Site Specific Environmental Management Plan

– Peka Peka to Ōtaki Project

SSEMP BR08: School Road Underpass (Bridge 8)

FCCL-EV-MPN-0051

Revision B October 2018

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | New Zealand Government

Contents

AUTHORISATION AND REVISION RECORD

Revision	Status	Author	Date	Description
A	Draft	Alice Naylor	25/09/18	Distributed for general review
A.1	Draft	Alice Naylor	3/10/18	For Reviewer comment
A.2	Draft	Alice Naylor	10/10/18	Response to PA Review
B	Final	Alice Naylor	19/10/18	For Certification

Certification Record

Revision	Action	Name	Position	Date	Signature
	Approved by:	Richard Percy	Project Leader	24/10/18	
	On behalf of GWRC:				

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	Approved by:				
	On behalf of KCDC:				

CERTIFIED
VIJAY SOMA
Resource ConsentS & Compliance Manager
Kapiti Coast District Council
DATE: 24/10/18

1 INTRODUCTION

This Site Specific Environmental Management Plan (SSEMP) provides the necessary information to demonstrate how the project team plan to avoid or mitigate potential adverse environmental effects relating to construction of the Peka Peka to Ōtaki Expressway.

This document covers construction of the School Road Underpass (Bridge 8). The proposed Bridge 8 will carry the realigned School Road over the existing State Highway 1 (SH1), the North Island Main Trunk Railway (NIMT) and the new Expressway. Bridge 8 provides a link between Te Horo Township at Te Horo Beach Road and the areas to the east of Te Horo along the realigned School Road. The bridge will carry one lane of traffic in each direction along with a shared path on the southern side. The Bridge comprises a two span steel-concrete composite bridge deck, each span 41.6m in length with no skew sitting on Mechanically Stabilised Earth (MSE) walls at each abutment and a central pier. The Bridge will have a vertical clearance of 6.1m to the proposed Expressway and existing SH1 with 5.5m to the rail lines.

As well as the bridge itself, the section of the new School Road that will carry traffic across the bridge will also be constructed.

This SSEMP reflects the requirements of the Construction Environmental Management Plan (CEMP) and its appendices, and is intended to be utilised by the construction team to clearly identify any site specific environmental requirements that must be adhered to prior to, and during works. A suite of over-arching environmental management plans have been drawn from to inform the contents of this SSEMP. All works will be carried out in general accordance with these management plans.

Works are not to commence on site until certification of this SSEMP has been confirmed in writing by Kapiti Coast District Council (KCDC) and Greater Wellington Regional Council (GWRC).

1.1 Location of Works

The School Road Underpass is located approximately 75m north of the intersection of Te Horo Beach Road and existing SH1 at Expressway chainage 7195. The site is located on alluvial terrace surface with the surrounding area generally flat with the Mangaone Stream located to the south. Figure 1 below illustrates the general location of works covered under this SSEMP.

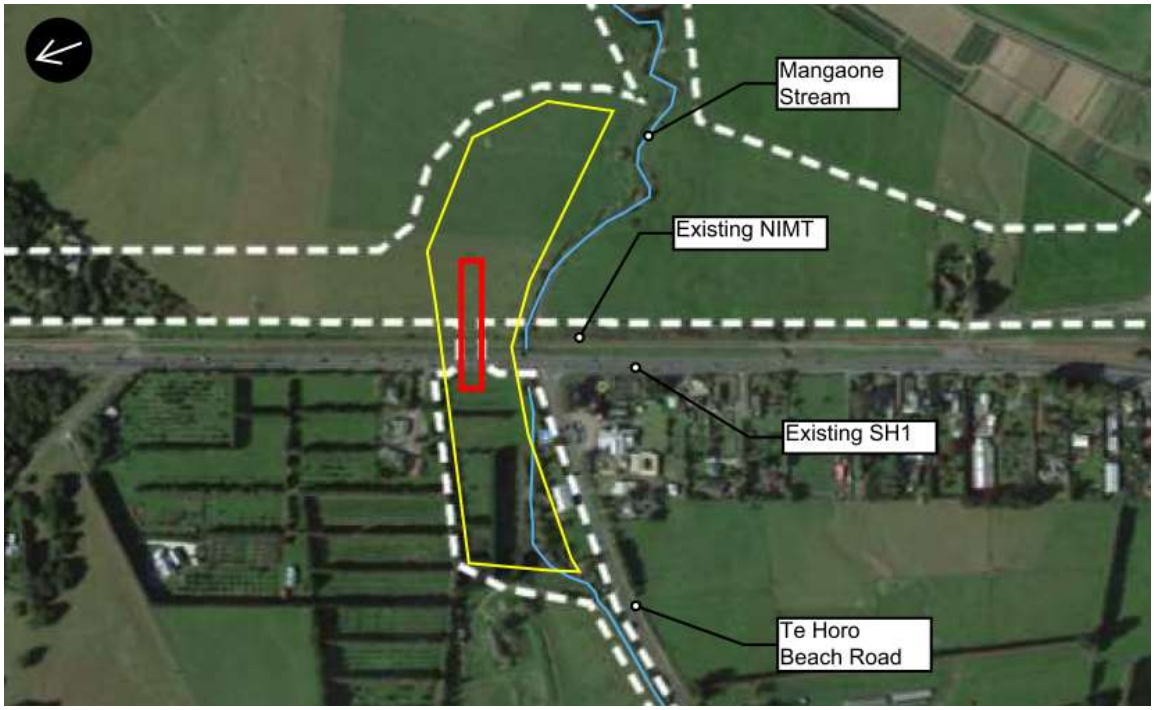


Figure 1: General location of works outlined in yellow with Bridge 8 location outlined in red.

1.2 Programme

Works are planned to start in October 2018 on the eastern side of existing SH1, followed by the western side in May 2019. The lack of access across the Mangaone Stream is currently a constraint to the completion of the western side works and will only be removed once permanent Culvert 34 is installed (to be covered under a separate SSEMP or SSEMP Change). Works in this area will continue for approximately 12-14 months through to completion of the Bridge Structure.

A detailed programme is included as Appendix E.

2 PLAN IMPLEMENTATION

2.1 Responsibilities

The following provides a summary of responsibilities relevant to the planning and implementation of this SSEMP.

Table 2: Roles and responsibilities

Role	Person	Contact Details	Responsibilities
Construction Manager	Steve Findlay	stevef@fcc.co.nz	• Ensures there is a system in place so that construction works do not proceed until required environmental sign-offs are completed. • Overviews systems and processes to ensure consent requirements are captured for construction works. • Ensures adequate resources are provided to ensure environmental issues are appropriately managed. • Reviews environmental incidents and complaints with the Environmental Manager and acts to address issues where needed. • Reviews and monitors construction work methods to ensure compliance with RMA conditions
Environmental Manager	Alice Naylor	A.Naylor@Higgins.co.nz	• Develops, implements and reviews environmental management systems and environmental management plans. • Coordinates all environmental auditing functions and ensures relevant records are maintained. • Responds to and investigates all environmental complaints, issues or incidents. • Coordinates the SSEMP implementation process and pre-works requirements to ensure that environmental requirements are adhered to. • Provides training and briefings to site staff to ensure that there is sufficient

			knowledge of environmental requirements in the field. • Acts as the primary point of communication between regulatory bodies and the project. • Coordinates a team of experts in specialist disciplines such as contaminated land, ecology, groundwater, noise and vibration. • Communicates environmentally sensitive areas to the construction team.
Environmental Coordinator	Sevasti Hartley	sevastih@fcc.co.nz	• Supports the Environmental Manager and provides leadership to ensure all staff comply with environmental management systems. • Provides support in the formation of SSEMPs. • Undertakes as-builting of environmental controls. • Undertakes regular site inspections and audits. • Coordinates all site monitoring including but not limited to groundwater, water quality, ecological, dust, noise, and vibration monitoring. • Manages maintenance and monitoring of Chemical Treatment Systems (if used). • Ensures spill kits are available and stocked and provides training on equipment use. • Conducts regular site inspections of erosion and sediment control devices and co-ordinates maintenance where necessary. • Monitors site controls during rain storms. • Trains staff in site specific environmental procedures.
Stakeholder & Communications Manager	Ed Breese	ebreese@tonkintaylor.co.nz	• Organises, co-ordinates and facilitates engagement with affected property holders and community prior to and during construction.

			• Works in partnership with Environmental Manager on engagement and construction activities in accordance with RMA conditions
Site Superintendent / Supervisors / Foreman	Simon Fifield	SimonF@fcc.co.nz	• Provides leadership to the site construction team. • Ensures environmental controls including erosion and sediment control works are protected and maintained on a day to day basis. • Ensures that the SSEMPs and Archaeological Authority requirements are implemented appropriately by the construction team. • Maintains contactability 24/7 during construction and has authority to initiate immediate response actions. • Reports all environmental incidents, compliance issues and complaints to the Environmental Manager. • Reviews the need to use a water cart or sprinklers to control dust.
Project Engineers	Richard Rakovics (Civil) Craig Service (Structural)	RichardR@fcc.co.nz CraigS@fcc.co.nz	• Responsible for ensuring environmental controls and erosion and sediment control works are installed and modified as appropriate for each stage of construction. • Develop, implements and monitors construction methods and environmental protection measures to ensure compliance with the SSEMPs. • Demonstrate understanding of major environmental and community issues and environmentally sensitive areas. • Coordinate environmental interfaces with subcontractors and suppliers. • Reports all environmental incidents, compliance issues and complaints to the Environmental Manager.

Specialist support (contaminated land, ecology, noise and vibration)	Dean Miller (Principal Ecologist) Genevieve Smith – Contaminated land Brendon Shanks – Noise and Vibration	DCMiller@tonkintaylor.co.nz Genevieve.Smith@beca.co.nz Brendon.Shanks@marshallday.co.nz	• Provide expert advice to the Environmental Manager and Environmental Coordinator regarding specific site requirements. • Submits reports to the Environmental Manager to fulfil requirements of consents relevant to their field. • Briefs the construction team of site specific requirements for environmentally 'sensitive areas'.
Iwi	Te Waari Carkeek (Ngā Hapū o Ōtaki Kiarahi)	TeWaariC@fcc.co.nz	• Provide input into project documentation such as management plans, design processes, planning documents. • Reviews permits to work and coordinates the level of involvement of kaitiaki in site activities • Coordinates all aspects of iwi monitoring. • Key point of contact for Ngā Hapū o Ōtaki.
	Caleb Royal (Ngā Hapū o Ōtaki Consents Processing Officer)		• Reviews consent applications and coordinates cultural monitoring activities. • Provides specialist advice to Ngā Hapū o Ōtaki
Iwi	Muaupoko Tribal Authority		• Point of contact for any archaeological discoveries in accordance with the agreed accidental discovery protocols and MTA agreement.

