPORARY FENCING.
2. REMOVAL OF ANY VEGETATION MARKED FOR RETENTION MUST BE APPROVED BY A LANDSCAPE ARCHITECT OR ECOLOGIST.
3. COMPLIANCE WITH THE ABOVE IS A REQUIREMENT OF THE CONSENT CONDITIONS.

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

No.	Revision	By	Chk	Chk.V	Appd	Date
3	FOR CONSTRUCTION	MP	MP	BF	DS	07.08.14
2	FOR KCDC CERTIFICATION - REVISED AS NOTED	MP	MP	BF	DS	08.07.14
1	FOR CONSTRUCTION - WEED CLEARANCE	MP	GFB	DH	DS	17.03.14

Original Scale (A1) 1:500
Reduced Scale (A3) 1:1000

Design	S DUNN	09.12.13	Approved For Construction* P. BRADSHAW Date 19.03.14
Drawn	M POWELL	09.12.13	
Dsg Verifier	B. FAULKNER	17.03.14	
Dwg Check	G. F-B	17.03.14	

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: WHAREMAUKU TO KAPITI RD VEGETATION TO BE RETAINED

Drawing No: M2PP-37R-D-DWG-8701

Rev. 3

Document No. M2PP-37R-D-DWG-8701.DWG

Drawing Plotted: 01 Sep 2014 10:04 a.m.

SECTOR 370
SECTOR 380

MATCHLINE REFER: M2PP-38R -D-DWG-8702

MATCHLINE REFER: M2PP- 38R -D-DWG-8703

MATCHLINE REFER: M2PP- 38R -D-DWG-8704

RETAIN

ADDITIONAL MACROCARPA TO BE RETAINED

RETAIN

CUT SLOPE MAY AFFECT ROOT STRUCTURE.
TRIMMING MAY BE NECCESSARY ON EASTERN SIDE

ADDITIONAL VEGETATION
TO BE RETAINED

RETAIN

CYCLEWAY (CWB)

EXPRESSWAY NORTHBOUND

EXPRESSWAY SOUTHBOUND

EXPRESSWAY ON RAMP

5800

5900

6000

6100

A1 REPRODUCTION SCALE
100
80
60
40
20
0mm

A3 REPRODUCTION SCALE
50
40
30
20
10
0mm

NOTES:

1. AREAS OF VEGETATION IDENTIFIED TO BE RETAINED ARE SUBJECT TO MARKING ON SITE BY AN ECOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO TEMPORARY FENCING.
2. REMOVAL OF ANY VEGETATION MARKED FOR RETENTION MUST BE APPROVED BY A LANDSCAPE ARCHITECT OR ECOLOGIST.
3. COMPLIANCE WITH THE ABOVE IS A REQUIREMENT OF THE CONSENT CONDITIONS.

VEGETATION TO BE RETAINED

- TERRESTRIAL VALUED VEGETATION (CONSENT CONDITION G.41 c) i))
- WETLAND VALUED VEGETATION (CONSENT CONDITION G.41 c) ii))
- TERRESTRIAL VEGETATION - NATIVE
- TERRESTRIAL VEGETATION - EXOTIC
- WETLAND VEGETATION - NATIVE
- WETLAND VEGETATION - EXOTIC / OPEN WATER

- LANDFORM TO BE RETAINED
- DESIGNATION

380

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

No.	Revision	By	Chk	Chk.V	Appd	Date
3	FOR CONSTRUCTION - REVISED AS NOTED	MP	MP	BF	DS	07.08.14
2	FOR KCDC CERTIFICATION - ENABLING WORKS (NO CHANGE IFC)	MP	GFB	DH	DS	26.03.14
1	FOR CONSTRUCTION - WEED CLEARANCE	MP	GFB	DH	DS	17.03.14

Original Scale (A1) 1:500
Reduced Scale (A3) 1:1000

Design	F. BAGGALEY	18.02.14	Approved For Construction* P. BRADSHAW Date 19.03.14
Drawn	M. POWELL	18.02.14	
Dsg Verifier	B. FAULKNER	17.03.14	
Dwg Check	G. F-B	17.03.14	

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: KAPITI ROAD INTERCHANGE VEGETATION TO BE RETAINED SHEET 1

Drawing No: M2PP-38R-D-DWG-8701

Rev. 3

Document No. M2PP-38R-D-DWG-8701.DWG

Drawing Plotted: 01 Sep 2014 10:04 a.m.

VEGETATION TO BE RETAINED

- TERRESTRIAL VALUED VEGETATION (CONSENT CONDITION G.41 c) i))
- WETLAND VALUED VEGETATION (CONSENT CONDITION G.41 c) ii))
- TERRESTRIAL VEGETATION - NATIVE
- TERRESTRIAL VEGETATION - EXOTIC
- WETLAND VEGETATION - NATIVE
- WETLAND VEGETATION - EXOTIC / OPEN WATER
- LANDFORM TO BE RETAINED
- DESIGNATION

NOTES:

1. AREAS OF VEGETATION IDENTIFIED TO BE RETAINED ARE SUBJECT TO MARKING ON SITE BY AN ECOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO TEMPORARY FENCING.
2. REMOVAL OF ANY VEGETATION MARKED FOR RETENTION MUST BE APPROVED BY A LANDSCAPE ARCHITECT OR ECOLOGIST.
3. COMPLIANCE WITH THE ABOVE IS A REQUIREMENT OF THE CONSENT CONDITIONS.

A1 REPRODUCTION SCALE: 100 80 60 40 20 0mm

A3 REPRODUCTION SCALE: 50 40 30 20 10 0mm

KAPITI ROAD

MATCHLINE REFER: M2PP- 38R -D-DWG-8703

MATCHLINE REFER: M2PP- 38R -D-DWG-8701

MATCHLINE REFER: M2PP- 38R -D-DWG-8705

380

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

No.	Revision	By	Chk	Chk.V	Appd	Date
3	FOR CONSTRUCTION	MP				05.09.14
2	FOR KCDC CERTIFICATION - ENABLING WORKS (NO CHANGE IFC)	MP	GFB	DH	DS	26.03.14
1	FOR CONSTRUCTION - WEED CLEARANCE	MP	GFB	DH	DS	17.03.14

Original Scale (A1) 1:500
Reduced Scale (A3) 1:1000

Design	F. BAGGALEY	18.02.14	Approved For Construction* P. BRADSHAW Date 19.03.14
Drawn	M. POWELL	18.02.14	
Dsg Verifier	B. FAULKNER	17.03.14	
Dwg Check	G. F-B	17.03.14	

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: KAPITI ROAD INTERCHANGE VEGETATION TO BE RETAINED SHEET 2

Drawing No: M2PP-38R-D-DWG-8702

Rev. 3

Document No. M2PP-38R-D-DWG-8702.DWG

Drawing Plotted: 01 Sep 2014 10:04 a.m.

VEGETATION TO BE RETAINED

- TERRESTRIAL VALUED VEGETATION (CONSENT CONDITION G.41 c) i))
- WETLAND VALUED VEGETATION (CONSENT CONDITION G.41 c) ii))
- TERRESTRIAL VEGETATION - NATIVE
- TERRESTRIAL VEGETATION - EXOTIC
- WETLAND VEGETATION - NATIVE
- WETLAND VEGETATION - EXOTIC / OPEN WATER
- LANDFORM TO BE RETAINED
- DESIGNATION

NOTES:

1. AREAS OF VEGETATION IDENTIFIED TO BE RETAINED ARE SUBJECT TO MARKING ON SITE BY AN ECOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO TEMPORARY FENCING.
2. REMOVAL OF ANY VEGETATION MARKED FOR RETENTION MUST BE APPROVED BY A LANDSCAPE ARCHITECT OR ECOLOGIST.
3. COMPLIANCE WITH THE ABOVE IS A REQUIREMENT OF THE CONSENT CONDITIONS.

MATCHLINE REFER: M2PP- 38R -D-DWG-8702

MATCHLINE REFER: M2PP- 38R -D-DWG-8705

ADDITIONAL VEGETATION TO BE RETAINED

RETAIN

CYCLEWAY (CWB)

EXPRESSWAY OFF RAMP

KAPITI ROAD

CYCLEWAY (CWB)

EXPRESSWAY NORTHBOUND

EXPRESSWAY SOUTHBOUND

6200

6300

6400

6500

EXPRESSWAY ON RAMP

MATCHLINE REFER: M2PP- 38R -D-DWG-8704

EXPRESSWAY OFF RAMP

RETAIN

RETAIN

RETAIN

ADDITIONAL VEGETATION TO BE RETAINED

RETAIN

MATCHLINE REFER: M2PP- 38R -D-DWG-8701

A1 REPRODUCTION SCALE

100 80 60 40 20 0mm

A3 REPRODUCTION SCALE

50 40 30 20 10 0mm

380

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

No.	Revision	By	Chk	Chk.V	Appd	Date
3	FOR CONSTRUCTION - REVISED AS NOTED	MP	MP	BF	DS	07.08.14
2	FOR KCDC CERTIFICATION - ENABLING WORKS (NO CHANGE IFC)	MP	GFB	DH	DS	26.03.14
1	FOR CONSTRUCTION - WEED CLEARANCE	MP	GFB	DH	DS	17.03.14

Original Scale (A1) 1:500
Reduced Scale (A3) 1:1000

Design	F. BAGGALEY	18.02.14	Approved For Construction*
Drawn	M. POWELL	18.02.14	P. BRADSHAW
Dsg Verifier	B. FAULKNER	17.03.14	
Dwg Check	G. F-B	17.03.14	Date 19.03.14

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: KAPITI ROAD INTERCHANGE VEGETATION TO BE RETAINED SHEET 3

Drawing No: M2PP-38R-D-DWG-8703

Rev. 3

Document No. M2PP-38R-D-DWG-8703.DWG

Drawing Plotted: 01 Sep 2014 10:04 a.m.

MATCHLINE REFER: M2PP- 38R -D-DWG-8701

MATCHLINE REFER: M2PP- 38R -D-DWG-8705

MATCHLINE REFER: M2PP- 38R -D-DWG-8703

ADDITIONAL VEGETATION TO BE RETAINED

RETAIN

A1 REPRODUCTION SCALE

100 80 60 40 20 0mm

A3 REPRODUCTION SCALE

50 40 30 20 10 0mm

NOTES:

1. AREAS OF VEGETATION IDENTIFIED TO BE RETAINED ARE SUBJECT TO MARKING ON SITE BY AN ECOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO TEMPORARY FENCING.
2. REMOVAL OF ANY VEGETATION MARKED FOR RETENTION MUST BE APPROVED BY A LANDSCAPE ARCHITECT OR ECOLOGIST.
3. COMPLIANCE WITH THE ABOVE IS A REQUIREMENT OF THE CONSENT CONDITIONS.

VEGETATION TO BE RETAINED

- TERRESTRIAL VALUED VEGETATION (CONSENT CONDITION G.41 c) i))
- WETLAND VALUED VEGETATION (CONSENT CONDITION G.41 c) ii))
- TERRESTRIAL VEGETATION - NATIVE
- TERRESTRIAL VEGETATION - EXOTIC
- WETLAND VEGETATION - NATIVE
- WETLAND VEGETATION - EXOTIC / OPEN WATER
- LANDFORM TO BE RETAINED
- DESIGNATION

380

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

No.	Revision	By	Chk	Chk.V	Appd	Date
3	FOR CONSTRUCTION - REVISED AS NOTED	MP	MP	BF	DS	07.08.14
2	FOR KCDC CERTIFICATION - ENABLING WORKS (NO CHANGE IFC)	MP	GFB	DH	DS	26.03.14
1	FOR CONSTRUCTION - WEED CLEARANCE	MP	GFB	DH	DS	17.03.14

Original Scale (A1) 1:500
Reduced Scale (A3) 1:1000

Design	F. BAGGALEY	18.02.14	Approved For Construction* P. BRADSHAW Date 19.03.14
Drawn	M. POWELL	18.02.14	
Dsg Verifier	B. FAULKNER	17.03.14	
Dwg Check	G. F-B	17.03.14	

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

Title: KAPITI ROAD INTERCHANGE VEGETATION TO BE RETAINED SHEET 4

Drawing No: M2PP-38R-D-DWG-8704

Rev. 3

Document No. M2PP-38R-D-DWG-8704.DWG

Drawing Plotted: 01 Sep 2014 10:05 a.m.

VEGETATION TO BE RETAINED

- TERRESTRIAL VALUED VEGETATION (CONSENT CONDITION G.41 c) i))
- WETLAND VALUED VEGETATION (CONSENT CONDITION G.41 c) ii))
- TERRESTRIAL VEGETATION - NATIVE
- TERRESTRIAL VEGETATION - EXOTIC
- WETLAND VEGETATION - NATIVE
- WETLAND VEGETATION - EXOTIC / OPEN WATER
- LANDFORM TO BE RETAINED
- DESIGNATION

NOTES:

1. AREAS OF VEGETATION IDENTIFIED TO BE RETAINED ARE SUBJECT TO MARKING ON SITE BY AN ECOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO TEMPORARY FENCING.
2. REMOVAL OF ANY VEGETATION MARKED FOR RETENTION MUST BE APPROVED BY A LANDSCAPE ARCHITECT OR ECOLOGIST.
3. COMPLIANCE WITH THE ABOVE IS A REQUIREMENT OF THE CONSENT CONDITIONS.

MATCHLINE REFER: M2PP-38R -D-DWG-8702

SECTOR 380
SECTOR 410

CYCLEWAY (CWB)

EXPRESSWAY ON RAMP

EXPRESSWAY NORTHBOUND

EXPRESSWAY SOUTHBOUND

EXPRESSWAY OFF RAMP

6600

6700

6800

6900

MATCHLINE REFER: M2PP- 38R -D-DWG-8703

MATCHLINE REFER: M2PP- 38R -D-DWG-8704

A1 REPRODUCTION SCALE
0mm 20 40 60 80 100

A3 REPRODUCTION SCALE
0mm 10 20 30 40 50

380

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

No.	Revision	By	Chk	Chk.V	Appd	Date
3	FOR CONSTRUCTION	MP				05.09.14
2	FOR KCDC CERTIFICATION - ENABLING WORKS (NO CHANGE IFC)	MP	GFB	DH	DS	26.03.14
1	FOR CONSTRUCTION - WEED CLEARANCE	MP	GFB	DH	DS	17.03.14

Original Scale (A1) 1:500
Reduced Scale (A3) 1:1000

Design	F. BAGGALEY	18.02.14	Approved For Construction*
Drawn	M. POWELL	18.02.14	P. BRADSHAW
Dsg Verifier	B. FAULKNER	17.03.14	
Dwg Check	G. F-B	17.03.14	Date 19.03.14

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY
RP 1012/0.00 TO 1023/5.00

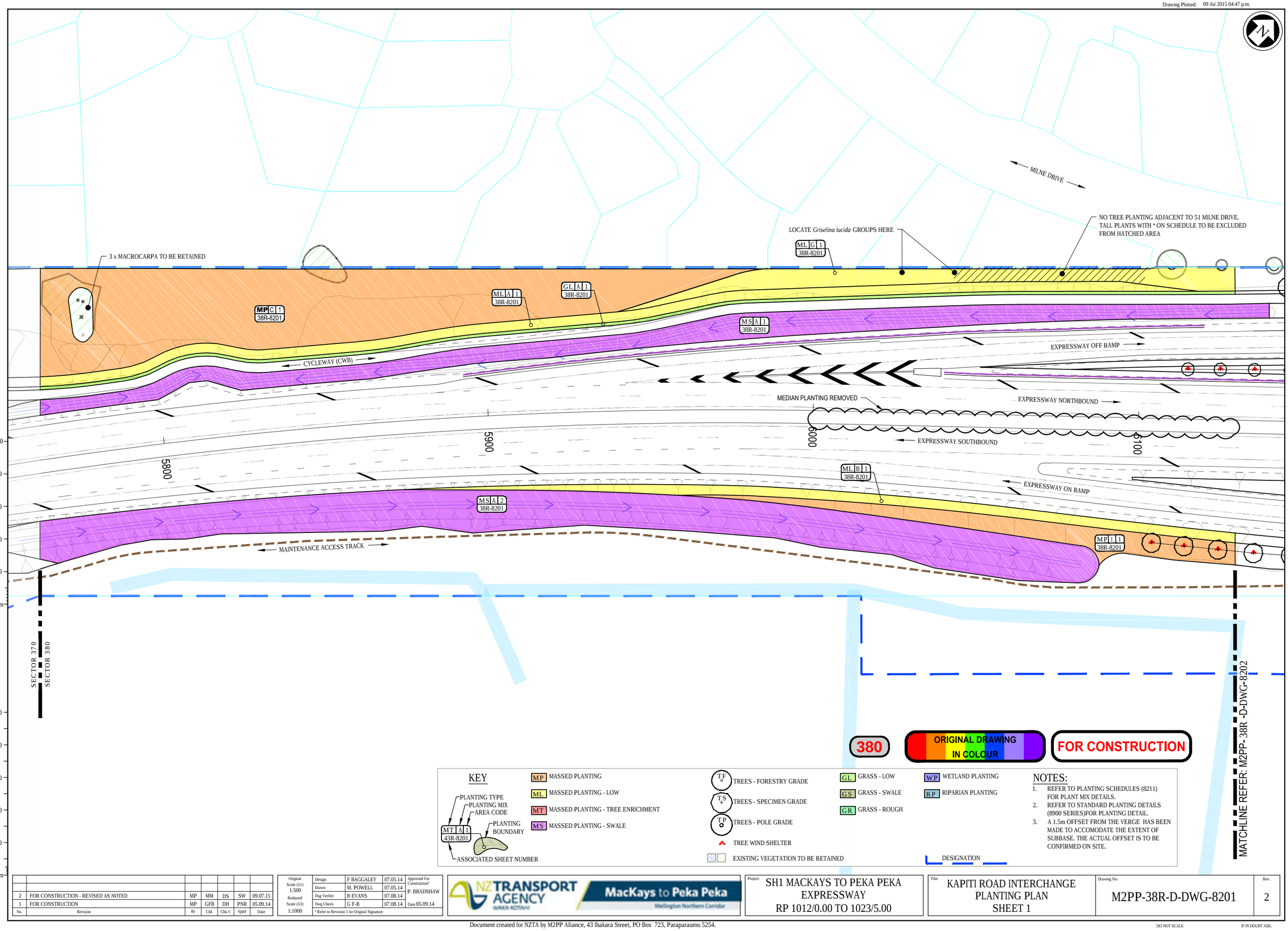
Title: KAPITI ROAD INTERCHANGE VEGETATION TO BE RETAINED SHEET 5

Drawing No: M2PP-38R-D-DWG-8705

Rev. 3

Document No. M2PP-38R-D-DWG-8705.DWG

Drawing Plotted: 09 Jul 2015 04:47 p.m.



380

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

KEY

- PLANTING TYPE
- PLANTING MIX
- AREA CODE
- PLANTING BOUNDARY
- ASSOCIATED SHEET NUMBER (e.g. MT A 1 / 43R-8201)

- MP MASSED PLANTING
- ML MASSED PLANTING - LOW
- MT MASSED PLANTING - TREE ENRICHMENT
- MS MASSED PLANTING - SWALE
- TF TREES - FORESTRY GRADE
- TS TREES - SPECIMEN GRADE
- TP TREES - POLE GRADE
- TREE WIND SHELTER
- EXISTING VEGETATION TO BE RETAINED
- GL GRASS - LOW
- GS GRASS - SWALE
- GR GRASS - ROUGH
- WP WETLAND PLANTING
- RP RIPARIAN PLANTING
- DESIGNATION

NOTES:

1. REFER TO PLANTING SCHEDULES (8211) FOR PLANT MIX DETAILS.
2. REFER TO STANDARD PLANTING DETAILS (8900 SERIES)FOR PLANTING DETAIL.
3. A 1.5m OFFSET FROM THE VERGE HAS BEEN MADE TO ACCOMODATE THE EXTENT OF SUBBASE. THE ACTUAL OFFSET IS TO BE CONFIRMED ON SITE.

