Lot CIV01 - Project Wide Civil Design Report (15%)

Causeway Pedestrian & Cyclist Bridges Project

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Causeway Link Alliance

Control Page

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REV.	DATE	SECTION	DESCRIPTION
A1	15-08-2022	Lot CIV01	Issued for IDR
A	07-09-2022	Lot CIV01	Issued for 15% Design Review

	NAME	TITLE	SIGNATURE	DATE
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Contents

1. INTRODUCTION

1.1 Project Overview

The Causeway Pedestrian and Cyclist Bridges Project is an opportunity to deliver a landmark pedestrian and cyclist connection across the Swan River that responds to the unique cultural and historic significance of the area, integrates with existing landscape and urban design, and provides an attractive link for both tourists and the wider community.

The existing causeway bridge is one of only four pedestrian and cyclist crossings of the Swan River, being one of the busiest carrying approximately 1,400 cyclists and 1,900 pedestrians per day, with peak hour volumes of over 150 cyclists and 200 pedestrians. The need to improve this connection has been identified for some time, with concerns about existing shared path width, surface condition and mix of user groups generally causing safety concerns.

The new bridges will have a 3.5 m wide cycle path and a 2.5 m wide pedestrian walkway provided for separated and safer access across the Swan River for both cyclists and pedestrians independent of the road traffic. Located 80-90 m downstream of the existing Causeway, this alignment was considered appropriate in terms of its ability to improve pedestrian/cyclist amenity, maintain directness and minimise impacts on flora and fauna, as well as the Swan River itself. Consisting of two cable stay bridges, the proposed option limited the number of river piers to just three, acknowledging the spiritual and cultural importance of the Swan River (Derbal Yerrigan) to Perth's First Nations Peoples.

1.2 Project Location

The project is located between East Perth and Victoria Park, refer Figure 1-1. This is situated within the local government authorities of the City of Perth and the Town of Victoria Park.

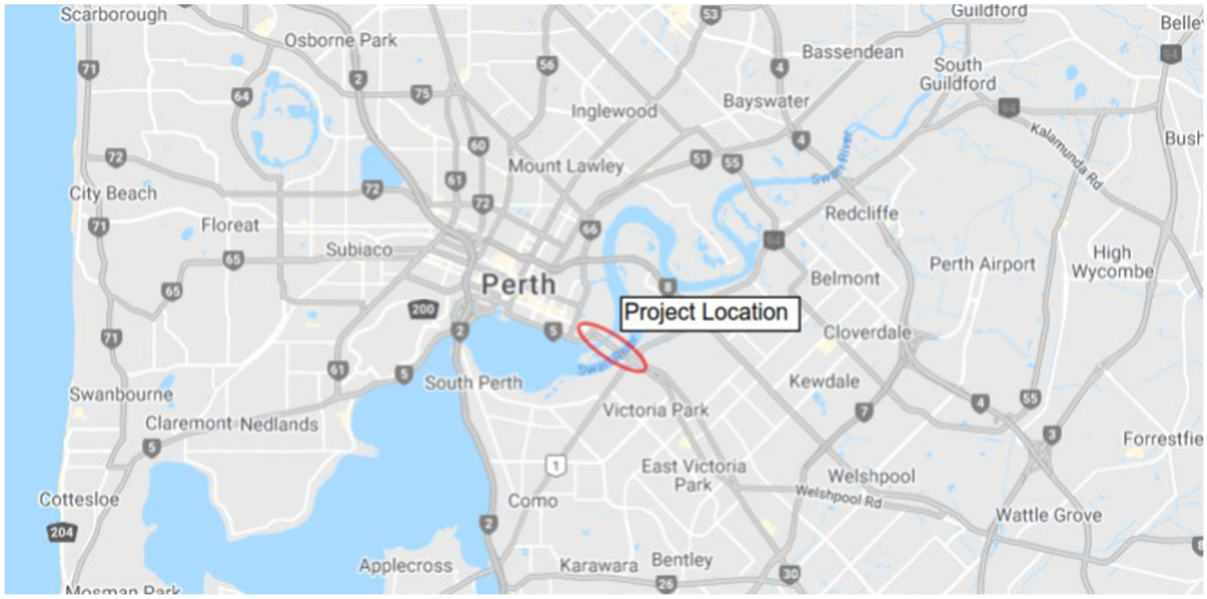


Figure 1-1 Project Location

1.3 Purpose

15% Report

The purpose of this report is to document the parameters adopted in the adopted in the design of the Causeway Pedestrian Bridges Project. It includes information of relevant standards used as well as the design assumptions that have been made in the design process. Any pertinent issues, exceptions or design constraints will also be highlighted in this report.

This report is prepared to discuss specifically the 15% Design for the Project's Civils aspects.

It is assumed that the recipients of this Design Report have an understanding of the Project, the BDC, the SWTC and other relevant referenced documents, prior to reading this document. Therefore, this Design Report is intended to highlight design constraints, assumptions, issues and exclusions and not reiterate all information outlined within the BDC and SWTC.

2. SCOPE OF WORKS

15% Report

The scope of works consists of the following:

- New Footbridge No.9505 over the Swan River south of Heirisson Island (referred to as McCallum Park Footbridge).
- New Footbridge No. 9506 over the Swan River north of Heirisson Island (referred to as Point Fraser Footbridge).
- A new separated path comprising a cycle path and footpath over the Swan River, between the existing path network at Point Fraser and existing path network at McCallum Park.
- Associated retaining walls and other structures as required.
- Shared paths and footpaths connecting the separated path with other paths.
- Replacement or realignment of affected existing paths, and temporary paths.
- Stairs as required connecting separated path and paths at Point Fraser, Heirisson Island and McCallum Park.
- Pedestrian and cyclist safety fencing.
- Accommodation works affected by the Project.
- Drainage as required.
- Lighting as specified.
- Signage as required.

2.1 Related Design Lots

15% Report

Related design lots to this package includes:

- Asset Management Plan (AMP01)
- Durability (DUR01)
- Geotechnical Investigation (GEO00)
- Geotechnical Interpretative Report Approach Embankment Design (GEO01)
- Piling Design (GEO02)
- Hydrology (HYD01)
- LRUD, Heritage and Wayfinding (LUH01)
- Lighting, Electrical and Security (MEP01)
- McCallum Park Bridge (STR01)
- Point Fraser Bridge (STR02)
- Utilities Combined (UTI01)

3. BACKGROUND

3.1 Topographic Survey

15% Report

The survey used at Tender was formed using an amalgamation of survey models provided at the RFP stage. The survey models are in the Perth Coastal Grid 1994 (PCG94) coordinate system with varying accuracy over a period of time and unverified for use. The survey data sources were provided in the Pre RFP data set 011 EOI CPCB – Survey and Services and include the following models:

- h001_0.25_1.092_slk_(causeway_psp_infill_additions)_dgs_pcg94_clipped.gen
- H001_0.93_1.38_DGSGEN_PCG94.gen
- Perth Inner City Rapid Transit Route Survey dgs pcg94 CLIPPED_v2.gen
- EGS2016_CAUSEWAYNORTH_MBES_AHD_0p25_avg_PCG94.GEN
- EGS2016_CAUSEWAYNORTH_MBES_AHD_1m_avg_PCG94.GEN
- EGS2016_CAUSEWAYSOUTH_MBES_AHD_0p25_avg_PCG94.GEN
- EGS2016_CAUSEWAYSOUTH_MBES_AHD_1m_avg_PCG94.GEN
- SC-2010-2011-a-s-l_herisson_island.txt (Converted from MGA94 Z50 to PCG94 by WSP)
- 102564de-001c.dwg (converted from ACAD dwg to MX genio by WSP)

A new topographic survey was commissioned by CLA to ensure accuracy of the detailed design as per SWTC requirements (Clause 4.2). The new survey was undertaken using the PCG94 coordinate system. It's noted SWTC Template Clause 4.2 d) requires design and survey plan co-ordinates to refer to the Perth Coastal Grid 2020 (PCG2020). To date, design across all disciplines and reference files provided are in PCG94. It's proposed that the design continues to use PCG94 with conversion to PCG2020 occurring at the end of the project.

Premier Engineering Surveys provided a new topographic survey for use by CLA on 24/06/2022 with revised survey files provided 28/06/2022. Survey files from tender phase have been used beyond the extents of the new survey by Premier Engineering Surveys.

3.2 Cadastral

15% Report

The cadastral boundary was provided by MRWA as part of the RFP documents in the Tender phase. This boundary has been relied upon for the 15% detailed design development.

3.3 Traffic Counts

15% Report

Point Fraser

Existing pedestrian / cyclist count information has been sourced from the MRWA TrafficMap website. MRWA TrafficMap provides data for Two Network Performance Sites (50410 and 51608) and one additional three-day survey undertaken in April 2016 which are located in the vicinity of the works. Location of counts are shown in Figure 3-1 with key AM / PM peak volumes summarised in Table 3-1. Refer to Appendix 2 for additional details.

Figure 3-1 Point Fraser Pedestrian / Cyclist Count Locations

Table 3-1 Pedestrian / Cyclist Counts - Point Fraser

Peak Time	Site: NPS 50410 Riverside Drive Shared Path		2016 Three Day Survey Riverside Drive Shared Path		Site: NPS 51608 Riverfront Shared Path	
	Cyclists	Pedestrians	Cyclists	Pedestrians	Cyclists	Pedestrians
AM Peak	154	-	183	92	102	-
PM Peak	135	-	171	147	57	-

Heirisson Island

There is no available pedestrian / cyclist count information at Heirisson Island.

McCallum Park

Existing pedestrian / cyclist count information has been sourced from Town of Victoria Park. The count station (VP001C) is located along the McCallum Park riverfront's pedestrian / cyclist path located approximately 300 m southwest of the existing Causeway Bridge. Location of counts are shown in Figure 3-2 with key AM / PM peak volumes summarised in Table 3-2. Refer to Appendix 2 for additional details. No additional data is available from MRWA TrafficMap within the vicinity of the works.

Figure 3-2 McCallum Park Pedestrian / Cyclist Count Location

Table 3-2 Pedestrian / Cyclist Counts - McCallum Park

Peak Time	Site: VP001C	
	Riverfront Count Station 300 m southwest of the Causeway Bridge	
	Cyclists	Pedestrians (Estimate)
AM Peak	221	114
PM Peak	107	114

3.4 Services

15% Report

The existing services information (to date) is based on the following information:

- Dial Before You Dig (DBYD)
- Feature survey and potholing information as required.

Services within the vicinity of the works include:

- Communications (AARNet, NBN, Optus, Telstra)
- Electrical (Western Power)
- Gas (ATCO)
- Water – drainage, potable and sewer (MRWA and Water Corporation)
- Water reticulation (City of Perth, Town of Victoria Park)

3.5 Geotechnical

15% Report

Refer to Lot GEO00 Geotechnical Investigation, Lot GEO01 Geotechnical Interpretative Report Approach Embankment Design and Lot GEO02 Piling Design for details.

3.6 Environmental

15% Report

3.6.1 Approvals

The team has completed and maintains a detailed approvals register.

It was determined that there was little environmental impact to warrant the project being referred to the Environmental Protection Authority under the Environmental Protection Act 1986.

The team has completed detailed risk and opportunities assessment, including sustainability, and this has influenced the design and construction methods. This is currently being reviewed:

- The Preliminary Environmental Impact Assessment did not indicate any triggers under the Environment Protection and Biodiversity Conservation Act 1999 – EPBC referral. Therefore, Main Roads determined a referral was not warranted to the federal agency (Department of Agriculture, Water and Environment).
- A Section 18 approval under the Aboriginal Heritage Act 1972 was issued by the Department of Planning, Lands and Heritage later this year for consideration at the first ACMC Meeting in February 2022.
- The project will operate under the Native Vegetation Clearing Permit (Main Roads NVCP 818) which is in place.
- The project Development Approval is in progress under Department of Planning, Lands and Heritage. The requires consultation with several stakeholders including: the City of Perth, the Department of Biodiversity and Conservation (DBCA) and Town of Victoria Park.

Other Approvals:

- Department of Biodiversity and Conservation Attractions (DBCA) - Permit(s) under the Swan and Canning River Management Act 2006 (SCRM Act). Form 7 expires June 30 and was renewed (prior to 30/6/2022) in June 2022.
- Department of Water and Environmental Regulation (DWER) – Bed and Banks permits is not required as the approval will come via the DA.
- Dewatering permits are to be confirmed when the volume and duration of dewatering is defined.

3.6.2 Constraints

The project environmental constraints that have been mitigated are:

- Minimising tree clearing (heritage implications also).
- Ensure the water quality of the river is protected through drainage i.e. no erosion or scour.
- Ensure the water quality of the review is protected from construction works i.e. dewatering and ASS.

3.6.3 Conditions and Commitments

The conditions and commitments need to be met for:

- DBCA as agreed
- NVCP 818
- Section 18
- Archaeological requirements

3.6.4 Constructability

The Project has chosen construction methods to minimise impacts on the environment. To date these have included:

- Designed the bridge structures and chosen construction methods to minimise interference with the riverbed and shoreline.
- Ensured sediment and water movements that influence aquatic and riparian habitat are maintained.
- Bored piles to reduce noise and vibratory impacts.
- Developed a quality landscape package.

3.6.5 Reports / Studies

- AECOM Australia Pty Ltd. 2021. Causeway Pedestrian & Cyclist Bridge Environmental (in-river) Surveys. Scope of Work. Main Roads Western Australia. 27-May-2021.
- AECOM Australia Pty Ltd 2021. Causeway Pedestrian & Cyclist Bridge Biological Survey. Main Roads Western Australia. 22-Jun-2021.
- Curtin University. 2020. Marine & freshwater biodiversity and invasive species baseline audit of a section of the Swan River, Perth WA using eDNA metabarcoding. Scope of Work. 29thApril 2020.
- Curtin University. 2022. Marine and freshwater biodiversity and invasive species baseline audit of a section of the Swan River, Perth WA using eDNA metabarcoding.
- Main Roads Western Australia. 2022. Preliminary Environmental Impact Assessment. 2018. Causeway Pedestrian and Cyclist Bridge (CPCB). Environmental Impact Assessment (EIA). March 2022.

4. DESIGN CRITERIA AND STANDARDS

4.1 Codes, Reference Documents and Regulations

15% Report

The following design standards are applicable to the design, generally giving precedence to the documents in the order listed below:

- Basis of Design and Construction (BDC),
- Scope of Work and Technical Criteria (SWTC),
- Main Roads WA Standard Drawings, available from the Main Roads WA website,
- Main Roads WA supplements to Austroads Guide to Road Design Guidelines,
- Main Roads WA Traffic Management Guidelines,
- Main Roads WA Horizontal Curve Tables,
- Austroads Guide to Road Design Part 1 to 8,
- Austroads Guide to Traffic Management Parts 1 – 13,
- Austroads Guide to Road Safety – Parts 1 – 9,
- American Association of State Highway and Transportation Officials – Roadside Design Guide, and
- American Association of State Highway and Transportation Officials – A Policy on Geometric Design of Highways and Streets.

4.2 Geometric Design

4.2.1 Design Criteria

15% Report

The design has been developed in accordance with the SWTC and the relevant standards and guidelines. The design criteria are summarised below in Table 4-1.

Table 4-1 Shared Path Design Criteria Table

Path Category	Combined Cycle Path / Pedestrian Path	4 m Shared Paths	Other Connecting Paths
Grade			
Maximum grade without landings	3.0%	3.0%	3.0%
Design Speed			
Point Fraser	20 - 30 km/h	-	-
On bridge	30 km/h	-	-
Elsewhere	30 km/h	10 to 20 km//h (low speed environment)	10 to 20 km/h (low speed environment)
Minimum Horizontal Radius			
Design speed = 20 km/h	11 m	11 m	11 m
Design speed = 30 km/h	27 m	27 m	27 m
Crossfall			
Maximum crossfall	2.0%	2.0%	2.0%
Sight Distance 30 km/h (varies with speed - wet conditions)			
Downhill (3% grade)	49 m		-

Path Category	Combined Cycle Path / Pedestrian Path	4 m Shared Paths	Other Connecting Paths
Uphill (3% grade)	40 m	-	-
Level grade	44 m	-	-
Sight Distance 20 km/h (varies with speed - wet conditions)			
Downhill (3% grade)	26 m	26 m	26 m
Uphill (3% grade)	23 m	23 m	23 m
Level grade	24 m	24 m	24 m
Widths			
Path width (excluding shoulder)	3.5 m (cycle) / 2.5 m (pedestrian)	4.0 m (shared use)	3.0 m (shared use)
Shoulder width: • On bridge • Off bridge	 0 m 0 m (Flush kerb to be provided)	 - 0.3 m sealed shoulder / 0.2 m unsealed shoulder where flush kerb is not provided	 - 0.25 m unsealed shoulder
Verge width (off bridge from edge of path)	1.3 m	1.3 m	1.3 m
Clearance			
Minimum horizontal clearance from edge of path)	0.5 m / 1.0 m from barrier post	0.5 m / 1.0 m from barrier post	0.5 m / 1.0 m from barrier post
Vertical clearance	2.7 m typical / 3.2 m at Victoria Park under bridge	2.7 m typical / 3.2 m at Victoria Park under bridge	2.7 m typical / 3.2 m at Victoria Park under bridge

4.2.2 Cyclist Design Speed

15% Report

Cyclist design speeds used are as follows:

- A design speed of 30 km/hr for the bridges and connection to McCallum Park,
- A reduction of design speed to 20 km/hr at Point Fraser, to facilitate safe interconnection with existing shared paths, and
- Use of speed limitation through radius curves, signage, surfacing and markings.

This was discussed at meetings with MRWA (PAG) members for Civils on 08/06/2022, and Cyclists and Pedestrians 23/06/2022 during the Bridge Alignment Freeze phase (refer to Section 5 and Appendix 4 for details and meeting minutes).

4.3 Drainage Design

4.3.1 Design Standards

15% Report

In addition to the design standards listed above, the following guidelines specific to stormwater management have also been considered in the drainage design:

- Swan Canning Planning and Development Policy 42 – Planning for Land Use, Development and Permitting Affecting the Swan Canning Development Control Area (Department of Biodiversity, Conservation and Attractions)

- Swan Canning Planning and Development Policy 45 – Planning for Miscellaneous Structures and Facilities in the Swan Canning Development Control Area (Department of Biodiversity, Conservation and Attractions)
- Swan Canning Planning and Development Policy 49 – Planning for Stormwater Management Affecting the Swan Canning Development Control Area (Department of Biodiversity, Conservation and Attractions)
- Stormwater Management Manual for Western Australia 2022 (Department of Water and Environmental Regulation)
- Decision Process for Stormwater Management in Western Australia 2017 (Department of Water and Environmental Regulation)
- WSUD Fact Sheets (New Waterways)
- Supplement to Austroads Guide to Road Design Part 5A (Main Roads WA)
- Australian Rainfall and Runoff 2019 (Geoscience Australia)
- Rainfall IFD Data System 2016 (Bureau of Meteorology)

This was confirmed at the Drainage meeting with MRWA (PAG) members as well as subsequent meetings between the CLA and key stakeholders including the DBCA and City of Perth to discuss the overall stormwater management strategy.

4.3.2 Design Criteria

15% Report

The drainage design has been developed in accordance with the SWTC and the relevant standards and guidelines. The following minor and major design storms in Table 4-2 have been adopted for the project:

Table 4-2 Drainage Design basis

Design Item	Design Storm
Gutter flow spread width for bridge deck (for direct disposal into river)	1 year ARI (63% AEP), maximum 50 mm/hr
Gutter flow spread width for bridge deck (to drainage network)	1 year ARI (63% AEP), maximum 50 mm/hr
Shared path serviceability and flood protection	5 year ARI (20% AEP)
Rainfall depth for water quality treatment	1 year ARI (63% AEP), 1 hour duration

Gutter spread widths are to be limited to the following widths in Table 4-3, at different locations:

Table 4-3 Spread widths

Typical Road Profile	Allowable Spread Width
6 m primary pedestrian / cycle path (off bridge deck)	1.25 m
6 m primary pedestrian / cycle path (on bridge deck)	1.25 m
Other shared paths	Half lane width plus shoulders

5. STAKEHOLDER CONSULTATION

15% Report

Prior to commencing the 15% detailed design CLA undertook a 'Bridge Alignment Freeze' phase. The purpose of this phase was to present the findings of CLA's initial stakeholder engagement to agree and 'freeze' the horizontal and vertical alignment of the proposed bridges.

Consensus on the alignment by the Alliance and its stakeholders was required to provide certainty heading into the 15% Design and for early procurement of long lead items. Any changes to the alignment were sought to be captured within this Bridge Alignment Freeze phase.

As part of the CLA's proactive approach to Stakeholder Engagement, CLA team members met with the following stakeholders during the Bridge Alignment Freeze Phase:

- DBCA representatives on 13/05/2022 and 31/05/2022
- Department of Transport (DoT) Maritime representatives on 20/06/2022
- DoT Urban Mobility representatives on 23/06/2022
- Matagarup Elders Group (MEG) on 28/06/2022
- City of Perth representatives on 17/05/2022, 19/05/2022 and 09/06/2022
- Town of Victoria Park representatives on 24/05/2022
- MRWA PAG Member for Civils on 08/06/2022
- MRWA PAG Member for Pedestrians and Cyclists on 23/06/2022
- MRWA PAG Member for Drainage on 28/06/2022
- WA Water Ski representatives on 15/06/22
- Owner of On the Point on 26/05/2022

The CLA team presented the program and design elements to stakeholders and the opportunity was given to provide feedback on the project and any issues which might impact the alignment of the bridges.

Key risks that arose through the Bridge Alignment Freeze phase include:

- DBCA concerns as noted in the meeting held with CLA on 31/05/2022 as shown below:
  - "DBCA has some concerns the embankments may fragment the island. Piling on land reduces the embankment – height of the embankment is 4.5 m (with surcharge removed). Vertical alignment set by navigation height (3 percent grade). DBCA asked if it could be considered to move the abutments further into the island (has a cost associated with this as there is more steel). A softer landing makes the batters less steep and harmonises the bridge to the land and integrates the structure."
- Possible risks associated with sensitive environmental and heritage areas remain. Further consultation by the CLA is required and ongoing.
- Acknowledgement that the bridges and alignment brings significant changes to Point Fraser and ongoing engagement with the City is Perth is required to assist in managing the expectations of the surrounding businesses in regards to both impacts and opportunities arising from the project.
- Engagement with the State Design Review Panel had not occurred during this phase.

From a geometric design perspective, no showstoppers arose throughout the Bridge Alignment Freeze phase. The tender design for the bridge alignment was proposed to continue unchanged into the detailed design stages.

Whilst no showstoppers were raised or documented throughout the meetings with stakeholders this does not alleviate the risk entirely nor does it preclude the stakeholders consulted from making further comments at a later stage as design is developed.

Stakeholder consultation by CLA with stakeholder groups is continuing to inform the design team of any changes. Interfacing between environmental / heritage / stakeholder and design teams is ongoing to identify any key areas or possible impacts to the design.

Refer to Appendix 4 for meeting minutes and key correspondence.

6. DESIGN

6.1 Geometric Design

6.1.1 Software

15% Report

The geometric design of the shared path and earthworks has been completed in OpenRoads design software.

6.1.2 Survey Comparison

15% Report

A survey comparison was undertaken by CLA between the survey provided at RFP phase and the new survey undertaken by Premier Engineering Surveys.

Approximate survey level differences at key vertical clearance locations are shown below. It's noted Shared Path locations are subject to change so slight variances to these numbers can be expected.

- Point Fraser Bridge:
  - Point Fraser Shared Path below bridge ~ 130 mm difference (higher)
  - Heirisson Island Shared Path below bridge ~ 90 mm difference (higher)
  - Vertical clearances below the Point Fraser bridge are not impacted by the higher survey levels. The vertical clearances at this bridge remain dictated by the Main Navigational Channel Opening and not by the Shared Path vertical clearances.
- McCallum Park Bridge:
  - Heirisson Island Shared Path below McCallum Park bridge ~ 50 mm difference (higher)
  - McCallum Park Shared Path below McCallum Park bridge ~ 110 mm difference (higher)
  - The vertical clearance envelopes below the McCallum Park bridge extend further into the 0.6 m maximum structural deflection zone of the bridge (0.6 m is the estimated maximum deflection at span centre, above the shared path it is less than 50%).

Refer to Appendix 3 which shows the survey comparison along the main bridge's centreline alignment.

6.1.3 Typical Cross Section – Primary Pedestrian / Cycle Path

15% Report

The pedestrian / cycle path design width remains unchanged since the RFP tender phase. This provides a 6.0 m overall path width consisting of a 3.5 m two-way cycle path and a 2.5 m pedestrian path with 2% crossfall.

On the bridges the 6.0 m cycle path / pedestrian path width is provided between handrails with no additional shoulders. Off the bridge, flush kerbing is provided in lieu of a sealed shoulder. A 1.3 m verge width is provided on both sides of the embankment. There is opportunity at the next design stage to reduce verge width where light poles and electrical services are not present to 1.0 m.

Embankment batters are at 3H:1V maximum and are generally provided shallower to provide a more natural shape in accordance with Urban Design and Landscape strategy. Embankments are only flattened where there are no resultant impacts on tree retention. Refer to the detailed cross sections in the drawings for details.

To maintain continuity of bridge balustrading to the bridge embankments, light poles are proposed to be provided behind the balustrade whereas normally light poles would be positioned in front. As such, localised widenings at light poles will be required to allow for maintenance purposes.

6.1.4 Typical Cross Section – Secondary Paths

15% Report

Shared Path widths for secondary paths, i.e. those paths other than the primary pedestrian / cycle path, are provided as follows:

- 4 m Shared Paths with flush kerbing (no sealed shoulders) at McCallum Park (RL MCCA, MCC4) in consultation with Town of Victoria Park. The 4 m width is cognisant of the surrounding path widths that it ties into.
- 3 m Shared Paths with 0.25 m unsealed shoulder elsewhere.

6.1.5 Kerbing

15% Report

Flush kerbing has been provided along the primary 6 m wide pedestrian / cycle path in accordance with BDC Clause 5.31. MRWA Type M-1 flush kerb has been detailed instead of Type M-2 to be similar to the surrounding environment. This applies particularly to McCallum Park where exposed flush kerbing is located on the existing cycleway and one of the shared path connections.

MRWA standard kerbing is currently nominated to be in line with SWTC requirements. This is subject to change at the next design stage pending alignment with Town of Victoria Park and City of Perth which uses flush kerbing of a narrower width compared to MRWA flush kerb.

Flush kerbing has also been provided at McCallum Park for the 4 m Shared Paths. These paths tie in from the primary 6 m wide pedestrian / cycle path (which has flush kerb proposed) to the existing cycle path which has flush kerb installed. This meets BDC Clause 5.31 which states “Other paths must also be kerbed to prevent erosion of where existing paths are kerbed”.

Kerbing annotation will be shown on the 85% documentation following the 15% review of the typical sections.

6.1.6 Horizontal and Vertical Alignment – Primary Pedestrian / Cycle Path

15% Report

The bridges horizontal and vertical alignment (Reference Line MC01) remains unchanged since the RFP tender phase. A Bridge Alignment Freeze Phase was undertaken by CLA prior to the 15% detailed design as per Section 5. The result of this phase was that the bridge alignment was to remain unchanged for the 15% Design.

The vertical alignment primarily consists of the following:

- Sag curves (k values of ~10) at either end of the alignment
- Maximum 3% grades for both bridges and on approach
- Vertical crest curves (k values of 10 and ~25 for the Point Fraser Bridge and McCallum Park Bridge respectively) located over the navigational channels to achieve vertical clearance.
- Sag curve (k value of 13) through Heirisson Island.

Landings are not required for the grades provided and are not a preferred project outcome.

The horizontal alignment uses a curvilinear approach embankment at Point Fraser with R15, R18, R21 contiguous curves equating to a design speed range of 20 to 30 km/h. It is considered that the curves will provide a suitable speed environment to slow cyclists as they approach the tie into the existing cycle network. This would be in conjunction with other measures to encourage slower cyclist speed such as signage, pavement marking, change in surfacing materials / colours etc and will be explored further at 85%.

An R200 horizontal curve is used on the Point Fraser Bridge which allows for adverse crossfall. This is adverse crossfall is required to allow for drainage via scuppers through the deck's cantilever plate which is located on the pedestrian side of the bridge. Refer to Structural Drawings for details.

At Heirisson Island the R80 horizontal provided allows for avoidance of tree impacts. R250 horizontal back-to-back reverse curves are used for the McCallum Park Bridge which aligns with the bridge's structural design requirements and drainage requirements. This leads into R60 and R90 back-to-back curves on the alignment through McCallum Park. Speed control measures at Heirisson Island and McCallum Park, like those stated above for Point Fraser, will be explored further at 85% design.

Plan and profile drawings are provided in the design drawings in Appendix 1.

6.1.7 Horizontal and Vertical Alignment – Secondary Paths

15% Report

Point Fraser

At Point Fraser, secondary paths are generally limited in length providing greater connectivity between the existing path network.

- RL MCA1 / MCA7 – 3 m shared path connection between the stairs to the primary 6 m pedestrian / cycle path and the riverfront meeting area. This alignment is to be consolidated with MCA7 at the next design stage. Vertical geometry is designed to match existing surface profile as close as practical. Alignment on hold pending urban and landscape design, and final decision on location of stairs and outcomes with stakeholders.
- RL MCA2 – 3 m shared path. Vertical geometry is currently designed to match existing surface profile as close as practical. Horizontal and vertical alignment on hold pending urban and landscape design and outcomes with stakeholders.
- RL MCA3 – 3 m shared path between the existing Riverside Drive shared path and the existing riverfront shared path. The existing path is realigned to allow for the bridge structure and designed to minimise cutting into the eastern embankment and any associated tree impacts. Vertical geometry is designed to match existing surface profile as close as practical.
- RL MCA4 – 3 m shared path. Provides connection between the primary 6 m pedestrian / cycle path and ties into the existing Riverside Drive shared path.
- RL MCA5 – shown as a 3 m shared path which widens out to provide a meeting area. Vertical geometry is designed to match existing surface profile as close as practical. Alignment on hold pending urban and landscape design and outcomes with stakeholders.

Heirisson Island

- RL MCBA – 3 m shared path. Horizontal alignment of the shared path is aligned to follow an existing access track to the northern side of Heirisson Island. Vertical geometry is designed to match existing surface profile as close as practical.
- RL MCBB – 3 m shared path. Horizontal alignment of the shared path is aligned to follow an existing access track to the southern side of Heirisson Island. Horizontal alignment along the riverfront meeting area is on hold pending urban and landscape design outcomes with stakeholders. Vertical geometry to match existing surface profile as close as practical.
- RL MCB1 – 3 m shared path along the northern side of Heirisson Island. The alignment has been pushed away from the existing access track / river edge at this stage to maximise land area available for landscaping between the shared path and river. Horizontal alignment along the riverfront meeting area is on hold pending urban and landscape design outcomes with stakeholders. Vertical geometry to match existing surface profile as close as practical.

- RL MCB2 – 3 m shared path provides connection to the stairs to the primary pedestrian / cycle path and river front. Vertical geometry designed with a steeper 5.5% section over ~20 m to best suit the existing surface and limit earthworks.
- RL MCB3 – 3 m shared path provides connection to the stairs to the primary pedestrian / cycle path and river front.
- RL MCB5 – 3 m shared path connection to the primary pedestrian / cycle path from the existing Causeway shared path.

McCallum Park

- RL MCC2 – 3 m shared path connection between the existing shared path along Canning Highway to the primary pedestrian / cycle path. Tie-ins to be amended at the next design stage.
- RL MCC3 – 3 m shared path connection between the stairs to the primary pedestrian / cycle path and the riverfront meeting area. Vertical geometry designed to match existing surface profile as close as practical.
- RL MCC4 – 4 m shared path located between the 6 m wide riverfront shared path / meeting area to the primary pedestrian / cycle path. Vertical geometry designed to match existing surface profile as close as practical.
- RL MCC5 – 3 m shared path connection between the existing shared path along Canning Highway to the primary pedestrian / cycle path.
- RL MCC9 – shown as a 6 m shared path but will allow for a widened meeting area as per landscape design. This ties into an existing separated shared path / cycle path at the western end and a combined 3 m shared path at the eastern end. The horizontal alignment is subject to change pending stakeholder consultation and urban and landscape design outcomes.
- RL MCCA – 4 m shared path located between the 6 m wide riverfront shared path / meeting area to the primary pedestrian / cycle path. Vertical geometry designed to match existing surface profile as close as practical.

6.1.8 Sight Distance

15% Report

The Point Fraser approach embankment is the only area where there are constraints to the available stopping sight distance (SSD) for cyclists. At Point Fraser there is limited space and tight horizontal geometry, which is resultant of the bridge height and maximum 3% grades used, defines the speed environment and subsequent design speed is critical to develop a safe design.

At the RFP tender phase, the Alliance documented the limitations of a 40 km/h SSD. This resulted in the derivation of the design speeds shown in Section 4.2, i.e. designing for 20 km/h SSD. Balustrade is not proposed on the inside curve on the Point Fraser bridge approach which allows for open sightlines but does expose the embankment to the path users. As such, the embankment batter slope has been flattened to 5H:1V to lessen the safety risk posed.