2.2 SSEMP Changes

In the event that changes in works scope or methodology are required, changes may need to be made to this document in accordance with resource Consent Condition's DC.18B and / or G.21A. Any 'major' changes will be submitted to the respective Manager for certification at least 5 working days prior to implementation of that change.

In accordance with Condition G.21A, a 'minor change' may be submitted to the Manager for certification at least 2 working days prior to implementation of that change, unless an alternative process of approving a 'minor change' is agreed to by the Manager, Greater Wellington Regional Council.

3 GENERAL SITE MANAGEMENT

3.1 Site Access

Access to the site will be as follows:

- Bridge 8 East – Site Access Point 8 from Old Hautere Road
- Bridge 8 West – Site Access Point 7 from Te Horo Beach Road (note that access across the Mangaone Stream is not yet available)
- Bridge 8 West – Additional Site Access Point from SH1 (yet to be determined)

The access/egress points will be stabilised using clean aggregate or sealed to avoid any construction related material leaving the site. Any migration of material from the site onto the local road or footpath will be removed immediately.

Stormwater from the local road reserve will not be impeded by vehicle crossing during and after construction and any damage made to road infrastructure as a direct result of these works shall be recorded and repaired immediately.

3.2 Site Establishment

Three potential areas have been allocated for parking, sign-in sheds, and storage of miscellaneous materials. Refer to Appendix C Erosion and Sediment Control (ESC) Layout Drawings for locations. Additional temporary stockpile areas and associated truck routes associated with imported gravel (School Road eastern tie-in) and sand fill (School Road western tie-in) will also be set up on site.

3.3 Disposal sites

Temporary stockpile locations have indicatively been marked on the drawing in Appendix C. Stockpiles will typically be located greater than 50m distance away from all watercourses. However, in instances where this is not practical due to space restraints then in accordance with D.C 25(g), appropriate treatment of stormwater runoff from this stockpile will be managed by use of dirty water diversion

bunds to prevent sediment laden stormwater entering the adjacent watercourses. This level of protection is considered appropriate to provide sufficient treatment.

3.4 Construction Plant

The plant items to be used are generally as follows:

Bridge Construction

- 350T crane x 2
- 20T excavator
- Concrete pump
- 30T crane
- Franner crane
- Merlo
- Hiab
- Light vehicles
- Drill rig (soil nails)
- Trucks

School Road Earthworks and Culvert Construction

- 6 – 20T excavators
- Concrete trucks
- Concrete pumps
- 50T crane
- Truck and trailers for deliveries
- Water cart as required
- Light vehicles

Pavement Construction

- Grader
- Water cart
- 14t Single Smooth Drum Oscillating Roller
- 14t Single Smooth Padfoot Vibrating Roller
- 2.4m Hoe Stabiliser
- Cement Spreader Truck
- Large Loader
- Bottom Dump Truck and Trailer

Plant will remain outside of watercourses at all times during the works and where practicable, refrain from working within 10m of a live watercourse to minimise any risk of causing bank instability or spills to the receiving environment.

All plant is required to be inspected prior to commencing works and during construction activities at regular intervals. Unwanted vegetation, seeds or contaminants will be cleared prior to plant entering the site to avoid the introduction or spread of weeds or pest species.

Plant inspections will be recorded on daily plant inspection forms to demonstrate that all plant used on this project are in good working order and have been cleared of unwanted weeds and pest species. Any faulty equipment will be stood down until the necessary repairs are carried out and the given plant is fit for purpose.

Spill control kits will be available on site in areas where heavy machine is working. Refuelling activities will take place using a mini-tanker at least 10m away from any watercourse to prevent additional risk of spillage to water. Plant and machinery will not enter any waterway at any stage of works.

3.5 Pre-works Requirements

Prior to works commencing on site the following mitigation measures will be implemented to avoid or minimise adverse environmental effects:

- Site specific information, including environmental constraints and requirements, will be discussed at the relevant pre-construction site meetings with input from specialists as required.
- Prior to works commencing in this area, the project surveyors will use GPS to identify the extent of works. The works area will be clearly marked-out with regular input from the survey team throughout works as required.
- Areas identified as 'retained vegetation' as per the approved vegetation retention plans will be clearly delineated using physical markers on site.
- Environmental requirements for any given area will be noted on each project "Permit to Work'. These permits are required for any activity on site and must be in place and signed off by the environmental team prior to works commencement.
- Signage and safety fencing will be erected to clearly discourage the public from entering the site. Regular updates will be provided to the community regarding upcoming works and changes to works sequencing.

3.6 Water Supply

Water may be required to prevent dust discharge from site during works. Water required for these works will be collected from off-site.

Any water supply bores required on site must be constructed in accordance with Resource Consent Conditions BC.1 – 4 with any water take done so in accordance with GT. 4-7.

4 WORKS METHODOLOGY

Bridge 8 is an 83.36m long, two span steel composite structure. The bridge deck will sit on bank seats on Mechanically Stabilised Earth (MSE) walls at each abutment and a central pier.

Approximately 7,500m³ of brown rock will be sourced from the Waitohu Quarry to be used as Reinforced Earth (RE) fill material at the east and west abutments. The proposed new School Road will be constructed from gravel fill sourced from the Ōtaki Gorge Road area (within the Expressway alignment) for works east of Bridge 8, and sand will be sourced from South of Mary Crest for the western works. The following sections outline the general sequence of works.

4.1 Enabling Works

- Establishment of site access points including signage and laydown areas
- Establishment of localised temporary construction fencing including exclusion safety fence
- Topsoil stripping to temporary stockpiles and required sediment controls (refer to 5.2)
- Site establishment works included undercuts for the RE wall footprints, crane pad formation and truck haulage routes

4.2 Bridge Construction

The bridge will be constructed using a bottom-up methodology. The anticipated construction sequence is as follows:

- Install geotechnical instrumentation and begin monitoring
- Undercut and replace unsuitable material below MSE walls and central pier foundation (1 – 2.5m undercut) and prepare ground for MSE wall and embankment construction.
- Construct MSE walls and approach embankments.
- Construct central pier foundation
- Monitor settlement to verify settlement magnitude and rates as expected
- Cast central pier columns, abutment beams and bearing plinths
- Construct bridge deck including barriers, top rail, levelling course and surfacing
- Complete surrounding earthworks and stormwater

Note that Permanent Culvert 34 will need to be constructed prior to completion of works outlined under this SSEMP. Culvert 34 details and construction methodology will be submitted as a separate SSEMP or SSEMP change once temporary and final design details have been confirmed.

5 ENVIRONMENTAL REQUIREMENTS

5.1 Contaminated Land

The Bulk Earthworks Contaminated Land Management Plan (BECLMP) provides a framework and general procedures for the management of contaminated soil and other contaminated materials/structures potentially present in ground that may be disturbed or require removal to complete the Project. A number of potentially contaminated sites located within the Project corridor were identified during the desk based Phase 1 Contaminated Land Assessment.

One of these sites is located at 961 SH1 and 10 Te Horo Beach Road (refer to figure 2 below for location description).

Figure 2: Legal Boundary of 961 SH1 (red) and 10 Te Horo Beach Road (Blue) in relation to the site identified as contaminated (Yellow)

This site was historically used for orchard activities and is currently grassed with overgrown vegetation. A detailed site investigation (DSI) was completed for this site, which includes a risk assessment relating to the effects of contaminated soil on human health. Soil analysis identified the presence of pesticides (DDT and endosulfan sulfate) at low concentrations in surface soil samples with concentrations of contaminants decreasing with depth. Minor background value exceedances were also identified for cadmium and mercury. There were no identified exceedances of adopted human health or environmental risk values for pesticides or metals.

The following specific requirements have been recommended for this site:

Management during construction:

- Best practice erosion and sediment control to be implemented at all times
- Topsoil is to be placed at least 5m from the Mangaone Stream during construction

Final placement management:

- The materials are suitable to remain on site or reused for construction purposes, but will be placed at least 5m away from any waterways such as wetlands, ponds or swales.
- The topsoil should not be reinstated on top of or adjacent to the onsite boreholes.

5.2 Erosion and Sediment Control

- Location and heights of erosion and sediment control (ESC) measures are outlined on Appendix C ESC Layout drawing.
- Dirty water diversion bunds have been sized in accordance with the project ESCP to convey the 5% AEP rainfall event.
    - Eastern Bridge works – due to the current site set-up for the Mangaone Stream Permanent Culverts (Culvert 23 and 24), additional controls will not be necessary as any potential site runoff will fall towards the culvert sites. Any controls required at a later date to protect the Mangaone Stream will be installed in accordance with SSEMP SC1 'Southern Transverse Culverts'.
    - Western Bridge works – the total potential contributing catchment in this area does not exceed 1.5ha and therefore all diversion bunds have been sized to a height of 600mm. As the works progress, the contributing catchment will be reduced as runoff is directed to different sections of the diversion bunds.
- Floating T-Bar decants may need to be installed at the low points of dirty water diversion bunds with a stabilised emergency spillway in accordance with the ESCP to ensure that site runoff is sufficiently treated prior to discharge. The exact location of the floating T-Bar will be determined on site. Any decants will be held up using a pulley system or suitable alternative as the default position and be lowered as required following sufficient treatment. Any lowering of decants will be carried out under an approved permit to pump as specified in the project ESCP, and as a minimum must adhere to the following general conditions:
    - Downstream turbidity levels (measured as NTU using a calibrated hand-held turbidity meter), must not exceed >20% difference compared to upstream NTU levels.
    - The discharge must not cause obvious visual discolouration of the downstream environment beyond 'reasonable mixing' (deemed as 30m from initial discharge point unless otherwise specified due to access restrictions).
    - Permit to pump documentation must be available for inspection by GWRC upon request.
- In instances where it is not required to fit a decant at the low point (i.e. if ground soakage proves to be adequate) then this will be identified and documented through the Condition E.6 certification process.