No.	Revision	By	Chk	Chk.V	Appd	Date
2	FOR CONSTRUCTION - REVISED AS NOTED	MP	MM	DS	SW	09.07.15
1	FOR CONSTRUCTION	MP	GFB	DH	PNR	05.09.14

Original Scale (A1) 1:500	Design	F BAGGALEY	07.05.14	Approved For Construction* P. BRADSHAW
Reduced Scale (A3) 1:1000	Drawn	M. POWELL	07.05.14	
	Dsg Verifier	B EVANS	07.08.14	
	Dwg Check	G F-B	07.08.14	Date 05.09.14
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

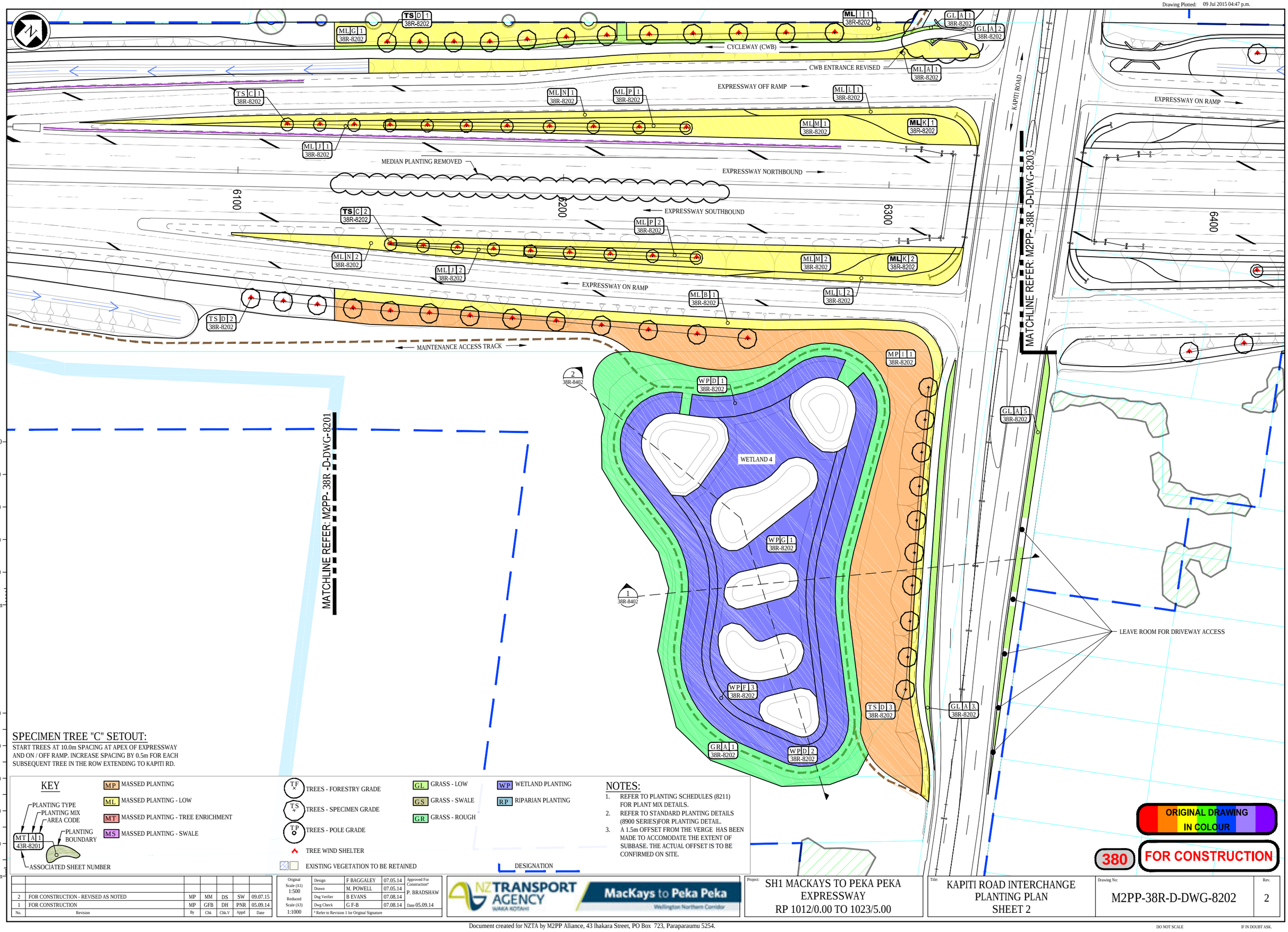
Title: KAPITI ROAD INTERCHANGE PLANTING PLAN SHEET 1

Drawing No: M2PP-38R-D-DWG-8201

Rev. 2

Document No. M2PP-38R-D-DWG-8201.DWG

Drawing Plotted: 09 Jul 2015 04:47 p.m.



A1 REPRODUCTION SCALE: 100 80 60 40 20 0mm

A3 REPRODUCTION SCALE: 50 40 30 20 10 0mm

SPECIMEN TREE "C" SETOUT:

START TREES AT 10.0m SPACING AT APEX OF EXPRESSWAY AND ON / OFF RAMP. INCREASE SPACING BY 0.5m FOR EACH SUBSEQUENT TREE IN THE ROW EXTENDING TO KAPITI RD.

KEY

MT A 1 43R-8201
- PLANTING TYPE
- PLANTING MIX AREA CODE
- PLANTING BOUNDARY
- ASSOCIATED SHEET NUMBER

- MP MASSED PLANTING
- ML MASSED PLANTING - LOW
- MT MASSED PLANTING - TREE ENRICHMENT
- MS MASSED PLANTING - SWALE
- TF TREES - FORESTRY GRADE
- TS TREES - SPECIMEN GRADE
- TP TREES - POLE GRADE
- TREE WIND SHELTER
- EXISTING VEGETATION TO BE RETAINED
- GL GRASS - LOW
- GS GRASS - SWALE
- GR GRASS - ROUGH
- WP WETLAND PLANTING
- RP RIPARIAN PLANTING

DESIGNATION

NOTES:

1. REFER TO PLANTING SCHEDULES (8211) FOR PLANT MIX DETAILS.
2. REFER TO STANDARD PLANTING DETAILS (8900 SERIES)FOR PLANTING DETAIL.
3. A 1.5m OFFSET FROM THE VERGE HAS BEEN MADE TO ACCOMODATE THE EXTENT OF SUBBASE. THE ACTUAL OFFSET IS TO BE CONFIRMED ON SITE.

ORIGINAL DRAWING IN COLOUR

380 FOR CONSTRUCTION

No.	Revision	By	Chk	Chk.V	Appd	Date
2	FOR CONSTRUCTION - REVISED AS NOTED	MP	MM	DS	SW	09.07.15
1	FOR CONSTRUCTION	MP	GFB	DH	PNR	05.09.14

Original Scale (A1) 1:500	Design	F BAGGALEY	07.05.14	Approved For Construction* P. BRADSHAW
Reduced Scale (A3) 1:1000	Drawn	M. POWELL	07.05.14	
	Dsg Verifier	B EVANS	07.08.14	
	Dwg Check	G F-B	07.08.14	Date 05.09.14
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: KAPITI ROAD INTERCHANGE PLANTING PLAN SHEET 2

Drawing No: M2PP-38R-D-DWG-8202

Rev. 2

Document No. M2PP-38R-D-DWG-8202.DWG

Drawing Plotted: 09 Jul 2015 04:47 p.m.

KEY

PLANTING TYPE / PLANTING MIX / AREA CODE / PLANTING BOUNDARY / ASSOCIATED SHEET NUMBER

MT | A | 1 — 43R-8201

- MP MASSED PLANTING
- ML MASSED PLANTING - LOW
- MT MASSED PLANTING - TREE ENRICHMENT
- MS MASSED PLANTING - SWALE
- TF TREES - FORESTRY GRADE
- TS TREES - SPECIMEN GRADE
- TP TREES - POLE GRADE
- TREE WIND SHELTER
- EXISTING VEGETATION TO BE RETAINED
- GL GRASS - LOW
- GS GRASS - SWALE
- GR GRASS - ROUGH
- WP WETLAND PLANTING
- RP RIPARIAN PLANTING
- DESIGNATION

SPECIMEN TREE "C" SETOUT:

START TREES AT 10.0m SPACING AT APEX OF EXPRESSWAY AND ON / OFF RAMP. INCREASE SPACING BY 0.5m FOR EACH SUBSEQUENT TREE IN THE ROW EXTENDING TO KAPITI RD.

NOTES:

1. REFER TO PLANTING SCHEDULES (8211) FOR PLANT MIX DETAILS.
2. REFER TO STANDARD PLANTING DETAILS (8900 SERIES)FOR PLANTING DETAIL.
3. A 1.5m OFFSET FROM THE VERGE HAS BEEN MADE TO ACCOMODATE THE EXTENT OF SUBBASE. THE ACTUAL OFFSET IS TO BE CONFIRMED ON SITE.

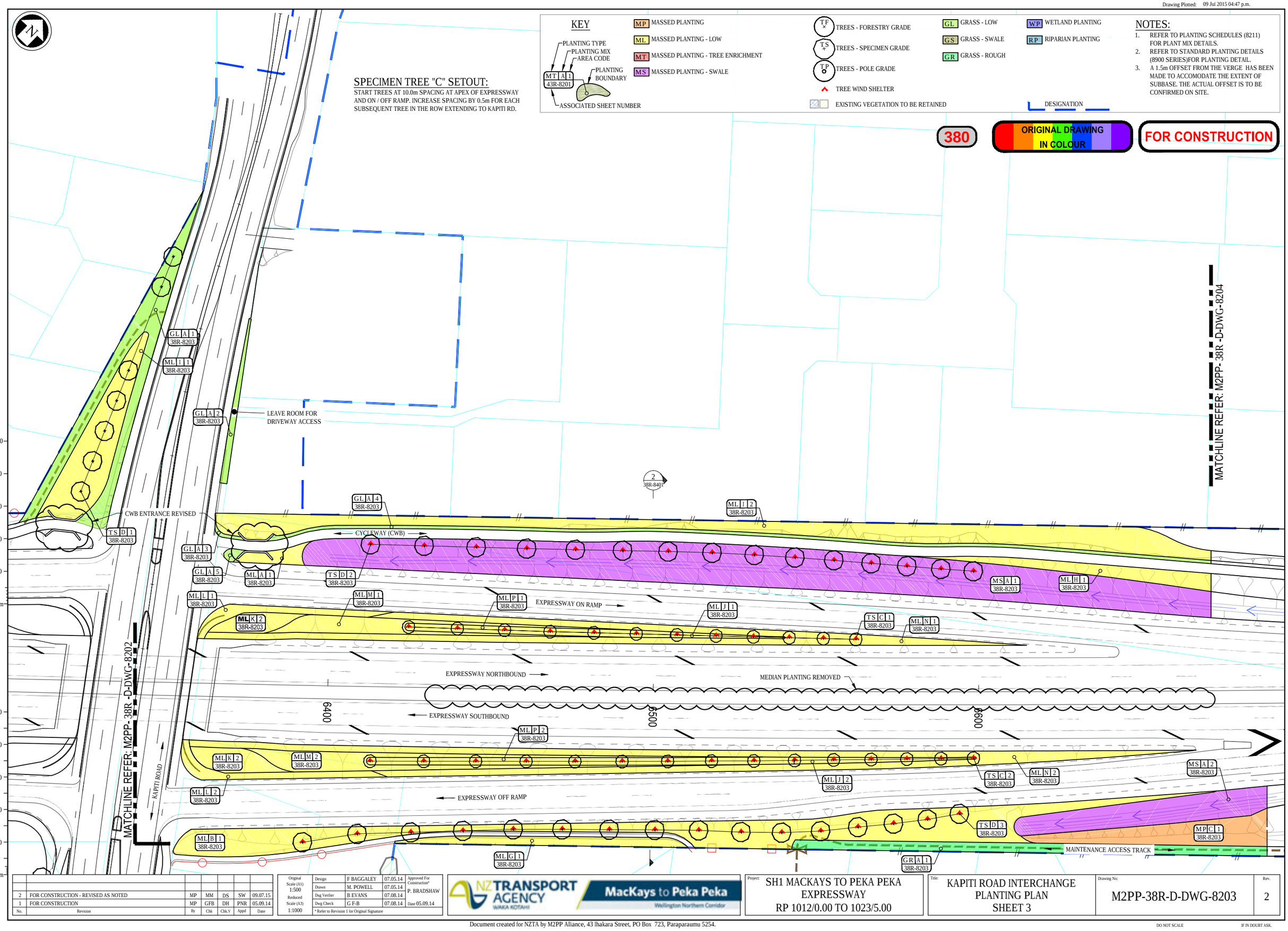
380

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

A1 REPRODUCTION SCALE: 100 80 60 40 20 0mm

A3 REPRODUCTION SCALE: 50 40 30 20 10 0mm



No.	Revision	By	Chk	Chk.V	Appd	Date
2	FOR CONSTRUCTION - REVISED AS NOTED	MP	MM	DS	SW	09.07.15
1	FOR CONSTRUCTION	MP	GFB	DH	PNR	05.09.14

Original Scale (A1)	1:500	Approved For Construction*	P. BRADSHAW
Reduced Scale (A3)	1:1000	Date	05.09.14

Design	F BAGGALEY	07.05.14
Drawn	M. POWELL	07.05.14
Dsg Verifier	B EVANS	07.08.14
Dwg Check	G F-B	07.08.14

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI — MacKays to Peka Peka — Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: KAPITI ROAD INTERCHANGE PLANTING PLAN SHEET 3

Drawing No: M2PP-38R-D-DWG-8203

Rev. 2

Document No. M2PP-38R-D-DWG-8203.DWG

Drawing Plotted: 09 Jul 2015 04:47 p.m.

MATCHLINE REFER: M2PP- 38R -D-DWG-8203

SECTOR 380
SECTOR 410

3
38R-8401

GL A 1
38R-8204

MP C 1
38R-8204

ML A 1
38R-8204

ML H 1
38R-8204

CYCLEWAY (CWB)

MS A 1
38R-8204

MEDIAN PLANTING REMOVED

EXPRESSWAY SOUTHBOUND

EXPRESSWAY NORTHBOUND

MS A 2
38R-8204

TOP OF BUND NOT PLANTED

MP C 2
38R-8204

SPECIES NOTED ON SCHEDULE WITH (*) TO BE LOCATED ONLY ON LOWER TO MID SLOPES OF NOISE BUND

MAINTENANCE ACCESS TRACK

GR A 1
38R-8204

MS A 3
38R-8204

NOISE BUND CONSTRUCTED WITH BROWN ROCK
REFER M2PP-38D-D-DWG-2001 FOR DETAILED EXTENT

A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

380

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

KEY

PLANTING TYPE
PLANTING MIX
AREA CODE
MT A 1
43R-8201
PLANTING BOUNDARY
ASSOCIATED SHEET NUMBER

- MP MASSED PLANTING
- ML MASSED PLANTING - LOW
- MT MASSED PLANTING - TREE ENRICHMENT
- MS MASSED PLANTING - SWALE
- TF TREES - FORESTRY GRADE
- TS TREES - SPECIMEN GRADE
- TP TREES - POLE GRADE
- TREE WIND SHELTER
- EXISTING VEGETATION TO BE RETAINED
- GL GRASS - LOW
- GS GRASS - SWALE
- GR GRASS - ROUGH
- WP WETLAND PLANTING
- RP RIPARIAN PLANTING
- DESIGNATION

NOTES:

1. REFER TO PLANTING SCHEDULES (8211) FOR PLANT MIX DETAILS.
2. REFER TO STANDARD PLANTING DETAILS (8900 SERIES)FOR PLANTING DETAIL.
3. A 1.5m OFFSET FROM THE VERGE HAS BEEN MADE TO ACCOMODATE THE EXTENT OF SUBBASE. THE ACTUAL OFFSET IS TO BE CONFIRMED ON SITE.

No.	Revision	By	Chk	Chk.V	Appd	Date
2	FOR CONSTRUCTION - REVISED AS NOTED	MP	MM	DS	SW	09.07.15
1	FOR CONSTRUCTION	MP	GFB	DH	PNR	05.09.14

Original Scale (A1) 1:500	Design	F BAGGALEY	07.05.14
	Drawn	M. POWELL	07.05.14
Reduced Scale (A3) 1:1000	Dsg Verifier	B EVANS	07.08.14
	Dwg Check	G F-B	07.08.14

Approved For Construction*: P. BRADSHAW
Date 05.09.14
* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI
MacKays to Peka Peka
Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: KAPITI ROAD INTERCHANGE PLANTING PLAN SHEET 4