6.1.9 Bridge Clearances

15% Report

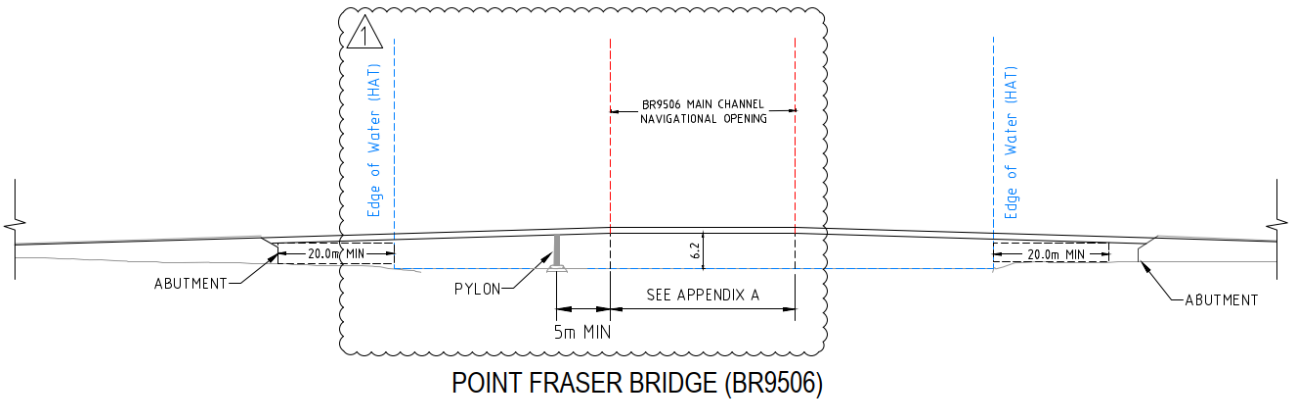
Clearances under the bridges and navigational openings on the Swan River remain the same as per the RFP tender phase inclusive of Addendum 4 and summarised as follows.

Highest Astronomical Tide (HAT) remains unchanged since the RFP tender phase and is defined as 0.58 m AHD.

Point Fraser Bridge

Point Fraser Bridge clearances used are summarised below and as per Addendum 4 issued in the tender phase:

- Main Channel Navigational Opening:
  - 6.2 m vertical clearance
  - Width as defined by RFP Addendum 4 Appendix A drawing 202144-0001-1 polygon (approx. 31 m width)
- Shared Paths:
  - 2.7 m vertical clearance at both Point Fraser and Heirisson Island
- Bridge abutments offset:
  - 20 m minimum from edge of water



NAVIGATIONAL CHANNEL COORDINATES		
POINT No.	EASTING	NORTHING
P1	56054.372	262070.882
P2	56089.391	262090.348
P3	56107.503	262063.887
P4	56071.194	262043.763
P5	56419.818	261781.059
P6	56458.482	261809.376
P7	56485.803	261798.727
P8	56449.341	261770.129

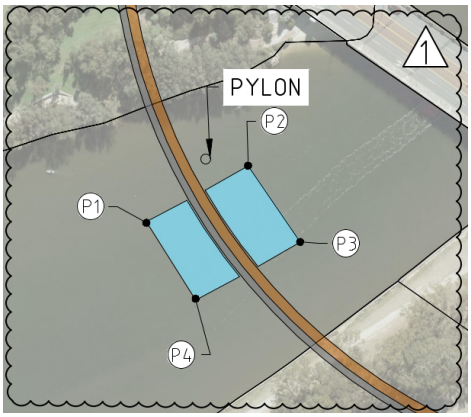


Figure 6-1 RFP Bridge Clearances (as per RFP Addendum 4 Appendix A drawing 202144-0001-1)

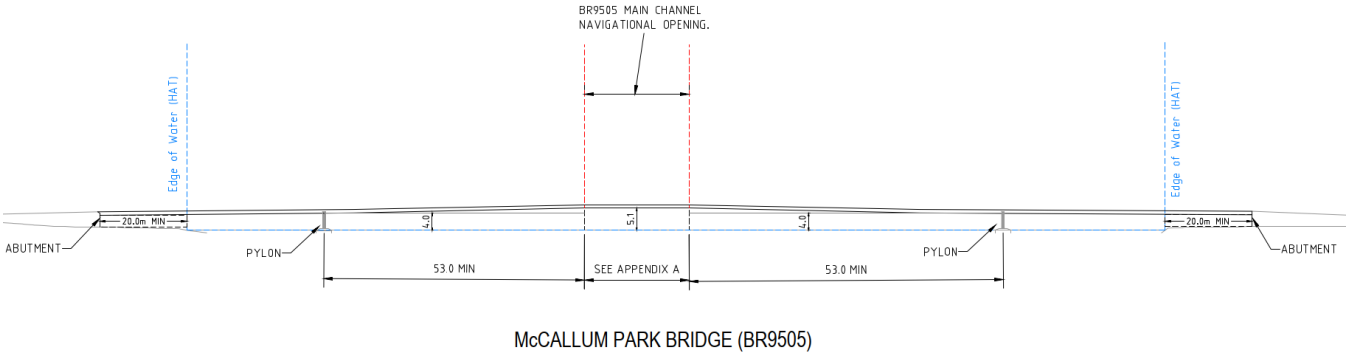
McCallum Park Bridge

Point Fraser Bridge clearances used are summarised below and as per Figure 6-2 (RFP Addendum 4):

- Main Channel Navigational Opening:
  - 5.1 m vertical clearance
  - Width as defined by RFP Addendum 4 Appendix A drawing 202144-0001-1
  - 4.0 m x 53.0 m (minimum) additional navigational clearance wither side of the Main Channel Navigational Opening
- Shared Paths:

- 2.7 m vertical clearance for Heirisson Island Shared Path
- 3.2 m vertical clearance for McCallum Park Shared Path

- Bridge abutments offset:
  - 20.0 m minimum offset from edge of water



McCALLUM PARK BRIDGE (BR9505)

NAVIGATIONAL CHANNEL COORDINATES		
POINT No.	EASTING	NORTHING
P1	56054.372	262070.882
P2	56089.391	262090.348
P3	56107.503	262063.887
P4	56071.194	262043.763
P5	56419.818	261781.059
P6	56458.482	261809.376
P7	56485.803	261798.727
P8	56449.341	261770.129

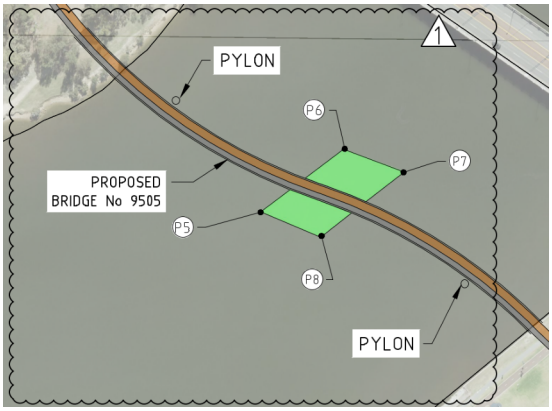


Figure 6-2 Bridge Clearances (as per RFP Addendum 4 Appendix A drawing 202144-0001-1)

6.2 Drainage Design

15% Report

The overall stormwater management strategy for the project was adopted following consultation within the Causeway Link Alliance and relevant external stakeholders including the DBCA and local Councils. Stormwater treatment will be provided using the following methods.

Bridge deck above Swan River

Stormwater runoff captured by the bridge deck may discharge directly into the Swan River via 150 mm diameter PVC scuppers. The upstand forming part of the bridge deck structure serves as an effective kerb 30 mm height capturing stormwater runoff from the bridge deck. Gutter, complying with the design criteria outlined in Section 4.3. Discharge points have been provided at approximately 8 m spacing intervals to keep gutter flow spread width to below the maximum permissible 1.25 m. The maximum spread width is calculated to be 0.68 m on Bridge 9506 Fraser Point and 0.78 m on Bridge 9505 McCallum Park. The total carriageway width on both bridges will be 6 m. This will ensure an acceptable level of trafficability during the design storm event for pedestrians and cyclists. Scupper locations directly discharging into the Swan River have been verified to be outside of the navigation channels for both Bridge 9505 McCallum Park and Bridge 9506 Point Fraser. This minimises any nuisance flows for boats caused by concentrated stormwater discharge during rainfall events.

Bridge deck above land

The section of the bridge deck above Point Fraser discharges directly below via 150 mm diameter PVC scuppers at 8 m spacing intervals, except where it is directly above a shared path. Scour protection details for beneath proposed scupper locations will be provided at 85% detailed design stage. Stormwater runoff on Point Fraser will sheet flow towards Basin A01, which provides water quality treatment for the design rainfall. Over Heirisson Island and McCallum Park, stormwater runoff from the bridge deck above land is captured through a pit and pipe network and directed to designated drainage swales and basins for water quality treatment. All inlets will be provided with heel-proof grates for safety. All pipes located off the bridge structure will be reinforced concrete pipes (RCP) of minimum 300 mm diameter, as requested by MRWA for maintenance reasons. Pipes discharging directly into basins will be via a surcharge / bubble-up pit to best follow the soft-engineered drainage preference by MRWA and DBCA. Further hydraulic analysis of the surcharge pits will be undertaken for 85% detailed design, including head calculations. Pipe daylight will not be required thus eliminating the need for headwalls. This is consistent with the soft-engineered approach of the overall drainage design.

Shared path on approach embankments

Stormwater runoff from the main bridge path will sheet flow across the embankment into the designated drainage swales located at the bottom. Flush kerbing has been adopted for paths off the bridge deck, allowing stormwater runoff from the shared paths to sheet directly onto adjacent soft landscaping and swales. These swales are then directed to basins for water quality treatment. Impervious areas associated with all other minor shared paths have been included in the drainage calculations, with the majority of stormwater runoff from them reaching the basins provided via natural overland flow. Calculations for scour protection have not been undertaken and will be provided with the 85% detailed design. A small area of the catchment will bypass the basins.

Catchments from impervious areas have been identified below in Table 6-1:

Table 6-1 Impervious catchments for water quality treatment

Impervious Catchment	Area (m^2)	Water Quality Treatment	Basin Volume (m^3)
Catchment A01	532.9	Basin A01	8.0
Catchment A02	1360.2	Basin A01	20.4
Catchment B01	189.9	Basin B01	2.8
Catchment B02	1071.4	Basin B02	16.1
Catchment B03	766.3	Basin B03	11.5
Catchment B04	251.4	Basin B04	3.8
Catchment C01A	242.8	Basin C01	3.6
Catchment C01B	1420.2	Basin C01	21.3
Catchment C02	1122.9	Basin C02	16.8
Catchment D (Bridge 9506 Point Fraser)	554.0	N/A	N/A
Catchment D (Bridge 9505 McCallum Park)	1225.6	N/A	N/A

In accordance with the latest rainfall data (2016 IFDs) supplied by the Bureau of Meteorology and endorsed by ARR 2019, a rainfall depth of 16.9 mm has been adopted for the design storm (1 year ARI, 1 hour duration) at the project site location. This complies with DBCA's Swan Canning Planning and Development Policy 49 which suggests an approximate rainfall depth of 15 mm (based on older

rainfall data from ARR1987). Drainage basins have been provided for each impervious catchment in order to comply with the water quality requirements for the project. The volume sizing of the basins has been designed to provide a first-flush treatment during every rainfall event and capture pollutants from the impervious areas of the project. These basins will be soft-engineered depressions 300 mm depth with 4H:1V internal batters where practical and located at natural low points across the site. It is anticipated that the basin floor will be vegetated to enhance their aesthetics and bio-filtration outcomes. This will also alleviate any safety risks associated with open water ponding. Pending satisfactory infiltration rates from geotechnical investigation, the preference is for the existing soil to be retained and eliminate the need for importation of any new filter media. Basin overflow during storm events greater than the design storm will follow the natural overland flow paths, mimicking the natural hydrology of the site.

No additional on-site detention is considered appropriate for the nature of the proposed development.

A schedule of all proposed drainage pits / inlets has been provided on design drawing C301-CLA-0000-CI-DRG-00411.

6.3 Utilities

15% Report

Consultation with services stakeholders (AARNet, NBN, Optus, Telstra, Water Corporation, Western Power, ATCO) as well as City of Perth and Town of Victoria Park is ongoing for the detailed design phase. A services impact assessment register was created and is provided in the utilities impact drawings.

6.4 Fencing

15% Report

Balustrading has been proposed to continue from the bridges, as per the 15% Design Drawings, where batter slopes are 3H:1V and in areas of high fill. This balustrading will also discourage public access to the abutments which is a safety in design concern.

As stated in Section 6.1.3, to maintain continuity of bridge balustrading to the bridge embankments, light poles are proposed to be provided behind the balustrade whereas normally light poles would be positioned in front. Provision of gates for maintenance access are to be detailed at the next design stage if required.

Bollards are to be placed at the perimeter of the works where required to prevent public vehicle access to the project area.

6.5 Retaining Walls

15% Report

There are no requirements for retaining walls within the 15% Design stage.

6.6 Pavement Structure and Surfacing Design

15% Report

Pavement design drawings have not been produced for the 15% Design stage. For the purposes of the 15% Design, the pavement for shared paths is currently assumed to be as per MRWA Supplement to Austroads Part 6A (i.e. 150 mm thick subbase, prime coat with 25 mm asphalt).

6.7 Signing and Pavement Marking

15% Report

Through stakeholder engagement MRWA standard pavement marking to demarcate the 6 m pedestrian / cycle path is not to a desired project outcome. As such edge lines and centreline markings for the pedestrian / cycle path will not be provided. A non-standard pavement marking configuration for the bridge and approach embankments will be utilised to provide segregation and speed control measures.

It's noted flush kerbing is proposed along the primary 6 m pedestrian / cyclist path and 4 m shared paths. This kerbing will provide a visual contrast for path users in lieu of edge line marking.

Signing and pavement marking has not been included for the 15% Design stage. These details will be provided in the 85% Design submission and in other packages where project specific and non-standard pavement markings are used.

6.8 Land Requirements

15% Report

There are no additional land requirements. The works are contained within land areas owned by City of Perth (Point Fraser, Heirisson Island) and Town of Victoria Park (McCallum Park).

7. DESIGN INTEGRATION

7.1 Bridge Structures

15% Report

Details of the bridge structural design are provided in the relevant structural reports listed below:

- C301-CLA-1000-ST-REP-00001 Lot STR01 – McCallum Park Bridge Design Report
- C301-CLA-2000-ST-REP-00002 Lot STR02 – Point Fraser Bridge Design Report

7.2 Geotechnical

15% Report

Refer to the below reports for geotechnical investigations and design:

- C301-CLA-0000-GE-REP-00001 Approach Embankment Design Report
- C301-CLA-0000-GE-REP-00002 Piling Design Report

7.3 Lighting and Security

15% Report

Lighting and Security and LV Impact Drawings and Design Integration Assessment will be provided in the 15% Lighting Design Report C301-CLA-0000-EL-REP-00001.

Further design coordination and clash check detection between lighting and civil / services requirements will occur in subsequent design stages.

7.4 Noise / Screen Walls

15% Report

Not applicable. In accordance with the BDC Sections 5.28 and 5.29 the installation of noise walls and screen walls is not required.

7.5 Pavement

15% Report

There are no integration considerations for pavement design at 15% Design stage.

7.6 Traffic

15% Report

Not applicable.

7.7 Urban and Landscape Design

15% Report

Refer to Urban and Landscape design documentation for details. Meeting areas and path alignments shown on the 15% Civil Design Drawings are subject to change pending stakeholder outcomes and integration with the urban and landscaping design approach.

7.8 Utilities

15% Report

Service Impact Drawings and a Service Impact Register are provided in the 15% Design Drawings. Further design coordination and clash check detection will occur in subsequent design stages.

8. DESIGN DEPARTURES FROM BDC / SWTC

15% Report

The following departures from the BDC / SWTC are proposed:

- Nil

9. RISK ASSESSMENT

15% Report

A risk register is currently being compiled. Risk workshops are to be scheduled throughout the design phase and will be reported on in the next phase.

10. SUSTAINABILITY AND VALUE ENGINEERING

10.1 Sustainability

15% Report

The civil and drainage design endeavours to integrate sustainability into the design, construction, and procurement processes with consideration to reducing the environmental impacts to support the overall project in achieving a sustainable outcome in line with Infrastructure Sustainability Council (ISC) objectives.

Some of the sustainability design initiatives undertaken to date and the applicable ISC Credit are provided in Table 10-1. This table will be expanded upon as the design develops.

Table 10-1 ISC Credits

ISC Category	ISC Credit	Credit Description	Design Approach / Initiative
Leadership and Management	Lea-3	Knowledge sharing	CLA are engaging with DBCA / Swan River Trust to participate in a lessons learned workshop for projects that have been undertaken adjacent to the Swan River. The CLA team will seek to implement the findings from this workshop back into the design where possible to provide higher quality outcomes.
Resilience	Res-1	Climate and natural hazard risks	The vertical clearance under the bridges includes an allowance of 0.9 m for sea level rise and 0.2 m buffer for meteorological conditions. The vertical clearance from the shared path to the bridge at McCallum Park has been increased from 2.7 m to 3.2 m to allow for future proofing of the area due to climate change / rising sea levels.
Heritage Stakeholder Engagement	Her-1 Sta-1	Heritage areas Stakeholder engagement strategy	Matagarup Elders Group (MEG) is a key CLA stakeholder. Ongoing consultations with the MEG is continuing for heritage areas that have been identified throughout the design development. These heritage areas are located on Heirisson Island and include a midden and protest camp. Trees of significant importance to the MEG are being identified. Alternative design approaches are being explored to minimise impacts to these areas.
Stakeholder Engagement	Sta-2	Stakeholder engagement and impacts	Extensive stakeholder engagement throughout the design process with the stakeholders listed in Section 5 is ongoing to identify high priority issues and inform the design.
Ecology	Eco-1	Ecological habitat and disturbed land	Proposed connection path locations on Heirisson Island will utilise previously disturbed land such as existing access tracks. Survey of existing trees has been undertaken and where possible the design has been adjusted to avoid impacts / loss of trees. Proposed paths, in particular at McCallum Park, have been aligned to avoid tree impacts.
Ecology	Eco-1	Ecological habitat and disturbed land	The bridge embankments have been flattened where possible from the standard batter slope of 3H:1V. This has provided a more naturalised appearance.
Environmental Impacts	Env-1	Receiving water quality	Minimise adverse impacts to local receiving water quality through adoption of water sensitive urban

ISC Category	ISC Credit	Credit Description	Design Approach / Initiative
			design principals through infiltration into vegetated surfaces.
Resource Efficiency and Management	Rso-1	Resource strategy development	Natural topographic depressions to be used for stormwater disposal in lieu of constructed drainage basins where possible.
Resource Strategy Development Ecology	Rso-1 Eco-1	Resource strategy development Ecological habitat and disturbed land	Adopt a bioengineering approach (swales, infiltration depressions) which allows for softer interfaces where possible in lieu of hard engineering outcomes (e.g. rock riprap, pits and pipes).

10.2 Value Engineering

15% Report

Value engineering workshops will be undertaken throughout the course of the detailed design development.

A value engineering workshop specifically was undertaken on 04/07/2022 by CLA for the Telstra line (Service Impact Drawings identification number COM102) at McCallum Park which runs skewed to the bridge approach embankment.

The original approach was to relocate the Telstra line however the full cost implications to do so were not provided by Telstra until detailed design stage. Relocation of the Telstra line was cost prohibitive and an alternative service protection strategy (accepted by Telstra in principle) is being developed.

11. SAFETY IN DESIGN

15% Report

Under the Work Health and Safety Act 2020 the Designer has a responsibility to undertake the design such that as much as practicable that people who maintain or construct the works are not exposed to hazards in doing so. In completing the design, this obligation has been adhered to as practicable as possible for a preliminary stage design.

Safety in Design (SID) reviews are scheduled to take place for all packages and consider all the following phases:

- Construction
- Operation
- Maintenance
- Decommissioning

The reviews will take the form of a peer review and a checklist or “what if” review.

The first SID workshop took place just before the submission of the CLA Tender Design report in August 2021. This initial SID register has been carried forward and is used as the basis for the SID reviews for the detailed design stage and is a live document. A SID review workshop will be conducted for each stage of the detailed design. The SID register is provided in Appendix 6.

Any residual risks or unresolved issues remaining at the completion of the detailed design phase will be transferred to the Construction Risk Register for appropriate consideration during construction process planning.

12. CONSTRUCTABILITY AND STAGING

15% Report

Constructability and staging considerations of the bridge structures are covered within the Lot STR01 McCallum Park Bridge Design Report and the Lot STR02 Point Fraser Bridge Design Report.

The design assumes conventional construction methods will be used for the civil and drainage works outside of these structures. Construction staging for these works are not defined at this stage.

13. OPERATIONS AND MAINTENANCE

15% Report

Asset management workshops were held between representatives from CLA and City of Perth on 4/8/2022; and CLA and Town of Victoria Park on 4/8/2022. The purpose of these workshops was to align on responsibility as detailed in the Asset Ownership Plans (Lot AMP01).

Operations and maintenance of the bridge structures are covered within the Lot STR01 McCallum Park Bridge Design Report and the Lot STR02 Point Fraser Bridge Design Report.

14. DESIGN REVIEW, INDEPENDENT VERIFICATION AND ROAD SAFETY AUDIT

15% Report

All design reviews, independent verification, road safety audits and designer responses will be provided in Appendix 7.

14.1 Causeway Link Alliance Interdisciplinary Review

15% Report

An interdisciplinary review has been undertaken by members of the CLA design team prior to issue. All comments have been addressed before issue.

14.2 MRWA Review

15% Report

MRWA review comments, designer responses and close out will be provided in future report revisions.

14.3 Local Government Authorities Review

14.3.1 City of Perth

15% Report

City of Perth will be provided an opportunity to review this submission. Review comments, designer responses and close out will be recorded in future report revisions.

14.3.2 Town of Victoria Park

15% Report

Town of Victoria Park will be provided an opportunity to review this submission. Review comments, designer responses and close out will be recorded in future report revisions.

14.4 Department of Transport Review

14.4.1 DoT Maritime

15% Report

DoT Maritime will be provided an opportunity to review this submission. Review comments, designer responses and close out will be recorded in future report revisions.

14.4.2 DoT Urban Mobility

15% Report

DoT Urban Mobility will be provided an opportunity to review this submission. Review comments, designer responses and close out will be recorded in future report revisions.

14.5 Independent Verification

15% Report

The independent verifier is yet to be confirmed. The IV comments, designer responses and close out will be provided in future report revisions.

14.6 Road Safety Audit

15% Report

A Road Safety Audit (RSA) will be undertaken on the 15% Design. The RSA comments, designer responses and close out will be provided in future report revisions.

14.7 Other Stakeholders

15% Report

The following stakeholders will be consulted for input into the design:

- Department of Biodiversity, Conservation and Attractions (DBCA)
- Office of the Government Architect
- On the Point, Point Fraser
- Matagarup Elders Group
- WA Water Ski Association
- WestCycle

APPENDICES

APPENDIX 1 DRAWINGS

AMENDMENTS		
No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

Government of
Western Australia

mainroads
WESTERN AUSTRALIA

METROPOLITAN REGION

CAUSEWAY LINK ALLIANCE
CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
CIVIL WORKS PACKAGE
CONTRACT No. 87/20

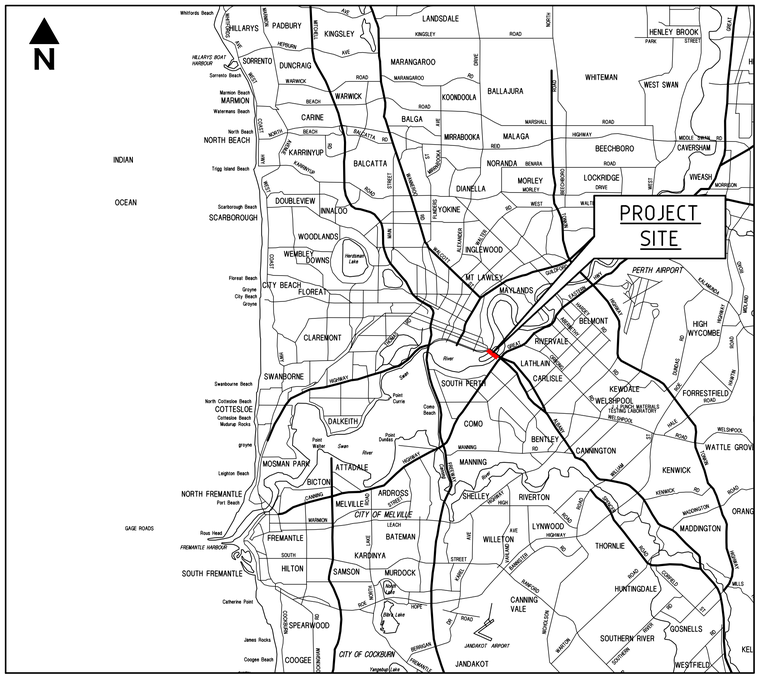
CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)

Causeway
Link
Alliance

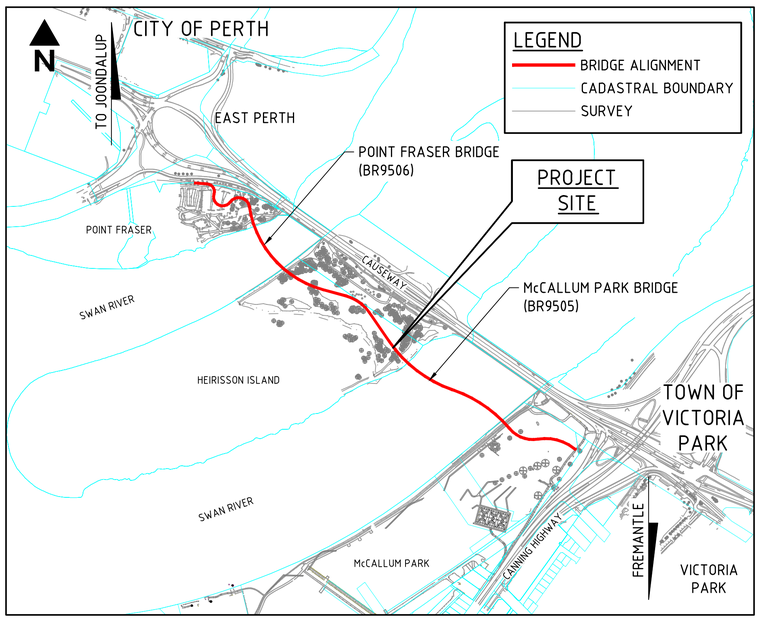
wsp

C301-CLA-0000-CI-DRG-00001 A

CAUSEWAY LINK ALLIANCE
CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
CIVIL WORKS PACKAGE
CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)



KEY PLAN
N.T.S



LOCALITY PLAN
N.T.S

INDEX

MRWA DRAWING No.	CONTRACTOR DRAWING No.	TITLE
GENERAL DRAWINGS		
	C301-CLA-0000-CI-DRG-00001	COVER SHEET
	C301-CLA-0000-CI-DRG-00002	LOCALITY PLAN AND DRAWING INDEX - SHEET 1
TYPICAL DRAWINGS		
	C301-CLA-0000-CI-DRG-00051	TYPICAL CROSS SECTIONS - SHEET 1
	C301-CLA-0000-CI-DRG-00052	TYPICAL CROSS SECTIONS - SHEET 2
GENERAL ARRANGEMENT DRAWINGS		
	C301-CLA-0000-CI-DRG-00080	GENERAL ARRANGEMENT PLAN - KEY PLAN
	C301-CLA-0000-CI-DRG-00081	GENERAL ARRANGEMENT PLAN - CHA 1000 TO CHA 1280
	C301-CLA-0000-CI-DRG-00082	GENERAL ARRANGEMENT PLAN - CHA 1280 TO CHA 1620
	C301-CLA-0000-CI-DRG-00083	GENERAL ARRANGEMENT PLAN - CHA 1620 TO CHA 2005.334
PLAN AND PROFILE DRAWINGS		
	C301-CLA-0000-CI-DRG-00100	PLAN AND PROFILE - KEY PLAN
	C301-CLA-0000-CI-DRG-00101	PLAN AND PROFILE - PSP - MC01 - CHA 1000 TO CHA 1515
	C301-CLA-0000-CI-DRG-00102	PLAN AND PROFILE - PSP - MC01 - CHA 1515 TO CHA 2005.334
	C301-CLA-0000-CI-DRG-00111	PLAN AND PROFILE - POINT FRASER - MCA1 (CHA 0 TO CHA 60) MCA2 (CHA 0 TO CHA 75)
	C301-CLA-0000-CI-DRG-00112	PLAN AND PROFILE - POINT FRASER - MCA3 (CHA 0 TO CHA 95) MCA4 (CHA 0 TO CHA 45)
	C301-CLA-0000-CI-DRG-00113	PLAN AND PROFILE - POINT FRASER - MCA5 (CHA 0 TO CHA 55) MCA7 (CHA 0 TO CHA 65)
	C301-CLA-0000-CI-DRG-00121	PLAN AND PROFILE - HEIRISSON ISLAND - MCB1 (CHA 0 TO CHA 115) MCB2 (CHA 0 TO CHA 45)
	C301-CLA-0000-CI-DRG-00122	PLAN AND PROFILE - HEIRISSON ISLAND - MCB3 (CHA 0 TO CHA 55) MCB5 (CHA 0 TO CHA 65)
	C301-CLA-0000-CI-DRG-00123	PLAN AND PROFILE - HEIRISSON ISLAND - MCBA (CHA 0 TO CHA 185) MCBB (CHA 0 TO CHA 175)
	C301-CLA-0000-CI-DRG-00131	PLAN AND PROFILE - McCALLUM PARK - MCC2 (CHA 0 TO CHA 45) MCC3 (CHA 0 TO CHA 65)
	C301-CLA-0000-CI-DRG-00132	PLAN AND PROFILE - McCALLUM PARK - MCC4 (CHA 0 TO CHA 115) MCC5 (CHA 0 TO CHA 55)
	C301-CLA-0000-CI-DRG-00133	PLAN AND PROFILE - McCALLUM PARK - MCC9 (CHA 0 TO CHA 130) MCCA (CHA 0 TO CHA 155)
DRAINAGE DRAWINGS		
	C301-CLA-0000-CI-DRG-00400	DRAINAGE - KEY PLAN
	C301-CLA-0000-CI-DRG-00401	DRAINAGE PLAN - CHA 1000 TO CHA 1280
	C301-CLA-0000-CI-DRG-00402	DRAINAGE PLAN - CHA 1280 TO CHA 1620
	C301-CLA-0000-CI-DRG-00403	DRAINAGE PLAN - CHA 1620 TO CHA 2005.334
	C301-CLA-0000-CI-DRG-00411	DRAINAGE SCHEDULE - SHEET 1
CROSS SECTIONS DRAWINGS		
	C301-CLA-0000-CI-DRG-00601	CROSS SECTIONS - MC01 - SHEET 1
	C301-CLA-0000-CI-DRG-00602	CROSS SECTIONS - MC01 - SHEET 2
	C301-CLA-0000-CI-DRG-00603	CROSS SECTIONS - MC01 - SHEET 3
	C301-CLA-0000-CI-DRG-00604	CROSS SECTIONS - MC01 - SHEET 4
	C301-CLA-0000-CI-DRG-00605	CROSS SECTIONS - MC01 - SHEET 5
	C301-CLA-0000-CI-DRG-00606	CROSS SECTIONS - MC01 - SHEET 6
	C301-CLA-0000-CI-DRG-00607	CROSS SECTIONS - MC01 - SHEET 7
	C301-CLA-0000-CI-DRG-00608	CROSS SECTIONS - MC01 - SHEET 8
	C301-CLA-0000-CI-DRG-00609	CROSS SECTIONS - MC01 - SHEET 9
	C301-CLA-0000-CI-DRG-00610	CROSS SECTIONS - MC01 - SHEET 10
	C301-CLA-0000-CI-DRG-00611	CROSS SECTIONS - MC01 - SHEET 11
	C301-CLA-0000-CI-DRG-00612	CROSS SECTIONS - MC01 - SHEET 12
	C301-CLA-0000-CI-DRG-00613	CROSS SECTIONS - MC01 - SHEET 13

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22
	AMENDMENTS	

METADATA	
GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

wsp
Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

VERIFIER
VERIFIED DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

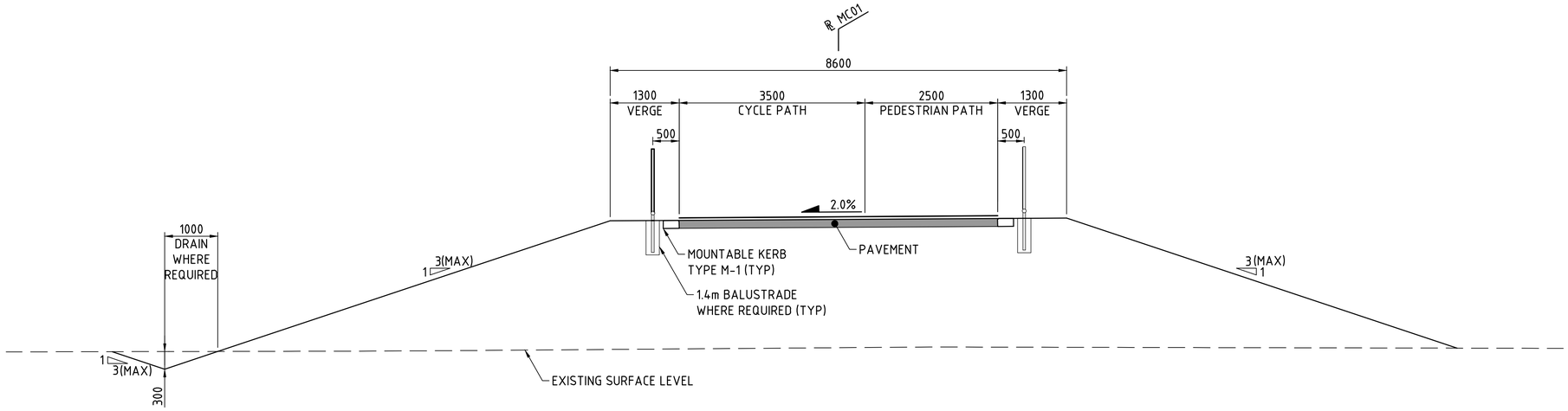
THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY	CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES LOCALITY PLAN AND DRAWING INDEX SHEET 1
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00002
REV	A

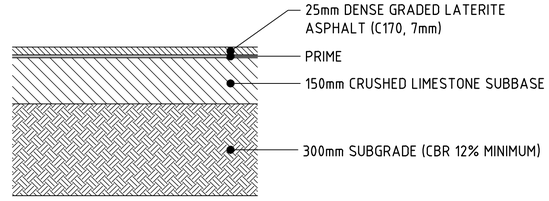
Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:33 AM Cad File: C:\pwworking\wsp-aus-pw-bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00002.dwg

NOTES

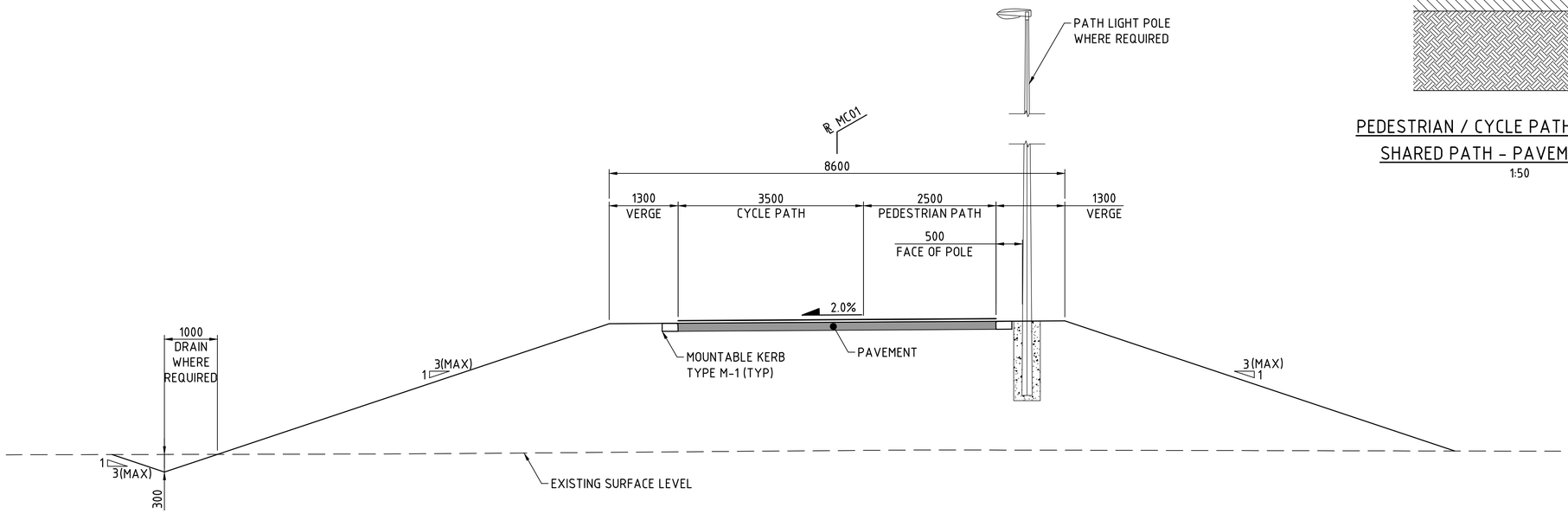
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. FOR TYPICAL SECTION ON BRIDGE APPROACH STRUCTURE AND BRIDGE DECK REFER TO LOT STR01 MCCALLUM PARK BRIDGE AND LOT STR02 POINT FRASER BRIDGE DRAWINGS FOR DETAILS.