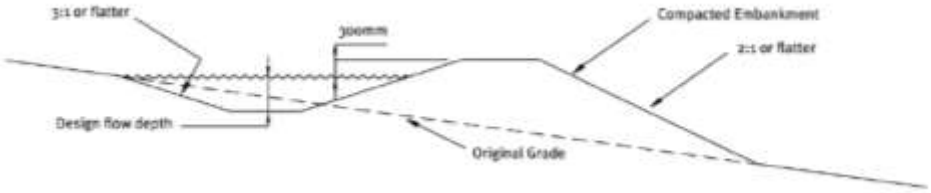


Figure 2: Typical cross section of dirty water diversion bund in accordance with the project ESCP.

5.2.1 Installation and decommissioning

Where required, erosion and sediment controls (ESCs) will be installed prior to all construction activities, with the exception of stripping topsoil to establish controls initially. Upon completion of the installation of all approved ESCs as-built certification plans will be provided to GWRC in writing prior to the activity commencing. The Project will submit certification documentation 2 Working Days prior to the commencement of construction in that area of work as per condition E.6 and will retain the as-built record on site.

5.3 Concrete Management

Concrete pours will be required for elements of the bridge construction such as the cast insitu deck topping.

Any concrete pours will need to be managed carefully to ensure that water is channeled to an allocated area during pouring and curing if applicable.

Deck edge form will be erected higher than the deck to ensure that potential runoff is directed to the east or west of the existing SH1 and the rail line.

As a precautionary measure, polythene or similar may also be utilised during curing to catch concrete runoff.

5.4 Ecological Requirements

Project ecological requirements are set out in the Ecological Management Plan (EMP) which outlines a number of locations that have specific requirements in regards to terrestrial and aquatic species that need to be considered prior to and during works. These have been further refined following input from the project ecologists to ensure that potential effects are minimised as far as practicable.

There are no specific ecological requirements associated with these works. Streamworks are not required at this stage with the focus first on commencing Bridge 8 structural works east of SH1 followed by the west bridge works once additional site access points and culvert crossings are in place (to be covered under a separate SSEMP).

5.5 Water Quality Monitoring

The Mangaone Stream is located immediately south of Bridge 8. Specific water quality monitoring is not required at this stage. The Project Erosion and Sediment Control Plan (ESCP) outlines requirements for triggered rainfall event monitoring and incident reporting which will be adhered to at all times during construction.

5.6 Cultural Monitoring

Pre-works baseline monitoring has been undertaken by Ngā Hapu o Ōtaki in accordance with the Cultural Monitoring Plan (CMP) within the Mangaone Stream to determine pre-construction condition of the stream in regards to fish species and abundance.

A Kaiarahi (iwi guide / leader) is the key point of contact and coordination for Ngā Hapū o Ōtaki. The Kaiarahi will be involved in the design process, construction supervision and environmental monitoring. The Kaiarahi will be supported by Pūkenga (specialists / experts) and Kaitiaki (guardians) who provide support in supervision, monitoring activities and provision of specialist advice in regards to cultural monitoring. Ngā Hapū o Ōtaki will be informed of all works on site and invited to be present for all works with particular emphasis placed on initial topsoil stripping and streamworks.

Contact must also be maintained with Muaupoko Tribal Authority (MTA) in accordance with MTA agreement and confirmed accidental discovery protocols.

5.7 Archaeology

All works under this SSEMP will be carried out in accordance with the approved archaeological authority and the Archaeological Site Management Plan. The Archaeological Site Management Plan outlines high, medium, and low probability archaeological areas across the project footprint.

This area of work is identified as 'low probability' of archaeological finds and therefore the 'on-call protocols' outlined within the Archaeological Site Management Plan are to be followed in instances where subsurface archaeological remains, koiwi tangata, or taonga are exposed during construction.

5.8 Noise and Vibration

The Construction Noise and Vibration Management Plan (CNVMP) identifies the noise and vibration performance standards that must, where practicable, be complied with. It also sets out best practicable options for noise and vibration management for the Project, including mitigation measures, monitoring requirements, and communication and complaint procedures. All works under this SSEMP will be carried out in general accordance with the CNVMP.

Commercial and residential dwellings that are located within the area expected to experience potential noise and vibration effects as a result of works have been identified in Appendix C. Individual dwellings located within these areas have also been listed below.

In accordance with the CNVMP, works carried out under this SSEMP will generally be restricted to take place between the hours of:

- 0630 and 2000hrs on weekdays; and
- 0730 and 1800hrs on Saturdays.

As far as practicable, works will be scheduled to avoid noisy activities in areas identified as sensitive receivers on the attached drawings between 0630 – 0730hrs in the morning, and between 1800 – 2000hrs in the evening to align with noise level criteria outlined in the CNVMP.

It is not anticipated that works will be required to take place outside of normal working hours for works outlined in this SSEMP. In the event that this changes, the procedures outlined in the CNVMP will be followed. Any works outside of the hours of 7am to 7pm require written approval from the Project Engineer.

The primary mitigation measure in regards to reducing the impacts from construction noise and vibration will be ongoing effective community consultation, particularly when transitioning from one works phase to another.

Noise and vibration monitoring will take place throughout the works to assess the impacts on adjacent properties at various locations. In the event that noise or vibration criteria is exceeded, mitigation options will be reassessed in an effort to comply with the construction limits, and a site specific noise 'schedule' will be submitted to Kapiti Coast District Council in accordance with the CNVMP.

Dwellings located within the noise and vibration boundary are as follows:

- 961 SH1, Te Horo
- Pt Lot 1 DP 66247

Dwellings within the vibration boundary only are as follows:

- 11 Te Horo Beach Road
- 13 Te Horo Beach Road
- 3 Te Horo Beach Road
- 939 SH1, Te Horo
- 937 SH1, Te Horo
- 931 SH1, Te Horo

5.8.1 Pre-condition building surveys

Section 7 of the CNVMP outlines activities that are expected to generate vibration that will potentially cause medium and high level vibration and therefore must be assessed to determine whether a pre-condition building survey is required. One dwelling triggers the requirement for a pre-condition building survey prior to these specific works, the owners of which have been contacted to discuss the offer of a survey to take place prior to works.

5.9 Air Quality

There is potential for works to generate dust discharge if the site is not managed effectively. The Construction Air Quality Management Plan (CAQMP) outlines methods to be used to prevent dust and odour nuisance during construction from the site. All works under this SSEMP will be carried out in general accordance with the CAQMP.

To ensure that dust does not become an issue across the boundary of the site, the following measures will be implemented as a minimum:

- Use of water carts as required, particularly around public interface points such as site entry/exits to local roads
- Imposing a speed limit if required
- Use of stabilising agents such as polymers if required
- Assessing wind speed and direction on a daily basis and implementing additional mitigation based on conditions (or ceasing / re-programming works as required).

Seven dwellings are located within 'high risk air quality' zone as identified in Appendix C 'Environmental Constraints' Drawings. Provided that the site is managed effectively, it is not anticipated that these works will cause any adverse impacts. These dwellings are as follows:

- 961 SH1, Te Horo
- Pt Lot 1 DP 66247
- Lot 2 DP 82382
- 3 Te Horo Beach Road
- Pt Lot 64 DP 2576
- 939 SH1, Te Horo
- 937 SH1, Te Horo

6 TRAFFIC

Site Access Points (SAPs) have been outlined in Section 3.1 above. A Site Specific Traffic Management Plan (SSTMP) has been included as Appendix D. To ensure that potential impacts on local traffic movements are managed effectively and efficiently, more specific information will be submitted for approval to the relevant Road Controlling Authority if required i.e. the State Highway Network (NZTA) and the local road network (KCDC).

APPENDIX A – SSEMP AUTHORS

Name	Role	Company	Input
Alice Naylor	Environmental Manager	Higgins Projects	All
Craig Service	Structures Manager	FCC	Bridge Construction Methodology
Macu Waqa	Civil Site Engineer	FCC	Earthworks Methodololgy
Leah Clark	Contaminated Land Specialist	Beca	Management of Contaminated Soils

APPENDIX B – CONSULTATION RECORD

Group	Date
Community Liaison Group	Distributed to CLG Group for comment
Nga Hapu o Ōtaki	Distributed to Nga Hapu o Ōtaki for comment

Outstanding Queries

The following outlines any queries (relevant to works covered under this SSEMP) that have not been resolved through the SSEMP preparation process, but will instead be closed out via alternative project stakeholder and communication channels:

NIL

APPENDIX C – DRAWINGS

ESC / Site Layout Plan

Proposed dirty water diversion bunds 600mm high with decants fitted at low points (potential discharge points). Note that existing high ground along the northern side of the stream may be sufficient if left in place.

Existing 'Vegetation to be Retained'

Access to Bridge 8 Eastern abutment

Western Abutment

High point along rail so no additional sediment control required

Sign-in / worker conveniences

Existing clean water diversion bunds 700mm

Eastern Abutment

School Road Underpass (Bridge 8)

Culvert 34 will be constructed under a separate SSEMP or SSEMP Change

Temporary stockpile areas

Culvert 23a to be constructed offline of any watercourse

Sign-in / worker conveniences

New access to be confirmed

Sign-in / worker conveniences

Culvert 23 and Culvert 24 works underway in accordance with SSEMP SC1 'Southern Transverse Culverts'

Existing dirty water diversion bunds in place along Mangaone Temporary Stream Diversion

Existing temporary stockpile to be utilised

Fill

Fill

Fill

Fill

Fill

7100

7200

7300

15

20

20

20

20

20

NZ TRANSPORT AGENCY WAKA KOTAHI

Peka Peka to Ōtaki Expressway

Erosion and Sediment Control Layout Plan

Environmental Constraints Drawings

ECOLOGY LEGEND:

TERRESTRIAL ECOLOGY REQUIREMENTS:

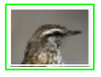
LIZARD SURVEYS, SALVAGING AND MONITORING

NATIVE TREE LOG SALVAGE

PERIPATUS MANAGEMENT

POWELLIPHANTA TRAVERSI OTAKI SURVEY

BIRD SURVEY



PIPIT SURVEY

BANDED DOTTEREL SURVEY

NOISE VIBRATION LEGEND:

VIBRATION - LOW RISK (RESIDENTIAL)

VIBRATION - LOW RISK (COMMERCIAL)