Drawing No: M2PP-38R-D-DWG-8204

Rev. 2

Document No. M2PP-38R-D-DWG-8204.DWG

							PLAN REFERENCE	TOTAL	
						AREA		28452	m^2
						AREA ADJUSTED FOR SLOPE		29875	m^2
						MT MIX - 1.0M CRS MASSED PLANTING, ENRICHMENT 10.0M CRS, PLANT CENTRES (METRES)			
						MULCH TYPE OM = ORGANIC MULCH, GM = GRADED GRAVEL MULCH, BC = BIOCOIR			
						N = NO MULCH (IN RIPARIAN / WETLAND ZONES), WM = WOOL MAT SQUARE (RIPARIAN EROSION)			
PLANT TYPE	**PLANT MIX**	**BOTANICAL NAME**	**COMMON NAME**	**GRADE**	**% MIX**	**NOTES**			
MASSED LOW EDGE PLANTING - ADJACENT TO CYCLEWAY									
ML	A	Acaena novae-zelandiae	Red bidibidi	1.0 litre	10%	front edge		403	No
ML	A	Austroderia fulvida	syn Cortaderia, toetoe	1.0 litre	5%	back		196	No
ML	A	Carex dipsacea	Teasel sedge	1.0 litre	10%	front edge		392	No
ML	A	Carex solandri	Forest sedge, Solander's sedge	1.0 litre	10%	front edge		392	No
ML	A	Carex virgata	Swamp sedge	1.0 litre	5%	mid back		196	No
ML	A	Coprosma areolata	Thin leaved Coprosma	1.0 litre	3%	back		118	No
ML	A	Coprosma propinqua	Mingimingi	1.0 litre	5%	mid back		196	No
ML	A	Coprosma repens	Taupata	1.0 litre	10%	mid back		392	No
ML	A	Ficinia nodosa	Wiwi, Knobby club rush	1.0 litre	10%	front edge		392	No
ML	A	Hebe stricta	Koromiko	1.0 litre	10%	back		392	No
ML	A	Melicope simplex		1.0 litre	2%	mid		78	No
ML	A	Muehlenbeckia complexa	Pohuehue, wire vine	1.0 litre	20%	front edge		785	No
MASSED LOW EDGE PLANTING - ADJACENT TO EXPRESSWAY									
ML	B	Acaena novae-zelandiae	Red bidibidi	1.0 litre	10%	front edge		432	No
ML	B	Austroderia fulvida	syn Cortaderia, toetoe	1.0 litre	5%	back		216	No
ML	B	Carex dipsacea	Teasel sedge	1.0 litre	10%	front edge		432	No
ML	B	Carex solandri	Forest sedge, Solander's sedge	1.0 litre	10%	front edge		432	No
ML	B	Carex virgata	Swamp sedge	1.0 litre	5%	mid back		216	No
ML	B	Coprosma acerosa	Sand Coprosma	1.0 litre	10%	front mid		432	No
ML	B	Coprosma areolata	Thin leaved Coprosma	1.0 litre	2%	back		86	No
ML	B	Coprosma propinqua	Mingimingi	1.0 litre	5%	mid back		216	No
ML	B	Coprosma repens	Taupata	1.0 litre	5%	mid back		216	No
ML	B	Ficinia nodosa	Wiwi, Knobby club rush	1.0 litre	10%	front edge		432	No
ML	B	Melicope simplex			3%	mid		130	No
ML	B	Hebe stricta	Koromiko	1.0 litre	5%	back		216	No
MASSED LOW EDGE PLANTING WITH SMALL SCREEN TREE - 1 METRE WIDTH FOR VEGETATION BUFFER OR SCREEN PLANTING ON BOUNDARY									
ML	G	Coprosma lucida	Shining karamu	1.0 litre	5%			89	No
ML	G	Coprosma propinqua	Mingimingi	1.0 litre	10%			177	No
ML	G	Cordyline australis	Ti kouka	1.0 litre	5%	groups 3-5 *		89	No
ML	G	Corokia cotoneaster	korokio taranga	1.0 litre	10%			177	No
ML	G	Griselinia lucida	Puka, Broadleaf	1.0 litre	5%			89	No
ML	G	Hebe stricta	Koromiko	1.0 litre	10%			177	No
ML	G	Macropiper excelsum	Kawakawa	1.0 litre	5%			89	No
ML	G	Myrsine australis	Mapou, Matipo	1.0 litre	15%			266	No
ML	G	Phormium tenax	Harakeke, Flax	1.0 litre	5%	back		89	No
ML	G	Pittosporum tenuifolium	Kohuhu	1.0 litre	10%	*		177	No
ML	G	Pseudopanax crassifolius	Horoeka, Lancewood	1.0 litre	15%	groups 3-5 *		266	No
ML	G	Sophora microphylla	Kowhai	1.0 litre	5%	*		89	No
MASSED LOW EDGE PLANTING WITH SMALL SCREEN TREE - 1 METRE WIDTH FOR VEGETATION SCREEN PLANTING OF NOISE WALL									
ML	H	Apodasmia similis	Oioi	0.5 litre	10%	mid back		70	No
ML	H	Carex dipsacea	Teasel sedge	0.5 litre	15%	cwb edge		105	No
ML	H	Carex solandri	Forest sedge, Solander's sedge	0.5 litre	10%	cwb edge		70	No
ML	H	Coprosma propinqua	Mingimingi	1.0 litre	10%	back		70	No
ML	H	Cordyline australis	Ti kouka	1.0 litre	10%	back		70	No
ML	H	Cyperus ustulatus	Toetoe upokotangata, Giant umbrella sedge	0.5 litre	10%	mid back		70	No
ML	H	Ficinia nodosa	Wiwi, Knobby club rush	0.5 litre	20%	cwb edge		140	No
ML	H	Pseudopanax crassifolius	Horoeka, Lancewood	1.0 litre	15%	mid back		105	No
MASSED LOW EDGE PLANTING WITH SMALL SCREEN TREE - NARROW WIDTH FOR DENSE VEGETATION SCREEN PLANTING ON BOUNDARY									
ML	I	Coprosma areolata	Thin leaved Coprosma	1.0 litre	5%			133	No
ML	I	Coprosma propinqua	Mingimingi	1.0 litre	5%			133	No
ML	I	Cordyline australis	Ti kouka	1.0 litre	10%			266	No
ML	I	Corokia cotoneaster	Korokio taranga	1.0 litre	15%			400	No
ML	I	Griselinia lucida	Puka, Broadleaf	1.0 litre	5%			133	No
ML	I	Hebe stricta	Koromiko	1.0 litre	10%			266	No
ML	I	Macropiper excelsum	Kawakawa	1.0 litre	10%			266	No
ML	I	Myrsine australis	Mapou, Matipo	1.0 litre	15%			400	No
ML	I	Phormium tenax	Harakeke, Flax	1.0 litre	10%			266	No
ML	I	Pseudopanax crassifolius	Horoeka, Lancewood	1.0 litre	15%			400	No
MASSED LOW PLANTING - UNDER SPECIMEN TREES AT KAPITI INTERCHANGE									
ML	J	Astelia banksii		1.0 litre	100%			317	No
ML	K	Callistemon 'Little John'		PB5	100%			710	No
ML	L	Coprosma 'Hawera'	coprosma cv	1.0 litre	100%			1243	No
ML	M	Coprosma repens 'Poor Knights'	coprosma cv	1.0 litre	100%			2642	No
ML	N	Lomandra longifolia 'Tanika'		1.0 litre	100%			5378	No
MASSED PLANTING									
MP	C	Aristotelia serrata	Makomako	1.0 litre	5%			1275	No
MP	C	Carex lessoniana	Cutty grass	1.0 litre	5%	front		1275	No
MP	C	Carpodetus serratus	Putaputaweta	1.0 litre	5%			1275	No
MP	C	Coprosma propinqua	Mingimingi	1.0 litre	7%			1785	No
MP	C	Coprosma robusta	Karamu	1.0 litre	10%			2550	No
MP	C	Cordyline australis	Ti kouka	1.0 litre	5%			1275	No
MP	C	Griselinia lucida	Puka, Broadleaf	1.0 litre	2%			510	No
MP	C	Hebe stricta	Koromiko	1.0 litre	8%	front		2040	No
MP	C	Kunzea ericoides	Kanuka	1.0 litre	12%			3060	No
MP	C	Macropiper excelsum	Kawakawa	1.0 litre	5%			1275	No
MP	C	Melicytus ramiflorus	Mahoe	1.0 litre	5%			1275	No
MP	C	Melicope ternata	Wharangi	1.0 litre	3%			765	No
MP	C	Myoporum laetum	Ngaio	1.0 litre	3%			765	No
MP	C	Myrsine australis	Mapou, Matipo	1.0 litre	7%			1785	No
MP	C	Olearia solandri	Coastal tree daisy	1.0 litre	5%			1275	No
MP	C	Pittosporum tenuifolium	Kohuhu	1.0 litre	8%			2040	No
MP	C	Pseudopanax arboreus	Whauwhaupaku, Fivefinger	1.0 litre	2%			510	No
MP	C	Sophora microphylla	Kowhai	1.0 litre	3%			765	No
MASSED PLANTING - ADJOINS A WETLAND									
MP	I	Aristotelia serrata	Makomako	1.0 litre	5%			223	No
MP	I	Austroderia fulvida	syn Cortaderia, toetoe	1.0 litre	10%			446	No
MP	I	Carex secta	Pukio, Purei	1.0 litre	5%			223	No
MP	I	Carex virgata	Swamp sedge	1.0 litre	10%			446	No
MP	I	Coprosma propinqua	Mingimingi	1.0 litre	5%			223	No
MP	I	Coprosma tenuicaulis	Hukihuki, swamp Coprosma	1.0 litre	5%			223	No
MP	I	Cordyline australis	Ti kouka	1.0 litre	15%			670	No
MP	I	Cyperus ustulatus	Toetoe upokotangata, Giant umbrella sedge	1.0 litre	5%			223	No
MP	I	Hebe stricta	Koromiko	1.0 litre	5%			223	No
MP	I	Leptospermum scoparium	Manuka	1.0 litre	10%			446	No
MP	I	Myrsine australis	Mapou, Matipo	1.0 litre	5%			223	No
MP	I	Phormium tenax	Harakeke, Flax	1.0 litre	10%			446	No
MP	I	Pittosporum eugenicides	Tarata, lemonwood	1.0 litre	5%			223	No
MP	I	Sophora microphylla	Kowhai	1.0 litre	5%			223	No
MASSED PLANTING + TREE ENRICHMENT									
MT	C	Aristotelia serrata	Makomako	1.0 litre	5%			363	No
MT	C	Carex lessoniana	Cutty grass	1.0 litre	5%	front		363	No
MT	C	Carpodetus serratus	Putaputaweta	1.0 litre	5%			363	No
MT	C	Coprosma propinqua	Mingimingi	1.0 litre	7%			670	No
MT	C	Coprosma robusta	Karamu	1.0 litre	10%			957	No
MT	C	Cordyline australis	Ti kouka	1.0 litre	5%			479	No
MT	C	Griselinia lucida	Puka, Broadleaf	1.0 litre	2%			191	No
MT	C	Hebe stricta	Koromiko	1.0 litre	8%	front		766	No
MT	C	Kunzea ericoides	Kanuka	1.0 litre	12%			1149	No
MT	C	Macropiper excelsum	Kawakawa	1.0 litre	5%			479	No
MT	C	Melicytus ramiflorus	Mahoe	1.0 litre	5%			479	No
MT	C	Melicope ternata	Wharangi	1.0 litre	3%			287	No
MT	C	Myoporum laetum	Ngaio	1.0 litre	3%			287	No
MT	C	Myrsine australis	Mapou, Matipo	1.0 litre	7%			670	No
MT	C	Olearia solandri	Coastal tree daisy	1.0 litre	5%			479	No
MT	C	Pittosporum tenuifolium	Kohuhu	1.0 litre	8%			766	No
MT	C	Pseudopanax arboreus	Whauwhaupaku, Fivefinger	1.0 litre	2%			191	No
MT	C	Sophora microphylla	Kowhai	1.0 litre	3%			287	No
MT	C	Alectryon excelsus	Titoki	Pb18	20%	enrich		191	No
MT	C	Dysoxylum spectabile	Kohekohe	Pb18	20%	enrich		191	No
MT	C	Knightia excelsa	Rewarewa	Pb18	25%	enrich		239	No
MT	C	Podocarpus totara	Totara	Pb18	15%	enrich		144	No
MT	C	Prumnopitys taxifolia	Matai	Pb18	5%	enrich		48	No
MT	C	Rhopalostylis sapida	Nikau	Pb18	15%	enrich		144	No
TREE FORESTRY GRADE									
TF	F	Olea 'Verdale'	Olive	1.0 litre				12	No
TREE SPECIMEN GRADE - HOLD SUBJECT TO KCDC CONFIRMATION									
TS	C	Knightia excelsa	Rewarewa	Pb 40				92	No
TS	D	Metrosideros excelsa 'Maori Princess'	Pohutukawa	Pb 40				17	No
WETLAND PLANTING - SLOPING BANK TO PERMANENT WATER, OCCASIONAL INUNDATION									
WP	D	Carex secta	Pukio, Purei	0.5 litre	65%	waters edge		2501	No
WP	D	Cyperus ustulatus	Toetoe upokotangata, Giant umbrella sedge	0.5 litre	15%	waters edge		577	No
WP	D	Dacrycarpus dacrydioides	Kahikatea		2%			77	No
WP	D	Laurelia novae zealandiae	Pukatea		3%			115	No
WP	D	Phormium tenax	Harakeke, Flax	0.5 litre	10%			385	No
WP	D	Cordyline australis	Ti kouka	1.0 litre	5%	occ groups		192	No
WETLAND PLANTING - EMERGENT 0.0 - 0.3M WATER DEPTH									
WP	F	Carex virgata	Swamp sedge	0.5 litre	25%			771	No
WP	F	Cyperus ustulatus	Toetoe upokotangata, Giant umbrella sedge	0.5 litre	15%			133	No
WP	F	Machaerina rubiginosa (syn Baumea)		0.5 litre	20%			177	No
WP	F	Machaerina teretifolia (syn Baumea)	Common twig rush, pakihi sedge	0.5 litre	25%			221	No
WP	F	Phormium tenax	Harakeke, Flax	0.5 litre	15%			133	No
WETLAND PLANTING - 0.3 TO 0.6M WATER DEPTH									
WP	G	Bolboschoenus fluviatilis	Kukuraho, Marsh club rush	0.5 litre	15%			479	No
WP	G	Carex secta	Pukio, Purei	0.5 litre	40%			1278	No
WP	G	Eleocharis acuta	Sharp spiked sedge	0.5 litre	25%			799	No
WP	G	Juncus edgariae (syn J gregiflorus)	Wiwi	0.5 litre	20%			639	No
MASSED MEDIAN PLANTING									
MM	A	Ficinia nodosa	Wiwi, Knobby club rush	1.0 litre	100%	stone mulch		3129	No
MASSED SWALE PLANTING									
MS	A	Apodasmia similis	Oioi	0.5 litre	100%	no mulch		32745	No
GRASS									
GL	A	Grass low grow mix	sown, close mow to 100mm	sow				2857	m^2
GR	A	Grass rank - (low grow mix)	sown, allowed to grow rank,	sow				4198	m^2

PLANTING SCHEDULE

A1 REPRODUCTION SCALE 0mm 20 40 60 80 100

A3 REPRODUCTION SCALE 0mm 10 20 30 40 50

No.	Revision	By	Chk	Chk.V	Appd	Date
A	FOR DETAILED DESIGN	MP				.08.14

Original Scale (A1)	Design	S DUNN	09.06.14	Approved For Construction*
NTS	Drawn	M POWELL	09.06.14	
Reduced Scale (A3)	Dsg Verifier		.08.14	
NTS	Dwg Check		.08.14	Date

* Refer to Revision 1 for Original Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: KAPITI ROAD INTERCHANGE PLANTING SCHEDULE

Drawing No: M2PP-38R-D-DWG-8211

Rev. A

370 380

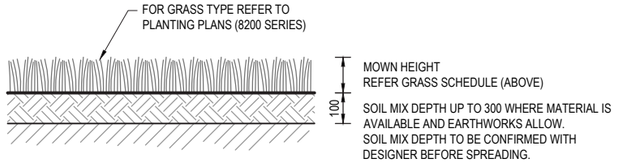
ORIGINAL DRAWING IN COLOUR

DETAILED DESIGN NOT FOR CONSTRUCTION

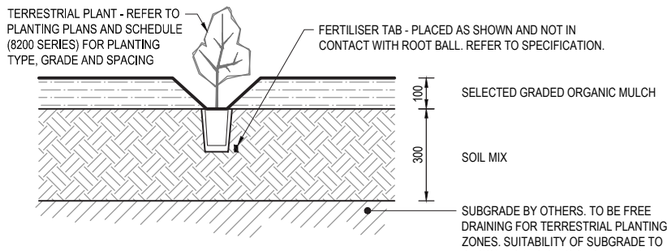
Document No. M2PP-38R-D-DWG-8211.DWG

DO NOT SCALE IF IN DOUBT ASK.

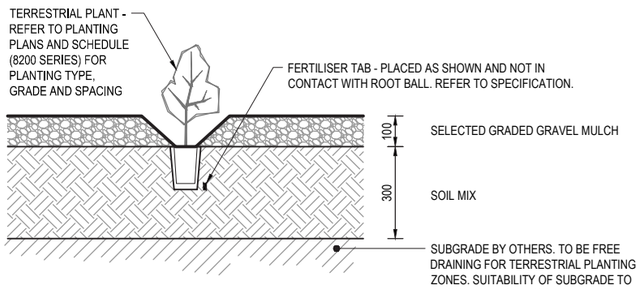
GRASS SCHEDULE			
PLANTING TYPE	NAME	MOWN HEIGHT	SEED MIX
GL	GRASS - LOW	100mm MAXIMUM	LOW GROW AS PER SPECIFICATION
GS	GRASS - SWALE	200mm MAXIMUM	LOW GROW AS PER SPECIFICATION
GR	GRASS - ROUGH	>100mm	LOW GROW AS PER SPECIFICATION



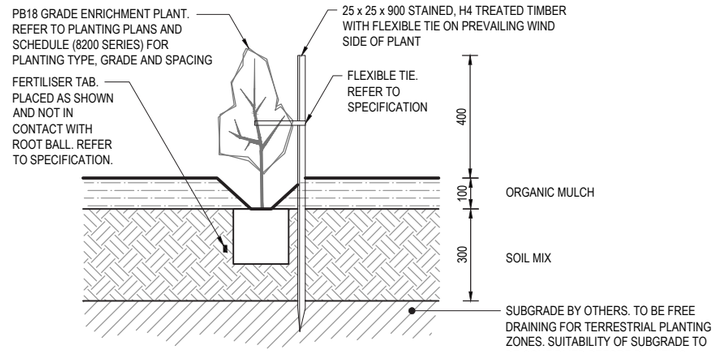
A GRASS DETAIL
1:10



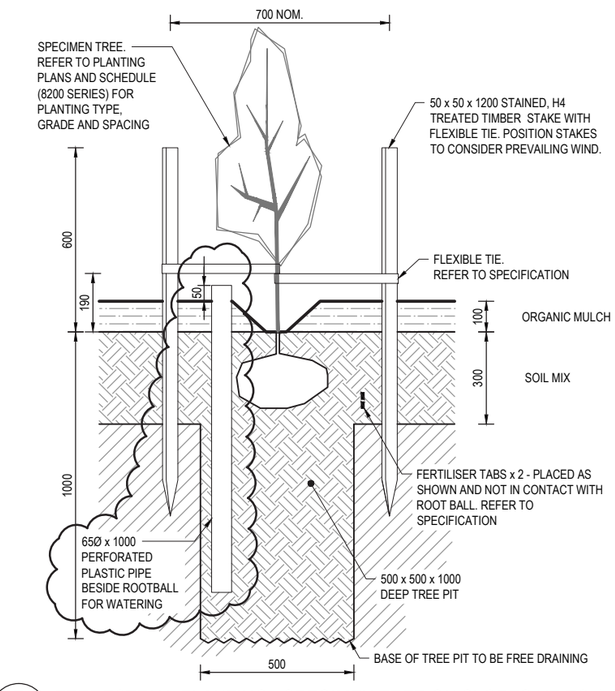
B TERRESTRIAL PLANTING (ORGANIC MULCH)
1:10



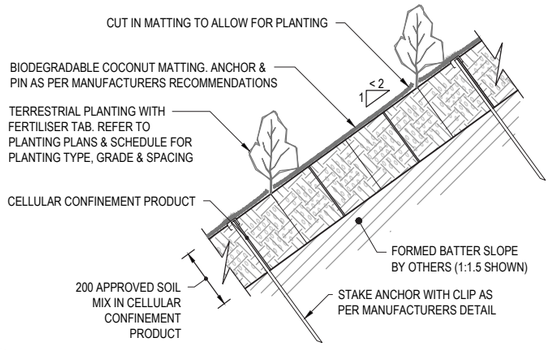
C TERRESTRIAL PLANTING (STONE MULCH)
1:10



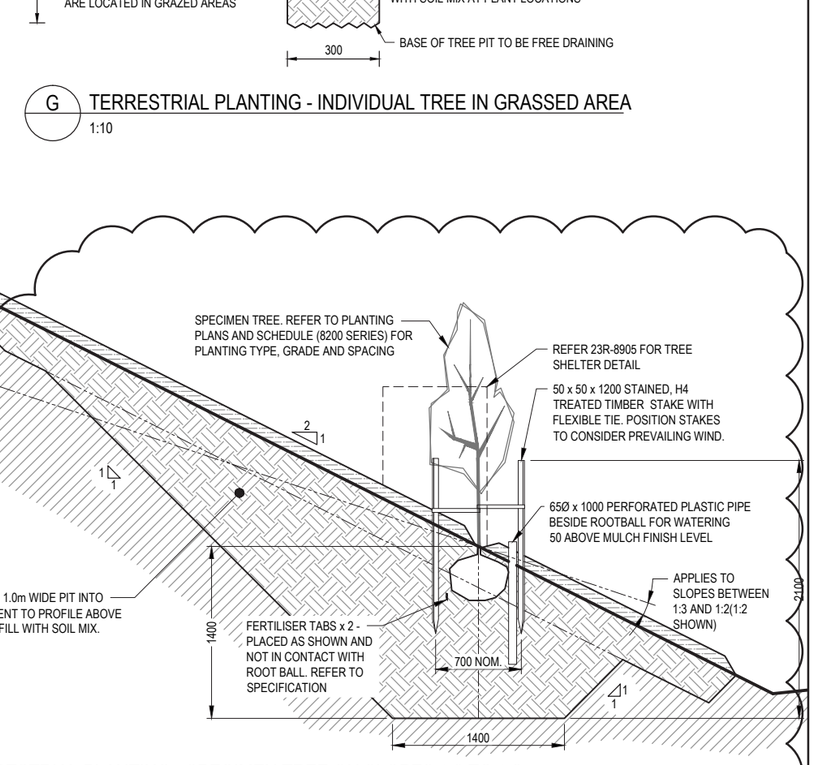
D TERRESTRIAL PLANTING - TREE ENRICHMENT
1:10



E TERRESTRIAL PLANTING - SPECIMEN TREE ON SLOPES UP TO 1:3
1:10

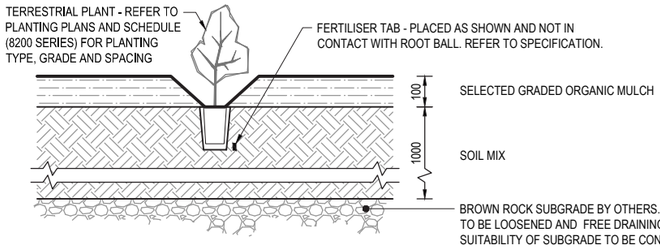


F TERRESTRIAL PLANTING - SOIL MIX STABILISATION
1:10



G TERRESTRIAL PLANTING - INDIVIDUAL TREE IN GRASSED AREA
1:10

H TERRESTRIAL PLANTING - SPECIMEN TREE ON SLOPES 1:3 TO 1:2
1:25



J TERRESTRIAL PLANTING ON BROWN ROCK BASE
1:10

A1 REPRODUCTION SCALE
100 80 60 40 20 0mm

A3 REPRODUCTION SCALE
50 40 30 20 10 0mm

NOTES:
1. REFER TO LANDSCAPE SPECIFICATION FOR ORGANIC MULCH, GRAVEL MULCH, TOPSOIL / SOIL MIX AND GUYING COMPONENTS.
2. ENSURE MULCH DOES NOT PILE UP AGAINST THE PLANT STEM.
3. ENSURE SUBGRADE IS FREE DRAINING FOR TERRESTRIAL PLANTING PRIOR TO PLACEMENT OF SOIL MIX. (THIS DOES NOT APPLY TO RIPARIAN AREAS, WETLANDS, SWALES AND STORMWATER DETENTION ZONES).
4. REFER PLANTING PLANS (8200 SERIES) FOR PLANTING LOCATIONS.
5. REFER PLANT SCHEDULE (8210 SERIES) FOR PLANT MIXES, NUMBERS AND DETAILS.
6. AT TIME OF PLANTING ENSURE TREE PITS AND PLANT HOLES DO NOT HOLD WATER.
7. PRIOR TO PLACEMENT OF SOIL MIX HEAVILY COMPACTED SUBGRADE TO BE LOOSENED TO ENSURE GROWING ZONE IS FREE DRAINING.

FOR CONSTRUCTION

No.	Revision	By	Chk	Chk.V	Appd	Date
3	PERFORATED PIPE ADDED TO SPECIMEN TREE DETAILS (E & H)	MP				05.09.14
2	DETAIL H REVISED & DETAIL J ADDED	MP	MP	BF	DS	07.08.14
1	FOR CONSTRUCTION	MP	GFB	DMH	DGS	04.04.14

Original Scale (A1) AS SHOWN	Design	S.DUNN	05.11.13	Approved For Construction* P. BRADSHAW
Reduced Scale (A3) 1/2 SHOWN	Drawn	D.IRVINE	05.11.13	
	Dsg Verifier	B. EVANS	04.04.14	
	Dwg Check	G. F-B	04.04.14	Date 04.04.14
	* Refer to Revision 1 for Original Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI
MacKays to Peka Peka Wellington Northern Corridor

Project: SH1 MACKAYS TO PEKA PEKA EXPRESSWAY RP 1012/0.00 TO 1023/5.00

Title: STANDARD DETAILS STANDARD PLANTING DETAILS SHEET 1

Drawing No: M2PP-23R-D-DWG-8900

Rev. 3

Document No. M2PP-23R-D-DWG-8900.DWG

DO NOT SCALE IF IN DOUBT ASK.