PEDESTRIAN / CYCLE PATH (MC01) 6m WIDE - TYPICAL SECTION
WITH BALUSTRADE
1:50



PEDESTRIAN / CYCLE PATH (OFF BRIDGE),
SHARED PATH - PAVEMENT DETAIL
1:50



PEDESTRIAN / CYCLE PATH (MC01) 6m WIDE - TYPICAL SECTION
AT LIGHT POLES WITHOUT BALUSTRADE
1:50

1:50

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
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DATE OF CAPTURE:	-
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HEIGHT DATUM:	AHD71

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APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

VERIFIER
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Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

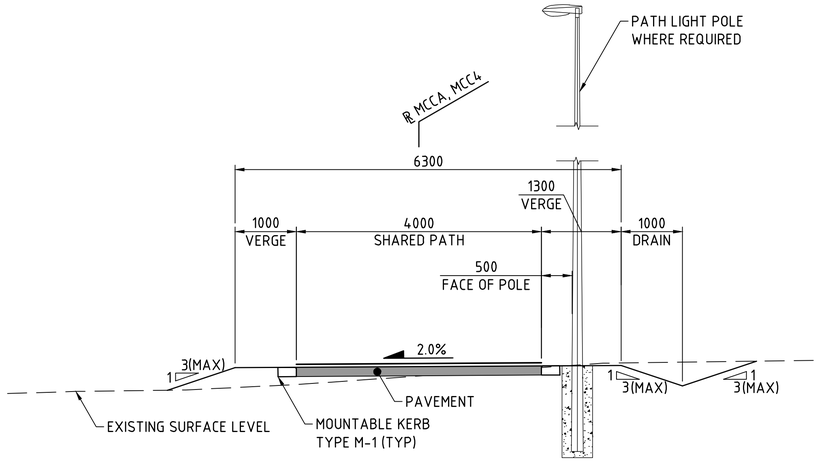
THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
TYPICAL CROSS SECTIONS
SHEET 1
SHEET A1
DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-DRG-00051
REV A

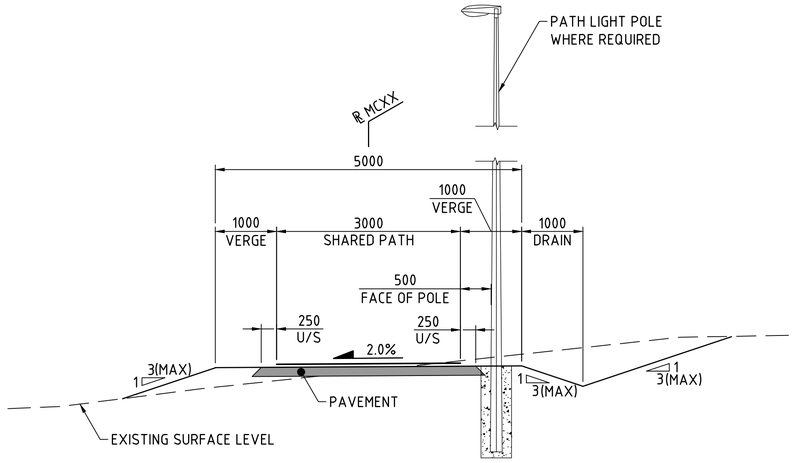
Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:33 AM Cad File: C:\pw_working\wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00051.dwg

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

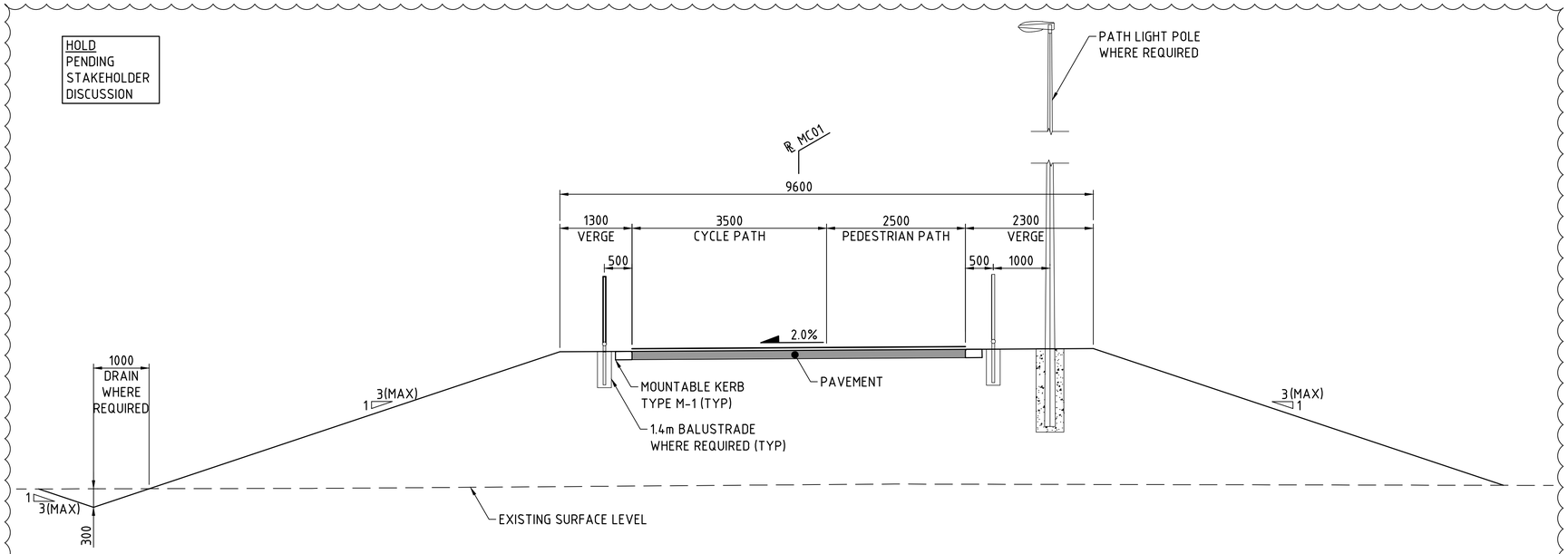


SHARED PATH - 4m WIDE
MCCALLUM PARK - MCCA, MCC4
1:50

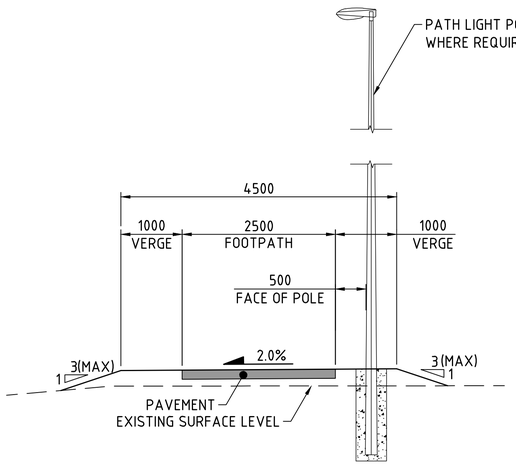


SHARED PATH - 3m WIDE
POINT FRASER - MCA1, MCA2, MCA3, MCA4, MCA5, MCA7
HEIRISSON ISLAND - MCBA, MCBB, MCB1, MCB2, MCB3
MCCALLUM PARK - MCC2, MCC3, MCC5
1:50

HOLD
PENDING
STAKEHOLDER
DISCUSSION



PEDESTRIAN / CYCLE PATH (MC01) 6m WIDE - TYPICAL SECTION
LOCALISED WIDENINGS AT LIGHT POLES WITH BALUSTRADE
1:50



FOOTPATHS - 2.5m WIDE
1:50

1:50

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED DATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)

MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION

MRWA DRAWING NUMBER

PROJECT TITLE: CAUSEWAY LINK ALLIANCE

DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES TYPICAL CROSS SECTIONS SHEET 2

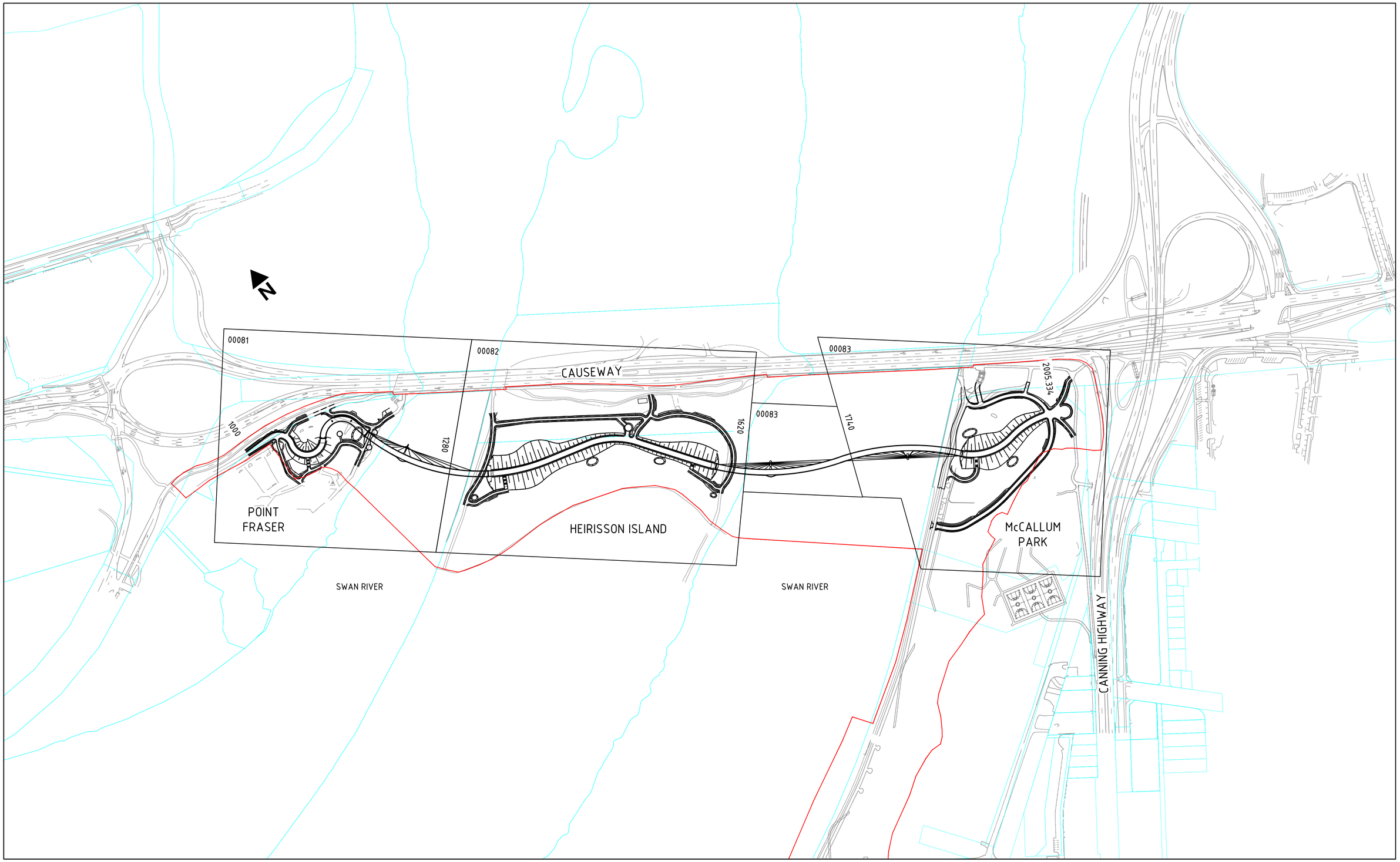
SHEET: A1

DRAWING STATUS: 15%

DRAWING No.: C301-CLA-0000-CI-DRG-00052

REV: A

Plotted By: Buceski, Mya Plot Date: 07/09/2022 10:33 AM Cad File: C:\pwworking\wsp-aus-pw.bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00052.dwg



PLAN
1:2000

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22
	AMENDMENTS	

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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Level 5
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DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER
VERIFIED
DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

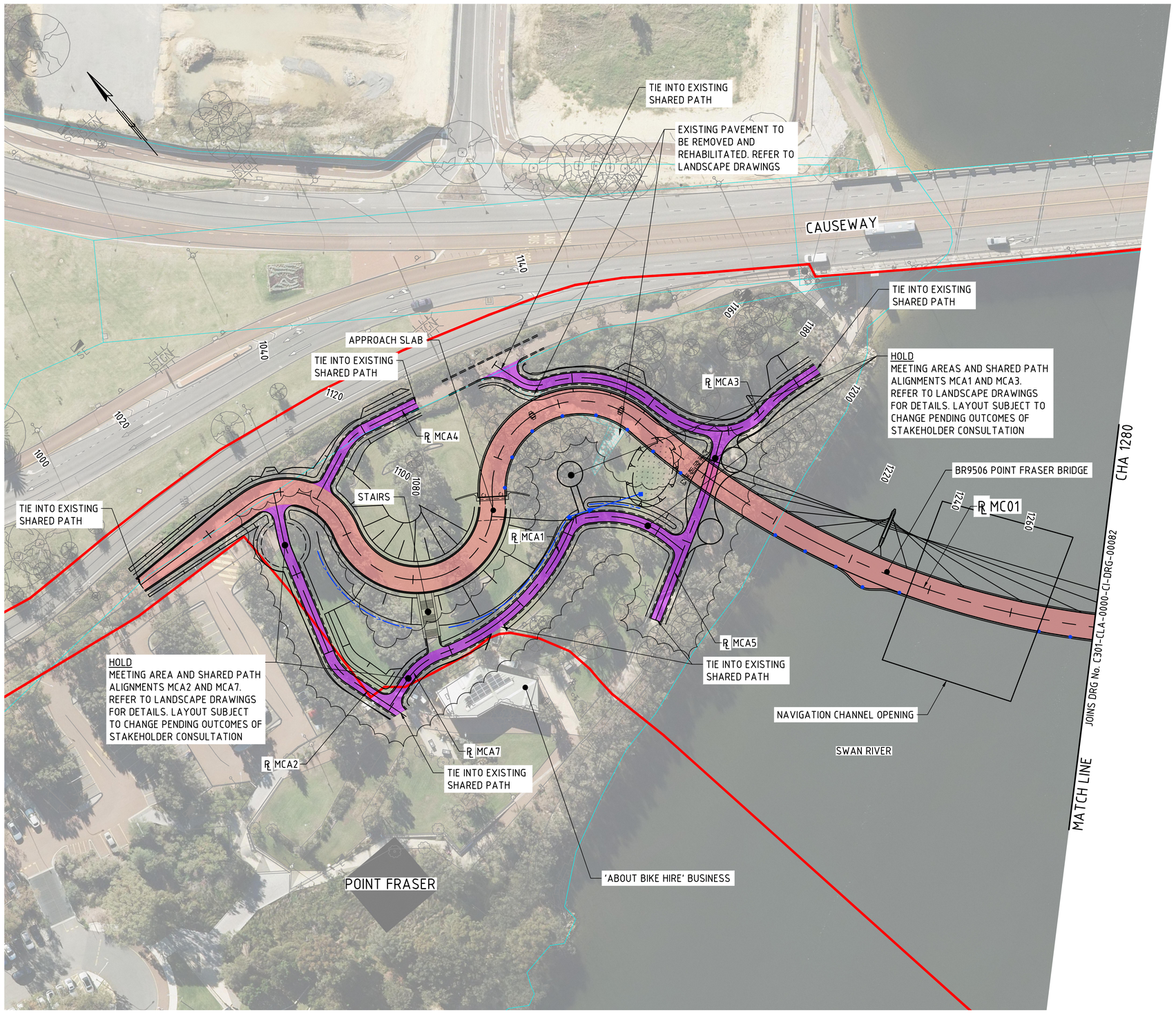
LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES GENERAL ARRANGEMENT KEY PLAN
SHEET: A1
DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-DRG-00080
REV: A

NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- 100 — REFERENCE LINE
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- OPEN DRAINS
- DRAINAGE PIPE AND FLOW DIRECTION
- SCUPPER
- GULLY PIT
- HEADWALL
- ROCK PROTECTION
- DRAINAGE DEPRESSION
- 1.4m BALUSTRADE
- FIXED BOLLARD
- RETRACTABLE BOLLARD
- 6m PEDESTRIAN / CYCLE PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED



PLAN
1:500

1:500

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FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22
	AMENDMENTS	

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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Level 5
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DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

VERIFIER
VERIFIED DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY	CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES GENERAL ARRANGEMENT PLAN CHA 1000 TO CHA 1280
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00081
REV	A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:34 AM Cad File: C:\pw_working\wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00081.dwg

NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- REFERENCE LINE
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- OPEN DRAINS
- DRAINAGE PIPE AND FLOW DIRECTION
- SCUPPER
- GULLY PIT
- HEADWALL
- ROCK PROTECTION
- DRAINAGE DEPRESSION
- 1.4m BALUSTRADE
- FIXED BOLLARD
- RETRACTABLE BOLLARD
- 6m PEDESTRIAN / CYCLE PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED

CAUSEWAY

TIE INTO EXISTING SHARED PATH

INDICATIVE LOCATION OF FUTURE CITY OF PERTH TOILET BLOCK (BY OTHERS)

HOLD
MEETING AREA, DRAINAGE DEPRESSION AND SHARED PATH ALIGNMENT MCB5. REFER TO LANDSCAPE DRAWINGS FOR DETAILS. LAYOUT SUBJECT TO CHANGE PENDING OUTCOMES OF STAKEHOLDER CONSULTATION

TIE INTO EXISTING ACCESS TRACK

HOLD
MEETING AREA, DRAINAGE DEPRESSION AND SHARED PATH ALIGNMENT MCB1. REFER TO LANDSCAPE DRAWINGS FOR DETAILS. LAYOUT SUBJECT TO CHANGE PENDING OUTCOMES OF STAKEHOLDER CONSULTATION

CHA 1280

JOINS DRG No. C301-CLA-0000-CI-DRG-00081

MATCH LINE

R MCB5

R MCBB

R MC01

R MCBA

R MCB1

BR9506 POINT FRASER BRIDGE

1.4m HIGH BALUSTRADE

1.4m HIGH BALUSTRADE

HOLD
MEETING AREA. REFER TO LANDSCAPE DRAWINGS FOR DETAILS. LAYOUT SUBJECT TO CHANGE PENDING OUTCOMES OF STAKEHOLDER CONSULTATION

STAIRS

APPROACH SLAB

R MCB2

R MCB3

STAIRS

APPROACH SLAB

TIE INTO EXISTING ACCESS TRACK

TIE INTO EXISTING ACCESS TRACK

HEIRISSON ISLAND

CHA 1620

JOINS DRG No. C301-CLA-0000-CI-DRG-00083

MATCH LINE

1:500

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PLAN
1:500

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22
	AMENDMENTS	

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

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CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED DATE

Causeway Link Alliance

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA

mainroads WESTERN AUSTRALIA

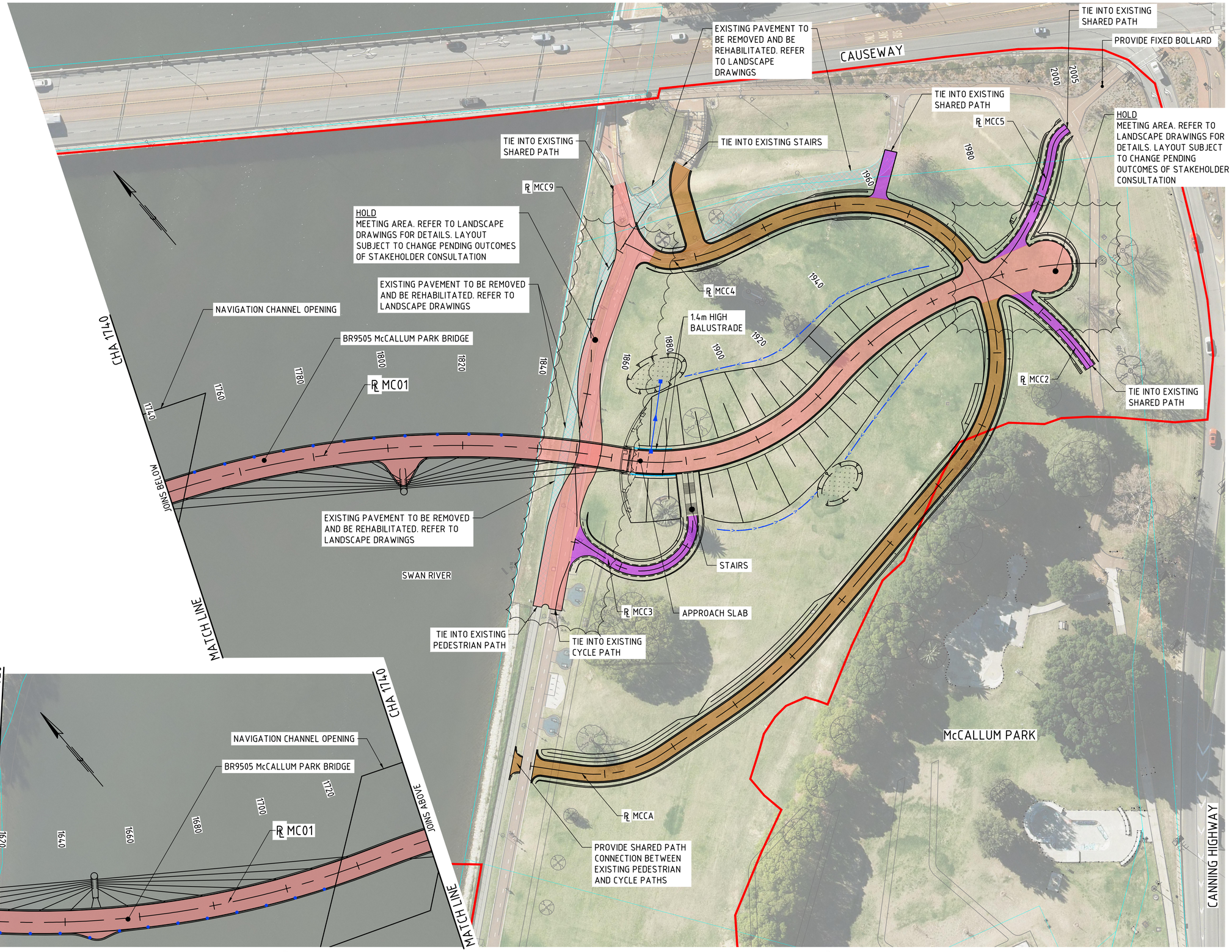
INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY	CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES GENERAL ARRANGEMENT PLAN CHA 1280 TO CHA 1620
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00082
REV	A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:35 AM Cad File: C:\pwworking\wsp-aus-pw\bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00082.dwg



PLAN
1:500

PLAN
1:500

NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- REFERENCE LINE
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- OPEN DRAINS
- DRAINAGE PIPE AND FLOW DIRECTION
- SCUPPER
- GULLY PIT
- HEADWALL
- ROCK PROTECTION
- DRAINAGE DEPRESSION
- 1.4m BALUSTRADE
- FIXED BOLLARD
- RETRACTABLE BOLLARD
- 6m PEDESTRIAN / CYCLE PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED

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1:500

FOR INFORMATION ONLY

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A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22
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METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

VERIFIER

VERIFIED DATE

Causeway Link Alliance

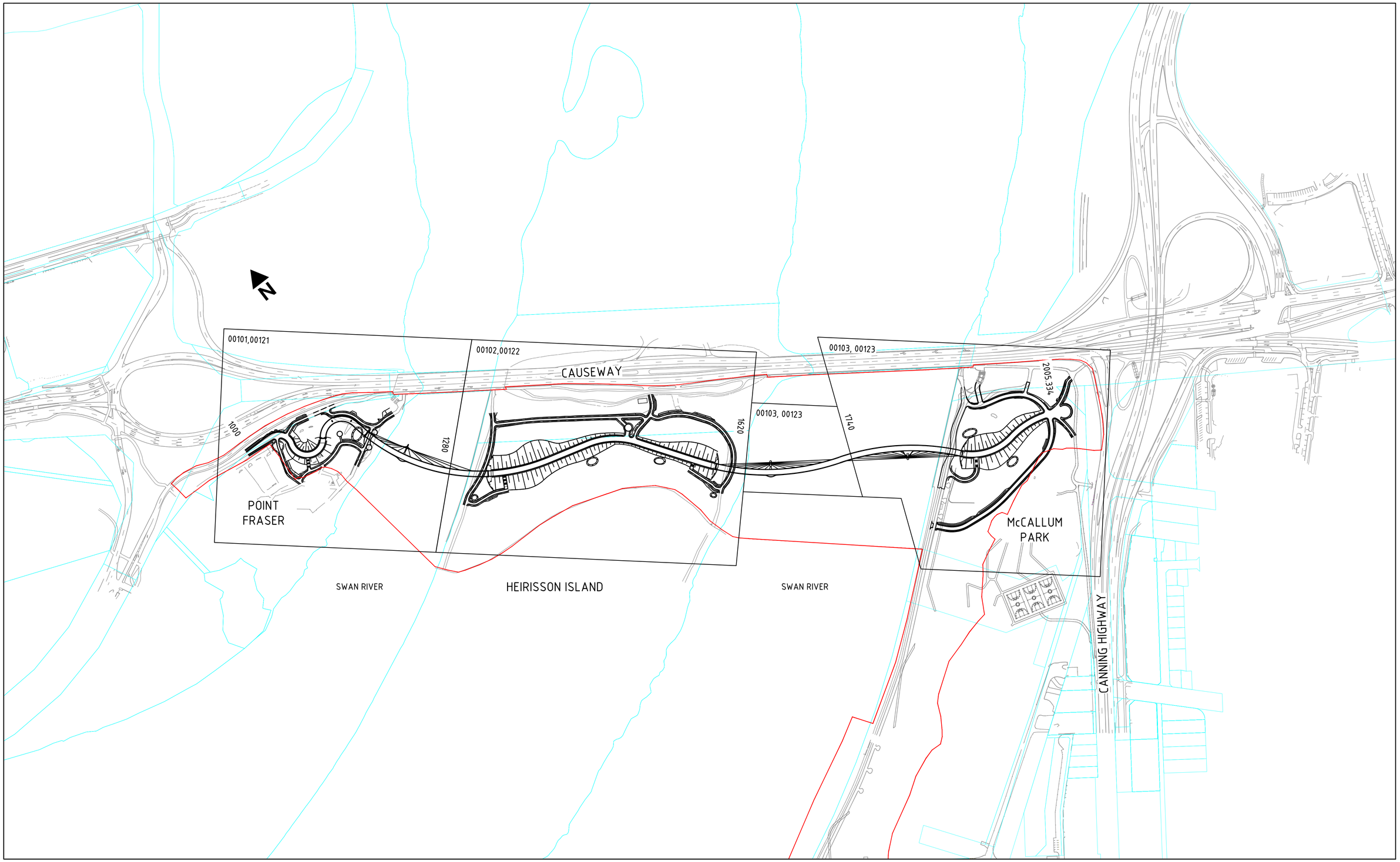
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY	CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES GENERAL ARRANGEMENT PLAN CHA 1620 TO CHA 2005.334
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00083
REV	A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:36 AM Cad File: C:\pwworking\wsp-aus-pw.bentley.com_wsp-aus-pw-19\d0222965\C301-CLA-0000-CI-DRG-00083.dwg



PLAN
1:2000

FOR INFORMATION ONLY

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:36 AM Cad File: C:\pw_working\wsp-aus-pw-bentley.com_wsp-aus-pw-191\d0222996\C301-CLA-0000-CI-DRG-00100.dwg

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DRAWING PATH

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PROJECT DIRECTOR DATE

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mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY (CITY OF PERTH (124), TOWN OF VICTORIA PARK (129))
MAIN ROADS RESPONSIBILITY AREA METROPOLITAN REGION
MRWA DRAWING NUMBER

PROJECT TITLE
CAUSEWAY LINK ALLIANCE

DRAWING TITLE
CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
PLAN AND PROFILE KEY PLAN