COMMERCIAL STRUCTURES WITHIN VIBRATION BOUNDARY

DWELLINGS WITHIN VIBRATION BOUNDARY

DWELLINGS WITHIN BOTH NOISE AND VIBRATION BOUNDARIES

AIR QUALITY:

AIR QUALITY SENSITIVE RECEIVERS

DRAINAGE LEGEND:

DESIGNATION

RAILWAY DESIGNATION

EXISTING STREAMS

STORMWATER WETLAND/POND

SITE COMPOUNDS:

HARD STAND AREA

SITE ENTRY AND EXIT

LANDSCAPE:

EXISTING VEGETATION RETAINED

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	06.07.17

Scale (A1) 1:1000 Scale (A3)	Design	AN	13.07.17	Approved For Construction
	Drawn	AK	13.07.17	
	Dsg Verifier	-	-	
	Drg Check	-	-	Date
	* Refer to Original Hardcopy for Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI

Peka Peka to Ōtaki Expressway

Fletcher HIGGINS Beca Tonkin+Taylor

Subject: SSEMP PW2

Title: LEGENDS

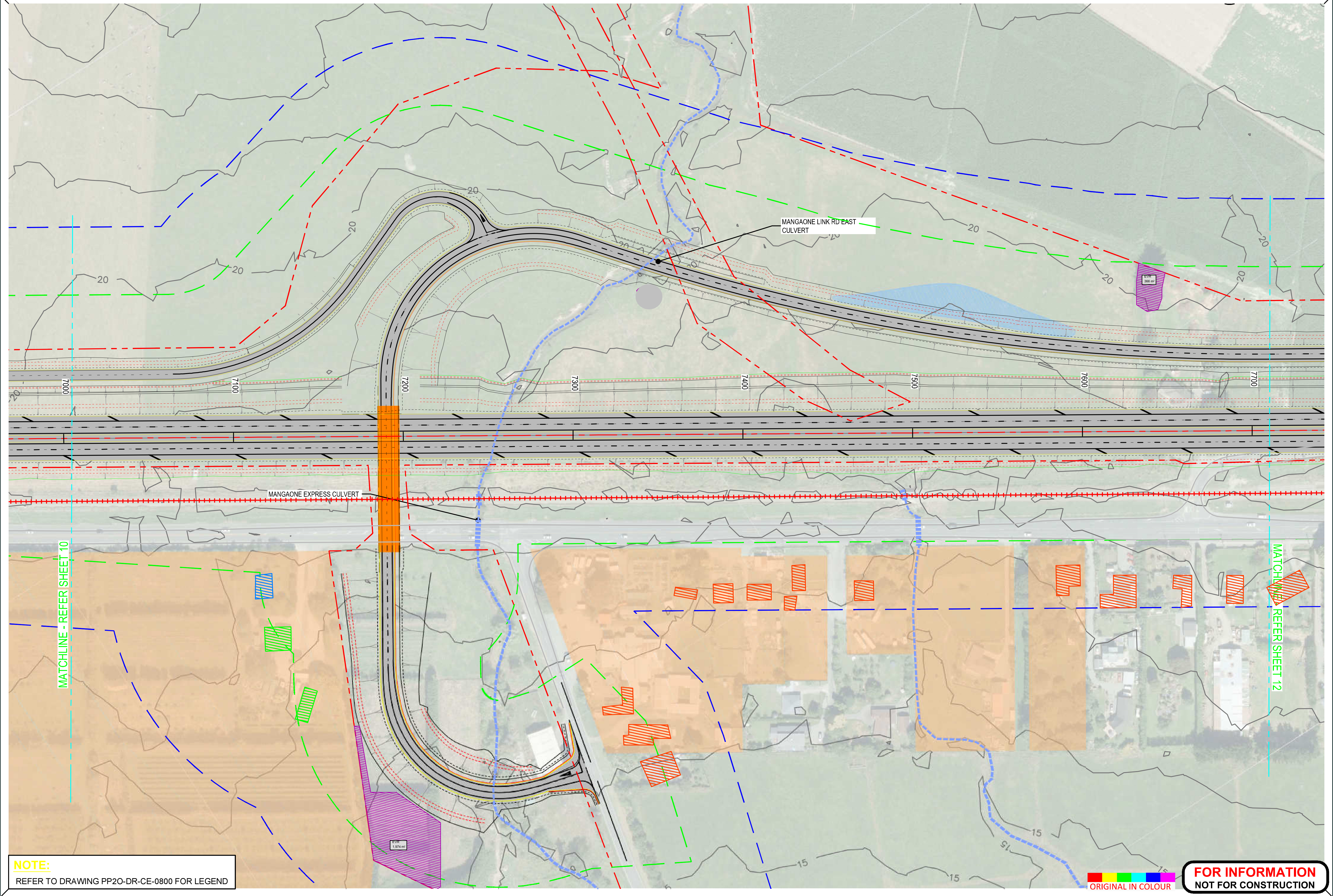
Discipline: CIVIL

Drawing No.: SSEMP PW2-00

Rev.: B

Document No.: \\WZPSP-FCC.INTERNAL\DAVWWWROOT\2002\21270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2\0\FOR ALICE\PP2\0-DR-CE-0801-0816 2017-08-28- STANDARD\PP2\0-DR-CE-0801-0816_14-09-ZMIANA TABELKI, REWIZJA- DO WYRZUCANIA.DWG

Save Date: 02 Nov 2017 10:17 a.m.



NOTE:

REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	20.07.17

Scale (A1) 1:1000
Scale (A3)

Design	AN	13.07.17	Approved For Construction
Drawn	AK	13.07.17	
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI — Peka Peka to Ōtaki Expressway — HIGGINS — Beca — Tonkin+Taylor

Subject: ECOLOGY

Title: LAYOUT PLAN SHEET 11 OF 18

Discipline: CIVIL

Drawing No.: PP2O-DR-CE-0811

Rev.: B

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Construction Drawings

Save Date: 26 Mar 2018 8:03 a.m.

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- STRUCTURE
- PROPOSED CONCRETE SHARED PATH
- PROPOSED CONCRETE FOOTPATH
- POTENTIAL SHARED PATH
- EXISTING PATHS
- EXISTING STREAM
- EXISTING STREAM TO BE REMOVED
- PROPOSED CULVERT
- PROPOSED STREAM DIVERSION/ FLOOD DIVERSION CHANNEL
- VEHICLE MAINTENANCE ACCESS
- PEDESTRIAN MAINTENANCE ACCESS
- LAND NOT ACCESSIBLE
- SWALE/CUT-OFF DRAIN
- ITS INFRASTRUCTURE - REFER ITS DRAWINGS
- BH820 GROUNDWATER MONITORING STANDPIPES

NOTE

1. REFER TO STORMWATER DRAWINGS FOR SWALE & CUT-OFF DRAIN DETAILS.

REFER TO CL-06 SERIES DRAWINGS WINIATA LINK

POTENTIAL SHARED PATH REFER CG-2000 SERIES

REFER TO CL-06 SERIES DRAWINGS SCHOOL ROAD

SCHOOL ROAD UNDERPASS

CULVERT No.23a

CULVERT No.23

CULVERT No.27

L CG-1104

MAINLINE EXPRESSWAY

FLOOD BUND

7000 7100 7200 7300 7400 7500 7600 7700

CULVERT No.24

NORTH ISLAND MAIN TRUNK RAILWAY

CULVERT No.28

EXISTING SH1

MATCHLINE - REFER SHEET 10

MATCHLINE - REFER SHEET 12

FLOOD BUND

TE HORO BEACH ROAD

SCHOOL ROAD

CULVERT No.34

REFER TO TEMPORARY TRAFFIC MANAGEMENT FOR ROAD MARKINGS

ORIGINAL IN COLOUR

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	FOR CONSTRUCTION	LLT	CB	BS	23.03.18

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

Design	C. BELL	15.08.17	Approved For Construction
Drawn	G. DOWN	15.08.17	B.SYMMANS
Dsg Verifier	P.Chatterley	23.03.18	
Drg Check	G.Down	23.03.18	Date 23.03.18

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

Peka Peka to Ōtaki Expressway

Fletcher HIGGINS Beca Tonkin+Taylor

Subject: GENERAL ARRANGEMENT

Title: LAYOUT PLAN SHEET 11

Discipline: CIVIL

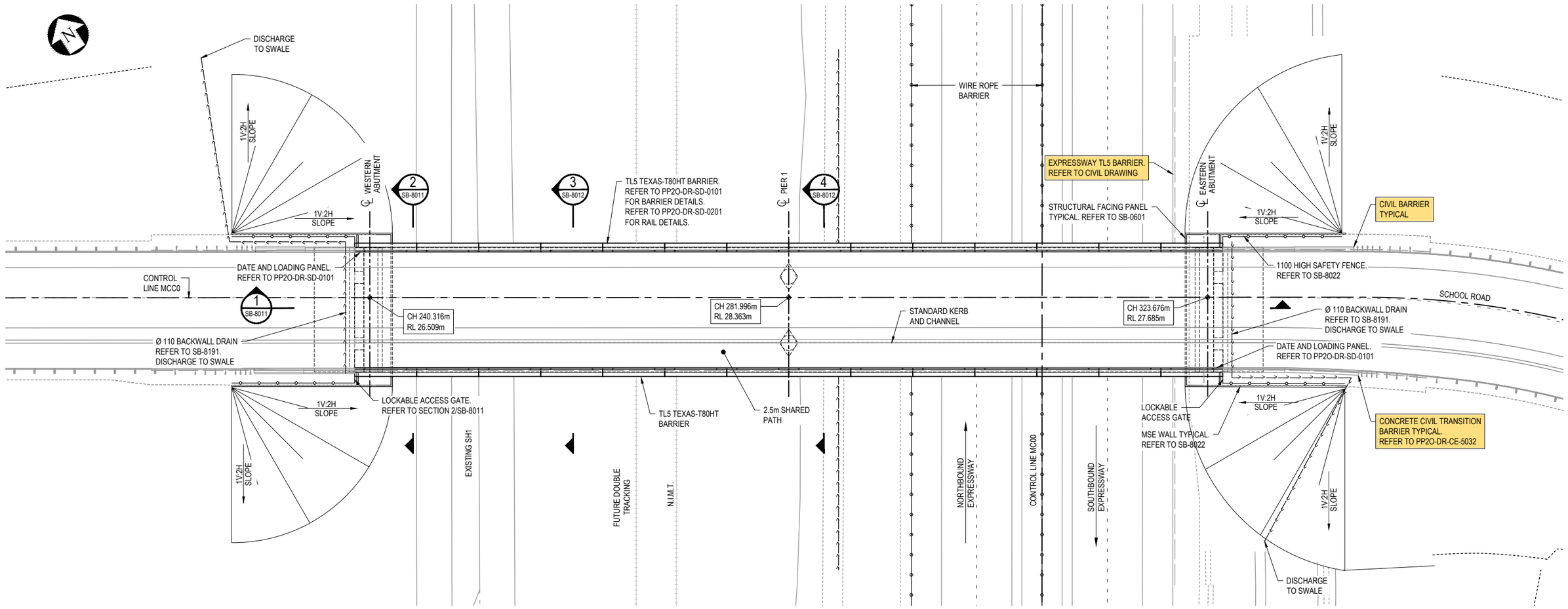
Drawing No. PP2O-DR-GN-1071

Rev. 1

Document No. R:\30OD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\GN\PP2O-DR-GN-1061-1078.DWG