Appendix 2: CONSULTATION, FEEDBACK AND RESPONSES

Site Specific Management Plan 003 -[SectorS 360-370-380] MacKays to Peka Peka Expressway

01 SEPTEMBER 2014 - CERTIFIED ISSUE - REV C

NZ TRANSPORT AGENCY
WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

The following tables set out the responses to comments raised by reviewers and those parties consulted in regard to the preliminary SSMP. The project responses are either reflected in the certification issue to which this Appendix pertains, or have been directed to other processes for action, or have been considered but for the reasons noted not agreed to. The parties consulted are those identified by the consent conditions and for Wharemauku Basin are:

- Te Āti Awa ki Whakarongotai;
- KCDC;
- Kāpiti Cycling Incorporated;
- Implementation Group of the Kāpiti Coast District Council Advisory on Cycleways, Walkways and Bridleways
- Friends of Wharemauku Stream ; and
- Landscape focus groups DC 57A a)

ii) Eastern side of the designation between Kāpiti Road and Mazengarb Road including Greenwood Place, Elder Grove, Cypress Grove, ~~Spackman Crescent, Makarini Street, Palmer Court, St James Court and Chilton Drive~~; (See SSMP 4)

v) Milne Drive through to Quadrant Heights;

COMMENTS ON SSMP3: WHAREMAUKU BASIN
***KCDC REVIEWERS COMMENTS** [JW=Julia Williams- Landscape Architect; DP = Deyana Popova-Urban Designer; Stu Kilmister-CWB Planner; provided as document and also meeting notes*

Condition Reference	*Condition Detail*	*Reviewer/ commenter*	*KCDC Reviewer's comment*	*reference in SSMP*	*Management Plan Author's response*
	CWB	SK	Indicate tactile pavers, painted cycle lanes and traffic island on plans.		Included on Sheet 10
	AEE Visual and Landscape plans	DP/JW	Changes to planting around Kapiti Road intersection including numbers and location of large grade trees and layout of Wetland 4. Agree with proposed design changes and support the reasons/rationale. Planting covered in 'M2PP Planting Philosophy at Interchanges DRAFT 16 June 2014'.		No response required
	AEE Structural - Bridges	DP	Agree with proposed design changes and support the reasons/rationale stated in the SSMP document (with a special reference to Kapiti Road Crossing -Bridge Development Study M2PP-38R-D-REPG-010/Rev A and (Bridge Summary Wharemauku, M2PP-12-D-MPL). The form of the Kapiti Road bridge and Wharemauku Stream bridge are different from the approved AEE scheme, in terms of column form and dimensions and also in terms of column number in the case of Wharemauku Stream Bridge. Further design detail provided for abutments' treatment. The new design is consistent with the revised approach to bridge design		No response required

			throughout the project and responds well to the key ULDF objectives and relevant consent conditions.		
ULDF	The changes to the bridges' form/design are recorded and assessed against the relevant ULDF principles in the Summary at the end of: - Appendix: Kapiti Road Bridge - the Summary of the Kapiti Road Crossing -Bridge Development Study M2PP-38R-D-REPG-010/Rev A. - Appendix: Bridge Summary Wharemauku, M2PP-12-D-MPL- See notes below against individual principles	DP/JW	The assessments of the changed bridges' form/design against the relevant principles as set out in Bridge Appendices illustrate a general alignment with those principles. Kapiti Road Bridge - fine tune the detailed treatment of the abutments - there is a possibility to treat the base of the abutments with smooth/un-textured finish to differentiate it from the sloping abutment form and break down horizontally the abutment wall surface. - consider narrowing down the dividing strips between the textured abutment panels (to 300mm) and treat them as negative detail in a smooth surface (rather than with patterns as suggested) - consider extending the lines of the dividing strips on the abutment wall to the footpath surface and mark them on the footpath through texture/paving. This will tie up the rhythm of the abutment treatment to the footpath and enhance the urban nature of this junction. - The assessments of the changed bridges' form/design against the relevant principles as set out in Bridge Appendices illustrate a general alignment with those principles.		See details on SHEET 13 A plain surface at the toe of the abutment will attract tagging. We believe that the change in angle of the surfaces (abutment and vertical toe wall) already provides visual relief to the abutment wall. Agree dividing strips already 300mm wide. No Change proposed. Agree, surface contrast along these lines will be added to the footpath under the bridge deck, through use of contrast in colour and texture of plain concrete and expose aggregate. See detail Sheet 13
			CWB entry details to be resolved and finalised.		The CWB entrances relevant to this SSMP will all be Type 1 entrance design, shown on Sheet 20
	LMP principles, methodologies and procedures (where appropriate)	DP/JW	These have been well thought through and established under previous SSMPs		No response required
	LMP Attachment 1 Landscape mitigation by character area	DP/JW	Appropriate		No response required
	Urban Design Conditions				
	Condition DC.59A e) requires SSUDPs to be prepared for locations where the Expressway interacts with local vehicular and non-vehicular pedestrian/cyclist movement. For SSMP4, the locations include: Ihakara extension /Wharemauku Stream	DP	Condition appropriately addressed (subject to clarifying the issues re: gateway significance) Kapiti Gateway specifically noted on DC59A e): need to ensure that changes to large scale planting including using few large trees in the most prominent locations close to the bridge have not lessened the 'distinctive gateway' that was presented to		The Kapiti gateway includes all of the interchange, encompassing the Expressway and the local road locality, as this node will be experienced by users travelling and viewing it in all directions. The distinctiveness of the 'gateway' is provided through the planting design as well as the detailing of the underbridge space. Both the planting design and bridge abutment finishes are unique to the Kapiti interchange and provide a definite contrast to the rest of the Expressway.

	Kapiti Road		the BOI and embedded in conditions. Question what is distinctive about this specific gateway in its final form? Consider the use of marker elements and/or enhancing the footpath under the bridge through texture/paving (see also notes under AEE Principles set out in ULDF above)		The specimen tree with low under planting concept has been part of the Kapiti interchange design throughout the AEE process and is reflected in the detailed design. The formalised placement of the trees will set up a distinctive rhythm as users cross the Kapiti bridge or use the on/off ramps. This is in contrast to the majority of the Expressway planting, comprising mixed groupings of species that will have a more homogenous visual appearance beneficial biodiversity outcomes. It will be very apparent to Expressway users that they are entering a 'different' place. In addition, a view to Kapiti Island (especially for southbound traffic) through the gap in the tree planting will add to the experience. The tree planting either side of the on/off ramps will create an 'avenue gateway' as Kapiti Road is approached/departed. For people passing under the Expressway on Kapiti Road, the underbridge surface finishes present an urban response, with light coloured and distinctively textured abutment panels. The abutment toe walls continue beyond the bridge integrating with the planting on the embankments. We agree that continuing a surface contrast from the abutment toe across the footpath under the bridge would add to the distinctiveness of this area. Consequently this has been added to the design (Sheet 13). In relation to the suggestion to add 'marker elements' – there is sufficient space for these to be incorporated as additional elements if the community wishes to at some stage. However, the design elements already incorporated make the interchange a distinctive gateway within the Expressway corridor, without additional structures.
DC.59A f)	DC.59A f) lists the matters to be provided and in summary includes detailed design of for the benefit of pedestrians, cyclists and others:	DP	Stuart Kilmister to Comment?		SK comments included above.
	- Lighting;		Condition appropriately addressed subject to providing detail to low level lighting.		The CWB intersections with local road will be lit with a light pole as for CWB lighting. Low level lighting such as a bollard has now been discounted due to potential for vandalism.
	- Footpath and on-road cycle lane design (1.5m on road and 2.0m footpaths); - Safe crossing points for CWB;		Condition appropriately addressed in principle (subject to firming up detail) Fine tune/firm up detail re: intersection with local road treatments for the proposed different type treatments to ensure continuity (refer to e-mailed notes from 14 July summarised on pages 8/9 of this document)		The CWB entrances relevant to this SSMP will all be Type 1 entrance design, shown on SHEET 20. Finalisation of CWB entrances for other locations beyond this SSMP are still being finalised.
	- Visual treatment of structures and landscape (retaining walls, noise mitigation structures and landforms);		Condition appropriately addressed in principle (subject to firming up detail and addressing outstanding issues re: Wharemauku bridge) Firm up detail re: proposed density of patterns on (noise wall) wall panels. Also it is important to ensure that the indicated		The Patterning on the noise walls will be generally as shown on SHEETS 17 & 18, using 3 different scale of the same pattern.

			75mm concrete capping over fill material (between TL4 Expressway barrier and noise wall) on Sheet 14 is implemented. There is no detail re: ground treatment under Wharemauku bridge on southern side (10m from top of stream bank to abutment including 3m CWB) and northern side (17m strip for future road corridor). This needs to be addressed.		Capping detail is included in the detailed design drawings and will be implemented. Riprap (approximately 200mm min. stones dimension) will be installed on the ground under the Wharemauku bridge (as for Waikanae bridge). The riprap will continue through the stream bed Provision will be made for the CWB (south bank) and informal footpath (north bank) across the riprap (see Sheet 7).
	Local property access;		Condition appropriately addressed		No response required
	- Landscape treatment (LMP and SSMLPs);		Condition appropriately addressed		No response required
	- Bridge piers and abutment design (location of piers, scale and materials);		Condition appropriately addressed (subject to firming up some detailed design elements) Ensure consistency between plan drawings and text. (see also comment under 'AEE Principles set out in ULDF' above)		completed
	- Signage;		Condition appropriately addressed		No response required
DC.59A g)	DC.59A g) requires preparation of a SSUDP for the (CWB) path network and include: - Final alignment and form of CWB. - Provision for a 3.0m wide two-way path - Connections - Boardwalks; - Lighting, safety provisions for crossing of local Roads - CPTED review.	DP	Conditions appropriately addressed CPTED review undertaken		No response required
DC.59A g)	In addition, SSMP4 shall consider the following in relation to Condition 59A i) vi) Makarini St area pedestrian bridge 1. Location and design 2. location of connections. vii) Mazengarb Rd1. design of retaining walls Network Integration Plan Condition DC.64 a) in relation to the CWB; Condition DC.64 b) ii) in relation to lighting.	DP	Makarini St area pedestrian bridge not included in this SSMP and will be developed at a later stage Condition appropriately addressed in principle subject to firming up detail		These Conditions refer to SSMP 4

DC57(f)	Landscape Conditions Condition DC57(f) lists the matters to be provided and in summary includes: - Vegetation to be retained; - Vegetation protection measures; - Proposed Planting (including the stages) - Fernbird habitat created; - Maintenance standards; - Detailed specifications; - A maintenance regime; - Landscape treatment of any noise barriers; - Landscape treatment for pedestrian and cycle facilities.		Vegetation to be retained plans progressing through the certification system. -Liaise with Council Parks directly re type of specimen trees to come to a mutually agreed solution re tree species. -Details of tree planting yet to be provided including tree pits, screens and irrigation systems. Planting plans M2PP-38R-D-DWG-8201 & 8202 have large unmarked (blank) areas at the edge of the designation, mainly on the eastern side. If existing ground cover has been cleared, need some indication of what final treatment will be. JW to contact KCDC re: future use and requirements. Noise fence detail (NB7), Would prefer to see capping on fence if possible for a neater/more residential finish Suggest plans include additional cross-section around CH5900 (Milne Drive) to show impact of 3m high noise wall plus 2m fence on adjacent residents		No response required Meeting held with Lex Bartlett, KCDC Leisure and Open Space Manager on 11th August to discuss planting and species selection. As a result planting plans and species have been amended and a combination of rewa rewa and pohutukawa (*Metrosideros* 'Mistral') with shrub underplanting will be used. Tree pit and screen details provided on Sheet 4 and standard detail M2PP-23R-D-DWG-8900. No irrigation to be installed but in each specimen tree pit a 1.0m long x 65mm diameter perforated plastic pipe set vertically beside the rootball with the top projecting 50mm above the finished mulch level will be installed. Any disturbed ground outside the planting footprint will be made good and grassed. Depending on the final location of the designation boundaries these areas may or may not remain as part of the Expressway corridor. The noise fences will not have capping. Cross section CS8 through 51 Milne drive shows this
DC 57 e), DC 57A, and DC 59Aj)	Consultation DC 57 e), DC 57A, and DC 59Aj) requires consultation with the following parties: - Te Āti Awa ki Whakarongotai; - Kapiti Coast District Council (KCDC). - Friends of Wharemauku Stream - Kāpiti Cycling Incorporated and the Implementation Group of the Kāpiti Coast District Council Advisory on Cycleways, Walkways and Bridleways in respect of the CWB and any cycle or pedestrian connections 1. Three landscape focus areas Eastern side of designation Kapiti to Mazengarb Road 2. Western side Kapiti to Mazengarb Road incl (Cheltenham Drive and Lincoln Court)		No consultation feedback to date		Record of consultation is detailed in the relevant tables below.

	3. Milne Drive to Quadrant Heights				
	CPTED Review		CPTED Review undertaken Concern for Cypress Grove properties that back onto the designation re use of 'concealed' space behind back fence. Will this provide a space for unwanted activity or for residents to remove sections of fence to re-establish use of the land?		Low planting is proposed on the Expressway side of the boundary behind Cypress Grove properties. Low planting adjacent to solid fences is CPTED principle, to avoid creating hiding places that encourage antisocial behaviour.
ULDF 5.11	**Planting Design Principles** Develop the planting structure at the Kāpiti and Te Moana interchanges to specifically enhance the visual amenity of the public open space as well as to provide shade and shelter.		Ensure massed planting between Kapiti Road and Wetland 4 allows some viewshafts through/over wetland ie don't screen all views from the road but allow for viewshafts to the wider open space.		Views to the wetland from the Expressway and on-ramp will be possible between the specimen trees, with better views available from the more elevated Expressway.
	Locate vegetation strategically to provide visual screening to the Expressway and associated structures, noise walls, and bunds.		Ensure that planting that backs onto taller noise barriers alongside the expressway is of sufficient scale to provide a backdrop to noise walls in views from the road, as well as screening views from adjoining residential properties		Taller tree species have been added to the planting mix for planting adjacent to taller noise walls. In places this may not be possible where stormwater swales are immediately adjacent to noise walls, or where underground stormwater infrastructure does not allow such planting.
ULDF 5.12	CWB Design Principles Consider lighting through the urban areas to provide for evening use of the path.		Further work required to address issues of lighting on CWB affecting adjoining residential properties. Cross sections CS1 shows one potential problem area. Need to check cross-section through Milne Drive re elevation of CWB wrt adjoining properties to see if there may be issues with light spillage.		Comment re cross section CS1 refers to SSMP4. The luminaire on the CWB light poles will be specifically selected to avoid light spillage with light directed down toward the CWB. The poles will be on the residential side of the path and directed toward the CWB and expressway, to ensure the downward light is directed away from neighbouring houses. Cross section CS8 shows the relationship between the CWB lighting, Expressway lighting and the adjacent house. These particular residents have requested fairly low vegetation next to the noise fence. In this location, some light spill from the Expressway lights will be unavoidable due to their height and primary purpose to light the road for safety reasons.
LMP 8.41	Screen views of Expressway and specific elements such noise walls and fences;		Ensure that planting that backs onto taller noise barriers alongside the expressway screens views from adjoining residential properties.		Taller tree species have been added to the planting mix for planting adjacent to taller noise walls. In places this may not be possible where stormwater swales are immediately adjacent to noise walls, or where underground infrastructure does not allow such planting.

COMMENTS ON SSMP3: WHAREMAUKU BASIN
KAPITI CYCLING INC. (LS) Lynn Sleath
IMPLEMENTATION GROUP OF THE KAPITI COAST DISTRICT COUNCIL, advisory on Cycleways, walkways and Bridleways [JN] Jan Nisbet

Condition Reference	*Condition Detail*	*Reviewer/ commenter*	*Comment*	*reference in SSMP*	*Management Plan Author's response*
DC59A.g, & DC59A.i) v) 2.	CWB	LS	We note that the drawings suggest that the CWB crossing of Kapiti Road will be controlled by traffic signals incorporating the motor vehicle movements from the northbound off ramp. We	Sheet 10	Independently operated cycle lights and pedestrian lights will provide a controlled CWB crossing across Kapiti Road for either cyclists or pedestrians. The same controlled crossings will be provided for the shared path on the south side of Kapiti Road where it crosses the south bound on ramp and northbound off ramp.

DC59Ai(xi)			suggest that some thought is required here to providing cyclists with some priority rather than merely incorporating the cycle phase with the motor vehicle off ramp movements, as this will encourage cyclists to await a phase change rather than chancing things and merely proceeding against a red phase.		
	CWB	LS	The choice of alignment for the CWB east of Wharemauku Stream is appreciated, because it provides interest and variation by using the noise bund.	Sheet 2	Noted. However, neighbouring residents to the noise bund requested that the CWB be located down the slope slightly in order to retain their privacy (ie they prefer that CWB users do not overlook their property). The CWB has been moved off the top of the bund but still retains varying horizontal alignment along its length.
	CWB	JN	Agrees with comments made by LS and Stuart Kilmister (KCDC). Also: • Need to ensure coloured surfaces at CWB entrances are non-slip • Confirm that there is space for horses (unclear on plans). • Reiterate preference *for a pair of steel crash barriers arranged to provide a physical message to cyclists, together with raised surfacing and words to warn of the proximity of traffic.*		Coloured surfaces would be standard textured surface used for on-road cycle lanes. 1.0m wide grass verge provided for horses beside 3.0m path see SHEET 20 NZTA and M2PP traffic safety auditors strongly oppose the use of bollards or barriers on cycleways that can cause harm to cyclists

COMMENTS ON SSMP3: WHAREMAUKU BASIN

- **LANDSCAPE FOCUS GROUPS** DC 57A A)

ii) Eastern side of the designation between Kāpiti Road and Mazengarb Road including Greenwood Place, Elder Grove, Cypress Grove, Spackman Crescent, Makarini Street, Palmer Court, St James Court and Chilton Drive;
v) Milne Drive through to Quadrant Heights;

Condition Reference	*Condition Detail*	*Reviewer/ commenter*	*Comment*	*reference in SSMP*	*Management Plan Author's response*
		Tom Reid (29-31 Quadrant Heights),	What will the view be from my section? Street lights? Will sunlight be blocked?		The primary view will be from the back of your section to the east. Beyond the 2.0m high noise fence you will see the tops of the mixed native vegetation, which will eventually reach 3-4m height 8-10 years). This is extremely unlikely to shade morning sun from your property.
		John and Cushla Anderson (39 Quadrant Heights),	What will the view be from my section? Street lights? Will sunlight be blocked?		39 Quadrant: The conifer trees in the expressway designation will be removed (at the owners' request). This will open up the construction site to the residents. The CWB has been moved off the top of the bund, and located further to the east
		Tom Reid (29-31 Quadrant Heights)	Request that CWB realigned off the top of the bund to protect their privacy.		CWB has been realigned off the top of the bund to the east.
			How does resident maintain their own fence with noise wall abutted against it?		Fences will only be able to be maintained or constructed from residential property side.
			Planting between CWB and boundary to be 4m min. height and not block the sun.		The CWB has been realigned off the bund for privacy reasons so would not be visible. The proposed planting will range from 3-5 m high.
		John and Cushla Anderson (39 Quadrant Heights)	Want to see the conifers on boundary removed and replaced by olive trees		The conifers on the boundary will be removed at owners' request. Olive trees are included in the planting plan (at owners' request).
		Craig Anderson (17 Datum Way)	Request for dense (5-10m) planting between boundary and CWB		The proposed planting will be dense mixed native shrubs and trees, ranging from 3-5 m high, which will obscure views to the CWB and limit access to the boundary.