SHEET A1

DRAWING STATUS 15%

DRAWING No. C301-CLA-0000-CI-DRG-00100

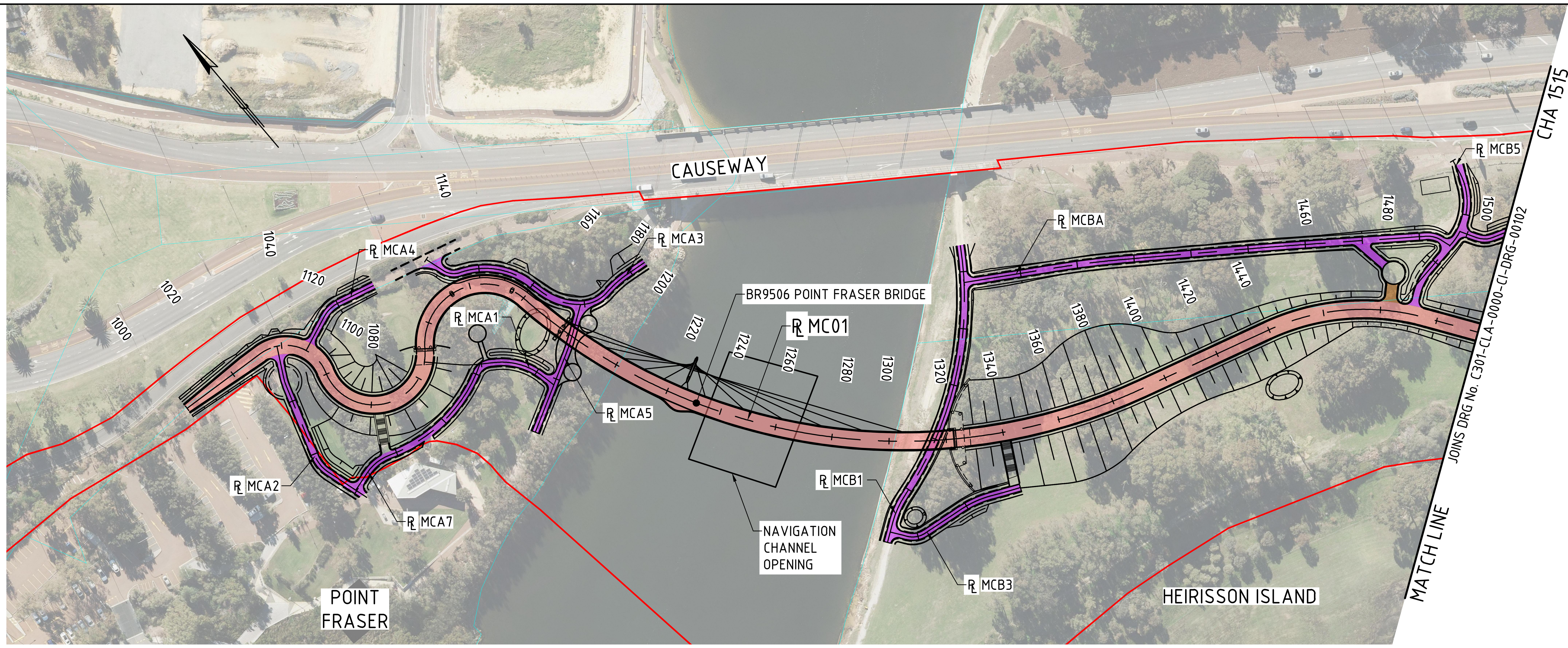
REV A

NOTES

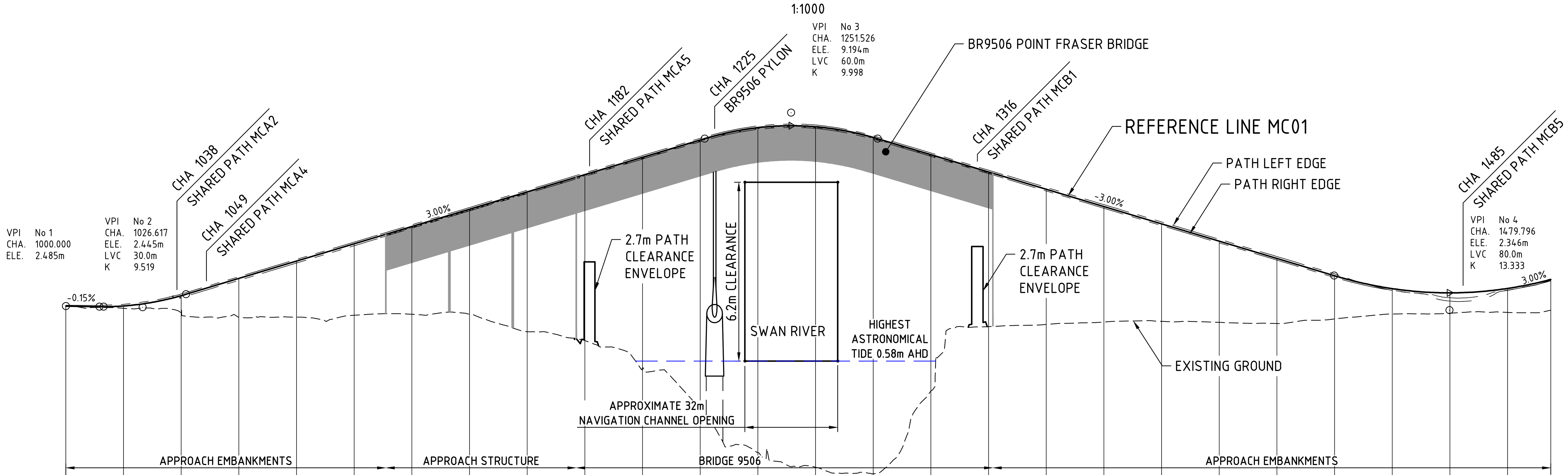
1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- REFERENCE LINE (100)
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- 6m SHARED PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED



PLAN
1:1000



DATUM RL -4

CHAINAGE	1000.000	1020	1040	1060	1080	1100	1120	1140	1160	1180	1200	1220	1240	1260	1280	1300	1320	1340	1360	1380	1400	1420	1440	1460	1480	1500	1515.000
CUT / FILL	0.000	-0.079	-0.544	-1.351	-1.944	-2.478	-3.043	-3.639	-4.849	-5.758	-7.311	-9.317	-11.269	-11.811	-11.667	-8.203	-5.364	-4.688	-4.005	-3.383	-2.817	-2.255	-1.499	-0.880	-0.707	-0.831	-1.066
DESIGN SURFACE LEVELS	2.485	2.492	2.848	3.447	4.047	4.647	5.247	5.848	6.448	7.048	7.648	8.248	8.678	8.708	8.339	7.740	7.140	6.540	5.940	5.340	4.740	4.140	3.540	3.093	2.946	3.099	3.411
EXISTING SURFACE LEVELS	2.485	2.413	2.304	2.096	2.103	2.169	2.204	2.209	1.599	1.290	0.337	-1.068	-2.591	-3.102	-3.329	-0.463	1.776	1.852	1.935	1.957	1.923	1.885	2.041	2.213	2.239	2.268	2.345

VERTICAL ALIGNMENT: G=-0.15% L = 11.617 | K = 9.519 L = 30.000 | G=3.00% L = 179.908 | K = -9.998 L = 60.000 | G=-3.00% L = 158.270 | K = 13.333 L = 80.000

HORIZONTAL ALIGNMENT: L = 31.865 | R = 15.000 L = 27.160 | L = 0.735 | R = 18.000 L = 50.837 | R = 21.000 L = 49.874 | R = 200.000 L = 231.000 | L = 47.926 | R = 80.000 L = 56.123 | L = 70.209

SUPERELEVATION: +2.0% Left | -2.0% Right | -2.0% Left

PROFILE - (MC01)
1:1000H, 1:100V

VERT. 1:100
HORIZ. 1:1000

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FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

wsp
Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

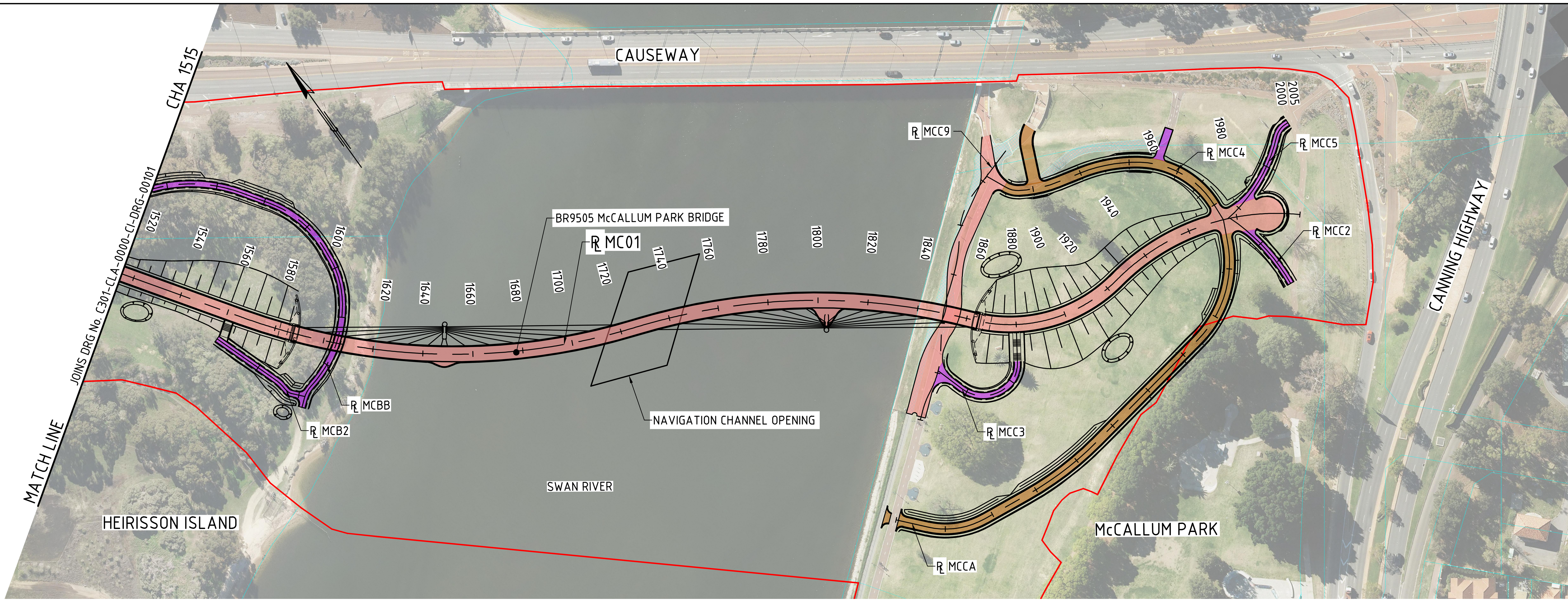
DRAWING PATH

VERIFIER
VERIFIED
DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES PLAN AND PROFILE - PSP MC01 - CHA 1000 TO CHA 1515
SHEET: A1
DRAWING STATUS: 15%
DRAWING No. C301-CLA-0000-CI-DRG-00101
REV: A



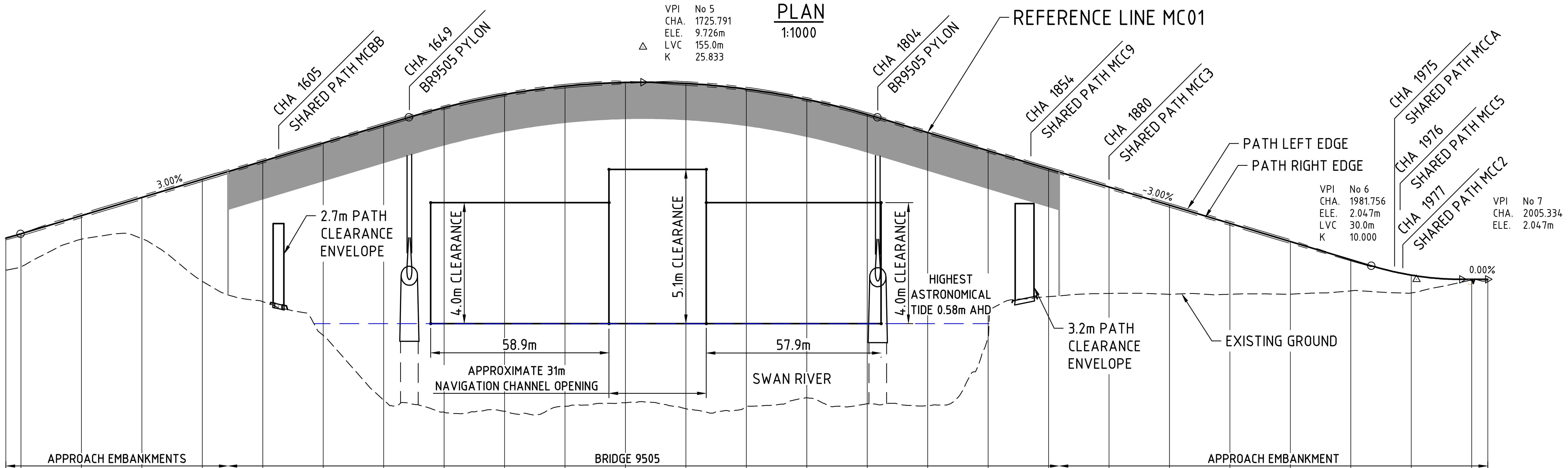
NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- 100 — REFERENCE LINE
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- 6m SHARED PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED

PLAN
1:1000



DATUM RL -5

CHAINAGE	1515.000	1520	1540	1560	1580	1600	1620	1640	1660	1680	1700	1720	1740
CUT / FILL	-1.066	-1.087	-0.778	-1.360	-3.371	-4.643	-6.362	-9.098	-10.075	-10.473	-10.586	-10.589	-10.758
DESIGN SURFACE LEVELS	3.411	3.552	4.152	4.752	5.352	5.952	6.552	7.152	7.726	8.158	8.435	8.557	8.524
EXISTING SURFACE LEVELS	2.345	2.465	3.375	3.392	1.981	1.310	0.190	-1.946	-2.349	-2.315	-2.152	-2.032	-2.234

CHAINAGE	1760	1780	1800	1820	1840	1860	1880	1900	1920	1940	1960	1980	2000	2005.334
CUT / FILL	-10.500	-9.865	-9.564	-9.021	-6.194	-4.223	-3.518	-2.949	-2.346	-1.745	-1.034	-0.588	-0.021	-0.051
DESIGN SURFACE LEVELS	8.337	7.995	7.498	6.900	6.300	5.700	5.100	4.500	3.900	3.300	2.700	2.187	2.047	2.047
EXISTING SURFACE LEVELS	-2.163	-1.870	-2.067	-2.121	0.106	1.476	1.582	1.551	1.554	1.554	1.666	1.600	2.026	1.996

VERTICAL ALIGNMENT: K = 13.333, L = 80.000 | G=3.00%, L = 128.495 | K = -25.833, L = 155.000 | G=-3.00%, L = 163.465 | K = 10.000, L = 30.000 | G=-0.00%, L = 8.578

HORIZONTAL ALIGNMENT: L = 70.209 | R = 250.000, L = 160.315 | R = 250.000, L = 136.385 | R = 60.000, L = 62.466 | R = 90.000, L = 80.441

SUPERELEVATION: +2.0% Left | +2.0% Right | -2.0% Left | -1.0% Left | -1.0% Right

PROFILE - (MC01)
1:1000H, 1:100V

VERT. 1:100
HORIZ. 1:1000

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AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED
DATE

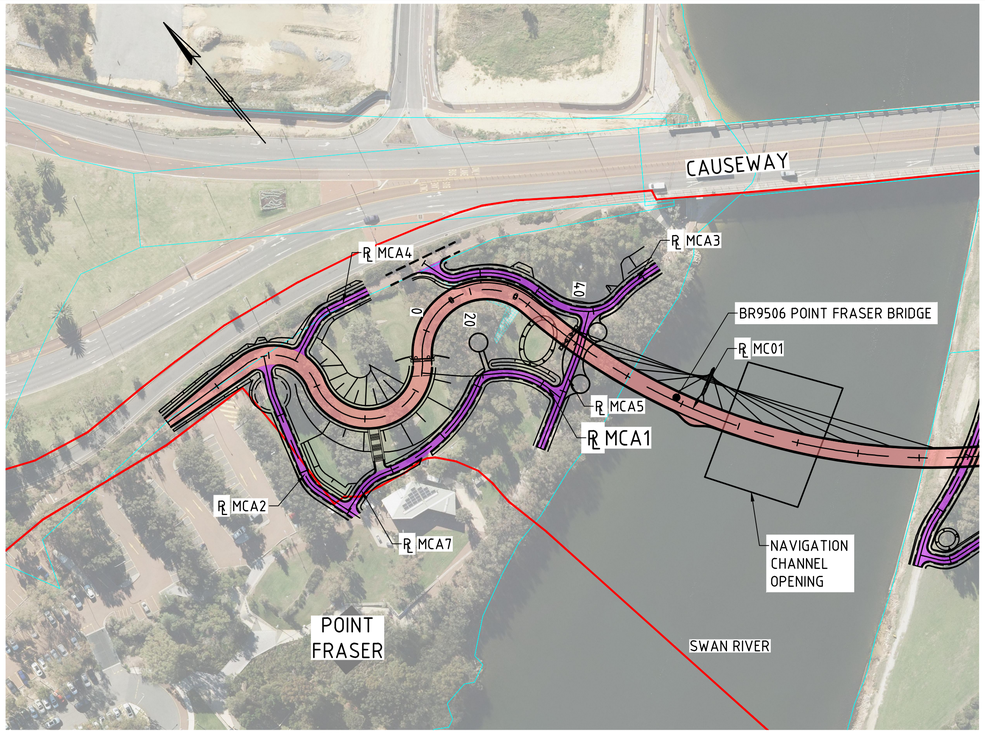
Causeway Link Alliance

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

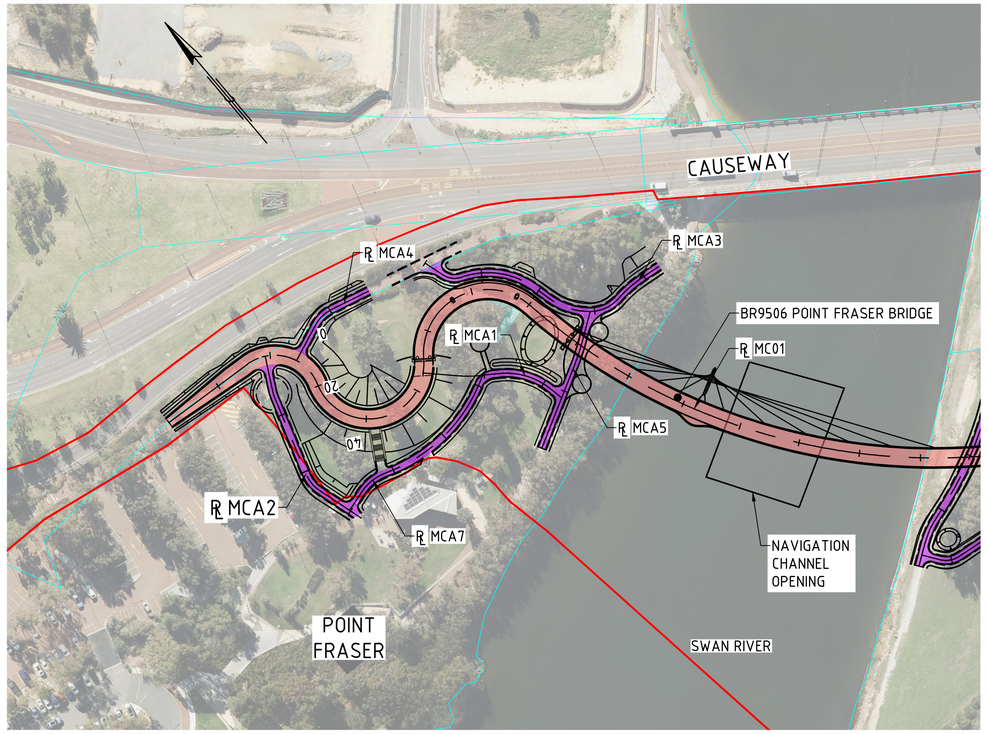
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
PLAN AND PROFILE - PSP
MC01 - CHA 1515 TO CHA 2005.334
SHEET: A1
DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-DRG-00102
REV: A



PLAN
1:1000



PLAN
1:1000

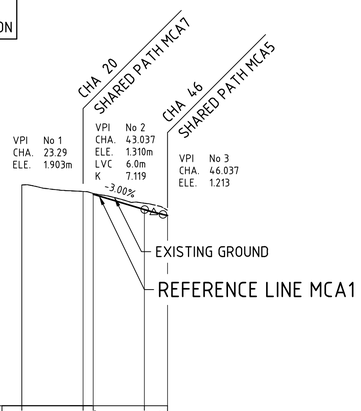
NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

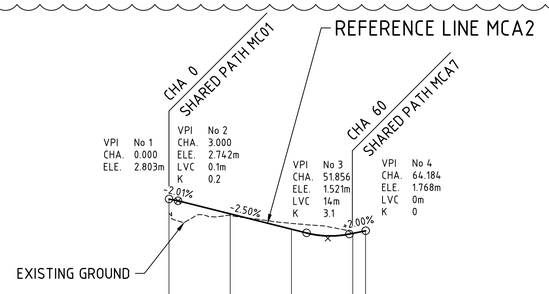
- REFERENCE LINE (100 +)
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- 6m SHARED PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED

HOLD
PROFILES SUBJECT TO CHANGE
PENDING STAKEHOLDER DISCUSSION



DATUM RL -5				
CUT / FILL		0.025	0.210	0.170
DESIGN SURFACE LEVELS		1.903	1.401	1.213
EXISTING SURFACE LEVELS	2.206	1.995 1.928	1.611	1.383
CHAINAGE	0.000	20 23.29	40	46.037
VERTICAL ALIGNMENT		G=-3.00%	K = 7.119 L = 6.000	
HORIZONTAL ALIGNMENT		L = 18.297	R = 22.940 L = 17.668	

PROFILE - (MCA1)
1:1000H, 1:100V



DATUM RL -6					
CUT / FILL	-0.459	-0.052	0.191	0.000 0.000	
DESIGN SURFACE LEVELS	2.803	2.317	1.817	1.688 1.768	
EXISTING SURFACE LEVELS	2.343	2.265	2.009	1.688 1.768	
CHAINAGE		0	20	40	60 64.184
VERTICAL ALIGNMENT	G=-2.01% L = 2.954	K = -0.203 L = 0.100	G=-2.50% L = 41.806	K = 3.111 L = 14.000	
HORIZONTAL ALIGNMENT	L = 10.974	R = 16.000 L = 3.249	L = 26.562	R = 12.000 L = 7.169	L = 16.230

PROFILE - (MCA2)
1:1000H, 1:100V

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FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG91
HEIGHT DATUM:	AHD71

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Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

VERIFIER
VERIFIED DATE

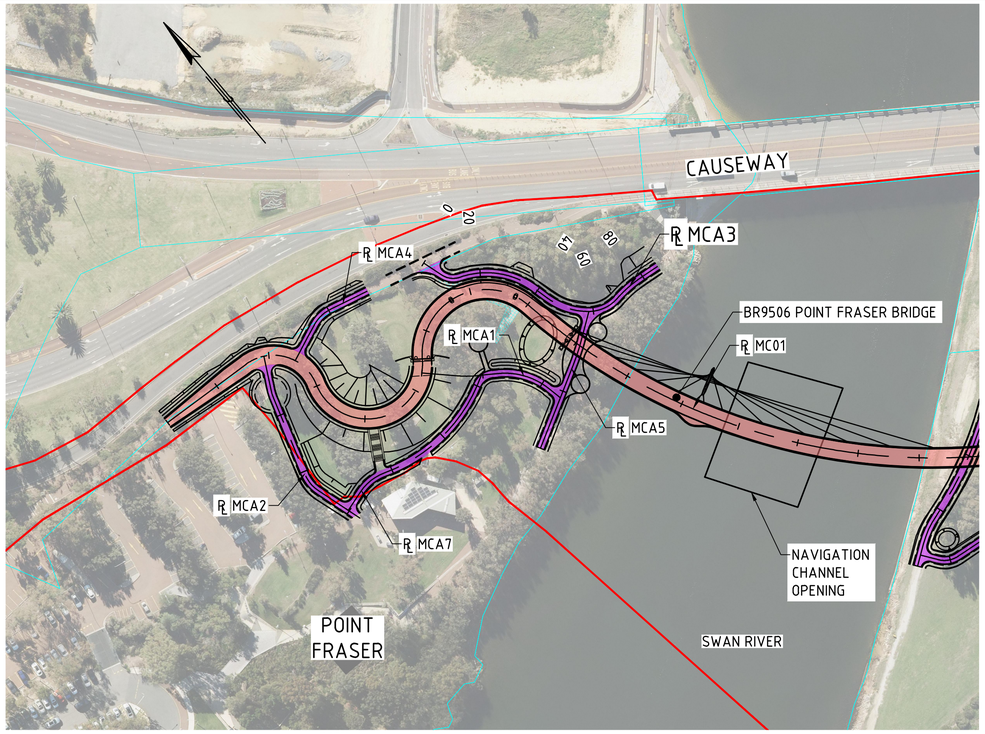
Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

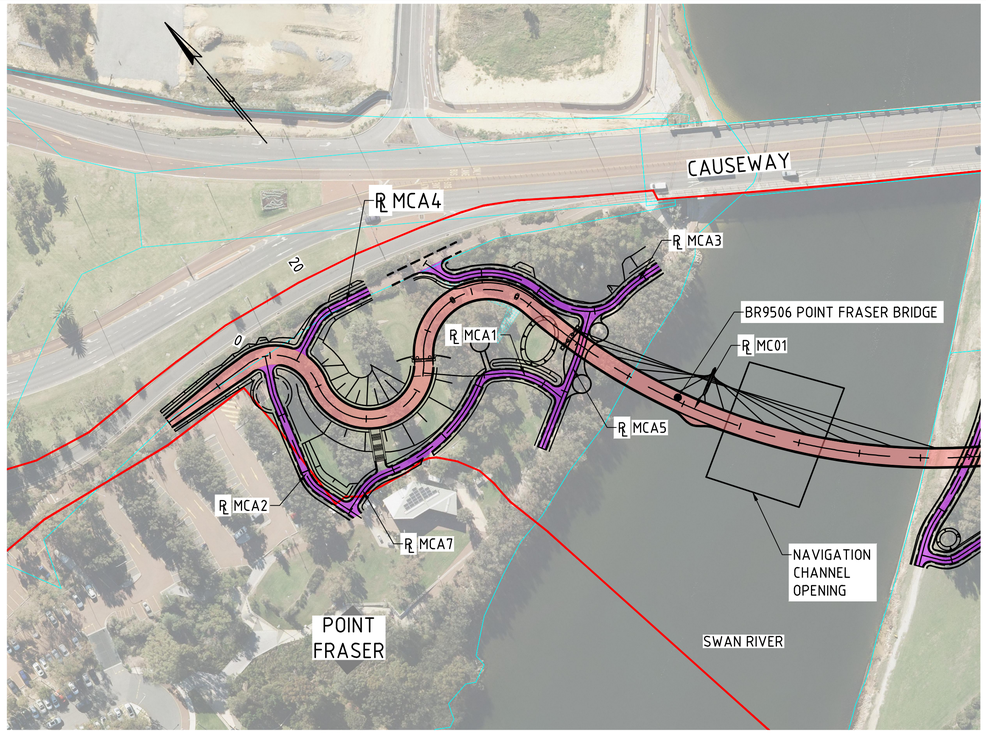
LOCAL AUTHORITY	CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES PLAN AND PROFILE - POINT FRASER MCA1 (CHA 0 TO CHA 60) MCA2 (CHA 0 TO CHA 75)
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00111
REV	A

VERT. 1:100
HORIZ. 1:1000

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:38 AM Cad File: C:\pwworking\wsp-aus-pw\bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00111.dwg



PLAN
1:1000



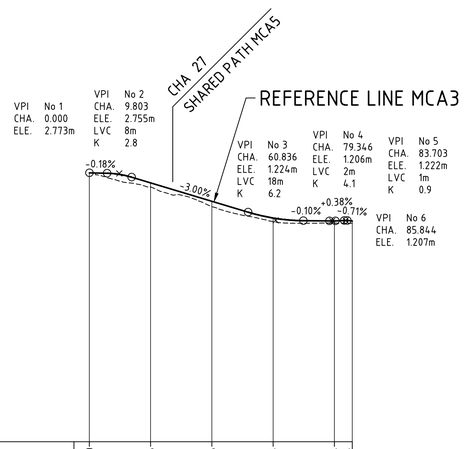
PLAN
1:1000

NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

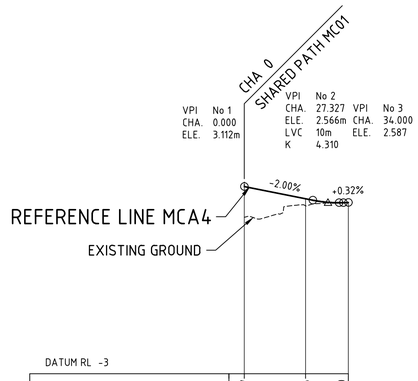
- REFERENCE LINE (100 +)
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- 6m SHARED PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED



DATUM RL -6

CUT / FILL	0.000	-0.136	-0.176	-0.114	-0.074	-0.074
DESIGN SURFACE LEVELS	2.773	2.449	1.849	1.303	1.208	1.207
EXISTING SURFACE LEVELS	2.773	2.313	1.674	1.189	1.135	1.133
CHAINAGE	0	20	40	60	80	83.555
VERTICAL ALIGNMENT	G=-0.18% L = 5.803 K = -2.838 L = 18.000	G=-3.00% L = 38.033	K = 6.211 L = 18.000	G=-0.10% L = 8.509 K = 5.118 L = 2.000	K = -0.918 L = 2.857	
HORIZONTAL ALIGNMENT	R = 6.653 L = 6.084 L = 7.142	R = 26.351 L = 25.670	R = 22.587 L = 14.566 L = 5.106	R = 12.385 L = 10.251 L = 0.743		

PROFILE - (MCA3)
1:1000H, 1:100V



DATUM RL -3

CUT / FILL	-1.007	-0.226	-0.000
DESIGN SURFACE LEVELS	3.112	2.712	2.587
EXISTING SURFACE LEVELS	2.106	2.486	2.587
CHAINAGE	0	20	34.000
VERTICAL ALIGNMENT	G=-2.00% L = 22.327	K = 4.310 L = 10.000	
HORIZONTAL ALIGNMENT	R = 12.000 L = 13.247	L = 7.406	

PROFILE - (MCA4)
1:1000H, 1:100V

VERT. 1:100
HORIZ. 1:1000

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A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

wsp
Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED DATE

Causeway Link Alliance

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER

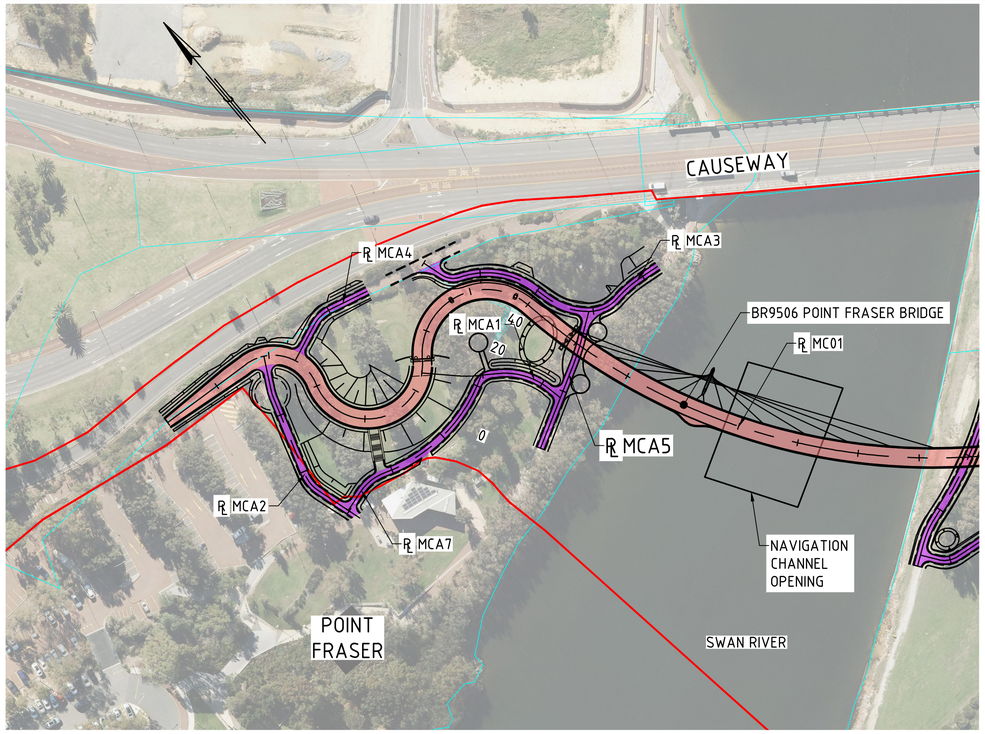
PROJECT TITLE: CAUSEWAY LINK ALLIANCE

DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
PLAN AND PROFILE - POINT FRASER
MCA3 (CHA 0 TO CHA 95)
MCA4 (CHA 0 TO CHA 45)