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK



GENERAL ARRANGEMENT PLAN

SCALE 1:200

NOTES:

1. REFERENCES
   - 1.1. REFER TO PP2O-DR-SA-0001 TO PP2O-DR-SA-0004 FOR GENERAL NOTES.
   - 1.2. REFER TO RELEVANT CIVIL DRAWINGS FOR CONTROL LINES, ROADING GEOMETRY, BARRIER EXTENTS, LANE WIDTHS ETC.
   - 1.3. REFER TO RELEVANT CIVIL DRAWINGS FOR LOCATION OF UTILITIES AND SERVICES.
   - 1.4. ALL GIVEN LEVELS ARE TO STRUCTURAL SURFACE U.N.O.

2. DESIGN STANDARDS
   - 2.1. NZTA BRIDGE MANUAL, THIRD EDITION (AMENDMENT 1, SEPT 2014), WITH PROJECT SPECIFIC AMENDMENTS.
   - 2.2. NZS 3101:2006 CONCRETE STRUCTURES STANDARD WITH PROJECT SPECIFIC AMENDMENTS.
   - 2.3. AS 5100.6:2004 BRIDGE DESIGN, PART 6: STEEL AND COMPOSITE CONSTRUCTION WITH PROJECT SPECIFIC AMENDMENTS
   - 2.4. REFER TO DESIGN STATEMENT REPORT FOR FURTHER DETAILS.

3. DESIGN LOADING
   - 3.1. SUPERIMPOSED DEAD LOAD ALLOWANCE:
     - a) SURFACING = 2.0kPa (INCLUDING 0.5kPa FOR LEVELLING COURSE)
     - b) SERVICES = ALLOWANCES ARE MADE AS FOLLOWS:
       - i) 2 No 150mm DUCTS FOR FUTURE SERVICES (ONE ON EACH SIDE)
       - ii) ADDITIONAL UNIFORMLY DISTRIBUTED LOAD APPLIED OVER ENTIRE DECK AREA OF 0.25kPa
   - 3.2. TRAFFIC LOAD HN-HO-72
   - 3.3. SEISMIC LOAD BASED ON:
     - a) SUBSOIL CLASS D
     - b) ULS AEP (1/2500)
     - c) ULS DESIGN PGA 0.567g
   - 3.4. TEMPERATURE AND DIFFERENTIAL TEMPERATURE AS PER NZTA BRIDGE MANUAL.
   - 3.5. CREEP AND SHRINKAGE BASED ON AS3600 AND NZTA BRIDGE MANUAL 3rd EDITION FOR RELATIVE HUMIDITY 80%.
   - 3.6. JACKING OF BRIDGE DECK FOR BEARING REPLACEMENT. THE DESIGN INCLUDES THE FOLLOWING REQUIREMENTS:
     - a) TRAFFIC SHALL BE RESTRICTED TO 40km/h.
     - b) SEE ABUTMENT DRAWINGS FOR JACKING LOCATIONS AND LOADS.
     - c) JACKING LOADS ARE BASED ON HN LOADINGS
     - d) ALL JACKS AT EACH JACKING LINE SHALL BE HYDRAULICALLY LINKED AND HAVE A CENTRAL MECHANISM TO ENSURE THAT THE SAME VERTICAL DISPLACEMENTS OCCUR AT EACH JACKING POINT AT ALL TIMES DURING THE JACKING OPERATION.
     - e) BRIDGE BEARINGS ARE DESIGNED TO BE REPLACED USING LIFTS OF NOT GREATER THAN 10mm.
     - f) STEEL PLATES SHALL BE PLACED BETWEEN CONCRETE BEARING SURFACE AND HYDRAULIC JACK.
     - g) MAXIMUM ALLOWABLE CONTACT PRESSURE BETWEEN CONCRETE SURFACE AND STEEL PLATE SHALL BE 25MPa.
     - h) JACKING SHALL ONLY BE UNDERTAKEN AT ONE ABUTMENT/PIER AT ONE TIME.

4. DRAWING LIST
   - 4.1. FOR THE LIST OF ALL DRAWINGS APPLICABLE TO THIS BRIDGE, REFER TO DRG SB-8000.

5. SPECIFICATIONS APPLICABLE TO THIS BRIDGE
   - 5.1. C0203 - BULK EARTHWORKS
   - 5.2. C0600 - REINFORCED CONCRETE SUPPLY
   - 5.3. C0601 - REINFORCED CONCRETE CONSTRUCTION
   - 5.4. C0614 - ANTI-GRAFFITI COATING
   - 5.5. C0700 - STRUCTURAL STEELWORKS

6. CONSTRUCTION LOADS
   - 6.1. BRIDGE BEAMS ARE DESIGNED FOR CONSTRUCTION LIVE LOAD OF 1.5kPa.
   - 6.2. TEMPORARY WORK SHALL BE ADEQUATE FOR 1/500 AEP (R = 1.0) SEISMIC AND WIND LOADING. LIFTING POSITIONS ARE NOMINATED ON THE GIRDER DRAWINGS.

7. STRUCTURAL ELEMENTS INCLUDED IN PACKAGE
   - 7.1. ABUTMENTS, SETTLEMENT SLABS, STEEL GIRDERS, BEARINGS, TL5 T80HT TRAFFIC BARRIERS, COLUMNS, FOOTINGS, SECONDARY STEEL, SAFETY FENCE, BIRD PROOFING, CORROSION PROTECTION, ANTI-GRAFFITI COATING, RE WALL.
   - 7.2. TRAFFIC BARRIERS DETAILED IN THE STRUCTURAL DRAWINGS TERMINATE AT THE EXTENT OF THE BACK WALLS (BARRIERS BEYOND THAT ARE CONSIDERED TO BE STANDARD ROAD TRAFFIC BARRIERS. FOR THESE REFER TO THE RELEVANT CIVIL DRAWINGS).

8. COATING FOR EXPOSED CONCRETE SURFACES
   - 8.1. SHALL BE APPLIED TO EXPOSED CONCRETE SURFACES GRAFFITI SOLUTION COATING OR EQUIVALENT APPROVED BY THE PRINCIPAL AGENT.
   - 8.2. FOR THE APPLICATION OF SURFACE COATING, REFER TO THE SPECIFICATION C0614.
   - 8.3. TABLE 1 SUMMARISES THE EXTENT OF COATINGS TO CONCRETE SURFACES.

9. COATINGS FOR EXPOSED STEEL SURFACES
   - 9.1. STRUCTURAL STEEL COMPONENTS SHALL BE COATED TO "C4" ATMOSPHERIC CORROSION CATEGORY USING THERMALLY SPRAYED ZINC (TSZ150S) OR HOT DIP GALVANISED (HDG900)
   - 9.2. ALL VISIBLE STEEL WORK SHALL HAVE A BLACK COLOURED FINISH COAT.

TABLE 1. CONCRETE SURFACE COATINGS

BRIDGE ELEMENTS	EXPOSED SURFACE	ANTI-GRAFFITI COATING
BRIDGE BARRIER	INSIDE FACES (FACING SCHOOL RD)	YES
	TOP SURFACE, OUTSIDE FACE OF FASCIA	YES
ABUTMENTS	FRONT FACES (FACING EXPRESSWAY / SH1)	YES
	SIDES OF ABUTMENTS	YES
DECK SOFFIT	1.5m HORIZONTALLY FROM AN ACCESSIBLE SUBSTRUCTURE ELEMENT	YES

10. CONSTRUCTION SEQUENCE

TABLE 2: CONSTRUCTION SEQUENCE

SEQUENCE	ACTIVITY
1	DRILL PROOF BORE HOLES
2	EXCAVATE TO BASE OF PROPOSED HARDFILL RAFT AT EACH ABUTMENT AND PIER FOOTING (APPROXIMATELY 1.0m BELOW GROUND LEVEL) AND INSTALL WESTERN HARDFILL RAFT.
3	CONSTRUCT MSE WALLS AND APPROACH EMBANKMENTS.
4	MONITOR SETTLEMENT OF BRIDGE ABUTMENT AND 'HOLD' CONSTRUCTION (IF NECESSARY).
5	CONSTRUCT ABUTMENT BANK SEAT.
6	CONSTRUCT PIER PAD FOOTING.
7	CONSTRUCT PIER COLUMNS.
8	INSTALL STEEL GIRDERS WITH BEARINGS.
9	CAST ABUTMENT BACKWALL.
10	CONSTRUCT BRIDGE DECK.
11	BACKFILL UP TO SETTLEMENT SLABS.
12	INSTALL SETTLEMENT SLABS.
13	COMPLETE BACKFILL ADJACENT TO ABUTMENT BACKWALLS.
14	PLACE BARRIER AND POUR STITCH. INSTALL TOP RAILS.
15	MONITOR SETTLEMENT OF BRIDGE ABUTMENTS AND APPROACH EMBANKMENTS.
16	COMPLETE BRIDGE PAVEMENT, APPROACH EMBANKMENT PAVEMENT AND ANCILLARY ITEMS.
17	INSTALL UTILITIES TO THE BRIDGE AND RELOCATE TRAFFIC.

THE ABOVE CONSTRUCTION SEQUENCE SHOWS THE SEQUENCING AS ASSUMED FOR DESIGN PURPOSES.