		Craig Anderson (17 Datum Way)	Request to keep macrocarpa trees		Agree, this has been noted on 'Vegetation to be retained' plans. Three of the four macrocarpa trees can be retained, subject to final survey and CWB alignment.
		Craig Anderson (17 Datum Way)	Request to bring planting programme forward as much as possible		Wherever possible finished areas will be planted as early as possible. This however is dependent on supply of eco-sourced plant stock, and the construction finish date in relation to the winter planting season (June – August)
		Peter and Mary-Anne Smith (51 Milne Drive)	Construct the grassed link between Milne Drive and CWB at a track access, not against our property		The link to Milne Drive will not be formalised at this stage, pending final property agreements. If a CWB link is formalised it will be toward the north end of this stretch of Milne Drive, not adjacent to 51 Milne Drive property.
		Peter and Mary-Anne Smith (51 Milne Drive)	Request for low (less than 2.0m tall) planting between boundary and CWB		Noted- Detailed planting plans will include this
		Shona Watson (17 Greenwood) Adam Mirartana (18 Greenwood Plc)	Requires cross-section through their property		Cross sections prepared and issued.
		Shona Watson (17 Greenwood)	Requests higher planting between boundary fence and footpath		Tall planting adjacent to tall fences in publicly accessible locations can encourage anti-social behaviour and is avoided where ever possible. This has been highlighted in the 'Crime prevention through environmental design' assessment (CPTED). Given the minimum width available here it is proposed to provide low dense planting between the path and the boundary. A 2.0m high timber fence will be provided for security purposes, given there will be a public footpath immediately adjacent to the property. The fence would have vertical palings with the no climb side facing the footpath.
		Adam Mirartana (18 Greenwood Plc)	How will the noise fence look on my boundary?		A 2.0m high timber boundary fence (built to noise wall standard) will be constructed to secure the residential property from the public footpath.
		Adam Mirartana (18 Greenwood Plc)	How long will planting take to establish?		The maintenance period for the planting is for 3 years after construction by then the planting will be well established. The specimen trees will take many (approximately 20) years to reach their mature height
		Adam Mirartana (18 Greenwood Plc)	What will the walkway look like and will there be a fence on my boundary?		A 2m high timber fence will be provided for security purposes, given there will be a public footpath immediately adjacent to the property. The fence would have vertical paling with the no climb side facing the footpath.
		Anita and Jon Haylock (24 Cypress Grove)	Will there be boundary fencing along Makarini Street?		The Alliance is not intending to construct fences along the Expressway/residential property boundaries.
		Anita and Jon Haylock (24 Cypress Grove)	How close will planting be to my property / will there be a fire break?		A 3.0m wide grass maintenance strip will be located on the Expressway side of the boundary at this location.
		Sam Barns (12 Greenwood)	Request for plans showing further detail between Kapiti Road to Mazengarb		Plans sent to Mr Barns
		Mike Cartmer 24 Observation Place	Planting should be done in a manner to minimise noise in high wind Planting should minimise pollen release\ Planting should be done in a manner to dissuade people from approaching the sound fence		The timber noise fence will provide noise mitigation. While vegetation may assist with this it is not recognised as an effective method of mitigating noise. The plants are a mix of native species already present throughout Kapiti. The variety of species means that they will flower at different times of the year and will not create a mass of pollen at any one time. The dense mass of vegetation between the CWB and the noise fence, once established, will deter people from entering the area.
LANDSCAPE FOCUS GROUPS DC 57A b) Summary feedback from immediately adjoining residential property owners, following 10 day feedback period on Draft SSMP issued 21 July 2014					
		Brian Daw 47 Quadrant Heights	Suggested red flax be planted in designation beside timber noise fence to deter walkers from climbing		2.0m high timber fence will have palings facing the footpath (rather than rails) to discourage climbing from the public side. There is no planting planned adjacent to the noise fence at this location, the existing olive trees within the designation will be retained.

			fence, colour will complement the light green olive trees.		
		Adam and Amanda Miratana , 18 Greenwood Place	Questions that noise mitigation proposed (1.1m barriers) is adequate compared to 2m and 3m noise walls and fence proposed south of Kapiti Road, near Milne Drive. 2.0m high fence would not provide our property with privacy, and wouldn't provide any noise mitigation. Increase the height of the fence; possibly have a 2m fence on a retaining wall (500mm). It was advised to us by you that we could plant on our side to mitigate the privacy and visual aspect of the expressway at our expense. It is not financially viable for us to do this. Request confirmation as to what type of fence will be built		The noise mitigation plan was approved as part of the BOI process; Alliance Stakeholder communications team have provided additional information The 2.0m high timber fence is being provided for security purposes because of the new public footpath that passes this property. At 2.0m high it will provide privacy from footpath users. Vegetation once established on the Expressway and expressway ramp embankments will provide some privacy from road users. Planting was suggested as a possibility if visual screening was desired higher than the 2.0m fence. The Alliance is not undertaking planting on private property. The fence will be built to noise fence standard.
		Stewart Watson, 17 Greenwood Place	Questions that noise mitigation proposed (1.1m barriers) is adequate compared to 2m and 3m noise walls and fence proposed south of Kapiti Road, near Milne Drive. Request that timber fence on boundary be increased in size from 2.0 metres to 2.5 metres to provide greater security against potential trespassers.		The noise mitigation plan was approved as part of the BOI process, Alliance Stakeholder communications team have provided additional information. 2.0m high timber fence will have palings facing the footpath (rather than rails) to discourage climbing from the public side. 2.0m is the standard fence height being provided by the Alliance.

COMMENTS ON PRELIMINARY ISSUE SSMP3: WHAREMAUKU BASIN
TE ATIAWA KI WHAKARONGATAI

Condition Reference	*Condition Detail*	*Reviewer/ commenter*	*Comment*	*reference in SSMP*	*Management Plan Author's response*
57 e) i	SSMP to be prepared in consultation with Te Atiawa ki Whakarongatai				SSMP Issued for comment 10/7/14, no formal comments received as at 27/8/14, despite follow up email reminders requesting feedback on 6/8 and 14/8/14. In addition, the Alliance design team are working with Te Atiawa ki Whakarongatai to develop design of some elements along the CWB corridor. This work considers the whole Expressway route. The first stage, currently underway, will identify the particular locations of significance to Te Atiawa. If these locations occur within this SSMP area, landscape elements or features will be designed and incorporated into the CWB corridor, in consultation with Te Atiawa.

COMMENTS ON PRELIMINARY ISSUE SSMP3: WHAREMAUKU BASIN **FRIENDS OF WHAREMAUKU STREAM** Gordon Cameron =GC					
Condition Reference	*Condition Detail*	*Reviewer/ commenter*	*Comment*	*reference in SSMP*	*Management Plan Author's response*
		GC	The Friends are pleased to have been consulted and are positive about what is being proposed and that it is consistent with their expectations. The Friends focus is primarily on water quality and planting along the stream to assist in improving water quality. In their experience the Friends have found that planting needs only one season of intense maintenance, after that it becomes fairly self-sustaining and needing only occasional maintenance. Friends are keen to see SSMP2 when it's prepared because of the proximity and relationship to Wharemauku Stream, especially the details of the flood storage area and the proposed planting in this area. One of the aims of the Friends is to see taller trees planted along Wharemauku Stream to increase shading and the subsequent benefits that will accrue to habitat and water quality. Gordon was pleased to see the enrichment planting proposed on the northern side of Wharemauku Stream.		Noted, no response required.

Appendix 3: BRIDGE SUMMARY- WHAREMAUKU

Site Specific Management Plan 003 - [SectorS 360-370-380] MacKays to Peka Peka Expressway

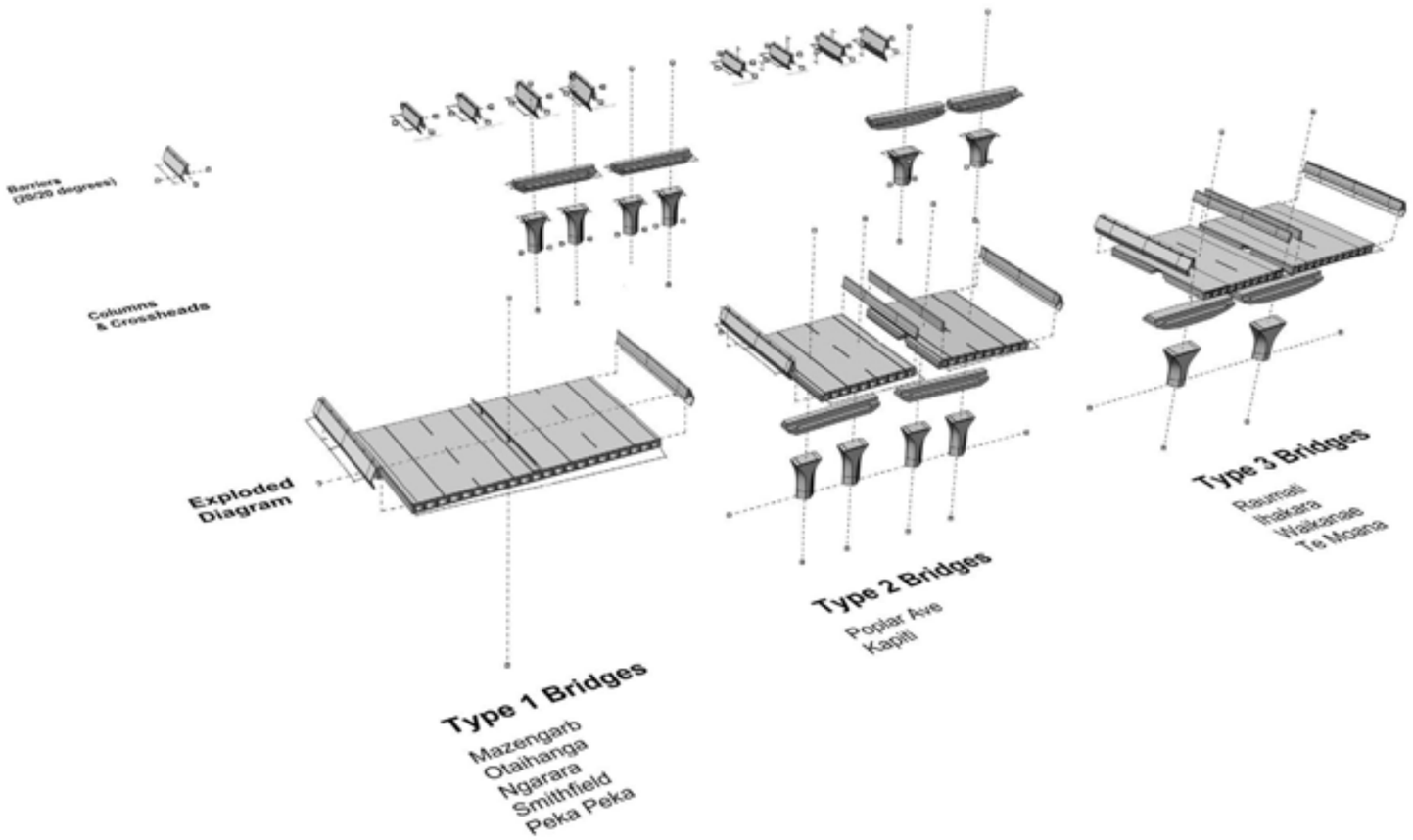
01 SEPTEMBER 2014 - CERTIFIED ISSUE - REV C

NZ TRANSPORT AGENCY WAKA KOTAHI

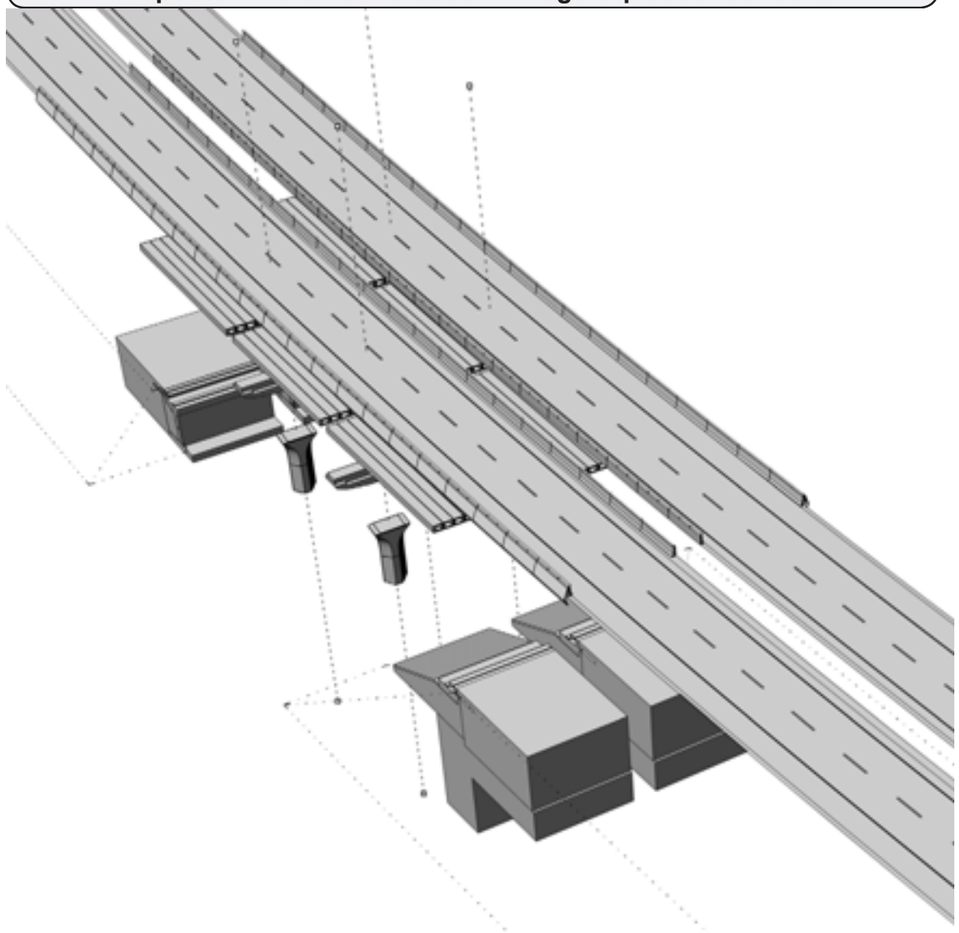
MacKays to Peka Peka
Wellington Northern Corridor

M2PP Bridge Design Objectives

Bridges as a series of components



Proposed Wharemauku Stream Bridge exploded isometric



Design Objectives

With reference to the Urban and Landscape Design Framework (Technical Report 5) (ULDF) there are four design objectives for the bridges and their respective contexts. These four objectives are overarching aims for the project and have been extracted from the Design Concept statements in two sections of the ULDF: Local Road Interface Design (section 5.7) and Bridge Design (section 5.8).

The purpose of extracting these objectives is to enable any changes to bridge structures and their context made through the concept and detailed design process to be considered at the highest level of the design intent. There are design principles in each of the sections as noted above and these too form a basis for considering the development of the designs for the bridges and their context.

As is typical in a design evaluation process, any aspects of design that do not align with the design principles would be elevated to consideration against the design objectives.

Design Objectives:

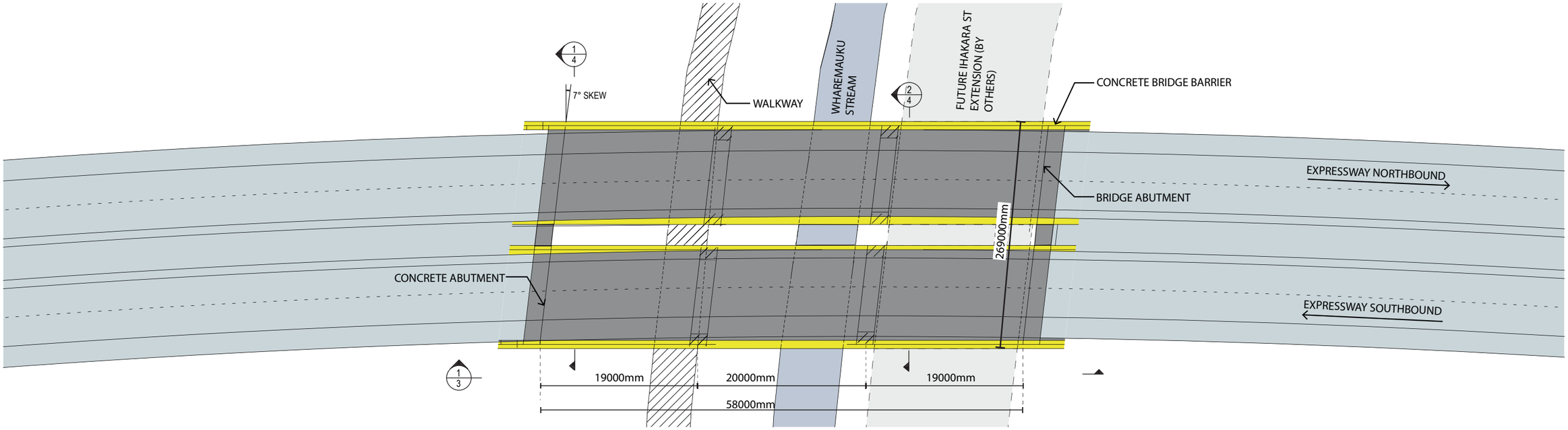
1. The public spaces of the roads and streets take primacy over the experience of the Expressway users. Local people will be making slower movements and as a consequence the bridges will be more visually apparent to them than to people travelling along the Expressway.

2. As a new element in the landscape, the bridges respect the surrounding landscape and are expressed in terms of their horizontality, fluidity and simplicity because the landscape is relatively low key and low in scale; having several ‘feature’ bridges would become both visually complex and overwhelming in scale.

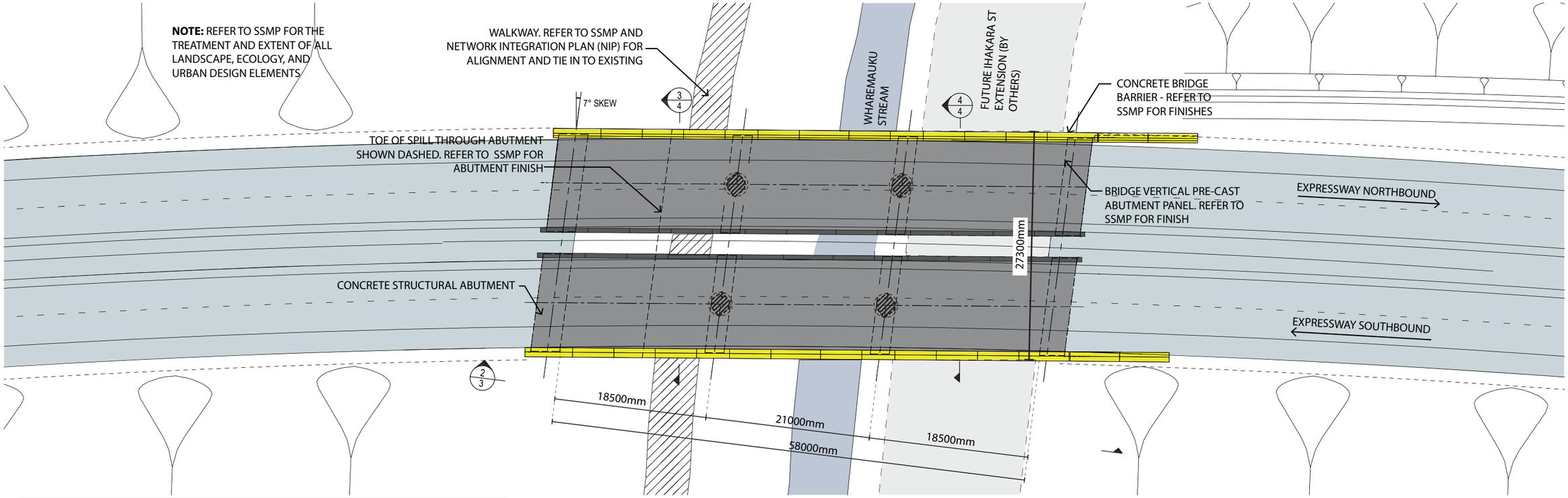
3. Bridges are formed as a whole from a single kit of parts, which allows the components to be repeated and a similar approach used at the multiple crossings to register as a ‘family’ of bridges because people will have multiple interactions day to day with the Expressway and this approach promotes simplicity and visual continuity

4. Utilise concrete prefabricated parts because this allows fine levels of quality control, cost benefits and significant improvements in construction time at the crossings and reduces disturbance to the area.