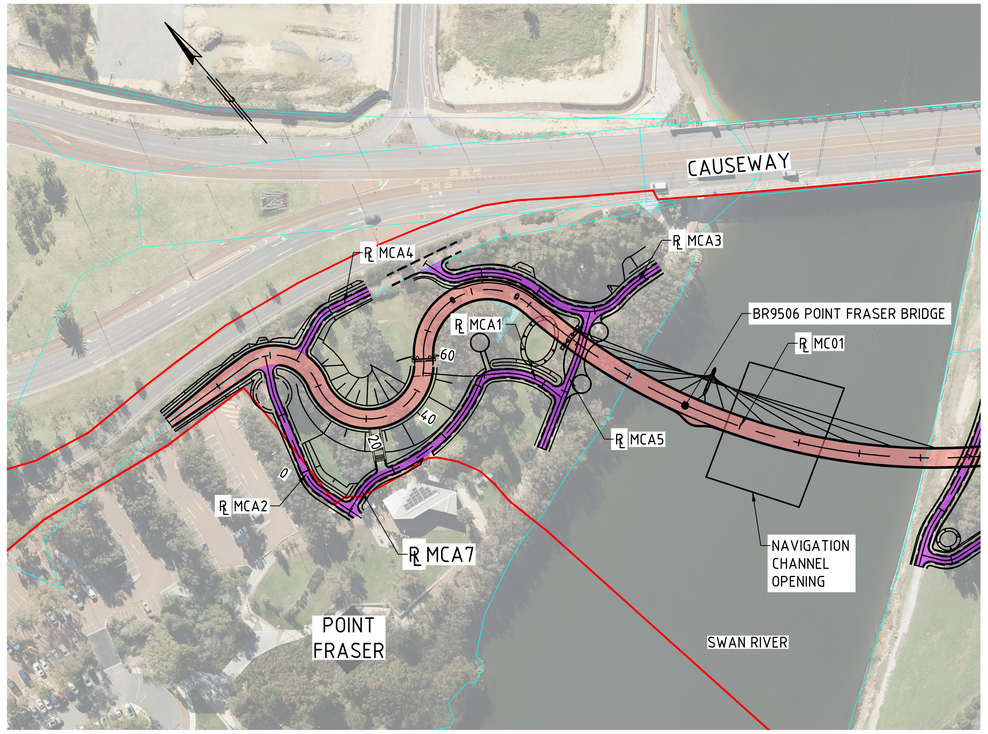
SHEET A1

DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-DRG-00112
REV A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:39 AM Cad File: C:\pwworking\wsp-aus-pw\bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00112.dwg



PLAN
1:1000



PLAN
1:1000

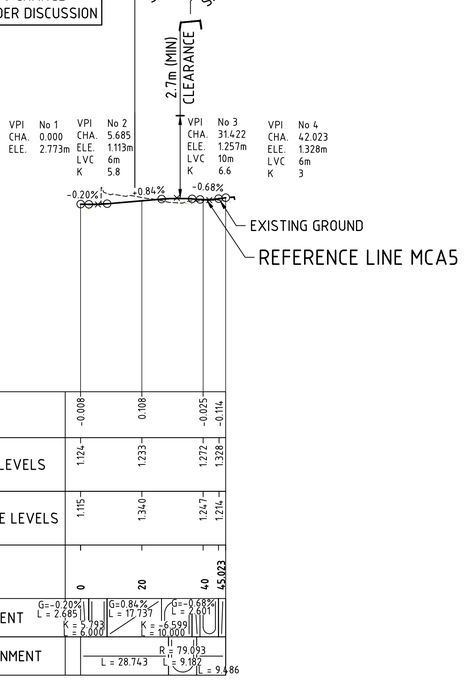
NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- REFERENCE LINE (100 +)
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- 6m SHARED PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED

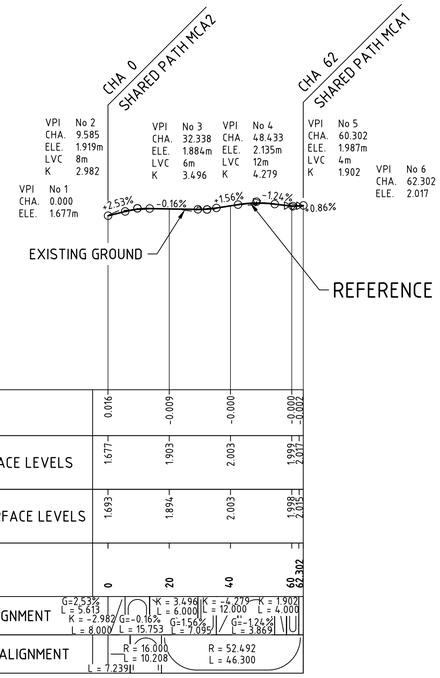
HOLD
PROFILES SUBJECT TO CHANGE
PENDING STAKEHOLDER DISCUSSION



DATUM RL -5

CUT / FILL	-0.008	0.108	-0.025	-0.114
DESIGN SURFACE LEVELS	1.124	1.233	1.272	1.328
EXISTING SURFACE LEVELS	1.115	1.340	1.247	1.214
CHAINAGE	0	20	40	45.023
VERTICAL ALIGNMENT	G=-0.20% L = 2.685 K = 2.793 L = 6.000	G=0.84% L = 17.737 K = -6.599 L = 10.000	G=-0.68% L = 2.601	
HORIZONTAL ALIGNMENT		R = 79.093 L = 28.743	L = 9.182	L = 9.486

PROFILE - (MCA5)
1:1000H, 1:100V



DATUM RL -4

CUT / FILL	0.016	-0.009	-0.000	-0.000	-0.002
DESIGN SURFACE LEVELS	1.677	1.903	2.003	1.999	2.017
EXISTING SURFACE LEVELS	1.693	1.894	2.003	1.998	2.019
CHAINAGE	0	20	40	60	62.302
VERTICAL ALIGNMENT	G=2.53% L = 5.613 K = -2.982 L = 8.000	G=-0.16% L = 15.753	K = 3.496 L = 6.000 G=1.56% L = 7.095	K = 4.279 L = 12.000	K = 1.902 L = 4.000 G=-1.24% L = 3.869
HORIZONTAL ALIGNMENT	L = 7.239	R = 16.000 L = 10.208	R = 52.492 L = 46.300		

PROFILE - (MCA7)
1:1000H, 1:100V

VERT. 1:100
HORIZ. 1:1000

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AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

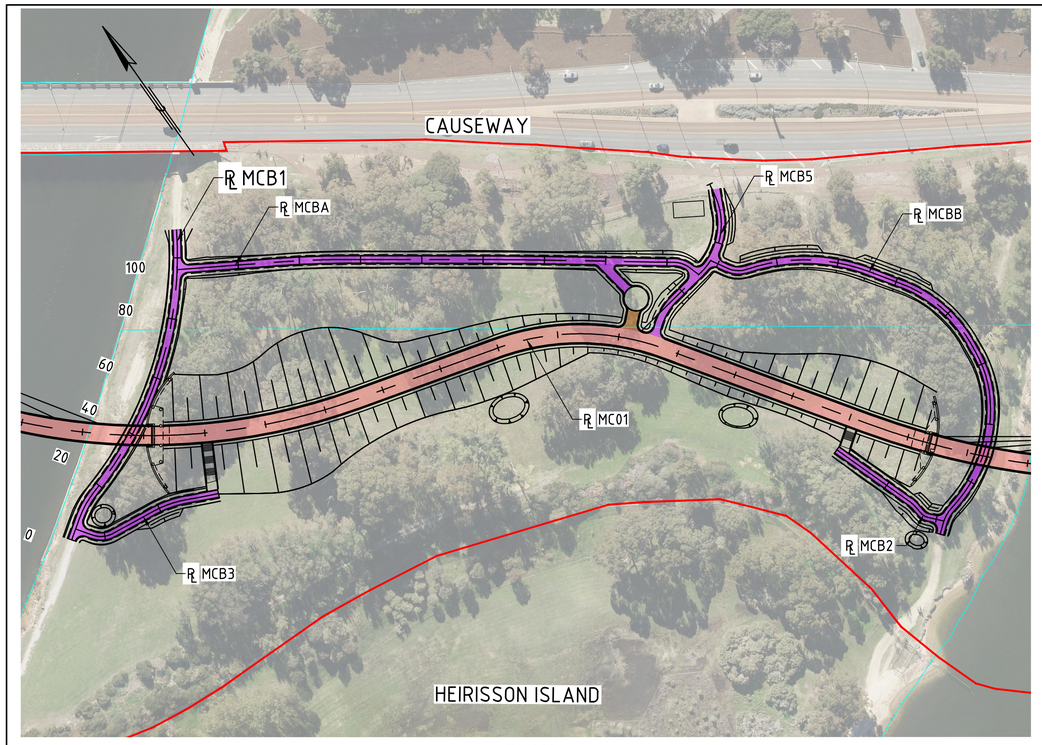
VERIFIER
VERIFIED DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER:
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES PLAN AND PROFILE - POINT FRASER MCA5 (CHA 0 TO CHA 55) MCA7 (CHA 0 TO CHA 65)
SHEET: A1
DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-DRG-00113
REV: A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:39 AM Cad File: C:\pwworking\wsp-aus-pw.bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00113.dwg



PLAN
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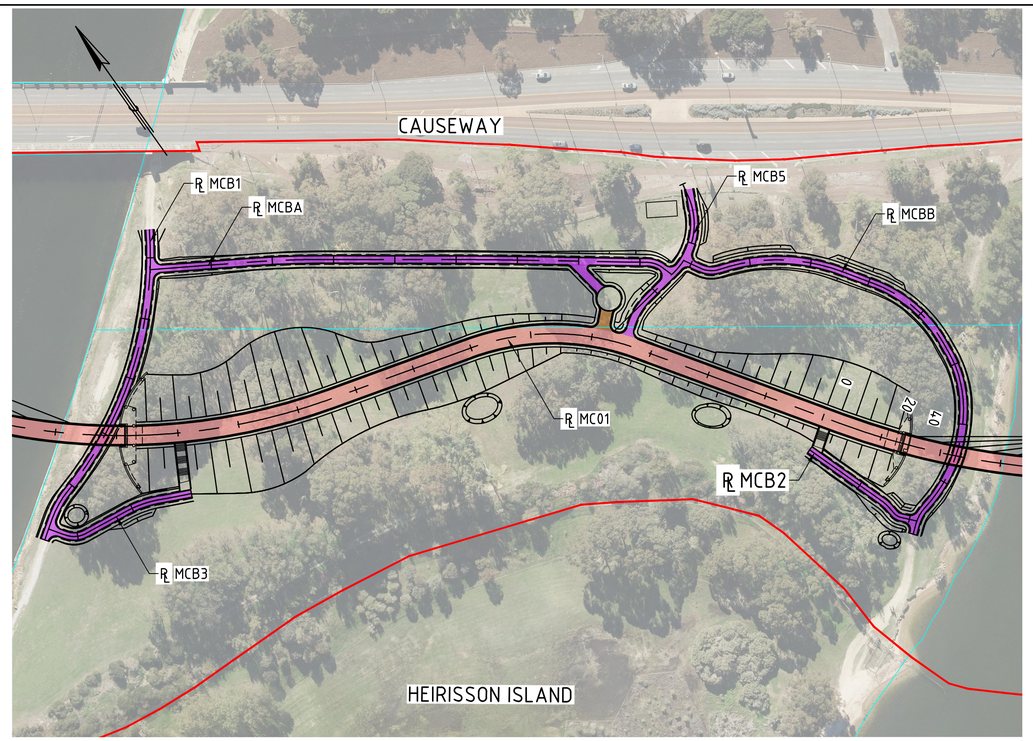


PLAN
1:1000

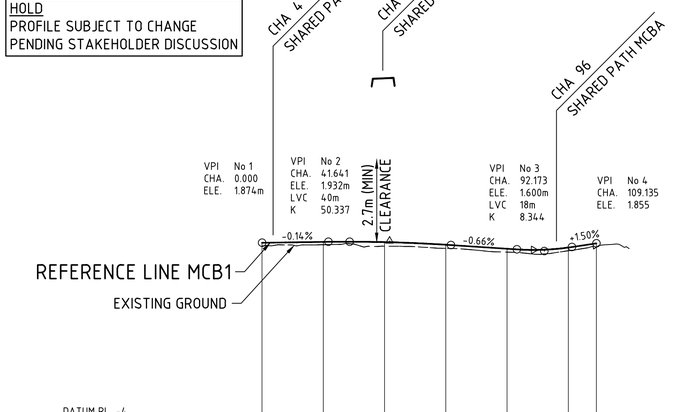
NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

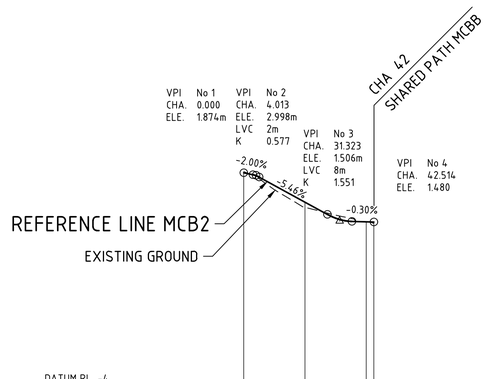
- REFERENCE LINE (100 +)
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- 6m SHARED PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED

HOLD
PROFILE SUBJECT TO CHANGE
PENDING STAKEHOLDER DISCUSSION



DATUM RL -4							
CUT / FILL	-0.106	-0.090	-0.133	-0.120	-0.109	-0.106	-0.125
DESIGN SURFACE LEVELS	1.874	1.902	1.896	1.811	1.680	1.719	1.855
EXISTING SURFACE LEVELS	1.768	1.812	1.763	1.690	1.571	1.612	1.730
CHAINAGE	0	20	40	60	80	100	109.135
VERTICAL ALIGNMENT	G=0.14% L = 21.641	K = -50.377 L = 40.000		G=-0.66% L = 21.532	K = 8.344 L = 18.000		
HORIZONTAL ALIGNMENT	R = 30.000 L = 7.482	R = 9.977	R = 123.161 L = 91.676				

PROFILE - (MCB1)
1:1000H, 1:100V



DATUM RL -4				
CUT / FILL	0.041	-0.172	-0.001	-0.001
DESIGN SURFACE LEVELS	3.078	2.125	1.480	1.480
EXISTING SURFACE LEVELS	3.120	1.952	1.479	1.479
CHAINAGE	0	20	40	42.514
VERTICAL ALIGNMENT	G=-2.00% L = 3.013	K = -0.577 L = 2.000	G=-5.46% L = 22.310	K = 1.551 L = 8.000
HORIZONTAL ALIGNMENT	R = 14.000 L = 28.874	L = 3.245	L = 2.505	L = 2.493

PROFILE - (MCB2)
1:1000H, 1:100V

VERT. 1:100
HORIZ. 1:1000

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FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700
Facsimile +61 8 9489 9777
Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

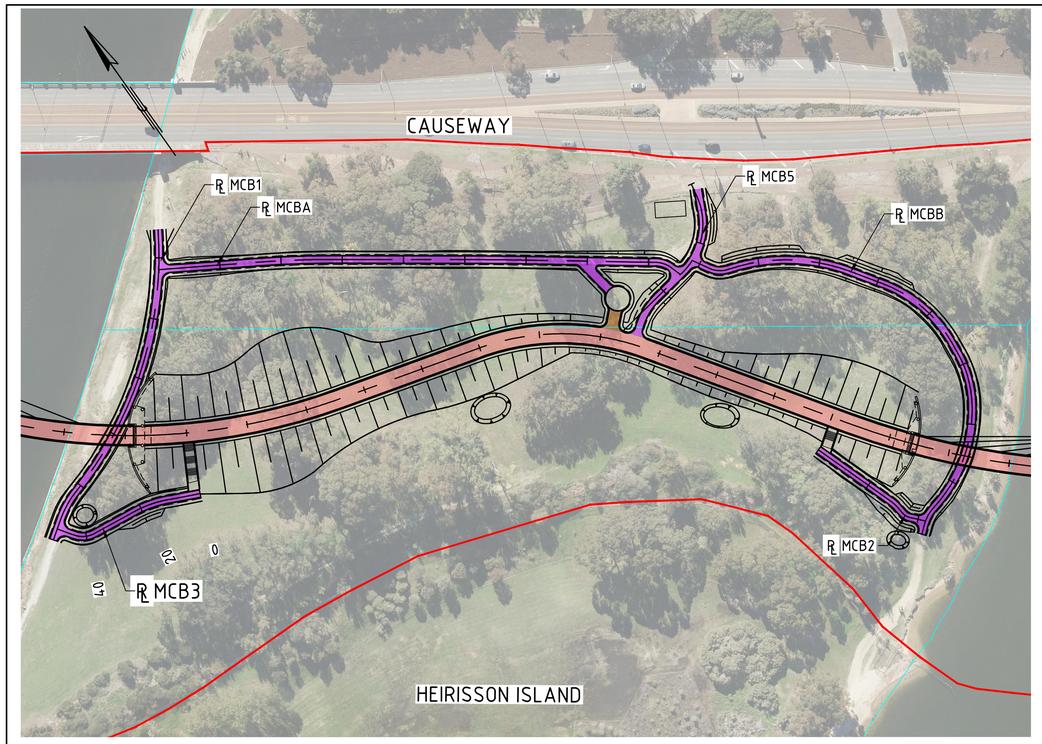
VERIFIER
VERIFIED DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER:
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES PLAN AND PROFILE - HEIRISSON ISLAND MCB1 (CHA 0 TO CHA 115) MCB2 (CHA 0 TO CHA 45)
SHEET: A1
DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-DRG-00121
REV: A

Plotted By: Bocseki, Mya Plot Date: 07/09/2022 10:40 AM Cad File: C:\pwworking\wsp-aus-pw-bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00121.dwg



PLAN
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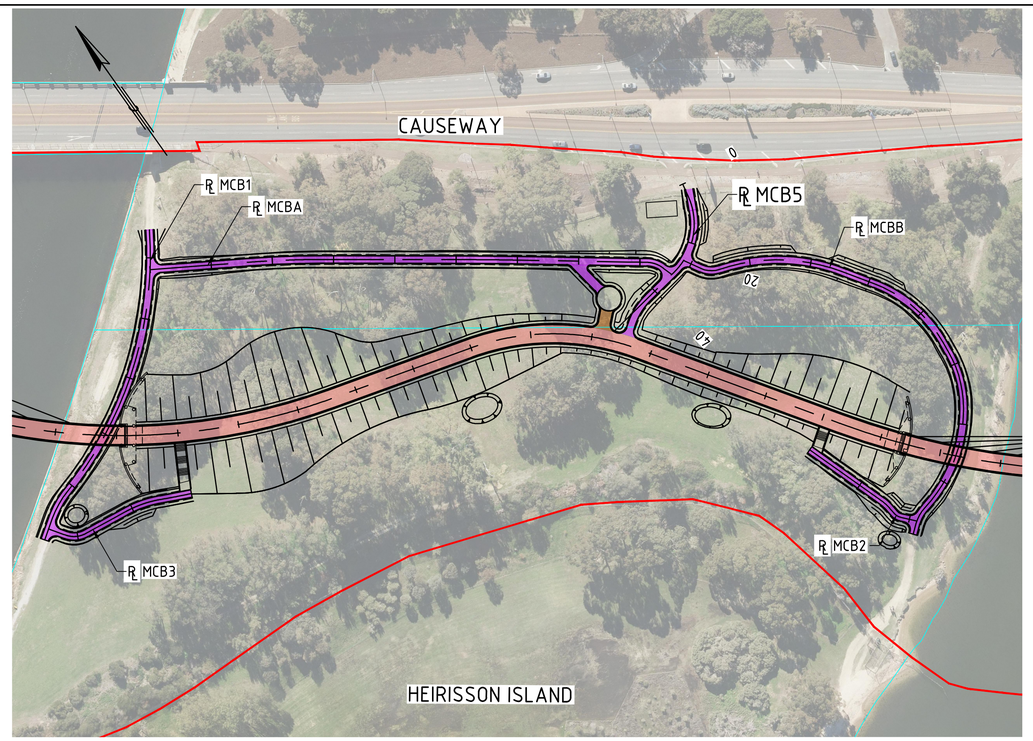


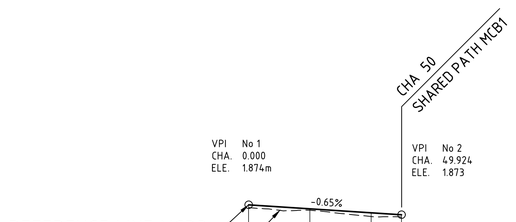
PLAN
1:1000

NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

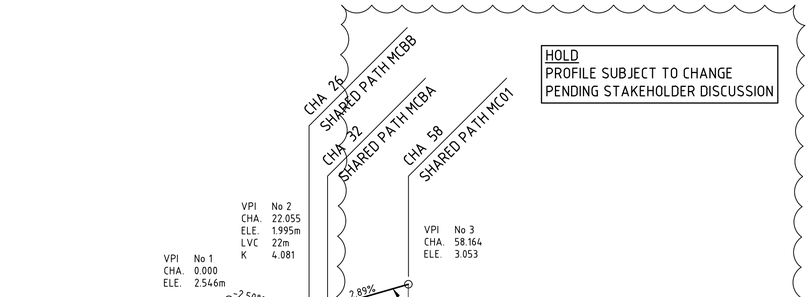
- REFERENCE LINE (100 +)
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- 6m SHARED PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED



DATUM RL -4

CUT / FILL	-0.091	-0.049	-0.122	-0.090
DESIGN SURFACE LEVELS	2.200	2.069	1.938	1.873
EXISTING SURFACE LEVELS	2.109	2.020	1.816	1.783
CHAINAGE	0	20	40	49.924
VERTICAL ALIGNMENT	G=-0.65% L = 49.925			
HORIZONTAL ALIGNMENT	R = 213.502 L = 10.216	R = 36.000 L = 12.046	L = 14.965	R = 8.000 L = 6.702

PROFILE - (MCB3)
1:1000H, 1:100V



DATUM RL -3

CUT / FILL	-0.038	-0.064	-0.386	-0.816
DESIGN SURFACE LEVELS	2.546	2.144	2.514	3.053
EXISTING SURFACE LEVELS	2.508	2.081	2.128	2.237
CHAINAGE	0	20	40	58.614
VERTICAL ALIGNMENT	G=-2.50% L = 11.055	K = 4.081 L = 22.000	G=2.89% L = 25.573	
HORIZONTAL ALIGNMENT		R = 22.036 L = 4.237 L = 27.003		L = 27.374

PROFILE - (MCB5)
1:1000H, 1:100V

HOLD
PROFILE SUBJECT TO CHANGE
PENDING STAKEHOLDER DISCUSSION

VERT. 1:100
HORIZ. 1:1000

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FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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503 Murray Street
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Facsimile +61 8 9489 9777
Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED DATE

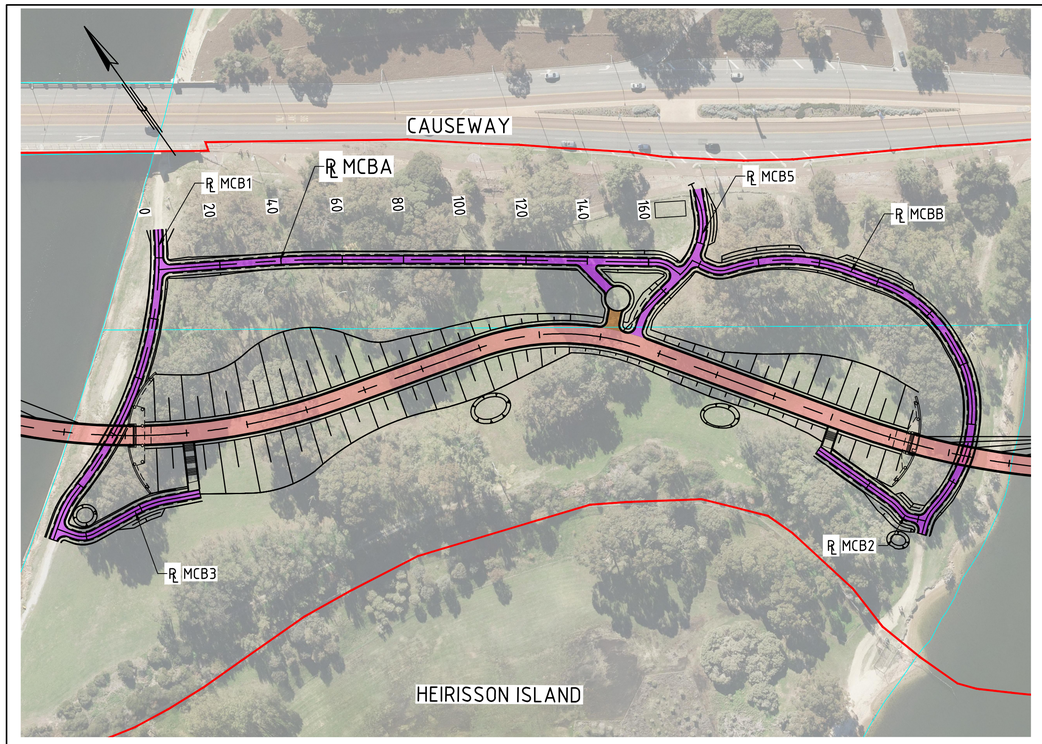
Causeway Link Alliance

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY	CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES PLAN AND PROFILE - HEIRISSON ISLAND MCB3 (CHA 0 TO CHA 55) MCB5 (CHA 0 TO CHA 65)
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00122
REV	A



PLAN
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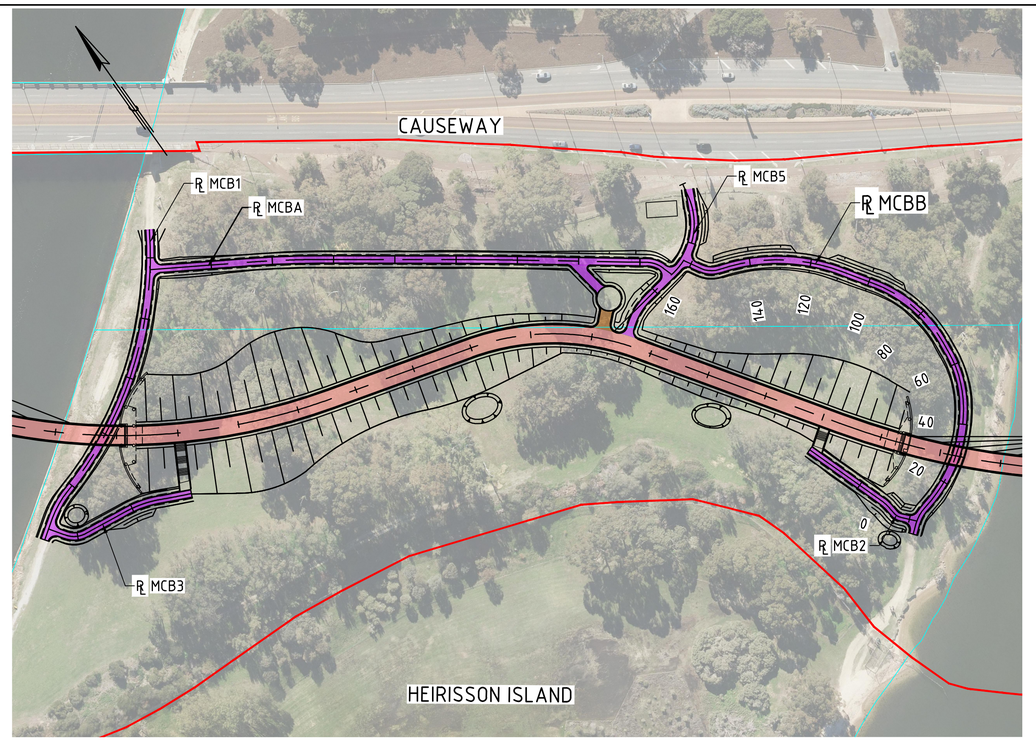

PLAN
1:1000

NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- REFERENCE LINE (100 +)
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- 6m SHARED PATH
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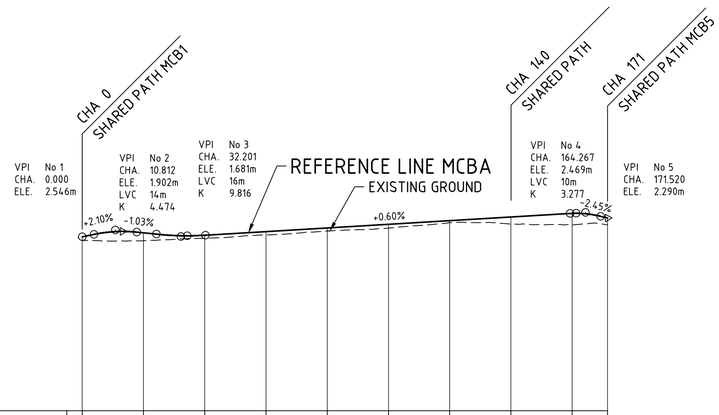
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED

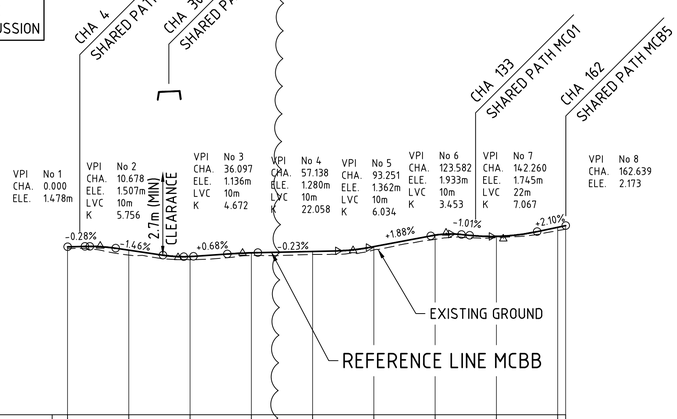


DATUM RL -4

CUT / FILL	-0.120	-0.257	-0.094	-0.107	-0.102	-0.122	-0.064	-0.229	-0.378	-0.223
DESIGN SURFACE LEVELS	1.675	1.807	1.727	1.847	1.966	2.085	2.205	2.324	2.443	2.290
EXISTING SURFACE LEVELS	1.556	1.550	1.634	1.740	1.864	1.963	2.140	2.095	2.065	2.067
CHAINAGE	0		40	60	80	100	120	140	160	171.520
VERTICAL ALIGNMENT	G=2.10% L = 3.812	G=-1.03% L = 6.389 K = -4.474 L = 14.000 K = 9.816 L = 16.000	G=0.60% L = 119.066						K = -3.277 L = 10.000	
HORIZONTAL ALIGNMENT	L = 32.298	R = 320.000 L = 24.247	L = 46.244	R = 1000.000 L = 15.952	L = 43.509	R = 9.000 L = 5.652				

PROFILE - (MCBA)
1:1000H, 1:100V

HOLD
PROFILE SUBJECT TO CHANGE
PENDING STAKEHOLDER DISCUSSION



DATUM RL -4

CUT / FILL	-0.055	-0.161	-0.105	-0.084	-0.099	-0.112	-0.136	-0.042	-0.108	-0.115
DESIGN SURFACE LEVELS	1.478	1.371	1.164	1.285	1.332	1.489	1.863	1.822	2.118	2.173
EXISTING SURFACE LEVELS	1.422	1.210	1.059	1.201	1.232	1.377	1.727	1.780	2.010	2.058
CHAINAGE	0	20	40	60	80	100	120	140	160	162.639
VERTICAL ALIGNMENT	G=0.28% L = 5.678	G=-1.46% L = 15.419 K = -5.756 L = 10.000	G=0.68% L = 11.041 K = 4.672 L = 10.000	K = -22.058 L = 10.000	G=0.23% L = 26.113 K = 6.034 L = 10.000	G=1.88% L = 20.331 K = -3.453 L = 10.000	G=-1.01% L = 2.678 K = 7.067 L = 22.000			
HORIZONTAL ALIGNMENT	L = 3.707	R = 12.000 L = 5.787	R = 46.884 L = 38.608	R = 36.000 L = 16.140 L = 3.864	R = 43.434 L = 29.922	L = 11.290	R = 59.558 L = 40.982	R = 8.000 L = 6.051		

PROFILE - (MCBB)
1:1000H, 1:100V

VERT. 1:100
HORIZ. 1:1000

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No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22
	AMENDMENTS	

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

wsp
Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

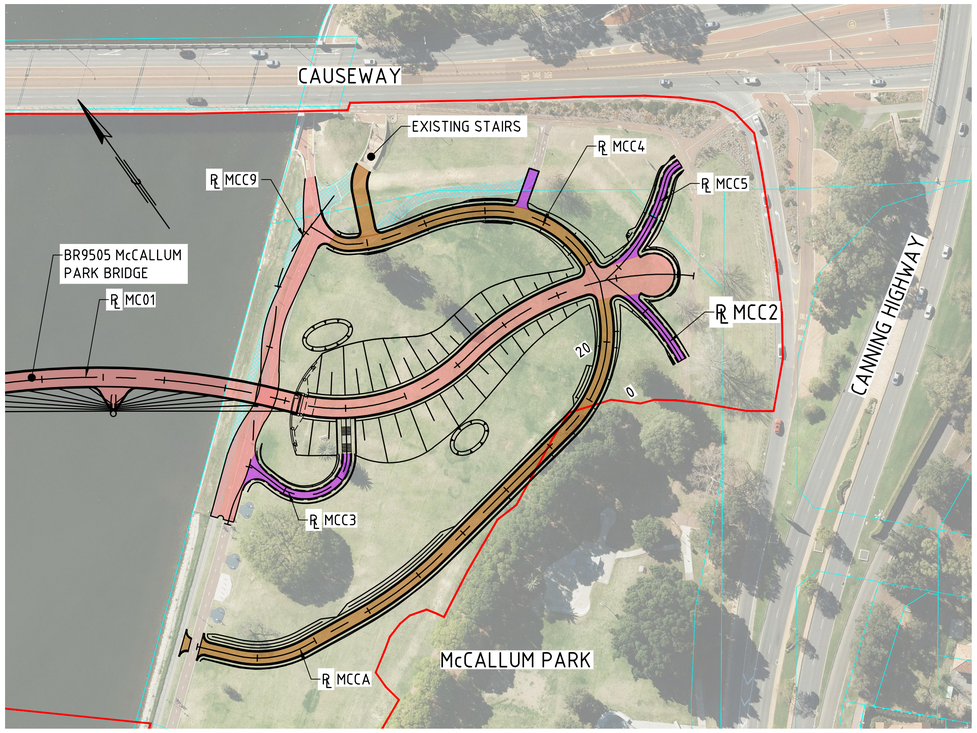
VERIFIER
VERIFIED DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