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	FOR CONSTRUCTION	CRB	ARK	JK	06.04.18

Scale (A1) AS SHOWN
Scale (A3)

Design	A.KIVELL	27.06.17	Approved For Construction S.WATERS
Drawn	C.BURKE	27.06.17	
Dsg Verifier	G.BROWN	14.02.18	
Drg Check	B.FLYNN	14.02.18	Date 06.04.18

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: SCHOOL ROAD UNDERPASS (BRIDGE 8)
Title: GENERAL ARRANGEMENT PLAN

Discipline: STRUCTURAL
Drawing No.: PP2O-DR-SB-8001
Rev.: 1

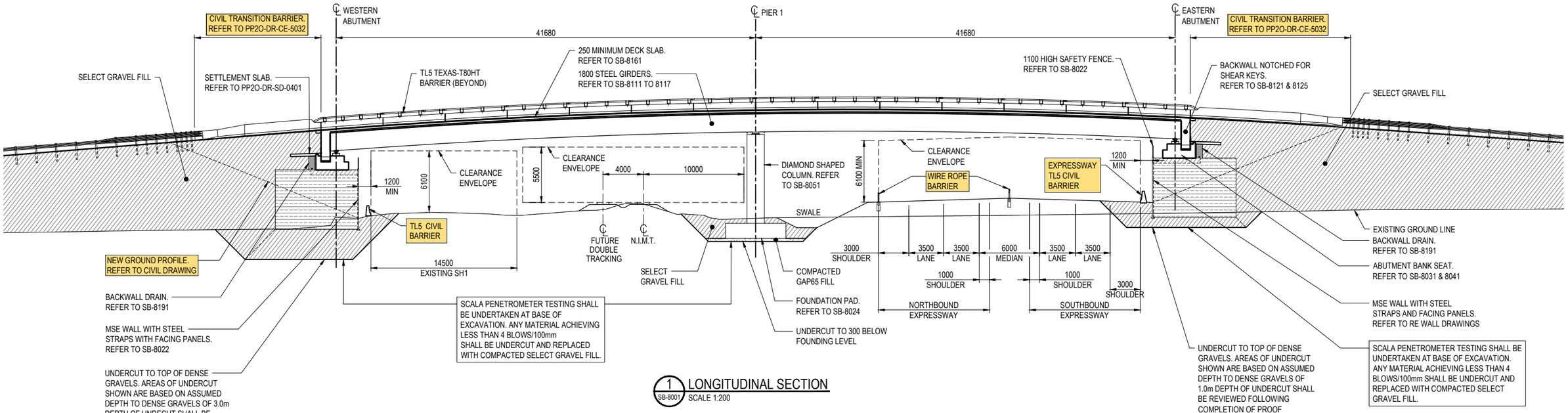
ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

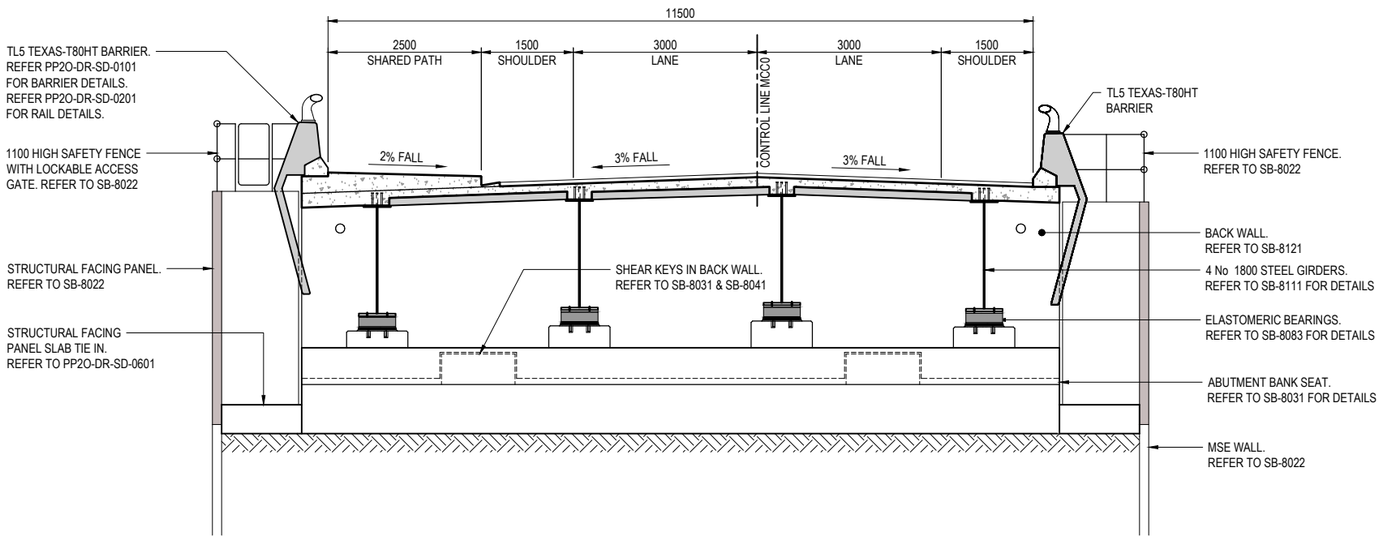
Document No. R:\3OOO - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\SE\PP2O-DR-SB-8001.DWG

NOTES:

1. REFER TO PP2O-DR-SA-0001 TO PP2O-DR-SA-0004 FOR GENERAL NOTES.
2. REFER TO PP2O-DR-SB-8001 FOR BRIDGE SPECIFIC NOTES.



1 SB-8001 LONGITUDINAL SECTION
SCALE 1:200



NOTE.
EASTERN ABUTMENT SIMILAR

2 SB-8001 WESTERN ABUTMENT ELEVATION
SCALE 1:50

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	FOR CONSTRUCTION	CRB	ARK	JK	06.04.18

Scale (A1) AS SHOWN	Design	A.KIVELL	27.06.17
Scale (A3)	Drawn	M. JULATON	27.06.17
	Dsg Verifier	G.BROWN	14.02.18
	Drg Check	B.FLYNN	14.02.18
* Refer to Original Hardcopy for Signature			

Approved For Construction: S.WATERS
Date: 06.04.18

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

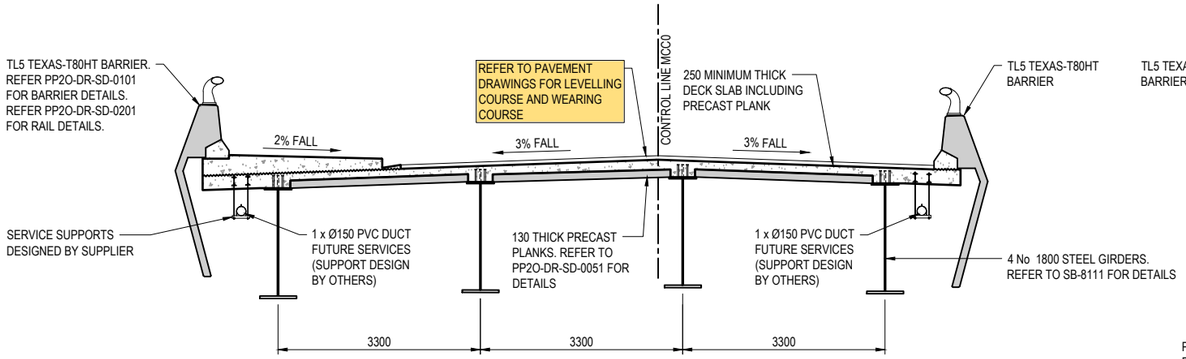
Subject: SCHOOL ROAD UNDERPASS (BRIDGE 8)
Title: GENERAL ARRANGEMENT SECTIONS SHEET 1

Discipline: STRUCTURAL
Drawing No.: PP2O-DR-SB-8011
Rev.: 1

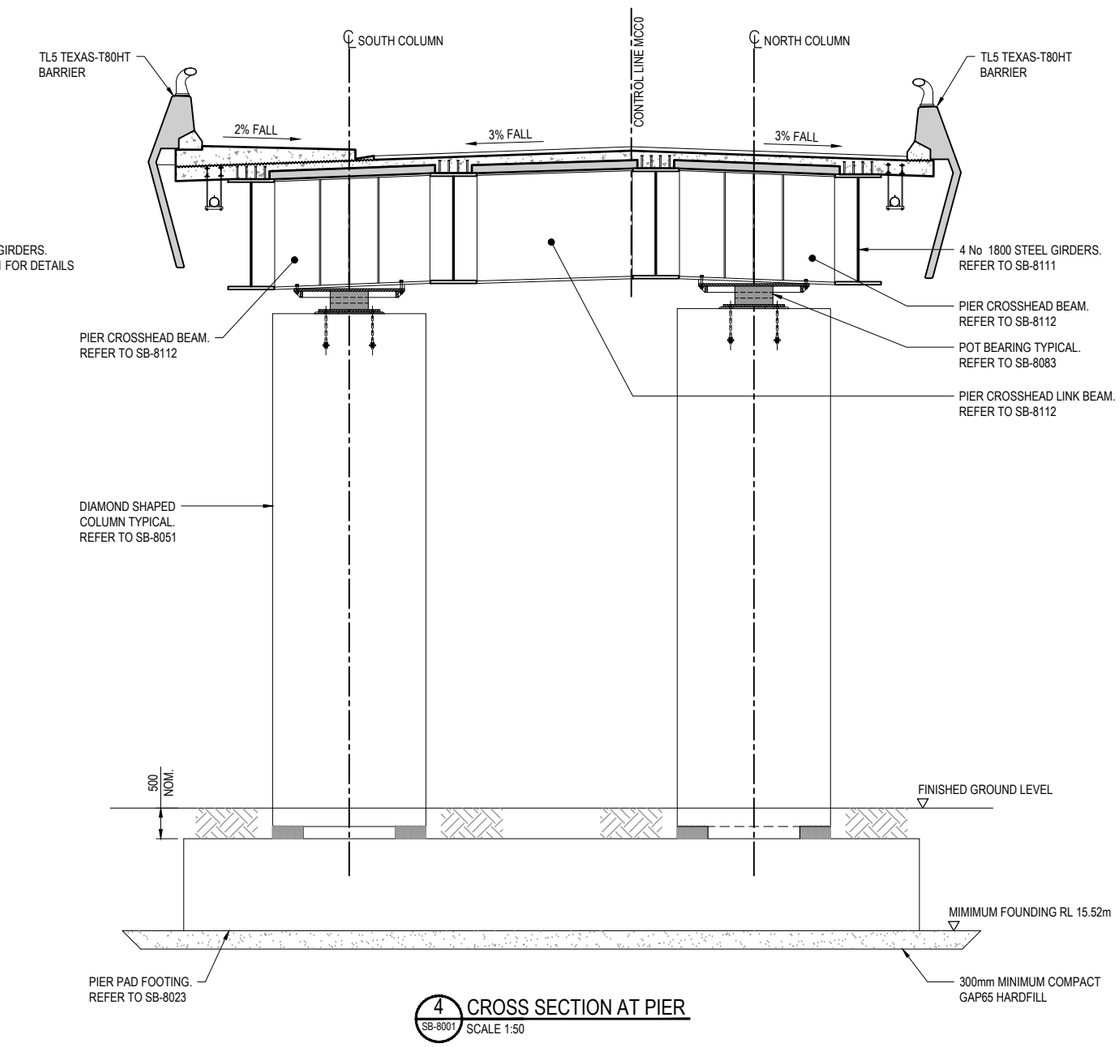
Document No. R:\30\DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\SE\PP2O-DR-SB-8011.DWG