AEE Consented to DET Proposed Graphic Comparison



AEE PLAN- WHAREMAUKU STREAM BRIDGE - 1:500@A3



PROPOSED PLAN- WHAREMAUKU STREAM BRIDGE - 1:500@A3

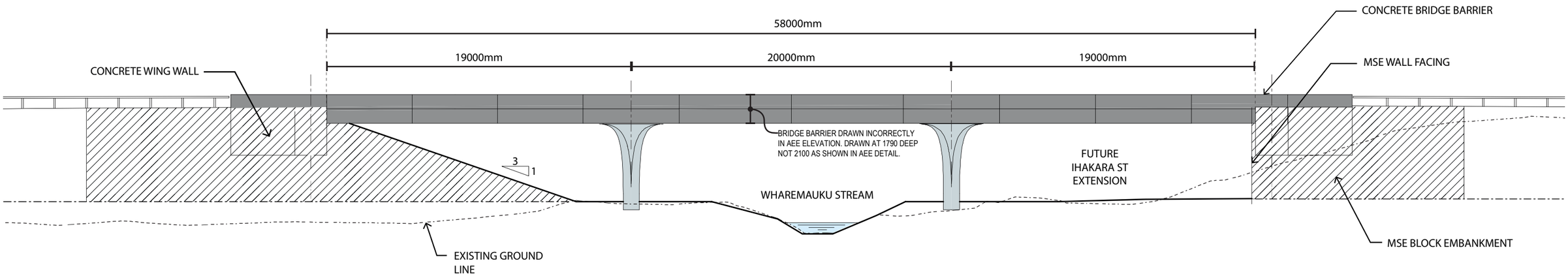
Design development

1. Column shape and location changed, abutment details refined

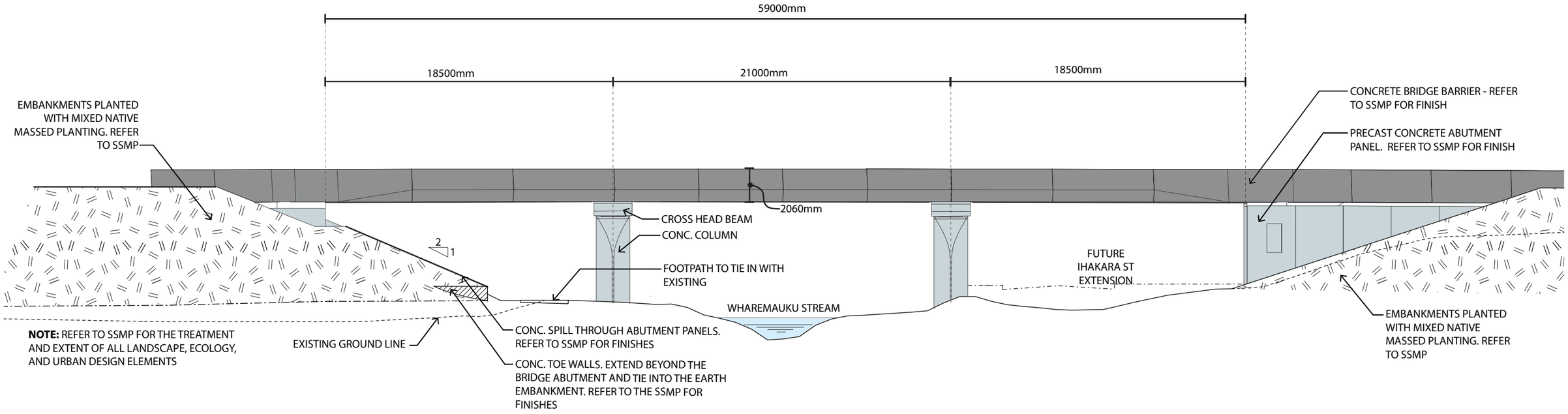
Rationale

1. Reduced number of columns (8 to 4) Due to bridge skew will appear more open beneath

AEE Consented to DET Proposed Graphic Comparison



1. AEE ELEVATION - WHAREMAUKU STREAM EAST ELEVATION (LOOKING WEST) - 1:250@A3



2. PROPOSED ELEVATION - WHAREMAUKU STREAM EAST ELEVATION (LOOKING WEST) - 1:250@A3

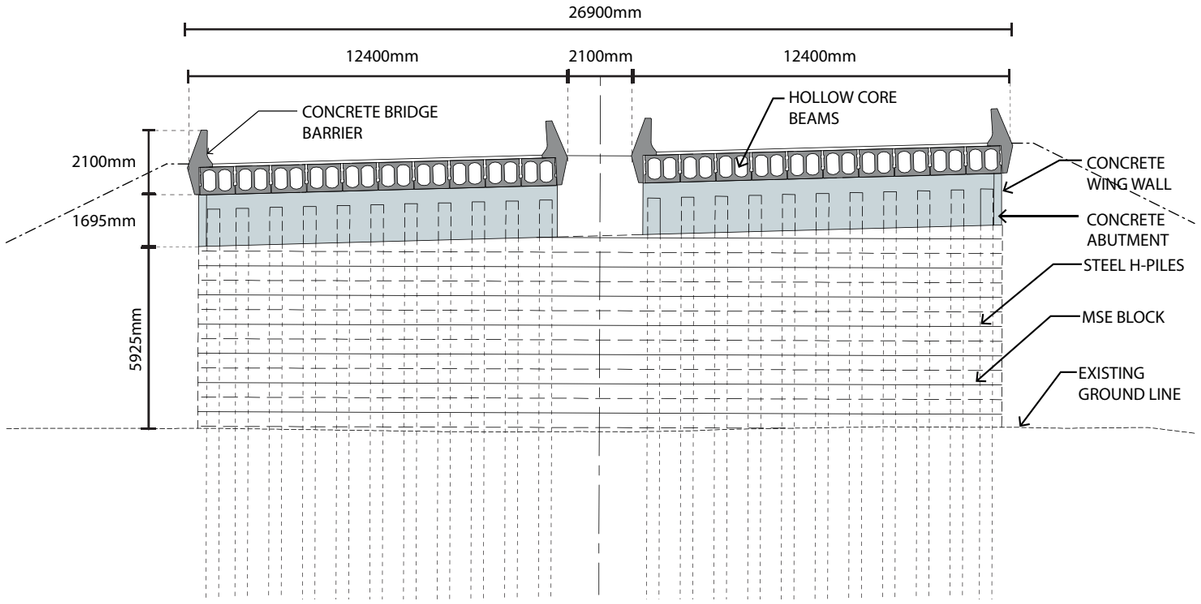
Design development

1. Bridge barrier drawn correctly
2. Bridge abutment grade has increased
3. Column profile developed

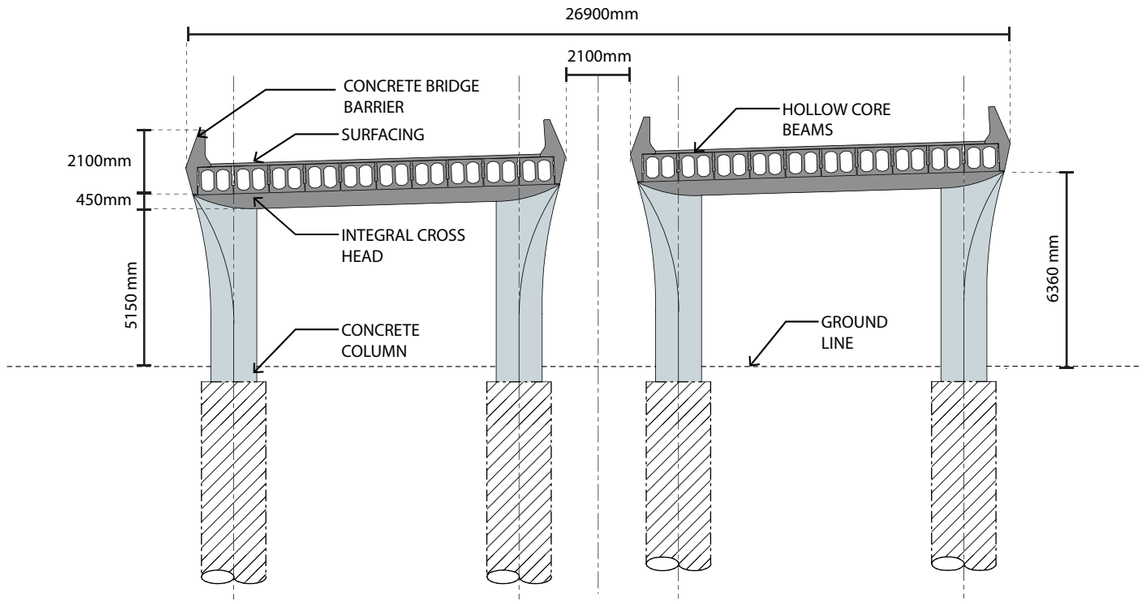
Rationale

1. Barrier drawn incorrectly in AEE elevation, Actual barrier depth unchanged from AEE simulations
2. Geotechnical and flood modelling developments since the NOR/AEE submission
3. Increased structural core based on geotech investigations carried out post AEE, while still providing the sculptural outer.

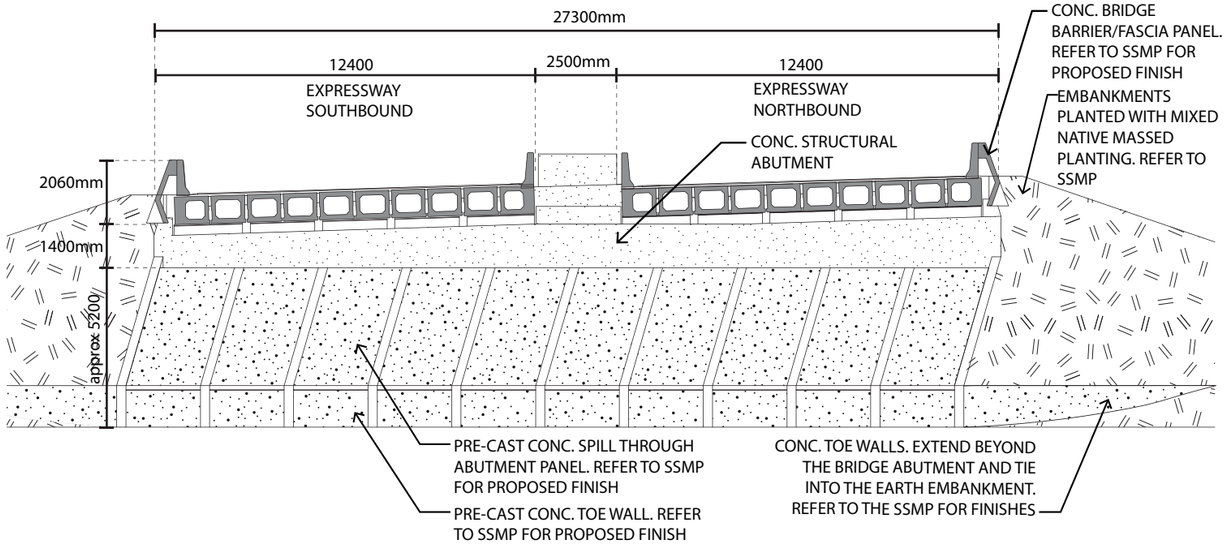
AEE Consented to DET Proposed Graphic Comparison



1. AEE SECTIONAL ELEVATION - WHAREMAUKU STREAM BRIDGE SOUTHERN ABUTMENT - 1:200@A3



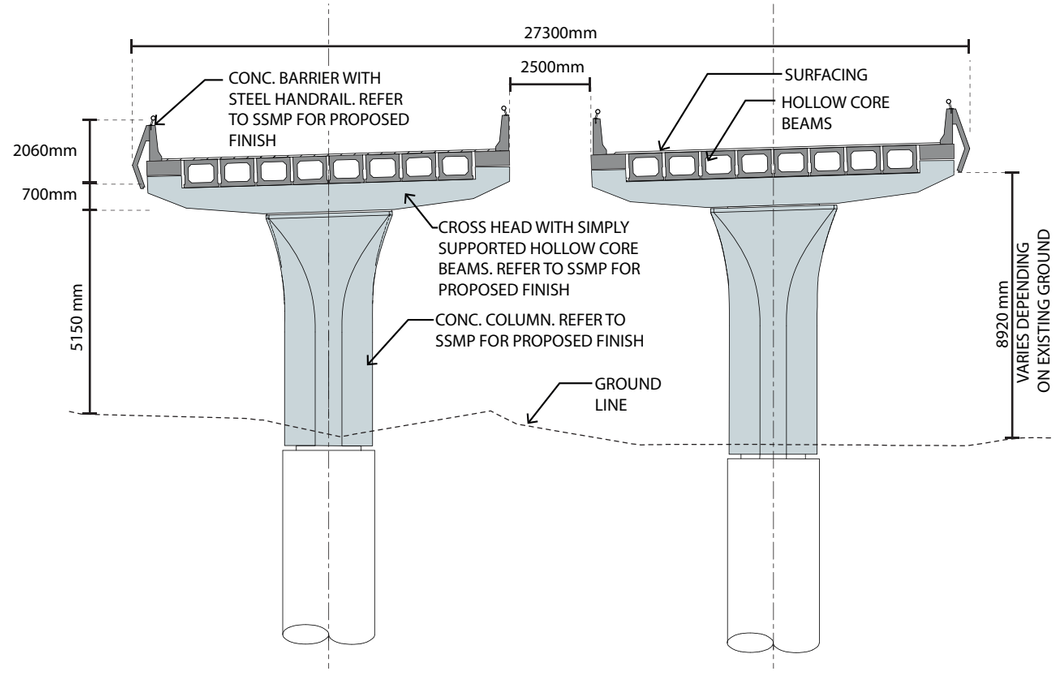
2. AEE SECTIONAL ELEVATION - WHAREMAUKU STREAM BRIDGE (LOOKING SOUTH) - 1:200@A3



NOTE:
THERE IS A SKEW BETWEEN THE EXPRESSWAY AND WHAREMAUKU SREAM. THE SPILL THROUGH ABUTMENTS ARE DESIGNED PERPENDICULAR TO THE STREAM.

REFER TO SSMP FOR THE TREATMENT AND EXTENT OF ALL LANDSCAPE, ECOLOGY, AND URBAN DESIGN ELEMENTS

3. PROPOSED SECTIONAL ELEVATION - WHAREMAUKU STREAM BRIDGE SOUTHERN ABUTMENT - 1:200@A3



4. PROPOSED SECTIONAL ELEVATION - WHAREMAUKU STREAM BRIDGE (LOOKING SOUTH) - 1:200@A3

Design development

1. Reduced number of columns; 2 columns to 1 column each cross head
2. More detail provided for abutment treatment
3. Cross head form changed
4. Column profile developed
5. Simply supported structure

Rationale

1. Improved visual permeability when considering bridge skew. Total column width when combined is reduced
2. Lack of resolution in AEE Abutment design developed
3. Simply supported structure requires platform to seat beams
4. Increased structural core based on geotech investigations
5. carried out post AEE, while still providing the sculptural outer. Constructability issues because of seismic requirements. Integral connections difficult to build without increasing structural element sizes further.

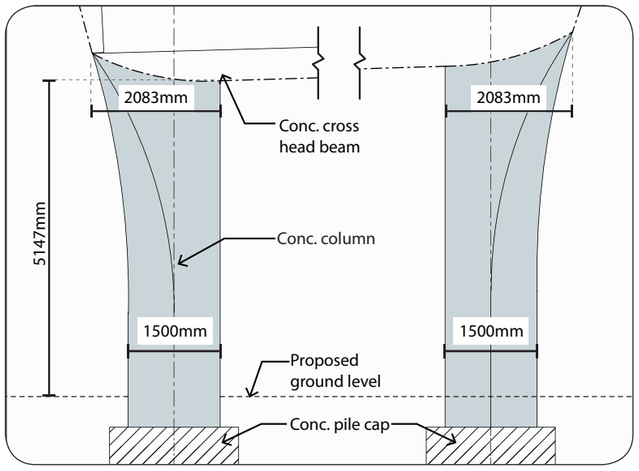
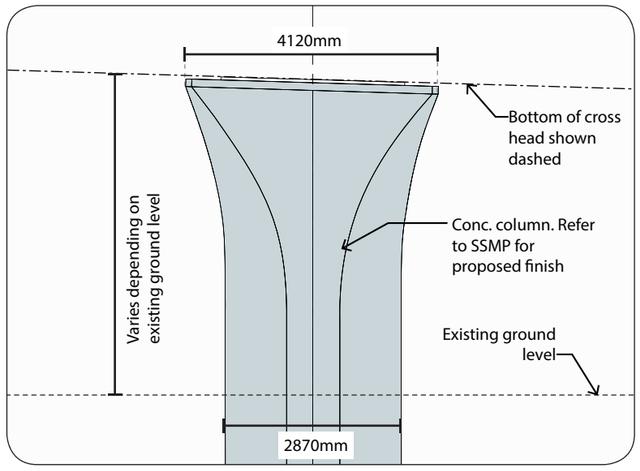
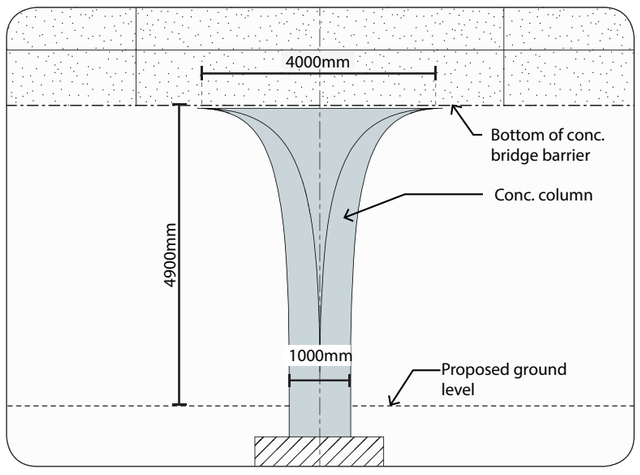
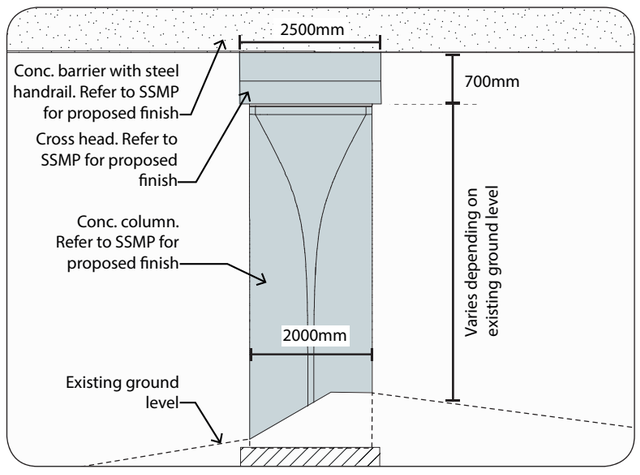
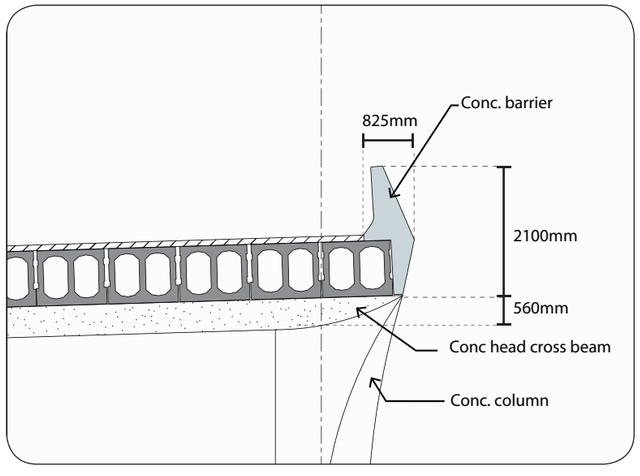
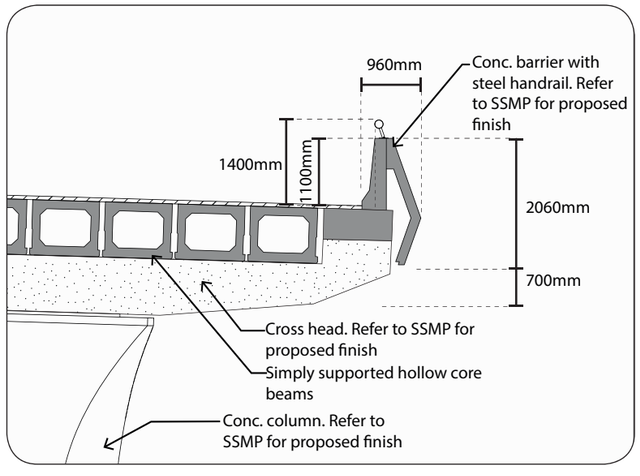
AEE Consented to DET Proposed Graphic Comparison

AEE VISUALISATION - WHAREMAUKU STREAM BRIDGE (SOUTH EAST SIDE OF THE WHAREMAUKU STREAM LOOKING WEST)

PROPOSED VISUALISATION - WHAREMAUKU STREAM BRIDGE (SOUTH EAST SIDE OF THE WHAREMAUKU STREAM LOOKING WEST)

NOTE: TO BETTER REPRESENT THE BRIDGE, THE PROPOSED VISUALISATION HAS BEEN DRAWN FROM A VANTAGE POINT THAT IS CLOSER TO THE BRIDGE THAN THE ORIGINAL AEE RENDER

Bridge Development Matrix

Elements	AEE Design	Current Design	Developments	Why?	ULDF Principles
Column Front elevation 1:100@A3			1. Column base width increase hexagonal column rather than flattened diamond 2. Reduced number of columns 3. Columns moved in board 4. Column height varies	1. To provide increased structural core to the column based on geotech investigations carried out post AEE, while still providing the sculptural outer. 2. The total width of columns when combined is reduced for 1 column vs 2 column solution 3. Resolves issues with bridge skew. 4. To allow for the changes to the cross head. Integration with existing ground level.	1. Please refer to ULDF principles summary on sheet; 7 of this document. With particular reference to principle number; 1, 2, 3, 5, 8, 11 and 13
Column Side elevation 1:100@A3			1. Column base width increase hexagonal column rather than flattened diamond at base of column 2. Column moved in-board. Cross head lower (approx 200mm) 3. Column height varies	1. To provide increased structural core to the column based on geotech investigations carried out post AEE, while still providing the sculptural outer. 2. Simply supported structure requires platform to seat beam, and new arrangement helps resolve issues with bridge skew 3. To allow for the changes to the cross head. Integration with existing ground level.	1. Please refer to ULDF principles summary on sheet; 7 of this document. With particular reference to principle number 1, 2, 3, 5, 8, 11 and 13
Cross Head & barrier junction 1:100@A3			1. Addition of handrail 2. Columns moved in-board 3. Simply supported rather than integral cross head	1. Safety requirement 2. Reduced number of columns from two columns per crosshead to one centrally placed column. Helps resolve issues with bridge skew. 3. Constructability issues because of seismic requirements. Integral connections difficult to build without increasing structural element sizes further.	1. Please refer to ULDF principles summary on sheet; 7 of this document. With particular reference to principle number 1, 2, 3, 4, 8 and 13