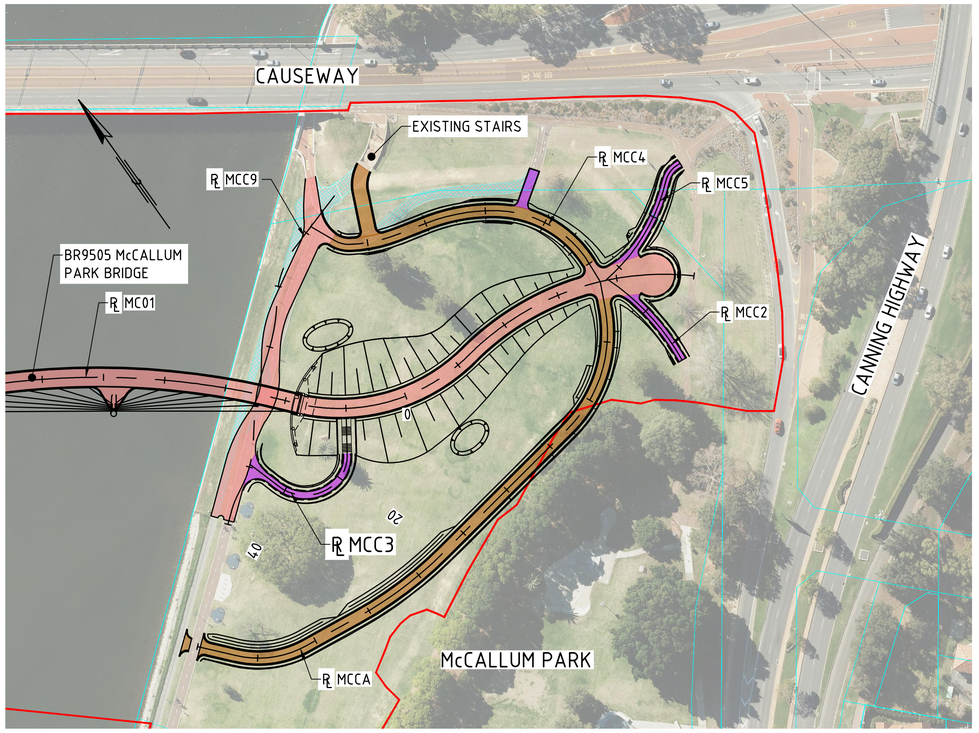
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY	CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES PLAN AND PROFILE - HEIRISSON ISLAND MCBA (CHA 0 TO CHA 185) MCBB (CHA 0 TO CHA 175)
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00123
REV	A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:41 AM Cad File: C:\pw_working\wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00123.dwg



PLAN
1:1000



PLAN
1:1000

NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- REFERENCE LINE (100 +)
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- 6m SHARED PATH
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- 3m SHARED PATH
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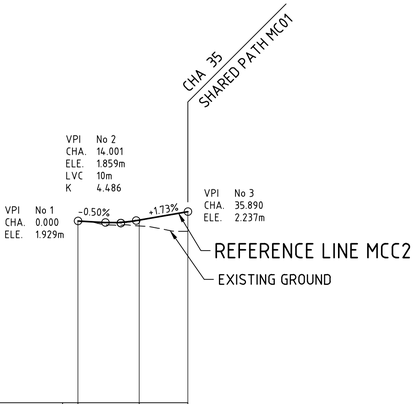
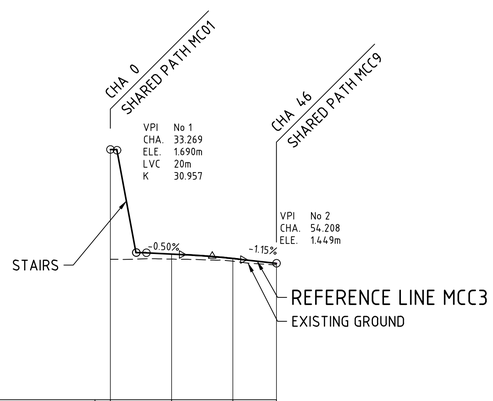
- EXISTING PAVEMENT TO BE REMOVED



DATUM RL -4

CUT / FILL	0.000	-0.190	-0.643
DESIGN SURFACE LEVELS	1.929	1.963	2.237
EXISTING SURFACE LEVELS	1.929	1.773	1.594
CHAINAGE	0	20	35.890
VERTICAL ALIGNMENT	G=-0.50% L = 9.001	K = 4.486 L = 10.000	G=1.73% L = 16.888
HORIZONTAL ALIGNMENT		R = 77.795 L = 35.890	

PROFILE - (MCC2)
1:1000H, 1:100V



DATUM RL -3

CUT / FILL	-3.584	-0.167	-0.090	-0.041
DESIGN SURFACE LEVELS	5.167	1.756	1.611	1.449
EXISTING SURFACE LEVELS	1.583	1.589	1.521	1.408
CHAINAGE	0	20	40	54.208
VERTICAL ALIGNMENT	G=-53.57% L = 6.185 K = 0.002 L = 0.100	G=0.00% L = 2.315 K = -2.000 L = 1.000	K = -30.957 L = 20.000 G=-0.50% L = 11.520	
HORIZONTAL ALIGNMENT		R = 12.000 L = 9.742	R = 14.355 L = 20.671	

PROFILE - (MCC3)
1:1000H, 1:100V

VERT. 1:100
HORIZ. 1:1000

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No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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DESIGNED	S.PATTENDEN	09.09.22
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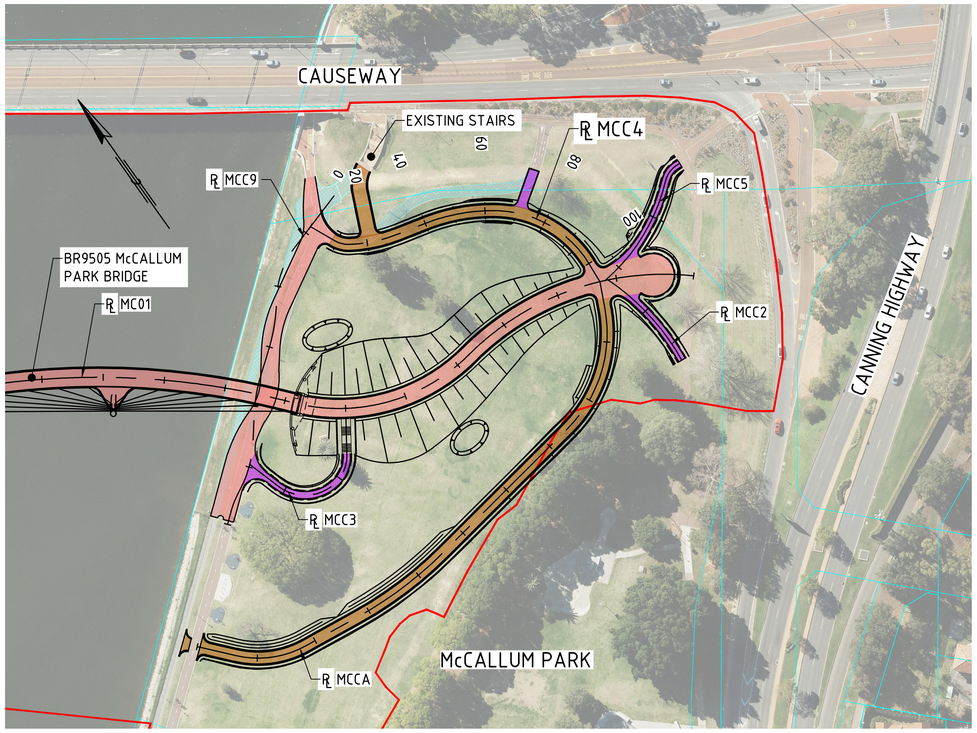
APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

VERIFIER
VERIFIED DATE

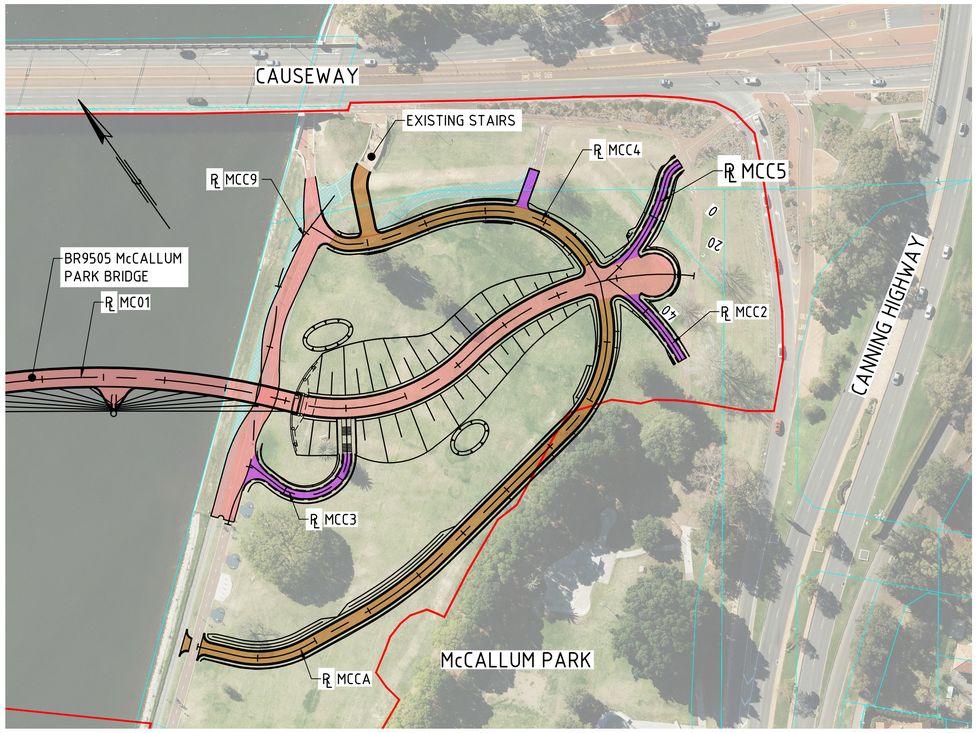
Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY	(CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES PLAN AND PROFILE - MCCALLUM PARK MCC2 (CHA 0 TO CHA 45) MCC3 (CHA 0 TO CHA 65)
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00131
REV	A



PLAN
1:1000



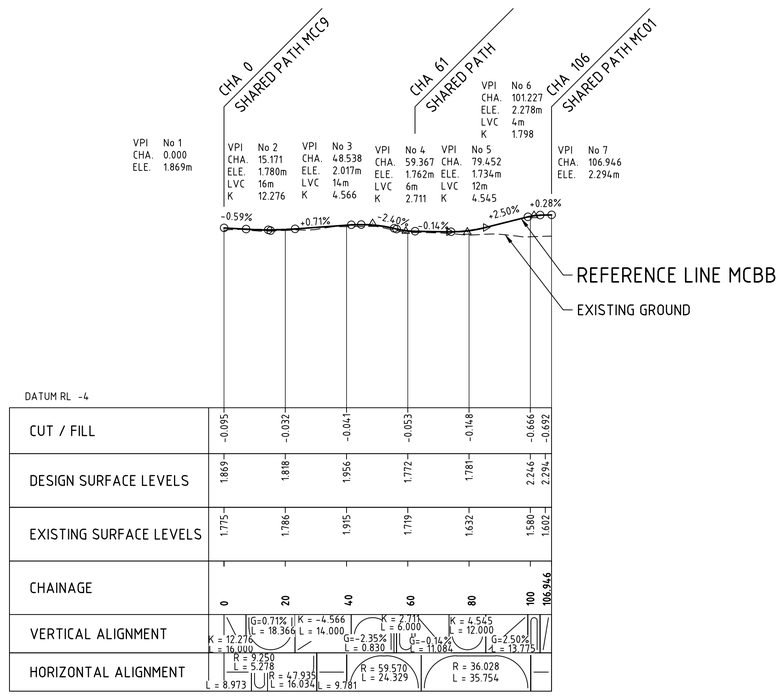
PLAN
1:1000

NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

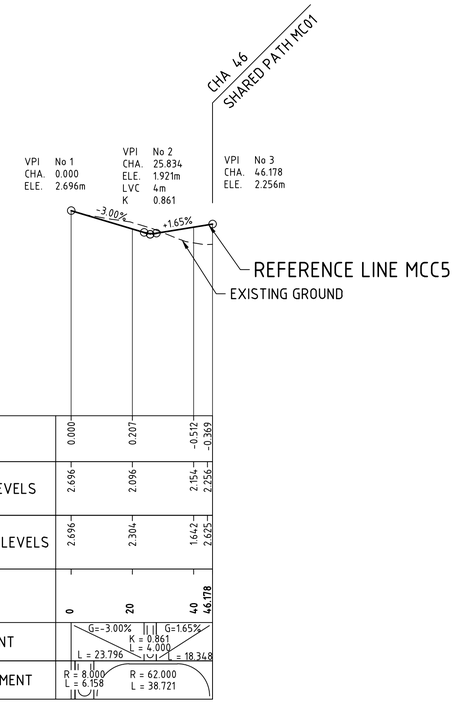
- REFERENCE LINE
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- 6m SHARED PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED



DATUM RL -4

CUT / FILL	-0.095	-0.032	-0.041	-0.053	-0.148	-0.666	-0.692
DESIGN SURFACE LEVELS	1.869	1.818	1.956	1.772	1.781	2.246	2.294
EXISTING SURFACE LEVELS	1.775	1.786	1.915	1.719	1.632	1.580	1.602
CHAINAGE	0	20	40	60	80	100	106.946
VERTICAL ALIGNMENT	K = 12.276 L = 16.000 G=0.71% L = 18.366	K = -4.566 L = 14.000 G=-2.35% L = 0.830	K = 2.711 L = 6.000 G=-0.14% L = 11.084	K = 4.545 L = 12.000 G=2.50% L = 13.775			
HORIZONTAL ALIGNMENT	R = 9.250 L = 5.278 R = 47.935 L = 16.034 L = 8.973 L = 9.781	R = 59.570 L = 24.329	R = 36.028 L = 35.754				

PROFILE - (MCC4)
1:1000H, 1:100V



DATUM RL -4

CUT / FILL	0.000	0.207	-0.512	-0.369
DESIGN SURFACE LEVELS	2.696	2.096	2.154	2.256
EXISTING SURFACE LEVELS	2.696	2.304	1.642	2.625
CHAINAGE	0	20	40	46.178
VERTICAL ALIGNMENT	G=-3.00% K = 0.861 L = 4.000 L = 23.796	G=1.65% L = 18.348		
HORIZONTAL ALIGNMENT	R = 8.000 L = 6.158	R = 62.000 L = 38.721		

PROFILE - (MCC5)
1:1000H, 1:100V

VERT. 1:100
HORIZ. 1:1000

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FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700
Facsimile +61 8 9489 9777
Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

VERIFIER
VERIFIED DATE

Causeway Link Alliance

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY: (CITY OF PERTH (124), TOWN OF VICTORIA PARK (129))
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER:

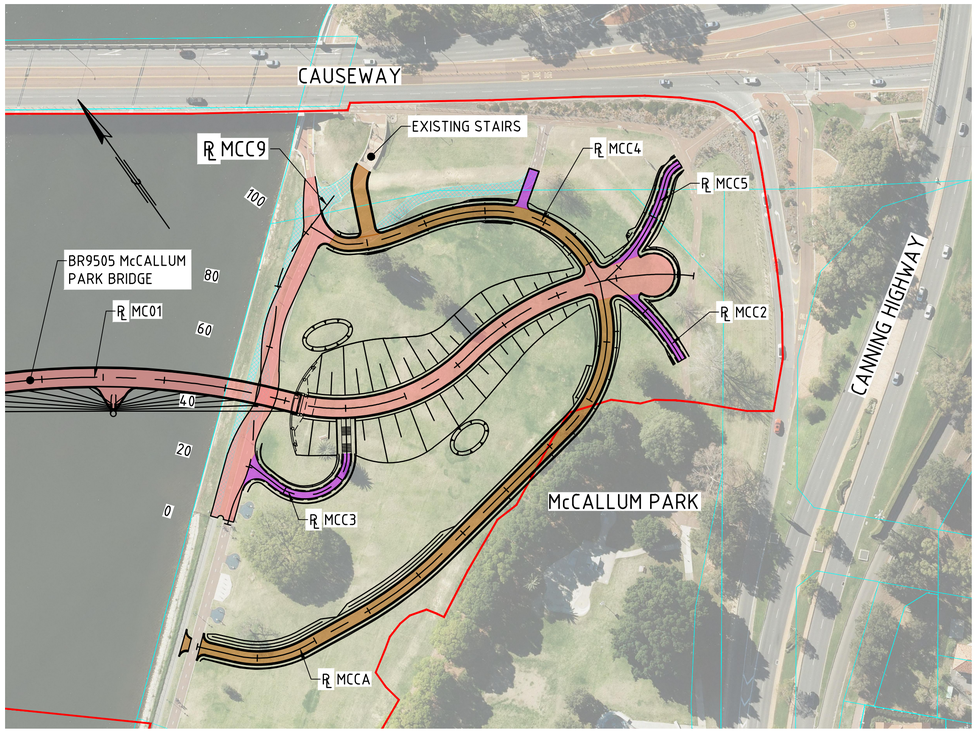
PROJECT TITLE: CAUSEWAY LINK ALLIANCE

DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
PLAN AND PROFILE - MCCALLUM PARK
MCC4 (CHA 0 TO CHA 115)
MCC5 (CHA 0 TO CHA 55)

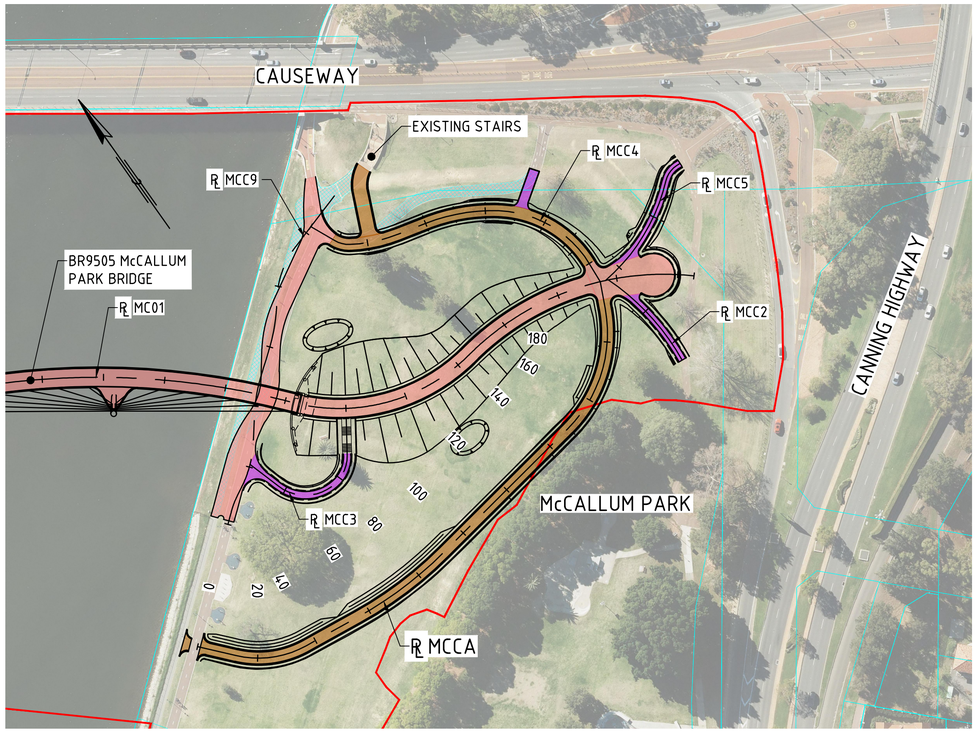
SHEET: A1
REV: A

DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-DRG-00132

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:42 AM Cad File: C:\pwworking\wsp-aus-pw.bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00132.dwg



PLAN
1:1000



PLAN
1:1000

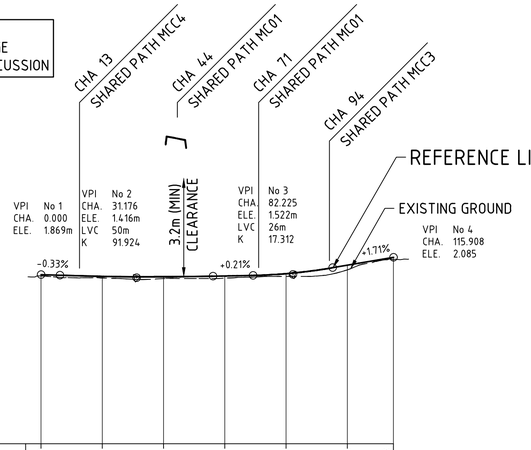
NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- 100 + — REFERENCE LINE
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- 6m SHARED PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED

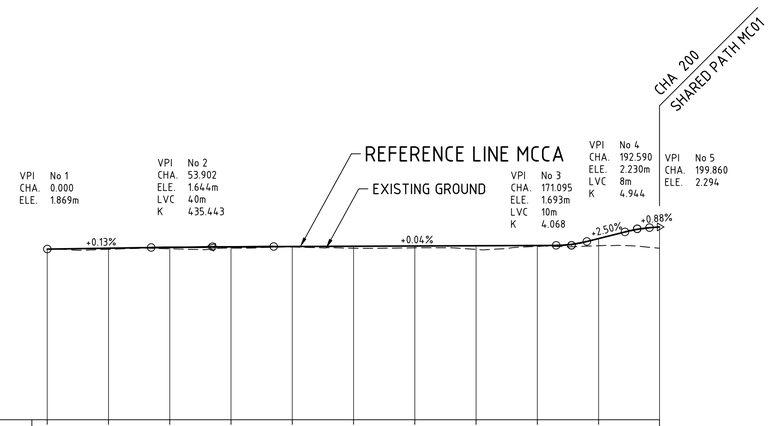
HOLD
PROFILE SUBJECT TO CHANGE
PENDING STAKEHOLDER DISCUSSION



DATUM RL -4

CUT / FILL	-0.042	-0.052	-0.058	-0.072	-0.087	-0.150	0.000	
DESIGN SURFACE LEVELS	1.520	1.463	1.448	1.476	1.551	1.827	2.085	
EXISTING SURFACE LEVELS	1.478	1.412	1.391	1.404	1.464	1.677	2.085	
CHAINAGE	0	20	40	60	80	100	115.098	
VERTICAL ALIGNMENT	G=-0.33% L = 6.176	K = 91.924 L = 50.000		G=0.21% L = 13.049	K = 17.312 L = 26.000	G=1.71% L = 19.873		
HORIZONTAL ALIGNMENT	R = 30.000 L = 6.029	R = 36.000 L = 15.129 L = 2.714	R = 50.000 L = 12.468 L = 9.362	R = 60.000 L = 16.220 L = 9.026	R = 30.000 L = 18.801 L = 0.245	L = 20.816		

PROFILE - (MCC9)
1:1000H, 1:100V



DATUM RL -4

CUT / FILL	-0.002	-0.035	-0.044	-0.043	-0.019	-0.067	-0.060	-0.121	-0.031	-0.236	-0.692
DESIGN SURFACE LEVELS	1.572	1.599	1.625	1.644	1.655	1.663	1.672	1.680	1.688	1.915	2.294
EXISTING SURFACE LEVELS	1.570	1.563	1.581	1.602	1.636	1.597	1.611	1.559	1.658	1.679	1.602
CHAINAGE	0	20	40	60	80	100	120	140	160	180	199.860
VERTICAL ALIGNMENT	G=0.13% L = 33.902		K = -435.443 L = 40.000		G=0.04% L = 92.193				K = 4.068 L = 10.000	G=2.50% K = -4.944 L = 12.495 L = 8.000	
HORIZONTAL ALIGNMENT	L = 12.966	R = 32.000 L = 23.540	L = 19.230	R = 128.000 L = 35.371	L = 57.083				R = 44.000 L = 42.661	L = 9.010	

PROFILE - (MCCA)
1:1000H, 1:100V

VERT. 1:100
HORIZ. 1:1000

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A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

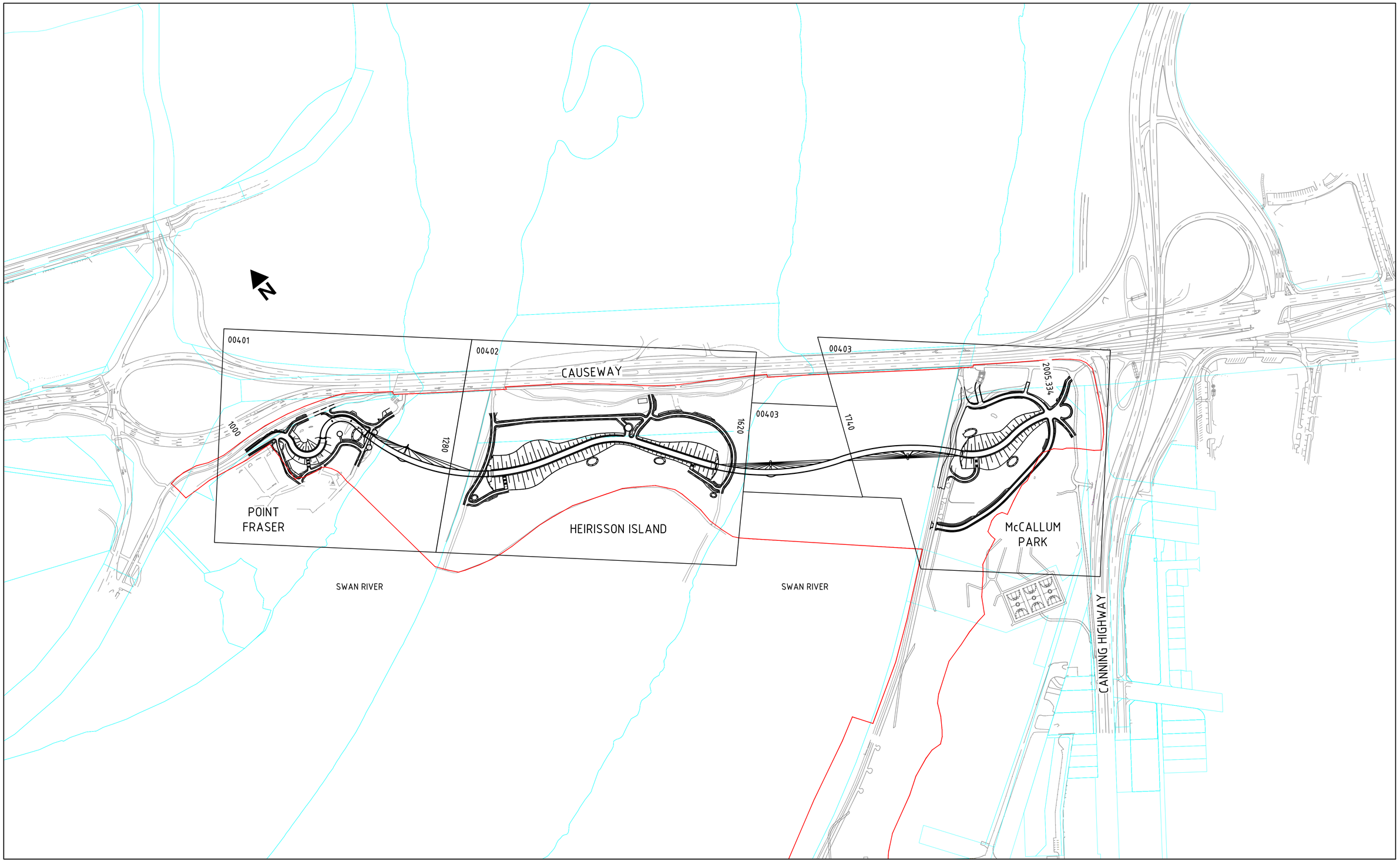
VERIFIER
VERIFIED
DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY	(CITY OF PERTH [124], TOWN OF VICTORIA PARK [129])
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES PLAN AND PROFILE - MCCALLUM PARK MCC9 (CHA 0 TO CHA 130) MCCA (CHA 0 TO CHA 155)
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00133
REV	A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:43 AM Cad File: C:\pwworking\wsp-aus-pw-bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00133.dwg



PLAN
1:2000

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
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	AMENDMENTS	

METADATA

GROUND SURVEY STANDARD:	67-08-43
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DATE OF CAPTURE:	-
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APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

VERIFIER
VERIFIED DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER:
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES DRAINAGE KEY PLAN
SHEET: A1
DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-DRG-00400
REV: A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:43 AM Cad File: C:\pwworking\wsp-aus-pw\bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00400.dwg

NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
2. ALL BRIDGE RELATED STRUCTURES (APPROACH SLAB, ABUTMENT, PIERS, PYLONS) TO BE MAINTAINED BY MRWA UNLESS NOTED OTHERWISE.