NOTES:

1. REFER TO PP2O-DR-SA-0001 TO PP2O-DR-SA-0004 FOR GENERAL NOTES.
2. REFER TO PP2O-DR-SB-8001 FOR BRIDGE SPECIFIC NOTES.
3. THE SERVICES SUPPORT SYSTEM SHALL BE A UNISTRUT PROPRIETERY SYSTEM DESIGNED BY THE SUPPLIER.
4. THE SUPPLIER SHALL PROVIDE THE FIXING REQUIREMENTS FOR THE SERVICES SUPPORT SYSTEM TO CAST IN TO THE DECK SLAB.



3 SB-8001 TYPICAL CROSS SECTION
SCALE 1:50



4 SB-8001 CROSS SECTION AT PIER
SCALE 1:50

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	FOR CONSTRUCTION	CRB	ARK	JK	06.04.18

Scale (A1) AS SHOWN
Scale (A3)

Design	A.KIVELL	27.06.17	Approved For Construction S.WATERS
Drawn	M. JULATON	27.06.17	
Dsg Verifier	G.BROWN	14.02.18	
Drg Check	B.FLYNN	14.02.18	Date 06.04.18

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: SCHOOL ROAD UNDERPASS (BRIDGE 8)
Title: GENERAL ARRANGEMENT SECTIONS SHEET 2

Discipline: STRUCTURAL
Drawing No.: PP2O-DR-SB-8012
Rev.: 1

Document No. R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\SE\PP2O-DR-SB-8012.DWG

APPENDIX D: SITE SPECIFIC TRAFFIC MANAGEMENT PLAN

Site Specific Traffic Management Plan

– Peka to Ōtaki Project

School Road Underpass (Bridge 8)

September 2018

Contents

1 INTRODUCTION

This Site Specific Traffic Management Plan (SSTMP) provides the necessary information to demonstrate how the project team plan to avoid or mitigate potential construction traffic effects from activities associated with the construction of the School Road Underpass (Bridge 8).

This SSTMP reflects the requirements of the Construction Traffic Management Plan (CTMP) including sections 1.3 (Performance Standards) and section 3.2.1 - specifically the need to interface with TTM on other networks. This plan is also consistent with the requirements set out in the over-arching Construction Environmental Management Plan (CEMP).

This document is intended to be utilised by the construction team to clearly identify any site specific traffic management requirements that must be adhered to prior to, and during works in any given area.

The temporary traffic management required to carry out these works across the site will consist of various types of Temporary Closures including, but not limited to, Site Access, Shoulder, Footpath, Stop/Go, Contra Flow and Temporary Concrete Barrier installations.

Specific Traffic Management methodologies will be finalised and submitted to the relevant Road Controlling Authority as the construction programme is finalised and becomes more detailed. These more specific Traffic Management Plans (TMPs) will cover specific mitigation for each individual temporary traffic management requirement. This document will be a living document that will have multiple stages and traffic layouts that will be amended as and when required to suit varying construction stages and required traffic management.

1.1 The SSTMP and TMP Process

This SSTMP provides the necessary information from a project level on how the effects of construction traffic related to the site activities will be avoided or mitigated across the two roading networks in the location of the expressway works i.e. the State Highway Network (NZTA) and the local road network (KCDC).

Each of the two Road Controlling Authorities (RCA's) has its own processes and procedures for the approvals (TMP's) and implementation of temporary Traffic management within their respective networks which is separate to the SSTMP process.

It is recognised that approval / implementation of TMPs associated with this SSTMP will be staged and implemented at differing times over the course of the works. In addition, it is recognised that the TMP's themselves may alter due to both project and surrounding community requirements.

The purpose of this SSTMP is to provide the base (minimum) standard of service / maximum practical level of mitigation to be incorporated into the development of the respective TMP's all the while ensuring that the BOI consent conditions and subsequent CTMP requirements are met during the construction process.

2 SSTMP CONSENT CONSIDERATIONS

Reference should also be made to section 3.2 of the CTMP.

2.1 Proposed Temporary Traffic Management Measures - BOI condition 34 b (i)

Each of the work areas will have the required (CoPTTM) signage and early warning delineation provided by a combination of cones and line marking – all in accordance with the respective RCA TMP requirements. Each Traffic Management Plan will be submitted to the relevant RCA and Approved prior to implementation. Until site specific construction plans are finalised a location specific Traffic Management Plan cannot be prepared. Once methodologies are finalised location specific Traffic Management plans will be prepared and submitted to KCDC for approval.

2.2 Assessment of delays - BOI condition 34 b (ii)

Each Traffic Management plan will incorporate an assessment of expected delays and will also provide delay calculations where any are expected to occur. It is not envisaged that any significant delays will occur at any time. Any oversized loads will be escorted with Pilot Vehicles again with no anticipated delays with their operations covered by Oversized Vehicle Permits. These oversized movements will be of an occasional nature only to move large plant in and off site.

2.3 Detour Routes - BOI condition 34 b (iii)

Detours are not expected to be required for works in this area. As the works progress, the necessary TMPs will be submitted to KCDC or NZTA for approval.

2.4 Existing Accesses - BOI condition 34 b (iv)

The proposed Temporary Traffic Management measures do not knowingly affect existing accesses to private or commercial properties. Should this occur consultation will be undertaken with affected parties to ensure they retain access at all times.

2.5 Pedestrian and Cyclist Access - BOI condition 34 b (v)

Detours are not expected to be required during works in this area. Sequencing of traffic management during the works is demonstrated in the attached drawings. As the works progress, the necessary TMPs will be submitted to KCDC for approval.

2.6 Maintaining Existing Transport Services - BOI condition 34 b (vi)

The proposed Temporary Traffic Management measures for implementation of the work areas will not affect any existing public transport services and facilities such as bus stops.

2.7 Temporary Speed Limits (TSL) - BOI condition 34 b (vii)

The use of TSL's will be kept to a minimum and will be identified as and when required in Site Specific Traffic Management Plans submitted to and approved by the relevant RCA.

2.8 Access to & From the Construction Site - BOI condition 34 b (viii)

The primary objective of this SSTMP is the planning (TMP's), approvals (RCA's) and incorporation of Site Access Points (SAP's) as outlined in this SSTMP to ensure the safe and efficient access to and from site of construction related traffic.

The operating hours of the SAP's will be in accordance with the proposed hours of work included within the **CNVMP i.e.**

- Monday to Friday 6.30am to 8pm
- Saturday 7.30am to 6pm

Operation outside those hours will be at the approval of the Engineer and in accordance with the provisions of the **CNVMP.**

2.9 Communications and Stakeholders - BOI condition 34 b (ix)

As the effects of the proposed measures are as yet unknown, implementation and operation of the SSTMP's will be communicated to stakeholders, road users and the community via the methods and processes as included within the project Stake Holder and Communications Management Plan, with particular emphasis on the key groups identified in Section 3.1 of the CTMP as required.

3 ADDITIONAL CTMP CONSIDERATIONS

3.1 Kiwirail NIMTR - CTMP section 2.1.2

The implementation and operation of some SSTMP's may involve the need to collaborate with Kiwirail as sites may cross the NIMT Railway or existing at grade carriageway crossings. Traffic Management strategies will include having no delays created for Kiwirail and the NIMT.

3.2 Emergency Action Plan(s) – CTMP section 3.2.3.8

All emergency services shall have unimpeded access along all State Highway and local roads 24 hrs. per day. Should any roads be affected by temporary traffic management any likely delays will be communicated prior to works to all Emergency Service Providers by way of weekly Road Works Reporting procedures as required by both RCA's. All major works that impact the roading network will have SSTMP's developed with consultation of Emergency Services.

3.3 Access to KCDC Owned and Operated Water and Waste Water Assets – CTMP section 3.2.1.1.7

Access to existing KCDC water and waste water assets will not be impeded by any SSTMP's.