ULDF PRINCIPLES SUMMARY

Uldf principle	Assessment of ULDF principles
1. Make the bridges generally consistent in their form so they register as a 'family' and provide some visual continuity within the local environment	Proposed Ihakara/Wharemauku Stream bridge is different from the AEE bridge, but the form remains consistent with other proposed bridges. The consistency across the bridges overall has become even more consistent as there is less variation in types from that shown in AEE. Accordingly this improves visual continuity.
2. Express the bridges as simple forms that sit across the changes in landscape and are not seen as strong statement in their own right	Proposed bridge form remains a visually simple structure and sits across the landscape as an horizontal element. The bridge is not seen as making a statement in its own right. The bridge appears 'heavier' in that the piers have doubled in width. However, it is noted that the number of piers has been halved, albeit that they are larger in width.
3. Unite the bridge elements of pier, cross head, deck and barrier as one sculptural form and ensure services are concealed from view	Proposed bridge form is different than the AEE in that the piers have been repositioned to sit beneath the bridge deck. However, the principle of united piers, cross head, deck and barrier remains upheld, albeit in a new pier configuration. The profile from the crease of the barrier to the sloping cross head end to the shaped pier continues to show the bridge as a united single form.
4. Ensure the form of the bridges from the underside is visually appealing to recognise the primacy of the local roads user's experience in design consideration.	The space beneath the bridge will be no less visually appealing than the AEE bridge and maybe perceived as better given there is now proposed to be a reduced number of piers (albeit that those being proposed are larger in size). The openness of the spill through abutment on the CWB side remains.
5. Design the intersection of the piers with the ground in concert with the local road interface design of abutment forms and materials (refer to local road interface design principles)	Proposed bridge piers are located to provide good clearance for local road movements and the abutment to the south where the CWB path is located continues to be set at a slope that provides for light penetration. The reduced number of piers (albeit that they are larger) increases the openness of the space beneath. The abutments remain as 'spill through' slopes and these will be treated in a consistent way with the other local road abutments.
6. Light the spaces beneath local road over bridges to enhance the quality of the space including the use of natural light penetration where the local road has a higher frequency of pedestrian cycling and other non-vehicular users	Not relevant
7. Use architectural lighting to emphasise the sculptural forms of the bridges and light units that are readily serviceable from the ground	Not relevant
8. Utilise the opportunity provided by multiple bridges to make a system of parts that can be repeated at each location and improve efficiency of construction	Proposed bridge, as in the AEE, remains of the same systematic approach to allow repetition of parts at other locations and improves the efficiency of construction.
9. Use textured finishes within the bridge elements surfaces' to provide a crafted finish – avoid printed forms	The proposed finish on the Ihakara/Wharemauku Bridge barriers will be fair faced concrete with a white wash, applied concrete coating to ensure colour and tonal uniformity between panels. The bridge abutment will be constructed with precast concrete panels with an inlaid Otaki pebble finish. The other elements – columns, cross head and deck will be simple, fair faced concrete without the applied white wash coating to help make these elements visually recessive relative to the barrier. Matt graffiti protection to be applied to all bridge elements surfaces. Refer to the SSMP for further detail on the proposed finishes.
10. Repeat the bridge design concepts within the design of pedestrians bridges recognising that these may be able to utilise lighter weight materials	Not relevant
11. Develop each bridge crossing design considering the piers types best suited to the location	The piers are located out of the stream and do not require armouring to the stream edge.
12. Locate bridge piers associated with bridge watercourse crossings away from riparian edges to prevent need to armour stream edges	Proposed bridge form at Wharemauku Stream has addressed all the contributing factors of visual amenity, safe CWB crossing, structural design in high seismic zone, and constructability. Rip-rap required under the footprint of the bridge/Wharemauku stream edges irrespective of the location of the pier location.
13. Ensure that the integrity and significance of the bridge forms as important to the amenity of the community is not accorded any less priority than the other design requirements of the project	The design of the bridge forms at Ihakara/Wharemauku River has addressed all the contributing factors of visual amenity, CWB crossing, structural design in high seismic zone, river hydrology and constructabilty

WHAREMAUKU STREAM CROSSING - VISUALISATION

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka

Wellington Northern Corridor

Appendix 4: BRIDGE SUMMARY- KAPITI

Site Specific Management Plan 003 - [SectorS 360-370-380] MacKays to Peka Peka Expressway

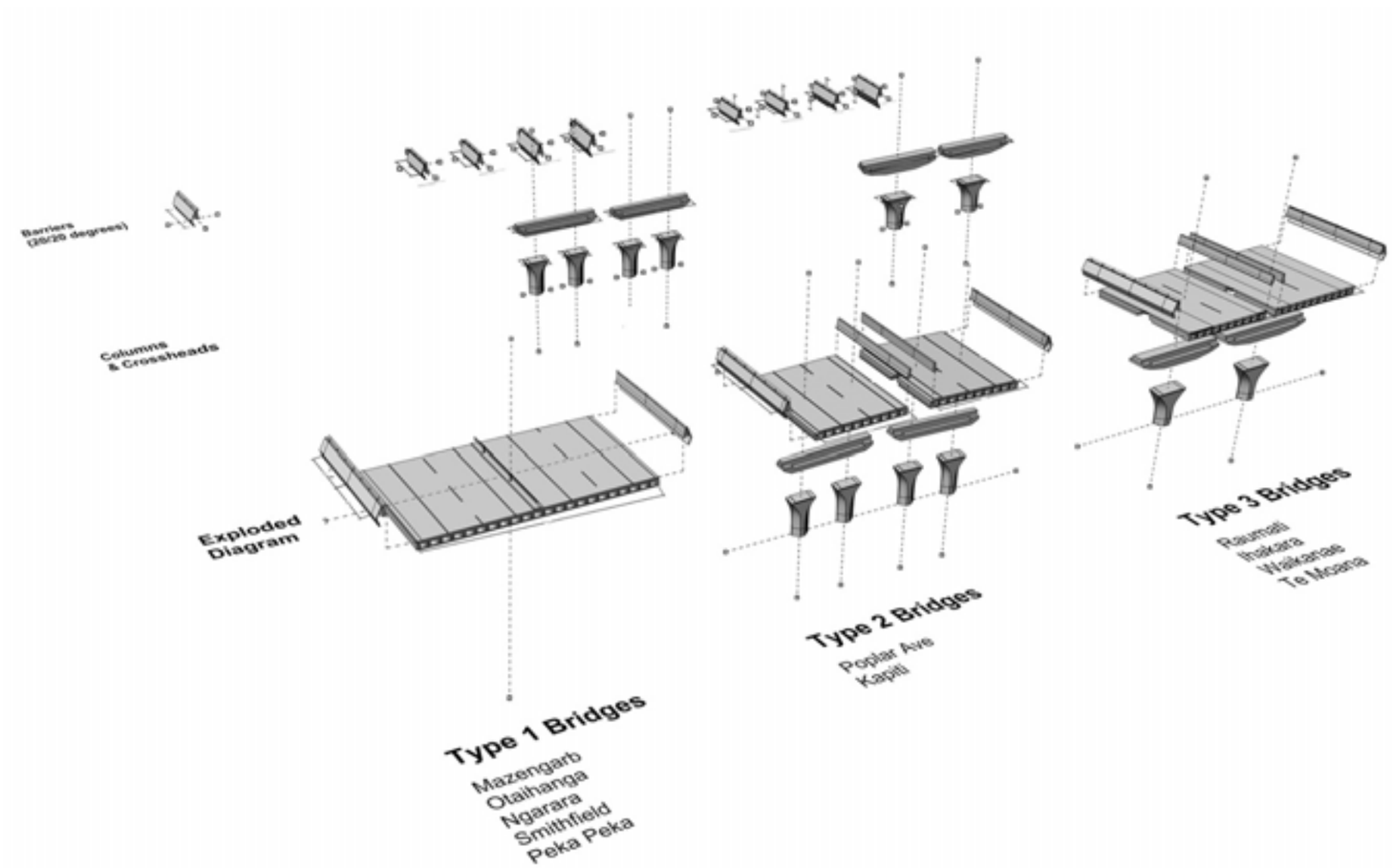
01 SEPTEMBER 2014 - CERTIFIED ISSUE - REV C

NZ TRANSPORT AGENCY WAKA KOTAHI

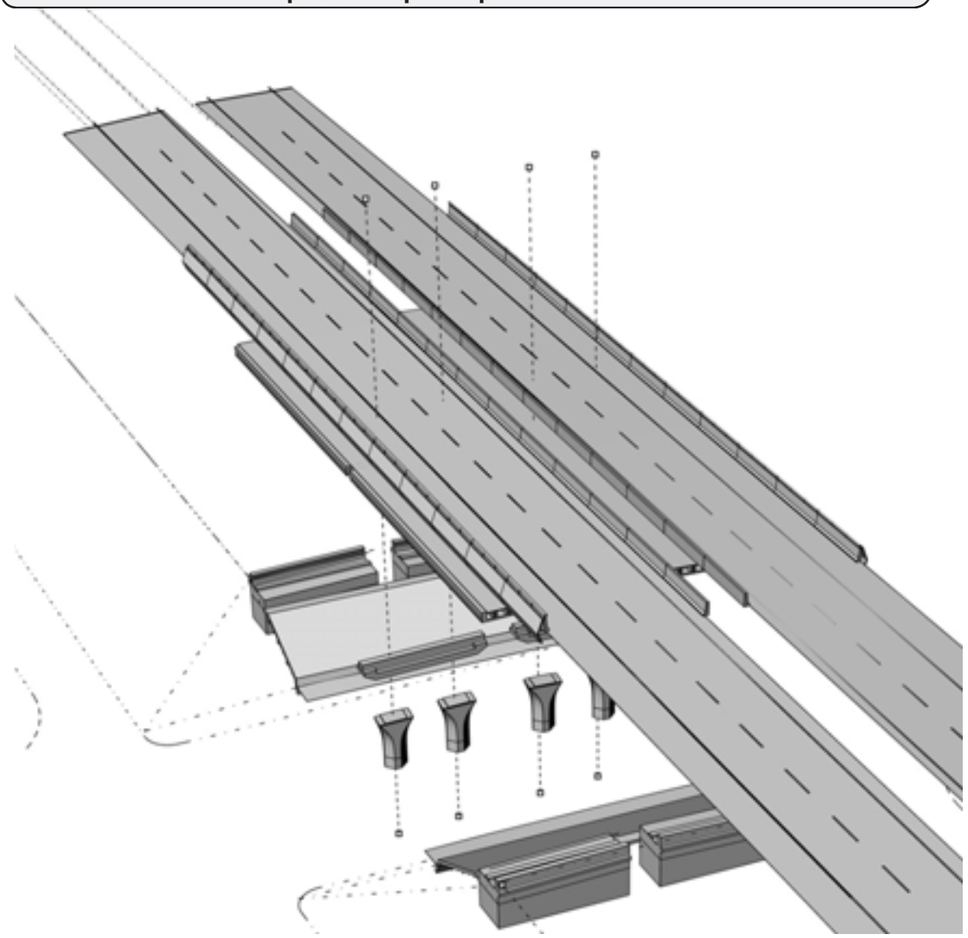
MacKays to Peka Peka
Wellington Northern Corridor

M2PP Bridge Design Objectives

Bridges as a series of components



Proposed Kapiti exploded isometric



Design Objectives

With reference to the Urban and Landscape Design Framework (Technical Report 5) (ULDF) there are four design objectives for the bridges and their respective contexts. These four objectives are overarching aims for the project and have been extracted from the Design Concept statements in two sections of the ULDF: Local Road Interface Design (section 5.7) and Bridge Design (section 5.8).

The purpose of extracting these objectives is to enable any changes to bridge structures and their context made through the concept and detailed design process to be considered at the highest level of the design intent. There are design principles in each of the sections as noted above and these too form a basis for considering the development of the designs for the bridges and their context.

As is typical in a design evaluation process, any aspects of design that do not align with the design principles would be elevated to consideration against the design objectives.

Design Objectives:

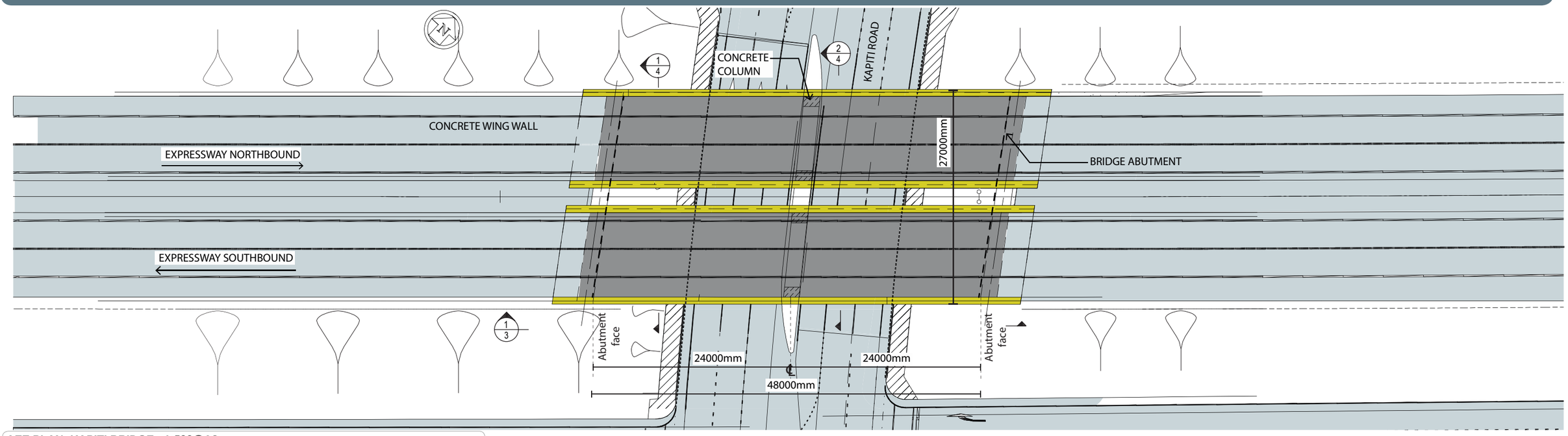
1. The public spaces of the roads and streets take primacy over the experience of the Expressway users. Local people will be making slower movements and as a consequence the bridges will be more visually apparent to them than to people travelling along the Expressway.

2. As a new element in the landscape, the bridges respect the surrounding landscape and are expressed in terms of their horizontality, fluidity and simplicity because the landscape is relatively low key and low in scale; having several ‘feature’ bridges would become both visually complex and overwhelming in scale.

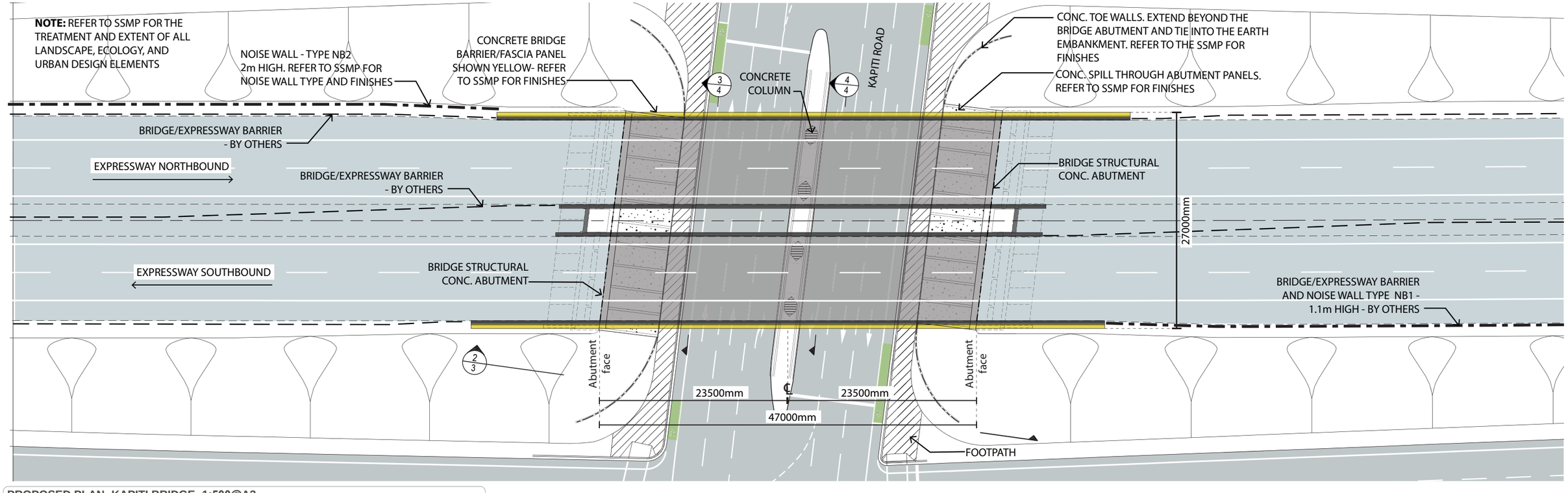
3. Bridges are formed as a whole from a single kit of parts, which allows the components to be repeated and a similar approach used at the multiple crossings to register as a ‘family’ of bridges because people will have multiple interactions day to day with the Expressway and this approach promotes simplicity and visual continuity

4. Utilise concrete prefabricated parts because this allows fine levels of quality control, cost benefits and significant improvements in construction time at the crossings and reduces disturbance to the area.

AEE Consented to DET Proposed Graphic Comparison



AEE PLAN- KAPITI BRIDGE - 1:500@A3



PROPOSED PLAN- KAPITI BRIDGE- 1:500@A3

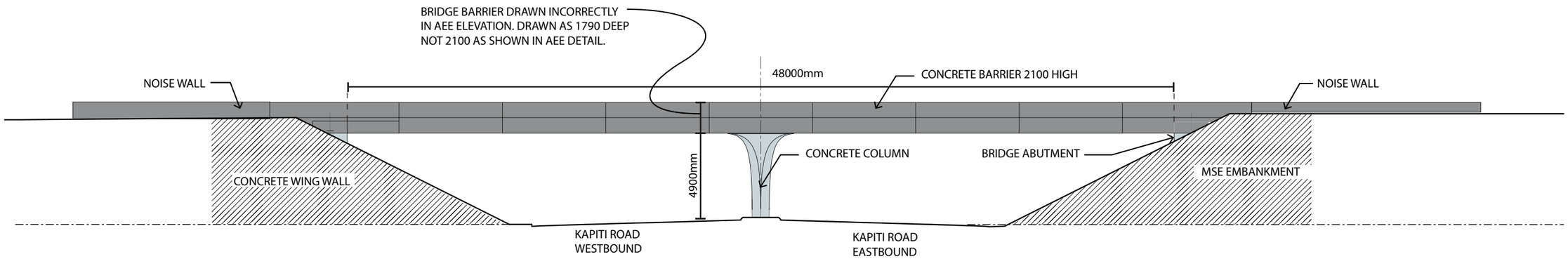
Design development

1. Further detail provided for abutment treatment
2. Further detail provided for pedestrian and cycle (treatment)
3. Columns moved in-board

Rationale

1. Lack of info in AEE. Embankment developed to better integrate the level difference of the embankment and precast conc. spill through abutments.
2. Possible now that detail design of Kapiti Road has progressed
3. Simply supported structure requires platform to seat beam, and new arrangement helps resolve issues with bridge skew

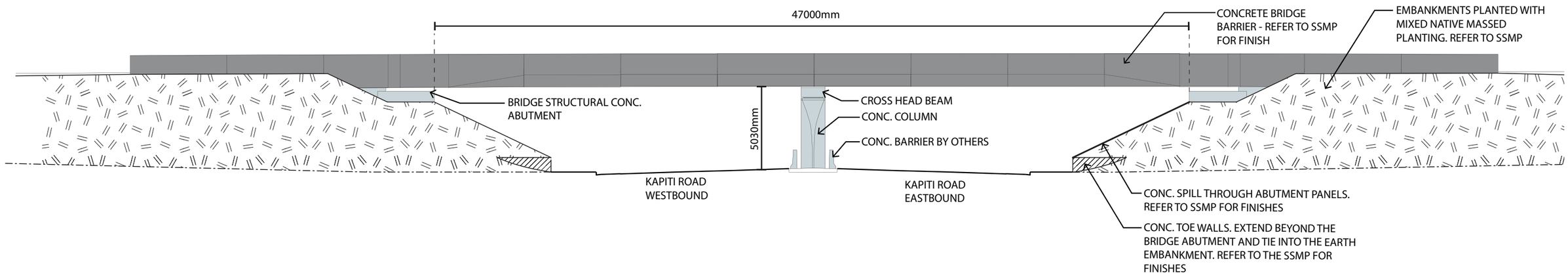
AEE Consented to DET Proposed Graphic Comparison



1. AEE ELEVATION - KAPITI BRIDGE EAST ELEVATION - 1:250@A3

NOTE:

REFER TO SSMP FOR THE TREATMENT AND EXTENT OF ALL LANDSCAPE, ECOLOGY, AND URBAN DESIGN ELEMENTS



2 PROPOSED ELEVATION - KAPITI BRIDGE EAST ELEVATION - 1:250@A3

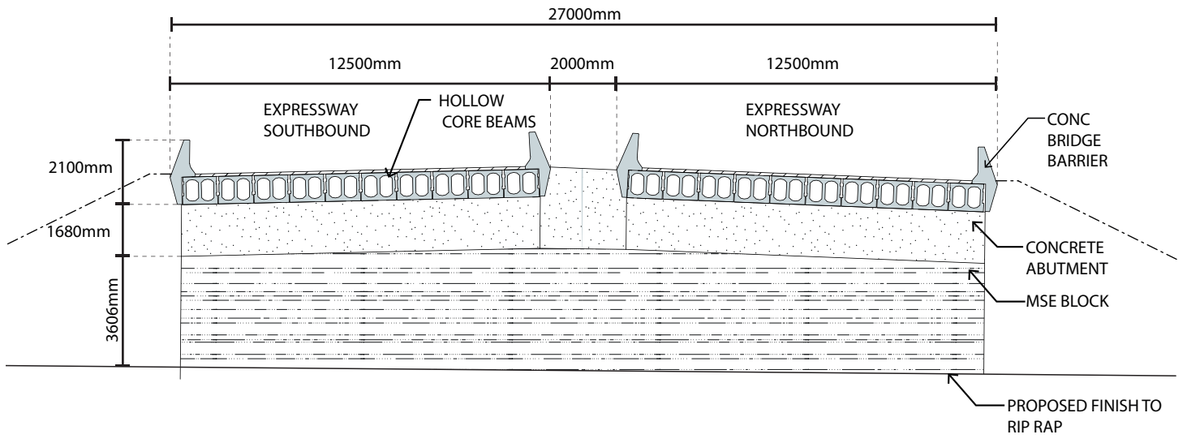
Design development

1. Column shape developed
2. Cross head lower by approx 200mm Change to simply supported system. Revised relationship between column, crosshead and barrier
3. Further detail provided for spill through abutment design and interface with embankments