LEGEND

- REFERENCE LINE
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- OPEN DRAINS
- DRAINAGE PIPE AND FLOW DIRECTION
- SCUPPER
- GULLY PIT
- HEADWALL
- ROCK PROTECTION
- PSC01 — DRAINAGE SCUPPER NUMBER
- P4/1 — DRAINAGE PIT NUMBER
- EXISTING DRAINAGE PIPE
- EXISTING DRAINAGE PIPE/ STRUCTURE TO BE REMOVED
- EXISTING OPEN DRAINAGE
- EXISTING MANHOLE
- EXISTING GULLY PIT
- MAJOR CONTOUR
- MINOR CONTOUR
- EXISTING CONTOUR
- DRAINAGE BASIN/DEPRESSION

HOLD
EROSION PROTECTION DETAILS BELOW SCUPPER OUTLETS TO BE DETERMINED

CAUSEWAY

BR9506 POINT FRASER BRIDGE

℄ MC01

CHA 1280

PSC01 PSC02 PSC03 PSC04 PSC05 PSC06 PSC07 PSC08 PSC09 PSC10 PSC11 PSC12 PSC13 PSC14 PSC15

P1/1 P1/2

APPROACH SLAB

BASIN A01
STORAGE VOLUME = 28.4m³

SWAN RIVER

POINT FRASER

MATCH LINE JOINS DRG No. C301-CLA-0000-CI-DRG-00402

PLAN
1:500

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DATE OF CAPTURE:	-
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HEIGHT DATUM:	AHD71

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Perth WA 6000
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DESIGNED	T.WANG	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

VERIFIER
VERIFIED DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER:
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES DRAINAGE PLAN CHA 1000 TO CHA 1280
SHEET: A1
DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-DRG-00401
REV: A

1:500

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:44 AM Cad File: C:\pwworking\wsp-aus-pw\bentley.com_wsp-aus-pw-19\d0222965\C301-CLA-0000-CI-DRG-00401.dwg

NOTES

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LEGEND

- REFERENCE LINE
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- OPEN DRAINS
- DRAINAGE PIPE AND FLOW DIRECTION
- SCUPPER
- GULLY PIT
- HEADWALL
- ROCK PROTECTION
- PSC01 — DRAINAGE SCUPPER NUMBER
- P4/1 — DRAINAGE PIT NUMBER
- EXISTING DRAINAGE PIPE
- EXISTING DRAINAGE PIPE/ STRUCTURE TO BE REMOVED
- EXISTING OPEN DRAINAGE
- EXISTING MANHOLE
- EXISTING GULLY PIT
- MAJOR CONTOUR
- MINOR CONTOUR
- EXISTING CONTOUR
- DRAINAGE BASIN/DEPRESSION

CAUSEWAY

CHA 1280

CHA 1620

JOINS DRG No. C301-CLA-0000-CI-DRG-00401

JOINS DRG No. C301-CLA-0000-CI-DRG-00403

MATCH LINE

MATCH LINE

APPROACH SLAB

APPROACH SLAB

R MC01

PSC16

PSC17

PSC18

P2/1

P2/2

P3/1

P3/2

P3/3

BASIN B01
STORAGE VOLUME = 2.8m³

BASIN B02
STORAGE VOLUME = 16.1m³

BASIN B03
STORAGE VOLUME = 11.5m³

BASIN B04
STORAGE VOLUME = 3.8m³

HEIRISSON ISLAND

SWAN RIVER

1280 1300 1320 1340 1360 1380 1400 1420 1440 1460 1480 1500 1520 1540 1560 1580 1600

PLAN
1:500

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DRAWING PATH		

VERIFIER

VERIFIED DATE

Causeway Link Alliance

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER:
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES DRAINAGE PLAN CHA 1280 TO CHA 1620
SHEET: A1
DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-DRG-00402
REV: A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:44 AM Cad File: C:\pw_working\wsp-aus-pw_bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00402.dwg

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LEGEND

- REFERENCE LINE
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- OPEN DRAINS
- DRAINAGE PIPE AND FLOW DIRECTION
- SCUPPER
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- PSC01 — DRAINAGE SCUPPER NUMBER
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- EXISTING DRAINAGE PIPE
- EXISTING DRAINAGE PIPE/ STRUCTURE TO BE REMOVED
- EXISTING OPEN DRAINAGE
- EXISTING MANHOLE
- EXISTING GULLY PIT
- MAJOR CONTOUR
- MINOR CONTOUR
- EXISTING CONTOUR
- DRAINAGE BASIN/DEPRESSION

CAUSEWAY

BASIN C01
STORAGE VOLUME = 24.9m³

BASIN C02
STORAGE VOLUME = 16.8m³

APPROACH SLAB

BR9505 McCALLUM PARK BRIDGE

℄ MC01

MSC01 MSC02 MSC03 MSC04 MSC05 MSC06 MSC07 MSC08 MSC09 MSC10 MSC11 MSC12 MSC13 MSC14 MSC15 MSC16 MSC17 MSC18 MSC19 MSC20 MSC21 MSC22 MSC23

P4/1 P4/2

CHA 1740 JOINS SHOWN BELOW

MATCH LINE

CHA 1620 JOINS DRG No. C301-CLA-0000-CI-DRG-00402

MATCH LINE

CHA 1740 JOINS ABOVE

MATCH LINE

SWAN RIVER

McCALLUM PARK

CANNING HIGHWAY

PLAN 1:500

PLAN 1:500

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FOR INFORMATION ONLY

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METADATA

GROUND SURVEY STANDARD:	67-08-43
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DRAWING PATH		

VERIFIER

VERIFIED DATE

Causeway Link Alliance

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

mainroads WESTERN AUSTRALIA

LOCAL AUTHORITY	CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES DRAINAGE PLAN CHA 1620 TO CHA 2005.334
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00403
REV	A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:45 AM Cad File: C:\pw_working\wsp-aus-pw-bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00403.dwg

DRAINAGE PIT SCHEDULE

STRUCTURE NUMBER	TYPE	COORDINATES		REF POINT ELEVATION	COMMENTS
		EASTING	NORTHING		
P1/1	MRWA NORMAL CATCHPIT	56019.092000	262144.332000	2.017000	REFER MRWA STANDARD DRAWING 200231-094
P1/2	SURCHARGE PIT	56035.651000	262137.904000	1.604000	
PSC01	SCUPPER 150mm DIA	56012.444000	262159.544000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC02	SCUPPER 150mm DIA	56018.407000	262163.932000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC03	SCUPPER 150mm DIA	56026.008000	262165.562000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC04	SCUPPER 150mm DIA	56033.780000	262163.706000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC05	SCUPPER 150mm DIA	56039.957000	262158.712000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC06	SCUPPER 150mm DIA	56043.414000	262151.334000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC07	SCUPPER 150mm DIA	56044.751000	262143.483000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC08	SCUPPER 150mm DIA	56046.452000	262135.396000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC09	SCUPPER 150mm DIA	56054.042000	262109.709000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC10	SCUPPER 150mm DIA	56056.994000	262102.256000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC11	SCUPPER 150mm DIA	56060.188000	262094.811000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC12	SCUPPER 150mm DIA	56061.883000	262087.031000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC13	SCUPPER 150mm DIA	56067.694000	262080.390000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC14	SCUPPER 150mm DIA	56086.952000	262052.140000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC15	SCUPPER 150mm DIA	56091.804000	262046.341000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC16	SCUPPER 150mm DIA	56096.808000	262040.892000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC17	SCUPPER 150mm DIA	56102.145000	262035.410000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
PSC18	SCUPPER 150mm DIA	56107.649000	262030.239000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
P2/1	MRWA NORMAL CATCHPIT	56132.890000	262010.281000	6.804000	REFER MRWA STANDARD DRAWING 200231-094
P2/2	SURCHARGE PIT	56124.370000	261997.089000	1.999000	
P3/1	MRWA NORMAL CATCHPIT	56329.025000	261870.270000	5.321000	REFER MRWA STANDARD DRAWING 200231-094
P3/2	JUNCTION PIT	56321.963000	261861.380000	1.744000	
P3/3	SURCHARGE PIT	56325.532000	261854.190000	1.647000	
MSC01	SCUPPER 150mm DIA	56357.654000	261839.818000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC02	SCUPPER 150mm DIA	56363.708000	261834.455000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC03	SCUPPER 150mm DIA	56369.829000	261829.335000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC04	SCUPPER 150mm DIA	56375.147000	261823.328000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC05	SCUPPER 150mm DIA	56382.378000	261819.585000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC06	SCUPPER 150mm DIA	56388.870000	261815.469000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC07	SCUPPER 150mm DIA	56395.637000	261811.117000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC08	SCUPPER 150mm DIA	56402.476000	261807.054000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC09	SCUPPER 150mm DIA	56409.539000	261803.157000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC10	SCUPPER 150mm DIA	56416.728000	261799.478000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC11	SCUPPER 150mm DIA	56423.931000	261796.029000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC12	SCUPPER 150mm DIA	56431.359000	261792.800000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC13	SCUPPER 150mm DIA	56469.873000	261784.483000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC14	SCUPPER 150mm DIA	56477.445000	261780.934000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC15	SCUPPER 150mm DIA	56484.660000	261777.296000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC16	SCUPPER 150mm DIA	56491.676000	261773.454000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC17	SCUPPER 150mm DIA	56498.633000	261769.410000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC18	SCUPPER 150mm DIA	56505.706000	261764.963000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC19	SCUPPER 150mm DIA	56512.358000	261760.454000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC20	SCUPPER 150mm DIA	56519.088000	261755.583000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC21	SCUPPER 150mm DIA	56525.961000	261750.287000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC22	SCUPPER 150mm DIA	56532.413000	261744.906000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
MSC23	SCUPPER 150mm DIA	56538.913000	261739.148000		REFER DESIGN DRAWING C301-CLA-0000-ST-SKT-80101
P4/1	MRWA NORMAL CATCHPIT	56566.895000	261710.286000	5.316000	REFER MRWA STANDARD DRAWING 200231-094
P4/2	SURCHARGE PIT	56580.347000	261722.331000	1.216000	

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22
	AMENDMENTS	

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

wsp
Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	T.WANG	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED

DATE

Causeway Link Alliance

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA

mainroads WESTERN AUSTRALIA

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY (CITY OF PERTH (124), TOWN OF VICTORIA PARK (129))

MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION

MRWA DRAWING NUMBER

PROJECT TITLE: CAUSEWAY LINK ALLIANCE

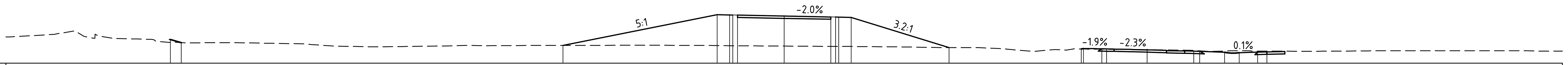
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES DRAINAGE SCHEDULE SHEET 1

SHEET: A1

DRAWING STATUS: 15%

DRAWING No.: C301-CLA-0000-CI-DRG-00411

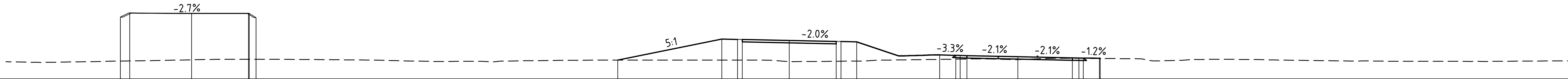
REV: A



R.L. 1

DESIGN LEVELS	2.529	2.326	2.144	4.126	4.113	4.107	4.047	3.987	3.981	3.954	2.007	1.918	1.948	1.926	1.926	1.866	1.779	1.760	1.705	1.678	1.708	1.731
EXISTING LEVELS	2.341	2.326	2.144	2.135	2.126	2.123	2.103	2.085	2.083	2.077	2.007	1.917	1.915	1.901	1.898	1.873	1.823	1.795	1.787	1.800	1.776	1.775
LEVEL DIFFERENCE	0.188	-0.000	-0.000	1.991	1.987	1.984	1.944	1.902	1.898	1.877	0.000	0.001	0.034	0.025	0.028	-0.006	-0.044	-0.035	-0.082	-0.122	-0.069	-0.044
DESIGN OFFSETS	-39.425	-38.732	-14.210	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300	10.585	19.090	19.225	20.408	20.715	23.321	26.309	26.699	28.287	29.231	30.418	31.010

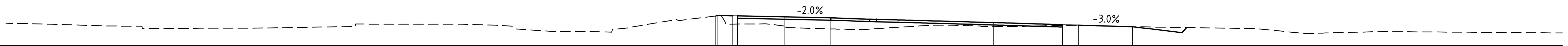
CH. 1080.000



R.L. 1

DESIGN LEVELS	4.933	5.189	5.165	5.167	5.158	4.892	2.196	3.526	3.513	3.507	3.447	3.387	3.381	3.354	2.533	2.499	2.497	2.481	2.414	2.343	2.337	2.327	2.314	2.299
EXISTING LEVELS	2.132	2.142	2.217	2.244	2.244	2.245	2.196	2.198	2.201	2.201	2.096	2.122	2.125	2.134	2.242	2.256	2.260	2.266	2.228	2.309	2.307	2.306	2.300	2.299
LEVEL DIFFERENCE	2.800	3.046	2.948	2.923	2.913	2.647	-0.000	1.327	1.312	1.305	1.351	1.265	1.256	1.220	0.291	0.243	0.237	0.215	0.187	0.033	0.030	0.021	0.015	0.000
DESIGN OFFSETS	-42.696	-42.095	-38.152	-34.522	-34.464	-34.038	-10.948	-4.300	-3.300	-3.000	0.000	3.000	3.300	4.300	9.605	10.634	10.907	11.344	14.585	18.069	18.492	18.774	19.795	19.851

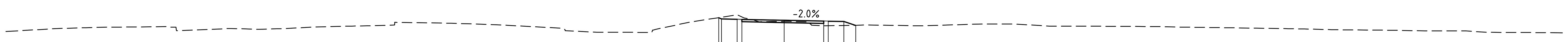
CH. 1060.000



R.L. 1

DESIGN LEVELS	2.895	2.927	2.914	2.908	2.848	2.788	2.481	2.349	2.319	2.209
EXISTING LEVELS	2.895	2.907	2.378	2.379	2.282	2.071	2.225	2.295	2.279	2.215
LEVEL DIFFERENCE	0.000	0.020	0.536	0.529	0.566	0.717	0.256	0.054	0.040	-0.006
DESIGN OFFSETS	-4.395	-4.300	-3.300	-3.000	-0.000	3.000	13.440	17.881	18.897	22.378

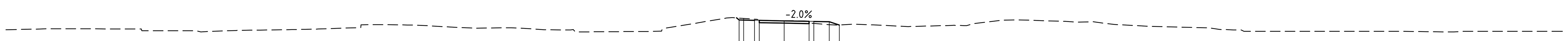
CH. 1040.000



R.L. 1

DESIGN LEVELS	2.565	2.552	2.546	2.492	2.441	2.435	2.408	2.156
EXISTING LEVELS	2.679	2.834	2.699	2.413	2.133	2.130	2.143	2.156
LEVEL DIFFERENCE	-0.114	-0.282	-0.152	0.079	0.308	0.305	0.266	0.000
DESIGN OFFSETS	-4.020	-3.020	-2.720	-0.000	2.533	2.833	3.833	4.590

CH. 1020.000



R.L. 1

DESIGN LEVELS	2.536	2.637	2.523	2.517	2.485	2.453	2.447	2.420	2.207
EXISTING LEVELS	2.659	2.637	2.585	2.497	2.485	2.460	2.311	2.231	2.207
LEVEL DIFFERENCE	-0.123	-0.000	-0.062	0.020	-0.000	-0.006	0.136	0.189	0.000
DESIGN OFFSETS	-2.900	-2.597	-1.900	-1.600	-0.000	1.600	1.900	2.900	3.541

CH. 1000.000

1:200

0 2m 4 6 8 10 12 14 16 18 20 22 24 26 28 30

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

wsp
Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED

DATE

Causeway Link Alliance

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

mainroads WESTERN AUSTRALIA

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)

MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION

MRWA DRAWING NUMBER

PROJECT TITLE: CAUSEWAY LINK ALLIANCE

DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
CROSS SECTIONS - MC01
SHEET 1

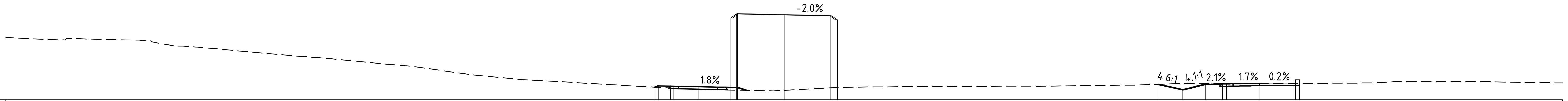
SHEET: A1

DRAWING STATUS: 15%

DRAWING No.: C301-CLA-0000-CI-DRG-00601

REV: A

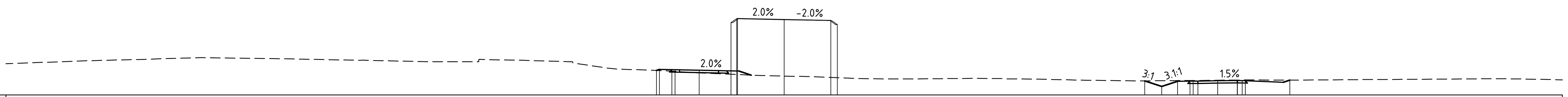
Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:45 AM Cad File: C:\pwworking\wsp-aus-pw.bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00601.dwg



R.L. 1

DESIGN LEVELS	EXISTING LEVELS	LEVEL DIFFERENCE	DESIGN OFFSETS
1.802	1.798	0.004	-8.299
1.872	1.786	0.086	-8.089
1.857	1.740	0.118	-7.287
1.861	1.727	0.133	-7.087
1.833	1.660	0.173	-5.534
6.239	1.617	4.621	-3.415
6.499	1.610	4.889	-3.050
6.508	1.609	4.899	-3.000
6.448	1.598	4.849	-0.000
6.388	1.756	4.632	3.000
6.117	1.788	4.329	3.415
1.981	1.981	-0.000	24.013
1.629	2.032	-0.403	25.619
1.977	2.029	-0.051	27.045
2.000	2.026	-0.026	28.158
2.012	2.025	-0.013	28.432
2.048	2.020	0.028	30.511
2.287	2.030	0.257	32.836
2.287	2.033	0.254	33.090

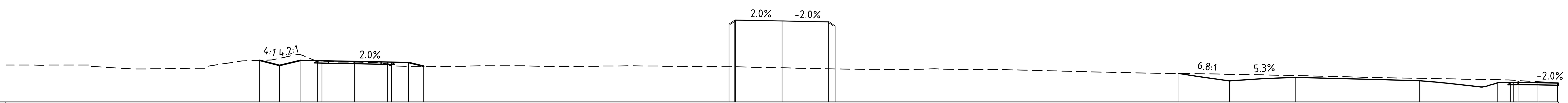
CH. 1160.000



R.L. 1

DESIGN LEVELS	EXISTING LEVELS	LEVEL DIFFERENCE	DESIGN OFFSETS
2.570	2.570	0.001	-8.200
2.633	2.563	0.070	-8.012
2.617	2.518	0.099	-7.212
2.620	2.505	0.115	-7.012
2.589	2.410	0.179	-5.463
2.559	2.344	0.214	-3.913
2.548	2.336	0.212	-3.713
5.639	2.323	3.316	-3.415
5.899	2.307	3.591	-3.050
5.908	2.305	3.603	-3.000
5.848	2.209	3.638	-0.000
5.788	2.123	3.664	3.000
5.517	2.105	3.412	3.415
1.903	1.902	0.001	23.166
1.539	1.908	-0.369	24.256
1.868	1.915	-0.048	25.267
1.880	1.923	-0.043	26.077
1.890	1.925	-0.035	26.279
1.895	1.928	-0.033	26.583
1.914	1.940	-0.026	27.847
1.933	1.952	-0.019	29.112
1.933	1.952	-0.019	29.118
1.926	1.955	-0.029	29.420
1.914	1.957	-0.043	29.621
1.948	1.948	0.000	32.483

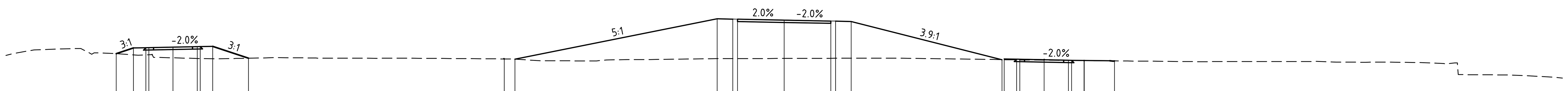
CH. 1140.000



R.L. 0

DESIGN LEVELS	EXISTING LEVELS	LEVEL DIFFERENCE	DESIGN OFFSETS
2.689	2.688	0.001	-33.653
2.366	2.823	-0.457	-32.364
2.691	3.055	-0.364	-31.003
2.669	2.606	0.063	-29.915
2.670	2.583	0.087	-29.642
2.627	2.573	0.055	-27.533
2.584	2.458	0.126	-25.424
2.572	2.334	0.237	-25.152
2.550	2.309	0.240	-24.063
2.304	2.305	-0.001	-23.082
5.038	2.271	2.767	-3.415
5.298	2.267	3.031	-3.050
5.307	2.267	3.041	-3.000
5.247	2.205	3.043	-0.000
5.187	2.143	3.045	3.000
4.916	2.135	2.781	3.415
1.838	1.841	-0.003	25.569
1.360	1.787	-0.427	28.830
1.584	1.709	-0.125	33.054
1.367	1.525	-0.158	41.067
1.242	1.432	-0.190	46.094
1.261	1.412	-0.151	46.906
1.272	1.399	-0.127	47.106
1.278	1.381	-0.102	47.407

CH. 1120.000



R.L. 0

DESIGN LEVELS	EXISTING LEVELS	LEVEL DIFFERENCE	DESIGN OFFSETS
2.479	2.479	-0.000	-42.904
2.843	2.403	0.441	-41.810
2.859	2.399	0.460	-41.010
2.870	2.407	0.464	-40.810
2.902	2.210	0.692	-39.260
2.933	2.170	0.763	-37.709
2.930	2.165	0.765	-37.509
2.947	2.145	0.802	-36.709
2.185	2.184	0.001	-34.420
2.137	2.137	-0.000	-17.987
2.127	2.127	-0.000	-17.297
4.726	2.158	2.568	-4.300
4.713	2.162	2.551	-3.300
4.707	2.163	2.544	-3.000
4.647	2.169	2.478	-0.000
4.587	2.181	2.406	3.000
4.581	2.182	2.399	3.300
4.554	2.186	2.368	4.300
2.088	2.088	-0.000	13.991
2.137	2.087	0.050	14.133
2.121	2.078	0.043	14.938
2.124	2.076	0.048	15.139
2.093	2.060	0.033	16.700
2.062	2.044	0.018	18.260
2.051	2.042	0.009	18.462
2.035	2.034	0.002	19.267
2.034	2.034	-0.000	19.272
2.014	2.014	0.000	21.215

CH. 1100.000

1:200

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED

DATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)

MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION

MRWA DRAWING NUMBER

PROJECT TITLE: CAUSEWAY LINK ALLIANCE

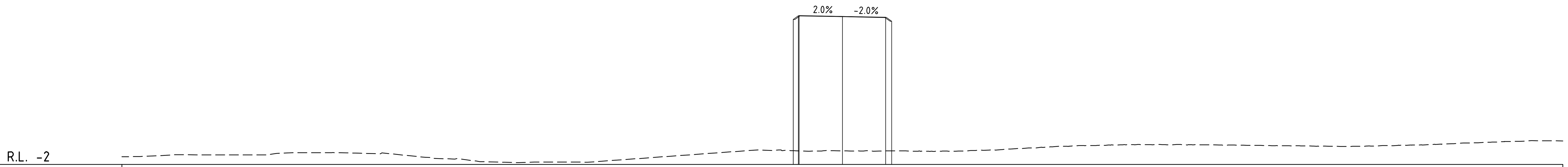
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
CROSS SECTIONS - MC01
SHEET 2

SHEET: A1

DRAWING STATUS: 15%

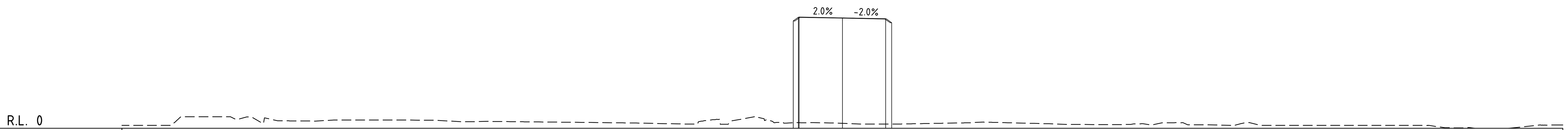
DRAWING No.: C301-CLA-0000-CI-DRG-00602

REV: A



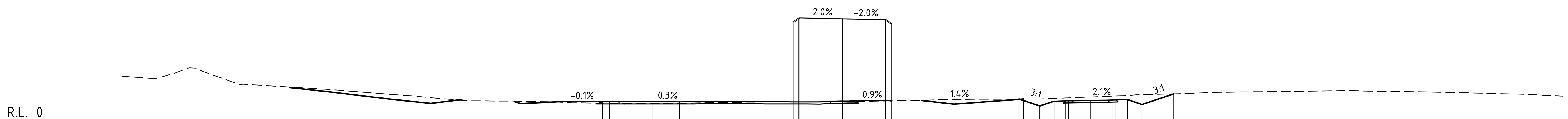
DESIGN LEVELS	8.039	8.299	8.308	8.248	8.188	7.917
EXISTING LEVELS	-1.052	-1.061	-1.063	-1.069	-1.062	-1.065
LEVEL DIFFERENCE	9.091	9.361	9.371	9.317	9.250	8.982
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1220.000



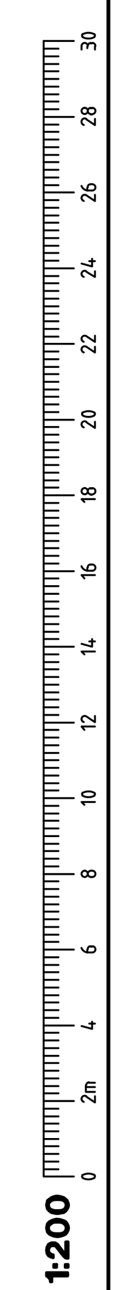
DESIGN LEVELS	7.439	7.699	7.708	7.648	7.588	7.317
EXISTING LEVELS	0.379	0.389	0.389	0.337	0.284	0.286
LEVEL DIFFERENCE	7.060	7.310	7.319	7.312	7.304	7.031
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1200.000



DESIGN LEVELS	1.261	1.265	1.273	1.273	1.272	1.267	6.839	7.099	7.108	7.048	6.988	1.332	6.717	1.456	1.458	0.976	1.310	1.326	1.337	1.369	1.401	1.398	1.414	1.082	1.819
EXISTING LEVELS	1.243	1.178	1.174	1.168	1.150	1.172	1.255	1.259	1.260	1.290	1.324	1.332	1.332	1.456	1.458	1.464	1.501	1.532	1.539	1.599	1.659	1.667	1.704	1.758	1.819
LEVEL DIFFERENCE	0.018	0.088	0.099	0.105	0.122	0.096	5.584	5.840	5.848	5.758	5.664	0.000	5.385	-0.000	-0.000	-0.487	-0.191	-0.206	-0.202	-0.230	-0.258	-0.269	-0.290	-0.676	0.000
DESIGN OFFSETS	-19.744	-16.648	-16.163	-15.507	-13.208	-11.315	-3.415	-3.050	-3.000	-0.000	3.000	3.410	3.415	12.253	12.579	13.694	14.694	15.493	15.693	17.242	18.791	18.991	19.791	20.790	22.996

CH. 1180.000



Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:46 AM Cad File: C:\pwworking\wsp-aus-pw.bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00603.dwg

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22
	AMENDMENTS	

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

wsp
Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

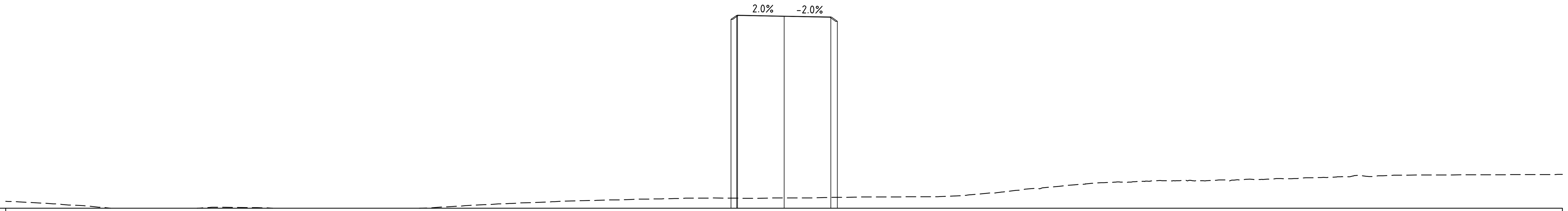
DRAWING PATH

VERIFIER
VERIFIED
DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

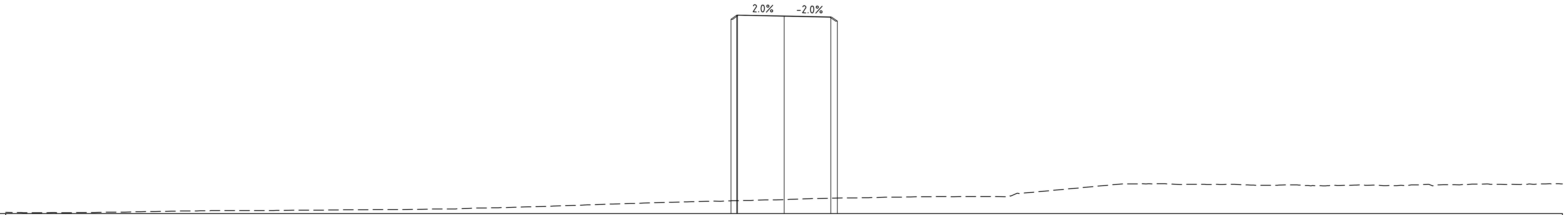
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES CROSS SECTIONS - MC01 SHEET 3
SHEET: A1
DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-DRG-00603
REV: A



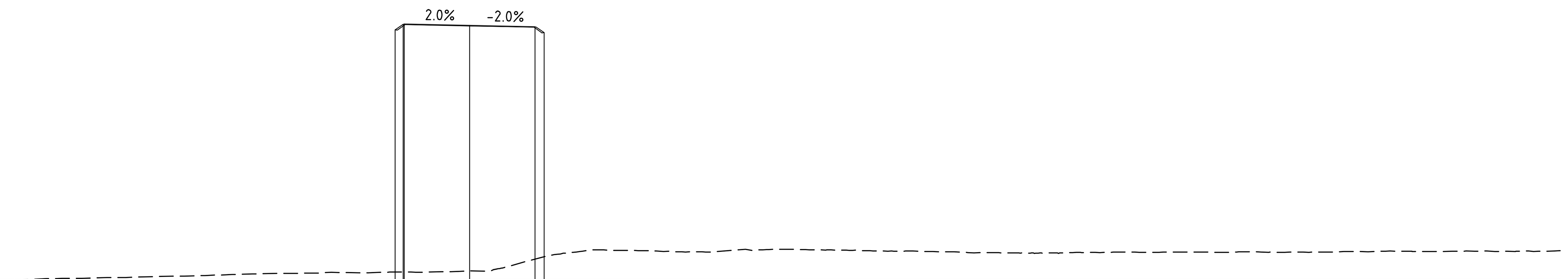
DESIGN LEVELS	8.130	8.390	8.399	8.339	8.279	8.008
EXISTING LEVELS	-3.351	-3.352	-3.352	-3.328	-3.301	-3.298
LEVEL DIFFERENCE	11.481	11.742	11.751	11.667	11.580	11.306
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1280.000



DESIGN LEVELS	8.499	8.759	8.768	8.708	8.648	8.377
EXISTING LEVELS	-3.181	-3.173	-3.172	-3.102	-3.015	-3.006
LEVEL DIFFERENCE	11.680	11.932	11.941	11.810	11.663	11.383
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1260.000



DESIGN LEVELS	8.469	8.729	8.738	8.678	8.618	8.347
EXISTING LEVELS	-2.640	-2.640	-2.640	-2.591	-2.045	-1.930
LEVEL DIFFERENCE	11.109	11.368	11.378	11.269	10.662	10.277
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1240.000

1:200

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED

DATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)

MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION

MRWA DRAWING NUMBER

PROJECT TITLE: CAUSEWAY LINK ALLIANCE

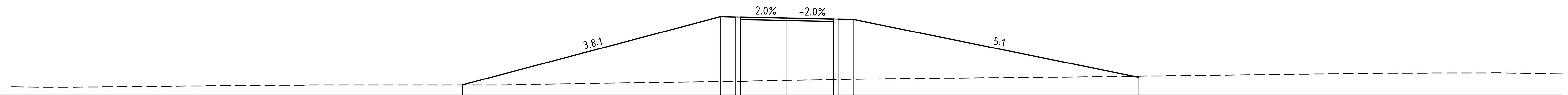
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
CROSS SECTIONS - MC01
SHEET 4

SHEET: A1

DRAWING STATUS: 15%

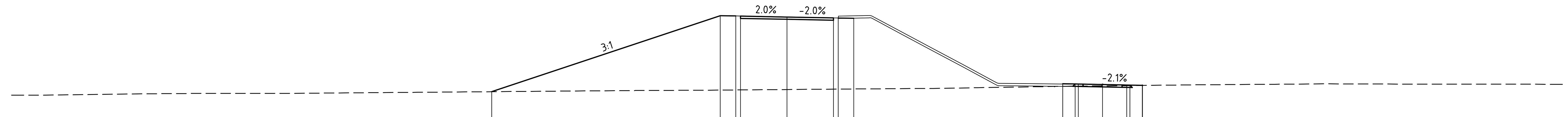
DRAWING No.: C301-CLA-0000-CI-DRG-00604

REV: A



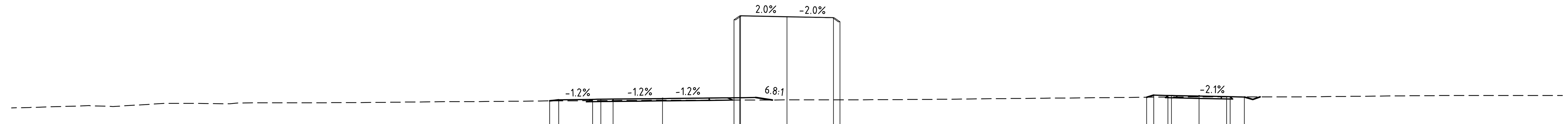
DESIGN LEVELS	EXISTING LEVELS	LEVEL DIFFERENCE	DESIGN OFFSETS
1.658	1.635	0.022	-20.910
6.019	1.854	4.165	-4.300
6.006	1.872	4.134	-3.300
6.000	1.878	4.122	-3.000
5.940	1.935	4.005	-0.000
5.880	1.987	3.893	3.000
5.874	1.992	3.882	3.300
5.847	2.008	3.839	4.300
2.130	2.213	-0.083	22.698

CH. 1360.000



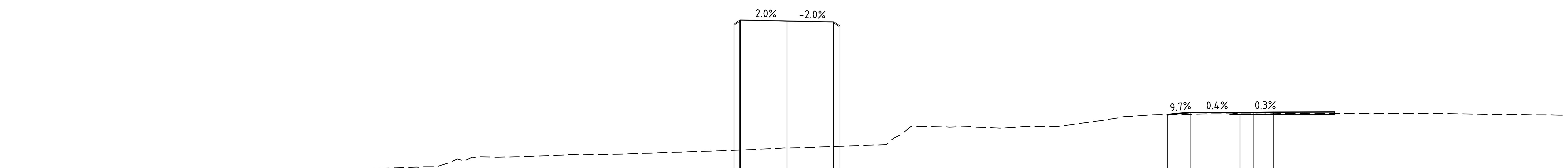
DESIGN LEVELS	EXISTING LEVELS	LEVEL DIFFERENCE	DESIGN OFFSETS
1.712	1.712	0.000	-19.035
6.619	1.814	4.805	-4.300
6.606	1.823	4.783	-3.300
6.600	1.826	4.774	-3.000
6.540	1.852	4.688	-0.000
6.480	1.876	4.604	3.000
6.474	1.879	4.595	3.300
6.447	1.887	4.561	4.300
2.229	2.060	0.168	17.778
2.212	2.070	0.142	18.582
2.215	2.072	0.143	18.784
2.183	2.087	0.096	20.343
2.151	2.103	0.048	21.903
2.139	2.105	0.034	22.104
2.123	2.115	0.008	22.909
2.118	2.115	0.003	22.925