3.4 Monitoring, Auditing & Reporting – CTMP sections 3.3 & 3.4

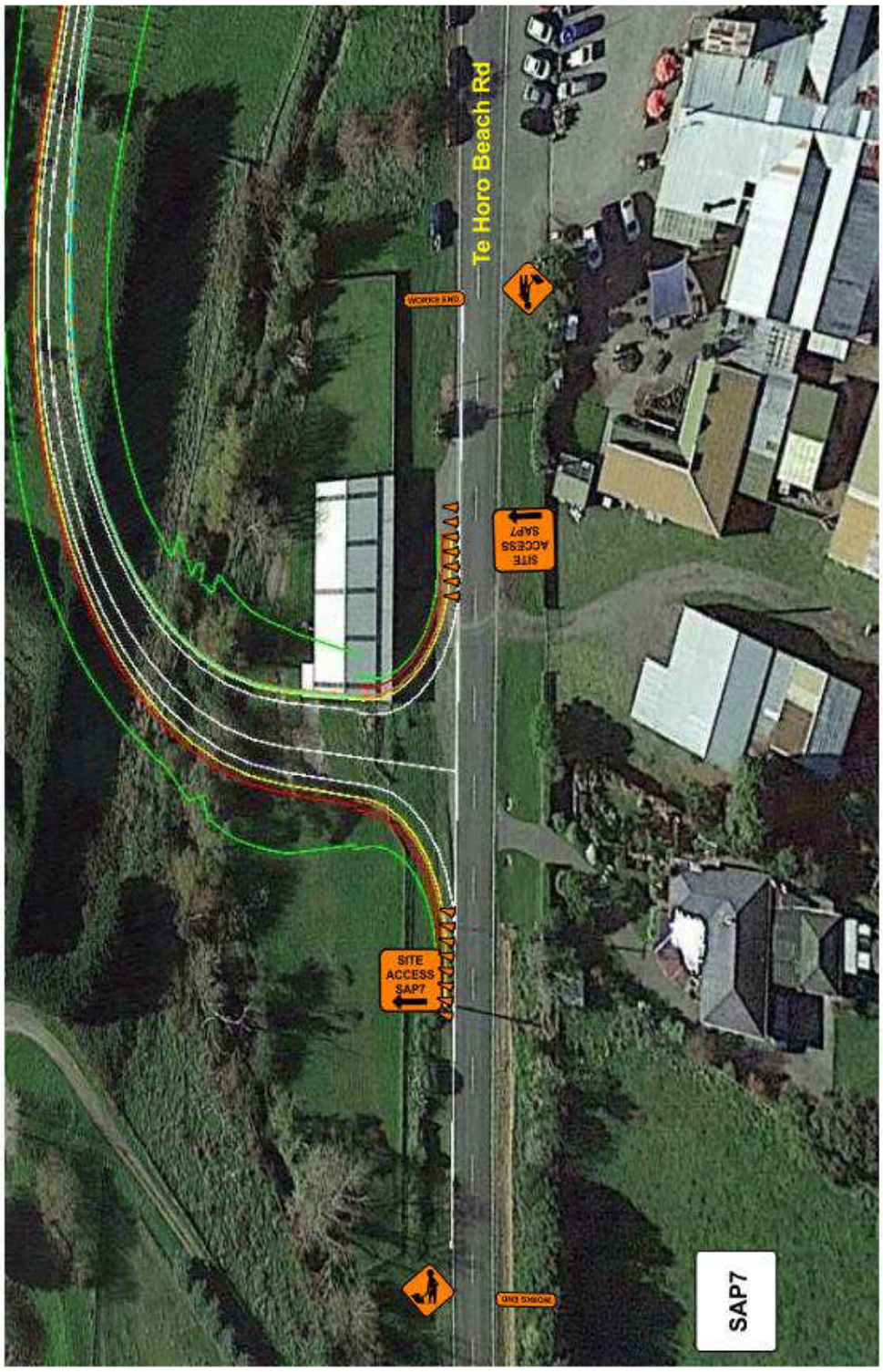
Monitoring, Auditing and Reporting of the Traffic Management Measure (once implemented) shall be in accordance with the CTMP and CoPTTM guidelines.

3.5 Complaints – CTMP sections 3.5

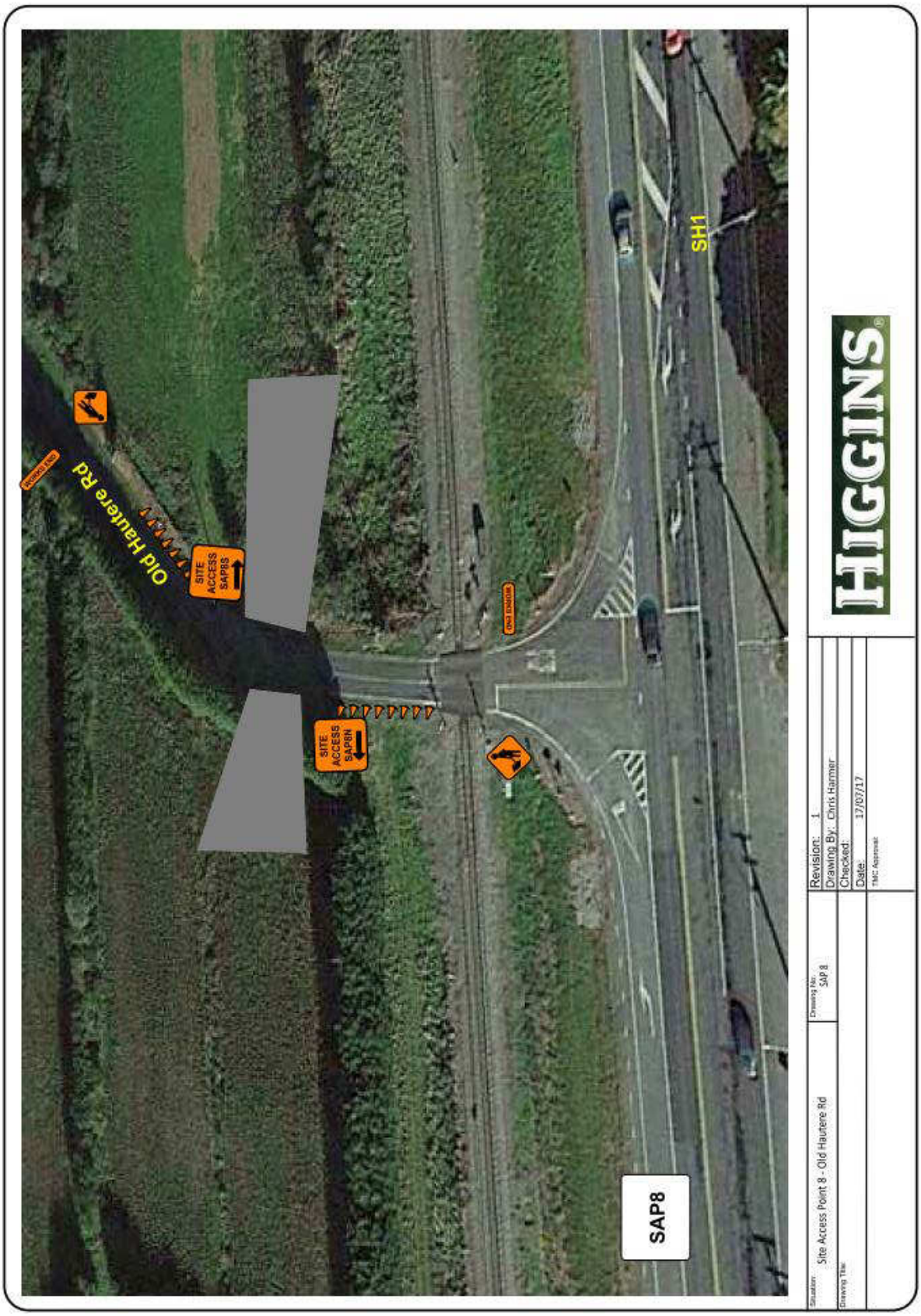
Feedback including complaints received related to the implementation of Temporary Traffic Management measures covered within this SSTMP shall be recorded and processed in line with the CTMP

SAP 7

Note that full use of this access point to Bridge 8 will only be achieved once proposed permanent culvert 34 is installed (to be covered at a later date)



SAP 8


SH1
Old Hauiere Rd
SITE ACCESS SAP8S
SITE ACCESS SAP8N
SAP8
HIGGINS
Site Access Point 8 - Old Hauiere Rd
SAP 8
Revision: 1
Drawing By: Chris Harmer
Checked:
Date: 17/07/17

APPENDIX E: PROGRAMME

Activity Name	Orig Dur	Rem Dur	Start	Finish
Peka Peka to Otaki Expressway - Master	300d	300d	25-Oct-18	27-Jan-20
Construction	300d	300d	25-Oct-18	27-Jan-20
Zone 2 (South): 3800 - 12200	300d	300d	25-Oct-18	27-Jan-20
Structures	300d	300d	25-Oct-18	24-Jan-20
Bridge 8 - Te Horo Underpass (Ch 7190 - 7200)	300d	300d	25-Oct-18	24-Jan-20
Start Bridge 8	0d	0d	25-Oct-18	
Bridge 8 Complete	0d	0d		24-Jan-20
Enabling Works	8d	8d	25-Oct-18	05-Nov-18
Ground Works	237d	237d	06-Nov-18	24-Oct-19
MSE Wall	151d	151d	06-Nov-18	26-Jun-19
East Abutment	36d	36d	06-Nov-18	08-Jan-19
West Abutment	23d	23d	24-May-19	26-Jun-19
Other	201d	201d	09-Jan-19	24-Oct-19
Substructure	177d	177d	09-Jan-19	20-Sep-19
East Abutment	15d	15d	09-Jan-19	30-Jan-19
West Abutment	14d	14d	27-Jun-19	16-Jul-19
Pier 1	48d	48d	17-Jul-19	20-Sep-19
Ground Beam	17d	17d	17-Jul-19	08-Aug-19
Column	12d	12d	09-Aug-19	26-Aug-19
Crosshead	19d	19d	27-Aug-19	20-Sep-19
Superstructure	72d	72d	23-Sep-19	15-Jan-20
Beams	5d	5d	23-Sep-19	27-Sep-19
Diaphragms	14d	14d	30-Sep-19	17-Oct-19
Deck	28d	28d	18-Oct-19	27-Nov-19
Barriers	17d	17d	10-Dec-19	15-Jan-20
Approach slabs	8d	8d	28-Nov-19	09-Dec-19
East Abutment	8d	8d	28-Nov-19	09-Dec-19
West Abutment	8d	8d	28-Nov-19	09-Dec-19
Ancillary	24d	24d	10-Dec-19	24-Jan-20
Metalwork	5d	5d	10-Dec-19	16-Dec-19
Miscellaneous	19d	19d	17-Dec-19	24-Jan-20
Surfacing	2d	2d	20-Jan-20	21-Jan-20
Drainage	71d	71d	11-Feb-19	23-May-19
Box Culverts	71d	71d	11-Feb-19	23-May-19
Culvert 34	71d	71d	11-Feb-19	23-May-19
Local Roads	23d	23d	11-Dec-19	27-Jan-20
School Road (Ch 6080-8600)	23d	23d	11-Dec-19	27-Jan-20
East Embankment	12d	12d	09-Jan-20	27-Jan-20
West Embankment	14d	14d	11-Dec-19	13-Jan-20