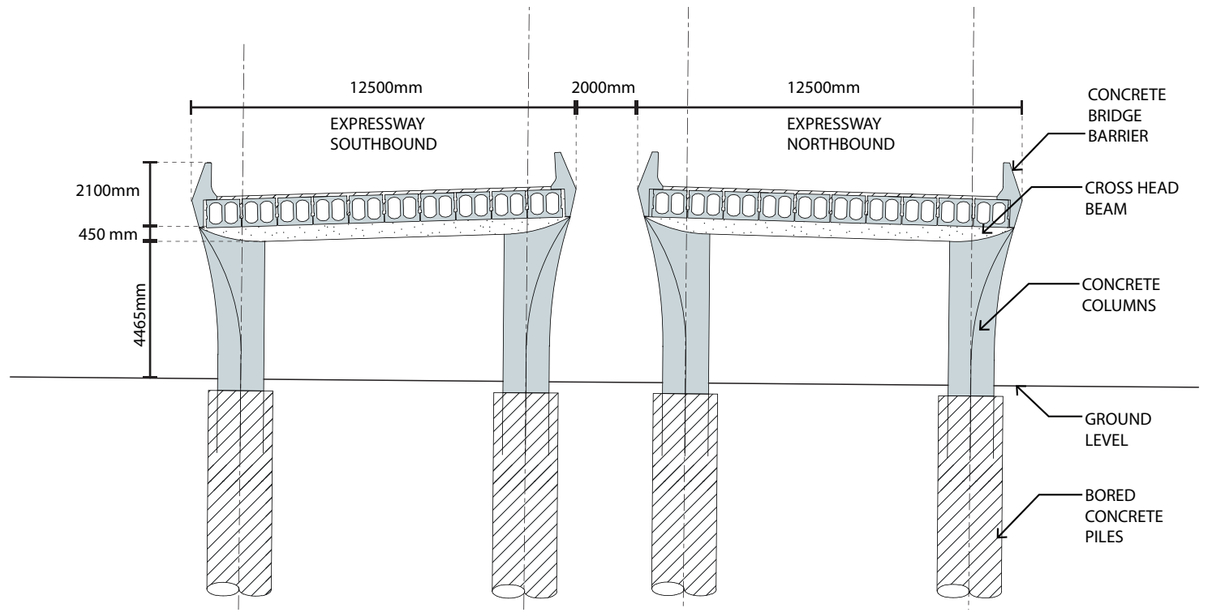
Rationale

1. Increased structural core based on geotech investigations carried out post AEE, while still providing the sculptural outer.
2. Simply supported structure requires platform to seat beam, and new arrangement helps resolve issues with bridge skew
3. Lack of info in AEE. Embankment developed to better integrate the level difference of the embankment and precast conc. spill through abutments.

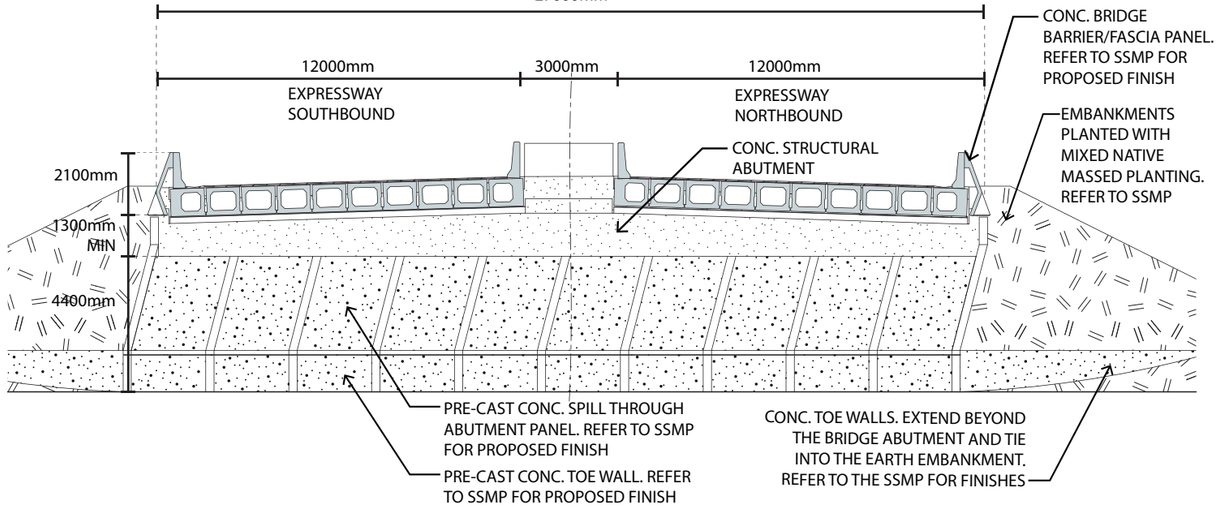
AEE Consented to DET Proposed Graphic Comparison



1. AEE SECTIONAL ELEVATION - KAPITI BRIDGE ABUTMENT (LOOKING SOUTH) 1:200@A3



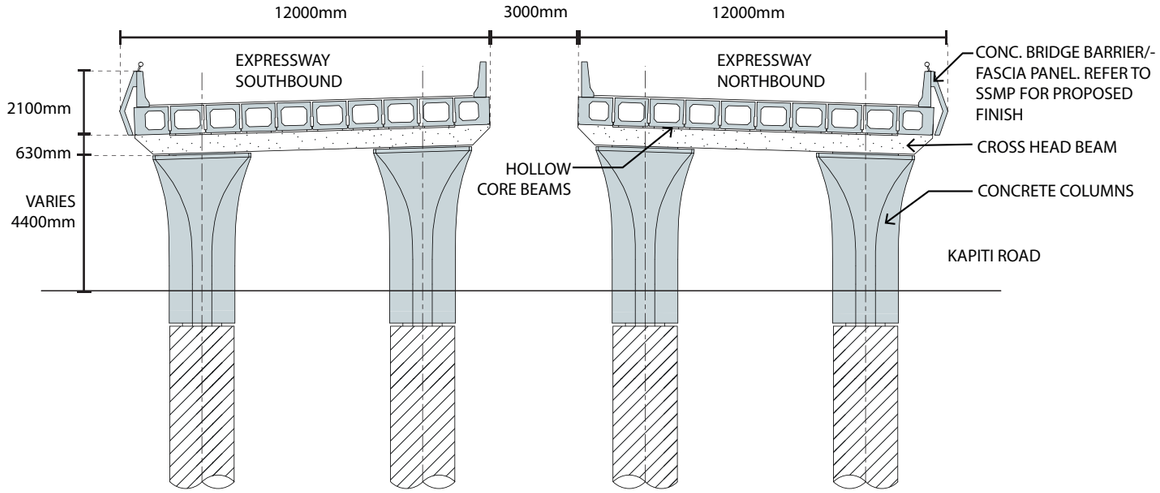
2. AEE SECTIONAL ELEVATION - KAPITI BRIDGE PIERS (LOOKING SOUTH) - 1:200@A3



NOTE:
THERE IS A SKEW BETWEEN THE EXPRESSWAY AND KAPITI ROAD. THE SPILL THROUGH ABUTMENTS ARE DESIGNED PERPENDICULAR TO THE LOCAL ROAD.

REFER TO SSMP FOR THE TREATMENT AND EXTENT OF ALL LANDSCAPE, ECOLOGY, AND URBAN DESIGN ELEMENTS

3. PROPOSED SECTIONAL ELEVATION - KAPITI BRIDGE ABUTMENT (LOOKING SOUTH) - 1:200@A3



4. PROPOSED SECTIONAL ELEVATION - KAPITI BRIDGE PIERS (LOOKING SOUTH) - 1:200@A3

Design development

1. Column shape developed
2. Cross head lower by approx 200mm Change to simply supported system. Revised relationship between column, crosshead and barrier
3. Inside barriers straight profile
4. Further detail provided for the spill through abutment design

Rationale

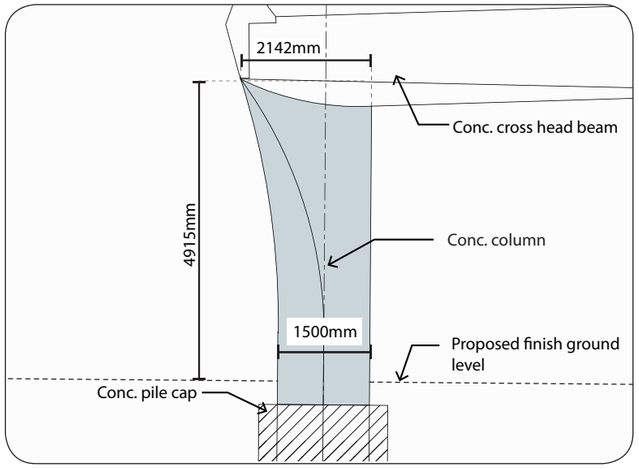
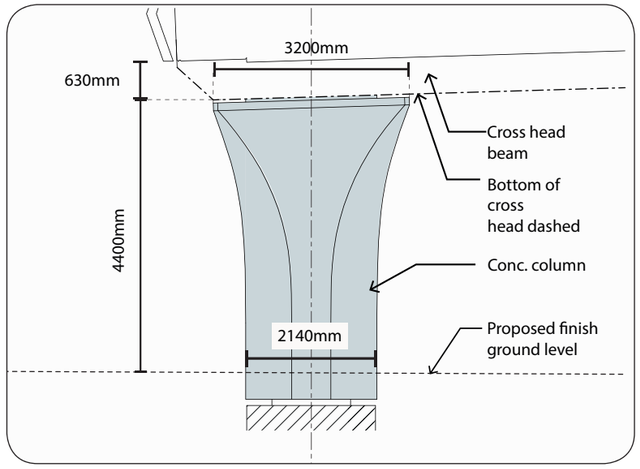
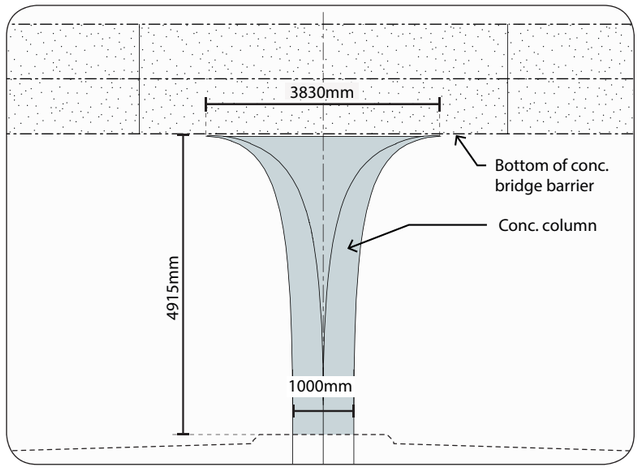
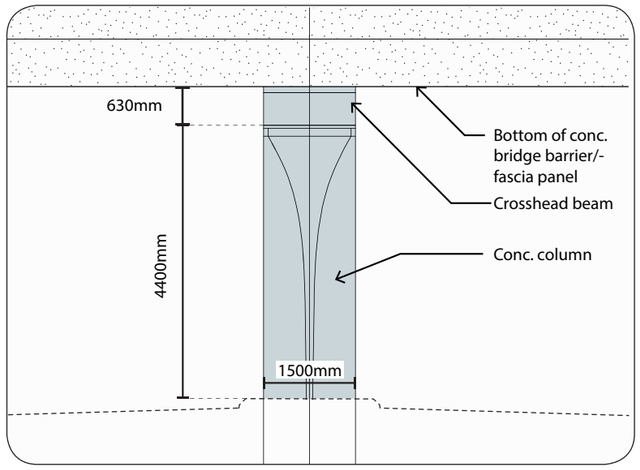
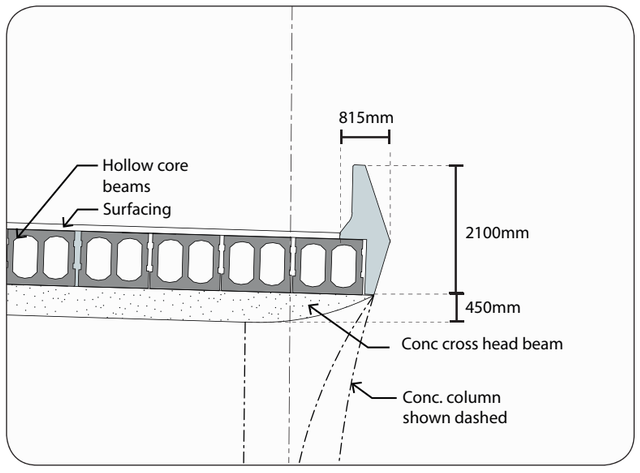
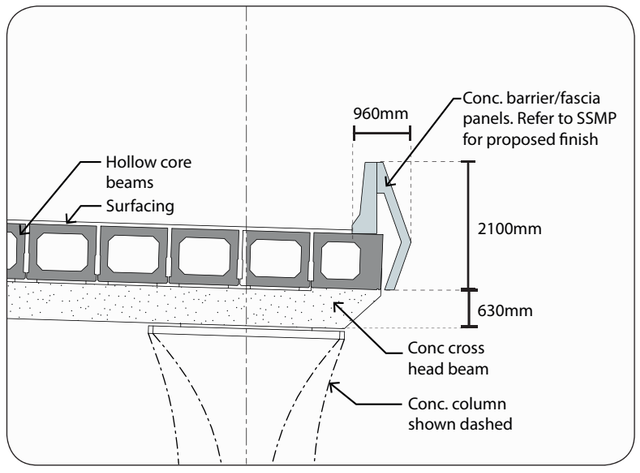
1. Increased structural core based on geotech investigations carried out post AEE, while still providing the sculptural outer.
2. Simply supported structure requires platform to seat beam, and new arrangement helps resolve issues with bridge skew
3. Increase width of light shaft.
4. Lack of information provided in AEE

AEE Consented to DET Proposed Graphic Comparison

AEE VISUALISATION - KAPITI ROAD BRIDGE CROSSING (LOOKING WEST)

PROPOSED VISUALISATION - KAPITI ROAD BRIDGE CROSSING (NORTH SIDE OF KAPITI LOOKING WEST)

Bridge Development Matrix

Elements	AEE Design	Current Design	Developments	Why?	ULDF Principles
Column Front elevation 1:100@A3			1. Column base width increase hexagonal column rather than flattened diamond at base of column 2. Column moved in-board. Cross head lower (approx 200mm)	1. To provide increased structural core to the column based on geotech investigations carried out post AEE, while still providing the sculptural outer. 2. Simply supported structure requires platform to seat beam, and new arrangement helps resolve issues with bridge skew	1. Please refer to ULDF principles summary on sheet; 7 of this document. With particular reference to principle number; 1, 2, 3, 5, 8, 11 and 13
Column Side elevation 1:100@A3			1. Column base width increase hexagonal column rather than flattened diamond at base of column 2. Column moved in-board. Cross head lower (approx 200mm)	1. To provide increased structural core to the column based on geotech investigations carried out post AEE, while still providing the sculptural outer. 2. Simply supported structure requires platform to seat beam, and new arrangement helps resolve issues with bridge skew	1. Please refer to ULDF principles summary on sheet; 7 of this document. With particular reference to principle number 1, 2, 3, 5, 8, 11 and 13
Cross Head & barrier junction 1:100@A3			1. Barrier shape developed 2. Column moved in-board. Cross head lower (approx 200mm)	1. To improve shadow line 2. Structure requires platform to seat beam, and new arrangement helps resolve issues with bridge skew	1. Please refer to ULDF principles summary on sheet; 7 of this document. With particular reference to principle number 1, 2, 3, 4, 8 and 13

ULDF PRINCIPLES SUMMARY

ULDF principle	Assessment of ULDF principles
1. Make the bridges generally consistent in their form so they register as a 'family' and provide some visual continuity within the local environment	Proposed Kapiti Road bridge is different from the AEE bridge, but the form remains consistent with other proposed bridges, including Poplar Road, Raumati Road. The consistency across the bridges overall has become even more consistent as there is less variation in types from that shown in AEE. Accordingly there is enhanced consistency in the local environment.
2. Express the bridges as simple forms that sit across the changes in landscape and are not seen as strong statement in their own right	Proposed bridge form remains a visually simple structure as far as it can be, given the on and off ramps and other structure such as retaining walls. The bridge is not seen as making a statement in its own right. The bridge appears 'heavier' in that the piers have become wider, but sit now (different than the AEE) just beneath the bridge.
3. Unite the bridge elements of pier, cross head, deck and barrier as one sculptural form and ensure services are concealed from view	Proposed bridge form is different than the AEE in that the piers have been repositioned to sit beneath the bridge deck. However, the principle of united piers, cross head, deck and barrier remains upheld, albeit in a new pier configuration. The profile from the crease of the barrier to the sloping cross head end to the shaped pier continues to show the bridge as a united single form.
4. Ensure the form of the bridges from the underside is visually appealing to recognise the primacy of the local roads user's experience in design consideration	Proposed Kapiti Road bridge interchange will be no less visually appealing than the AEE bridge. The spill through abutments continue to provide an open space and centralising the piers (consistent with the AEE) enables the space at either side of Kapiti Road to be maximised for the public benefit of walking and cycling movements.
5. Design the intersection of the piers with the ground in concert with the local road interface design of abutment forms and materials (refer to local road interface design principles)	Proposed bridge piers are located to provide good clearance for local road movements and enables the space at either side of Kapiti Road to be maximised for the public benefit of walking and cycling movements.
6. Light the spaces beneath local road over bridges to enhance the quality of the space including the use of natural light penetration where the local road has a higher frequency of pedestrian cycling and other non-vehicular users	Proposed bridge is continues with the split as in the AEE to allow some natural light penetration to the local road and space below. There is lighting to be provided under the bridge to recognise the relatively high level of usage by cyclists, walkers and others. This lighting can be used to enhance the architectural forms.
7. Use architectural lighting to emphasise the sculptural forms of the bridges and light units that are readily serviceable from the ground	Proposed bridge will be lit from beneath and objective will be to light the external barrier and pier shapes architecturally.
8. Utilise the opportunity provided by multiple bridges to make a system of parts that can be repeated at each location and improve efficiency of construction	Proposed bridge, as in the AEE, remains of the same systematised approach to allow repetition of parts at other locations and improves the efficiency of construction.
9. Use textured finishes within the bridge elements surfaces' to provide a crafted finish – avoid printed forms	The proposed finish on the Kapiti Road Bridge barriers will be fair faced concrete with a white wash, applied concrete coating to ensure colour and tonal uniformity between panels. The bridge abutment will be constructed with precast concrete panels with a formed concrete pattern finish. The underside of the deck will be fair faced concrete without the applied white wash coating to help make these elements visually recessive relative to the barrier. Matt graffiti protection to be applied to all bridge elements surfaces. Refer to the SSMP for further detail on the proposed finishes.
10. Repeat the bridge design concepts within the design of pedestrians bridges recognising that these may be able to utilise lighter weight materials	Not relevant
11. Develop each bridge crossing design considering the piers types best suited to the location	Proposed Kapiti Road bridge piers are different than those in AEE design. The AEE design did have bridge types where piers were located beneath the bridge and others where the piers were co-planar to the barrier and on the outside edge. Piers under the bridges were a response to the location. At Kapiti Road the piers proposed are on the outward edge of the bridge but are no long co-planar with the barrier. The piers now proposed provide more consistency with other bridge types which satisfies principle 1 above and assists with expediency of construction on this busy road.
12. Locate bridge piers associated with bridge watercourse crossings away from riparian edges to prevent need to armour stream edges	Not relevant
13. Ensure that the integrity and significance of the bridge forms as important to the amenity of the community is not accorded any less priority than the other design requirements of the project	Proposed bridge form at Kapiti Road has seen the consideration of all the contributing factors of visual amenity, safe CWB crossing, structural design in high seismic zone, and constructibility. At this location the bridge is one element in a complex context that must accommodate on and off ramps, multiple local road traffic lanes, safe crossing points for pedestrians and cyclists and noise mitigation structures.

KAPITI ROAD CROSSING - SIMULATION

NZ TRANSPORT AGENCY
WAKA KOTAHI

MacKays to Peka Peka
Wellington Northern Corridor

Appendix 5: LANDSCAPE SPECIFICATION

Site Specific Management Plan 003 - [SectorS 360-370-380] MacKays to Peka Peka Expressway

01 SEPTEMBER 2014 - CERTIFIED ISSUE - REV C

SEE SEPARATE A4 BOUND DOCUMENT.

NZ TRANSPORT AGENCY WAKA KOTAHI

MacKays to Peka Peka

Wellington Northern Corridor