CH. 1340.000



DESIGN LEVELS	EXISTING LEVELS	LEVEL DIFFERENCE	DESIGN OFFSETS
1.712	1.712	-0.000	-15.297
1.783	1.715	0.068	-14.721
1.809	1.728	0.081	-12.529
1.823	1.732	0.091	-11.995
1.832	1.736	0.096	-11.213
1.870	1.754	0.115	-8.027
6.931	1.767	5.164	-3.415
7.191	1.768	5.423	-3.050
7.200	1.768	5.432	-3.000
7.140	1.776	5.364	-0.000
7.080	1.782	5.298	3.000
6.809	1.783	5.026	3.415
1.951	1.951	0.000	23.182
2.083	1.955	0.128	23.644
2.064	1.963	0.101	24.560
2.067	1.963	0.103	24.789
2.030	1.966	0.064	26.565
1.993	1.968	0.025	28.341
1.982	1.968	0.014	28.570
1.963	1.968	-0.006	29.487

CH. 1320.000



DESIGN LEVELS	EXISTING LEVELS	LEVEL DIFFERENCE	DESIGN OFFSETS
7.531	-0.609	8.140	-3.415
7.791	-0.597	8.388	-3.050
7.800	-0.595	8.395	-3.000
7.740	-0.463	8.203	-0.000
7.680	-0.367	8.048	3.000
7.409	-0.353	7.762	3.415
1.686	1.686	0.000	24.519
1.828	1.713	0.115	25.992
1.840	1.734	0.106	29.202
1.850	1.730	0.120	30.060
1.854	1.736	0.118	31.347

CH. 1300.000

1:200

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

wsp
Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGEORY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED

DATE

Causeway Link Alliance

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

mainroads WESTERN AUSTRALIA

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (134), TOWN OF VICTORIA PARK (129)

MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION

MRWA DRAWING NUMBER

PROJECT TITLE: CAUSEWAY LINK ALLIANCE

DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES CROSS SECTIONS - MC01 SHEET 5

SHEET A1

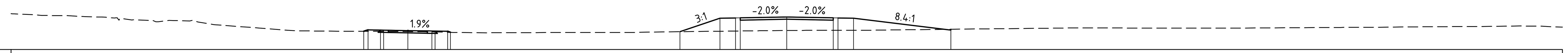
DRAWING STATUS 15%

DRAWING No. C301-CLA-0000-CI-DRG-00605

REV A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:46 AM Cad File: C:\pwworking\wsp-aus-pw-bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00605.dwg

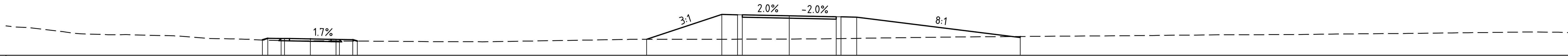
R.L. 1



DESIGN LEVELS	2.170	2.260	2.244	2.247	2.217	2.187	2.177	2.161	2.100	2.138	3.000	3.027	3.033	3.093	3.033	3.027	3.000	2.249
EXISTING LEVELS	2.170	2.170	2.164	2.162	2.148	2.129	2.125	2.101	2.095	2.138	2.169	2.181	2.184	2.213	2.227	2.228	2.230	2.297
LEVEL DIFFERENCE	0.000	0.090	0.081	0.086	0.069	0.058	0.051	0.061	0.005	0.000	0.831	0.846	0.849	0.880	0.806	0.800	0.771	-0.048
DESIGN OFFSETS	-27.262	-26.990	-26.185	-25.984	-24.425	-22.866	-22.665	-21.860	-21.676	-6.888	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300	10.584

CH. 1460.000

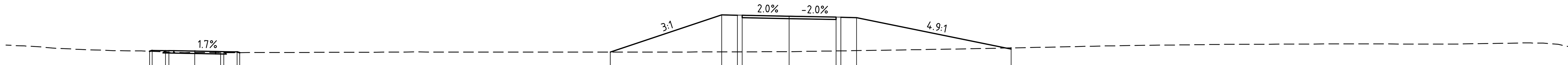
R.L. 1



DESIGN LEVELS	1.983	2.092	2.078	2.081	2.053	2.026	2.015	2.001	1.910	2.020	3.619	3.606	3.600	3.540	3.480	3.474	3.447	2.139
EXISTING LEVELS	1.977	1.967	1.944	1.938	1.921	1.916	1.915	1.911	1.910	2.020	2.027	2.030	2.031	2.041	2.067	2.071	2.085	2.204
LEVEL DIFFERENCE	0.006	0.124	0.133	0.143	0.132	0.110	0.100	0.090	-0.000	-0.000	1.593	1.576	1.569	1.499	1.413	1.403	1.362	-0.065
DESIGN OFFSETS	-33.624	-33.280	-32.430	-32.218	-30.573	-28.927	-28.715	-27.866	-27.573	-9.103	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300	14.740

CH. 1440.000

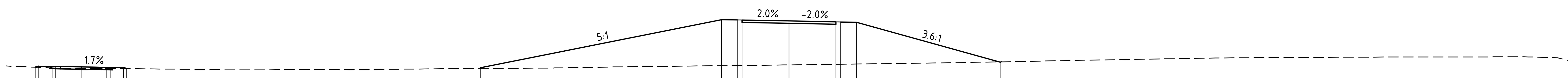
R.L. 1



DESIGN LEVELS	1.913	1.963	1.949	1.953	1.925	1.897	1.887	1.872	1.822	1.851	4.219	4.206	4.200	4.140	4.080	4.074	4.047	2.046
EXISTING LEVELS	1.907	1.899	1.874	1.843	1.830	1.822	1.820	1.823	1.823	1.851	1.868	1.871	1.872	1.885	1.928	1.932	1.948	2.120
LEVEL DIFFERENCE	0.006	0.064	0.075	0.109	0.094	0.075	0.066	0.050	-0.001	0.000	2.351	2.335	2.328	2.255	2.152	2.142	2.099	-0.074
DESIGN OFFSETS	-40.821	-40.662	-39.811	-39.598	-37.948	-36.298	-36.085	-35.233	-35.070	-11.411	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300	14.170

CH. 1420.000

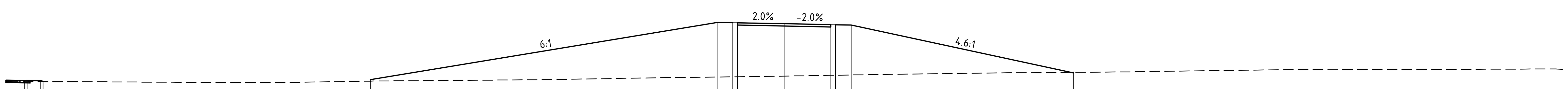
R.L. 1



DESIGN LEVELS	1.778	1.837	1.822	1.826	1.798	1.770	1.760	1.745	1.680	1.747	4.819	4.806	4.800	4.740	4.680	4.674	4.647	2.087
EXISTING LEVELS	1.774	1.767	1.728	1.718	1.696	1.690	1.690	1.687	1.685	1.701	1.870	1.881	1.884	1.923	1.962	1.966	1.979	2.116
LEVEL DIFFERENCE	0.004	0.069	0.094	0.107	0.102	0.080	0.070	0.058	-0.004	0.046	2.949	2.925	2.916	2.817	2.718	2.708	2.669	-0.029
DESIGN OFFSETS	-48.086	-47.900	-47.052	-46.840	-45.198	-43.555	-43.343	-42.495	-42.287	-19.686	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300	13.529

CH. 1400.000

R.L. 1



DESIGN LEVELS	1.681	1.670	1.654	1.603	1.728	5.419	5.406	5.400	5.340	5.280	5.274	5.247	2.160
EXISTING LEVELS	1.597	1.598	1.604	1.605	1.634	1.895	1.908	1.912	1.957	2.008	2.013	2.029	2.196
LEVEL DIFFERENCE	0.084	0.072	0.050	-0.002	0.094	3.524	3.498	3.488	3.383	3.272	3.261	3.218	-0.036
DESIGN OFFSETS	-48.788	-48.583	-47.763	-47.607	-26.567	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300	18.575

CH. 1380.000

1:200

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

wsp
Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED

DATE

Causeway Link Alliance

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA

mainroads WESTERN AUSTRALIA

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)

MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION

MRWA DRAWING NUMBER

PROJECT TITLE: CAUSEWAY LINK ALLIANCE

DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
CROSS SECTIONS - MC01
SHEET 6

SHEET: A1

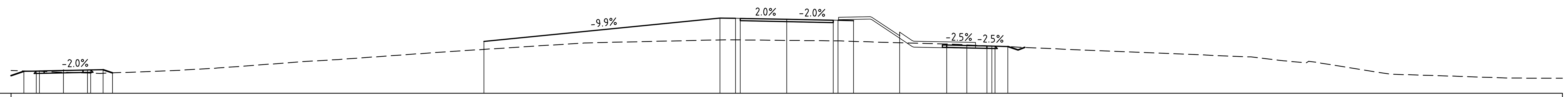
DRAWING STATUS: 15%

DRAWING No.: C301-CLA-0000-CI-DRG-00606

REV: A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:46 AM Cad File: C:\pwworking\wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00606.dwg

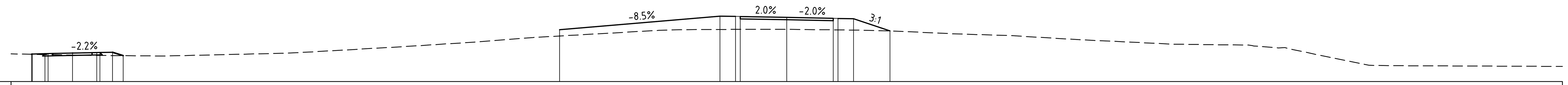
R.L. 0



DESIGN LEVELS	1.409	1.425	1.436	1.466	1.497	1.494	1.510	1.306	3.325	4.831	4.818	4.812	4.752	4.692	4.686	4.659	3.927	3.102	3.070	3.038	3.031	3.019	2.998
EXISTING LEVELS	1.433	1.411	1.406	1.346	1.299	1.293	1.283	1.306	2.816	3.419	3.425	3.422	3.392	3.362	3.359	3.330	3.245	3.161	3.104	3.047	3.033	3.024	2.988
LEVEL DIFFERENCE	-0.024	0.013	0.029	0.121	0.198	0.201	0.227	0.000	0.509	1.412	1.393	1.390	1.360	1.330	1.327	1.329	0.682	-0.059	-0.034	-0.009	-0.003	-0.006	0.011
DESIGN OFFSETS	-49.164	-48.364	-48.164	-46.614	-45.064	-44.864	-44.064	-43.454	-19.524	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300	7.272	10.314	11.609	12.904	13.215	13.422	14.251

CH. 1560.000

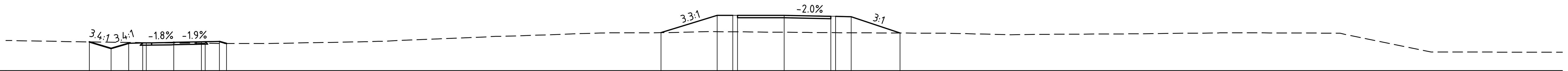
R.L. 0



DESIGN LEVELS	1.760	1.779	1.797	1.809	1.843	1.878	1.876	1.894	1.672	3.353	4.231	4.218	4.212	4.152	4.092	4.086	4.075	4.059	3.273
EXISTING LEVELS	1.760	1.759	1.742	1.738	1.709	1.686	1.685	1.678	1.672	2.943	3.367	3.372	3.372	3.375	3.342	3.339	3.336	3.328	3.273
LEVEL DIFFERENCE	-0.000	0.020	0.055	0.071	0.135	0.192	0.191	0.217	-0.000	0.410	0.865	0.847	0.840	0.778	0.750	0.748	0.739	0.732	-0.000
DESIGN OFFSETS	-48.675	-48.619	-47.811	-47.608	-46.039	-44.469	-44.267	-43.457	-42.775	-14.648	-4.300	-3.300	-3.000	-0.000	3.000	3.300	3.500	4.300	6.660

CH. 1540.000

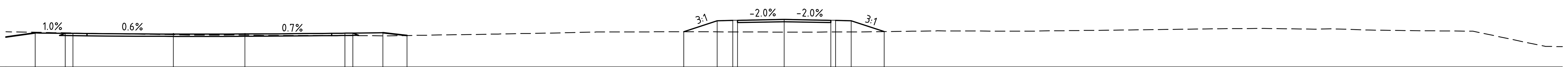
R.L. 0



DESIGN LEVELS	1.847	1.429	1.762	1.778	1.790	1.822	1.856	1.853	1.871	1.743	2.444	3.545	3.552	3.552	3.552	3.492	3.486	3.459	2.415
EXISTING LEVELS	1.847	1.825	1.811	1.802	1.799	1.780	1.761	1.758	1.748	1.743	2.439	2.503	2.495	2.492	2.465	2.440	2.439	2.433	2.415
LEVEL DIFFERENCE	-0.000	-0.396	-0.050	-0.023	-0.010	0.041	0.095	0.095	0.123	-0.000	0.005	1.042	1.058	1.060	1.087	1.052	1.048	1.027	0.000
DESIGN OFFSETS	-44.640	-43.239	-42.115	-41.206	-40.979	-39.216	-37.432	-37.201	-36.279	-35.830	-7.908	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300	7.437

CH. 1520.000

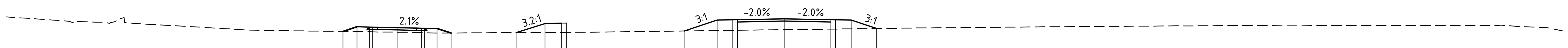
R.L. 0



DESIGN LEVELS	2.210	2.190	2.192	2.148	2.151	2.202	2.201	2.226	2.045	2.289	3.006	3.033	3.039	3.099	3.039	3.033	3.006	2.301
EXISTING LEVELS	2.253	2.217	2.208	2.095	2.074	2.041	2.037	2.029	2.045	2.289	2.283	2.280	2.278	2.268	2.272	2.277	2.291	2.301
LEVEL DIFFERENCE	-0.043	-0.027	-0.016	0.053	0.077	0.161	0.165	0.198	0.000	-0.000	0.723	0.754	0.761	0.831	0.768	0.756	0.715	0.000
DESIGN OFFSETS	-48.115	-46.180	-45.685	-39.236	-34.641	-28.219	-27.710	-25.773	-24.235	-6.454	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300	6.419

CH. 1500.000

R.L. 1



DESIGN LEVELS	2.125	2.419	2.403	2.406	2.373	2.341	2.330	2.313	2.018	2.044	2.630	2.660	2.666	2.150	2.860	2.880	2.886	2.946	2.886	2.880	2.860	2.319
EXISTING LEVELS	2.124	2.114	2.102	2.096	2.074	2.046	2.037	2.016	2.021	2.044	2.050	2.055	2.059	2.150	2.180	2.194	2.198	2.239	2.272	1.880	2.274	2.319
LEVEL DIFFERENCE	0.001	0.306	0.301	0.309	0.299	0.295	0.292	0.297	-0.004	-0.000	0.580	0.604	0.607	-0.000	0.680	0.686	0.688	0.707	0.614	0.761	0.732	0.000
DESIGN OFFSETS	-28.340	-27.445	-26.637	-26.435	-24.869	-23.304	-23.102	-22.294	-21.400	-17.218	-15.367	-14.309	-13.992	-6.432	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300	6.419

CH. 1480.000

1:200

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED

DATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)

MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION

MRWA DRAWING NUMBER

PROJECT TITLE: CAUSEWAY LINK ALLIANCE

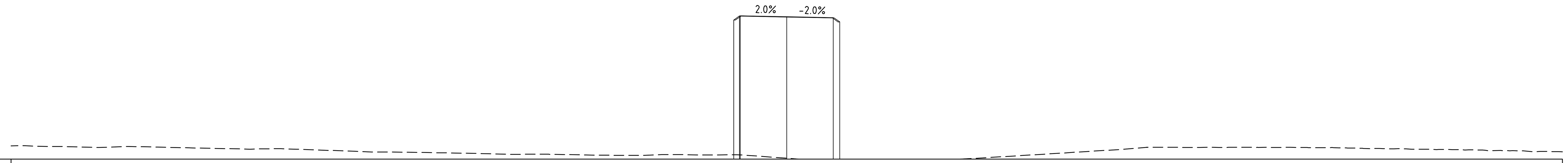
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
CROSS SECTIONS - MC01
SHEET 7

SHEET: A1

DRAWING STATUS: 15%

DRAWING No.: C301-CLA-0000-CI-DRG-00607

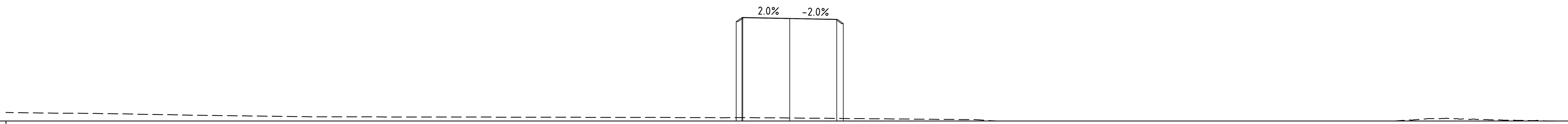
REV: A



R.L. -2

DESIGN LEVELS	6.943	7.203	7.212	7.152	7.092	6.821
EXISTING LEVELS	-1.720	-1.727	-1.730	-1.946	-2.060	-2.057
LEVEL DIFFERENCE	8.663	8.930	8.942	9.098	9.152	8.879
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

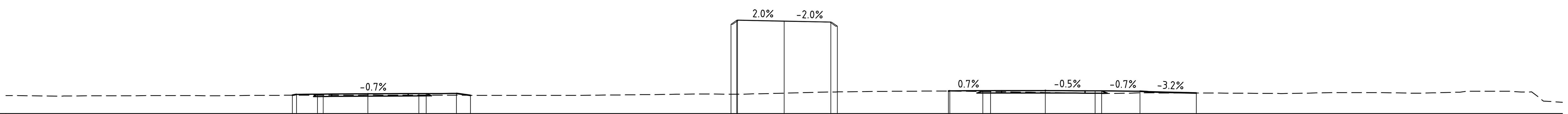
CH. 1640.000



R.L. 0

DESIGN LEVELS	6.343	6.603	6.612	6.552	6.492	6.221
EXISTING LEVELS	0.211	0.212	0.213	0.190	0.163	0.159
LEVEL DIFFERENCE	6.133	6.391	6.400	6.362	6.329	6.062
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1620.000



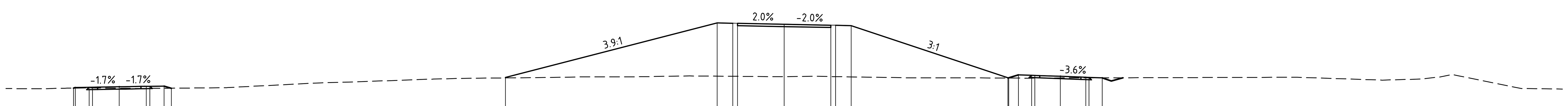
R.L. 0

DESIGN LEVELS	1.176	1.229	1.242	1.252	1.273	1.289	1.283	1.287	1.172
EXISTING LEVELS	1.176	1.177	1.180	1.181	1.186	1.180	1.181	1.175	1.172
LEVEL DIFFERENCE	-0.000	0.052	0.062	0.071	0.087	0.109	0.103	0.112	0.000
DESIGN OFFSETS	-31.594	-31.324	-29.978	-29.618	-26.741	-23.464	-23.002	-21.050	-20.159

DESIGN LEVELS	5.743	6.003	6.012	5.952	5.892	5.621
EXISTING LEVELS	1.243	1.240	1.240	1.310	1.383	1.390
LEVEL DIFFERENCE	4.500	4.763	4.772	4.642	4.509	4.231
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

DESIGN LEVELS	1.442	1.453	1.467	1.476	1.478	1.462	1.452	1.435	1.321
EXISTING LEVELS	1.442	1.442	1.412	1.404	1.350	1.293	1.286	1.328	1.318
LEVEL DIFFERENCE	-0.000	0.011	0.055	0.072	0.128	0.169	0.167	0.107	0.002
DESIGN OFFSETS	10.559	10.646	12.765	13.262	16.777	19.971	20.398	22.862	26.477

CH. 1600.000



R.L. 0

DESIGN LEVELS	1.241	1.278	1.293	1.304	1.333	1.362	1.359	1.374	1.234
EXISTING LEVELS	1.242	1.244	1.256	1.258	1.233	1.220	1.222	1.231	1.235
LEVEL DIFFERENCE	-0.000	0.034	0.037	0.046	0.100	0.142	0.137	0.143	-0.002
DESIGN OFFSETS	-45.659	-45.537	-44.653	-44.433	-42.720	-40.983	-40.755	-39.842	-39.362

DESIGN LEVELS	1.930	5.431	5.418	5.412	5.352	5.292	5.286	5.259
EXISTING LEVELS	1.896	2.008	2.000	1.997	1.981	1.984	1.979	1.963
LEVEL DIFFERENCE	0.034	3.423	3.418	3.415	3.371	3.308	3.307	3.296
DESIGN OFFSETS	-17.904	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300

DESIGN LEVELS	1.893	1.886	2.096	2.066	2.054	1.958	1.947	1.932	1.901
EXISTING LEVELS	1.886	1.886	1.883	1.881	1.886	1.899	1.899	1.900	1.902
LEVEL DIFFERENCE	0.007	-0.000	0.213	0.185	0.168	0.059	0.048	0.032	-0.001
DESIGN OFFSETS	14.370	14.430	15.051	15.894	16.421	19.056	19.373	19.584	20.427

CH. 1580.000

1:200 (scale bar 0 2m 4 6 8 10 12 14 16 18 20 22 24 26 28 30)

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:47 AM Cad File: C:\pwworking\wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00608.dwg

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

wsp
Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER
VERIFIED
DATE

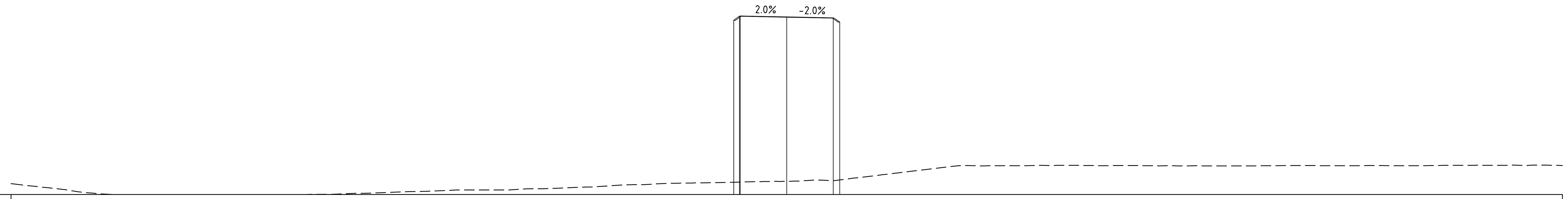
Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

FOR INFORMATION ONLY

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES CROSS SECTIONS - MC01 SHEET 8
SHEET: A1
DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-DRG-00608
REV: A

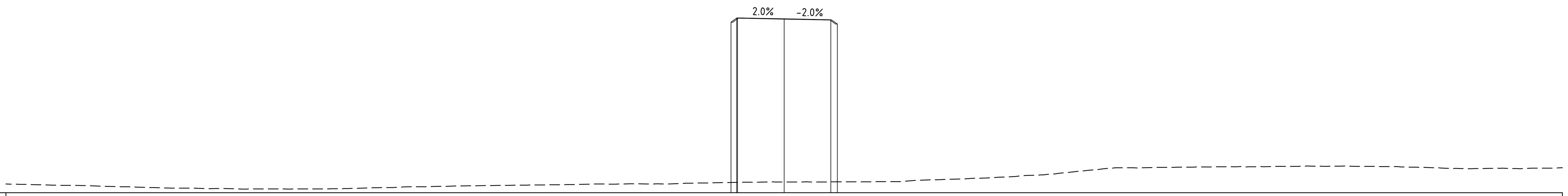
R.L. -3



DESIGN LEVELS	8.226	8.486	8.495	8.435	8.375	8.104
EXISTING LEVELS	-2.211	-2.200	-2.198	-2.151	-2.115	-2.063
LEVEL DIFFERENCE	10.437	10.685	10.693	10.586	10.490	10.166
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1700.000

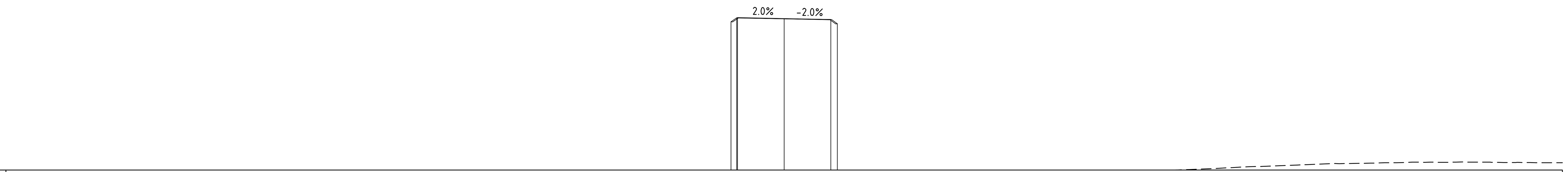
R.L. -3



DESIGN LEVELS	7.949	8.209	8.218	8.158	8.098	7.827
EXISTING LEVELS	-2.346	-2.338	-2.337	-2.315	-2.308	-2.301
LEVEL DIFFERENCE	10.294	10.547	10.555	10.473	10.406	10.127
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1680.000

R.L. -2



DESIGN LEVELS	7.517	7.777	7.786	7.726	7.666	7.395
EXISTING LEVELS	-2.363	-2.359	-2.359	-2.349	-2.374	-2.374
LEVEL DIFFERENCE	9.880	10.136	10.145	10.075	10.039	9.769
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1660.000

1:200

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED

DATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)

MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION

MRWA DRAWING NUMBER

PROJECT TITLE: CAUSEWAY LINK ALLIANCE

DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
CROSS SECTIONS - MC01
SHEET 9

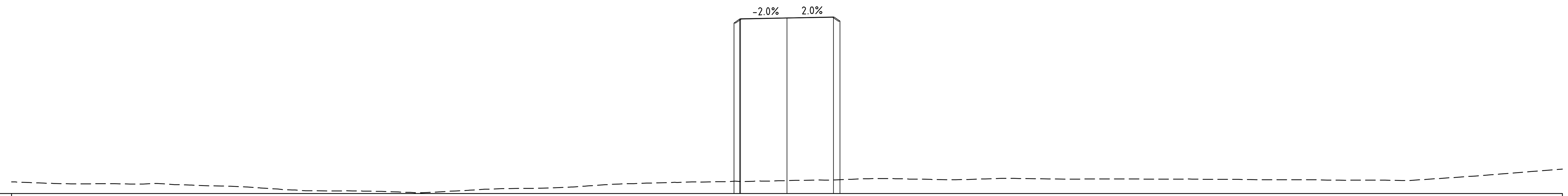
SHEET: A1

DRAWING STATUS: 15%

DRAWING No.: C301-CLA-0000-CI-DRG-00609

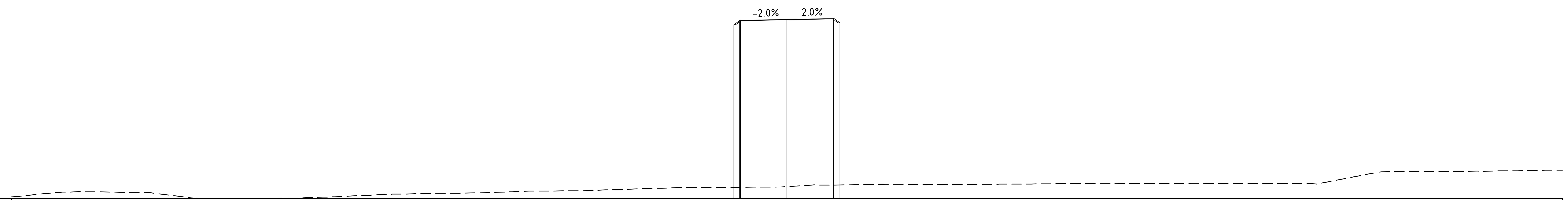
REV: A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:47 AM Cad File: C:\pwworking\wsp-aus-pw.bentley.com__wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00609.dwg



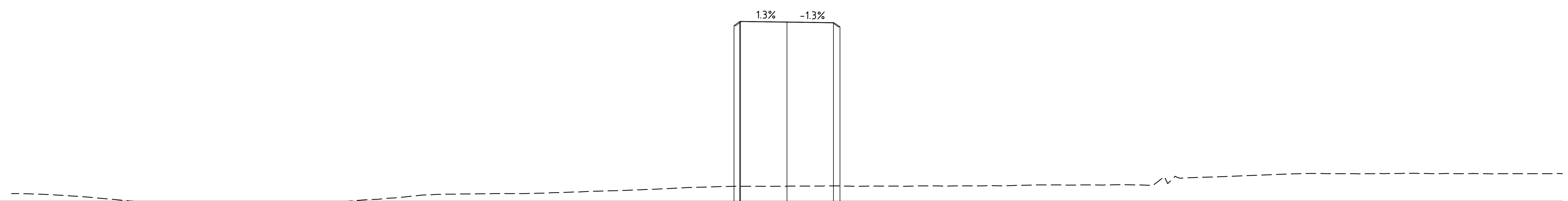
DESIGN LEVELS	8.006	8.266	8.277	8.337	8.397	8.128
EXISTING LEVELS	-2.204	-2.213	-2.216	-2.163	-2.121	-2.107
LEVEL DIFFERENCE	10.210	10.479	10.493	10.500	10.518	10.235
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1760.000



DESIGN LEVELS	8.193	8.453	8.464	8.524	8.584	8.315
EXISTING LEVELS	-2.296	-2.289	-2.288	-2.235	-2.133	-2.128
LEVEL DIFFERENCE	10.490	10.742	10.752	10.759	10.717	10.444
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1740.000



DESIGN LEVELS	8.327	8.587	8.596	8.557	8.518	8.247
EXISTING LEVELS	-2.044	-2.041	-2.041	-2.032	-2.016	-2.016
LEVEL DIFFERENCE	10.371	10.628	10.637	10.589	10.534	10.263
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1720.000

1:200 (scale bar 0, 2m, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30)

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD: 67-08-43
DATE OF CAPTURE: JUN 2022
MAPPING SURVEY STANDARD: 67-08-44
DATE OF CAPTURE: -
MAIN ROADS PROJECT ZONE: PCG94
HEIGHT DATUM: AHD71

wsp
Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

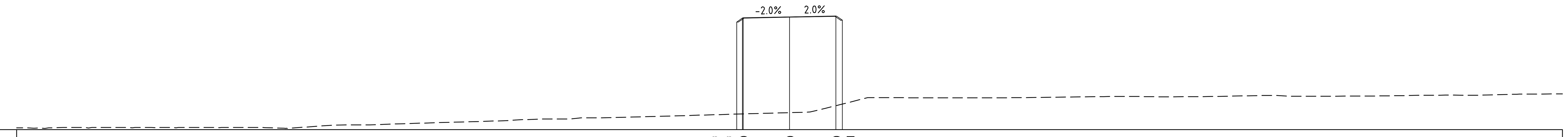
DRAWING PATH

VERIFIER
VERIFIED
DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

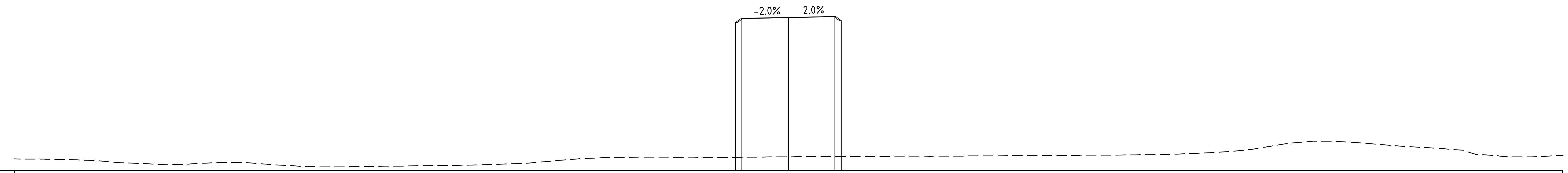
LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES CROSS SECTIONS - MC01 SHEET 10
SHEET: A1
DRAWING STATUS: 15%
DRAWING No.: C301-WSP-0000-CI-DRG-00610
REV: A



R.L. -1

DESIGN LEVELS	5.969	6.229	6.240	6.300	6.360	6.091
EXISTING LEVELS	0.009	0.019	0.020	0.105	0.554	0.659
LEVEL DIFFERENCE	5.960	6.210	6.219	6.195	5.806	5.432
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

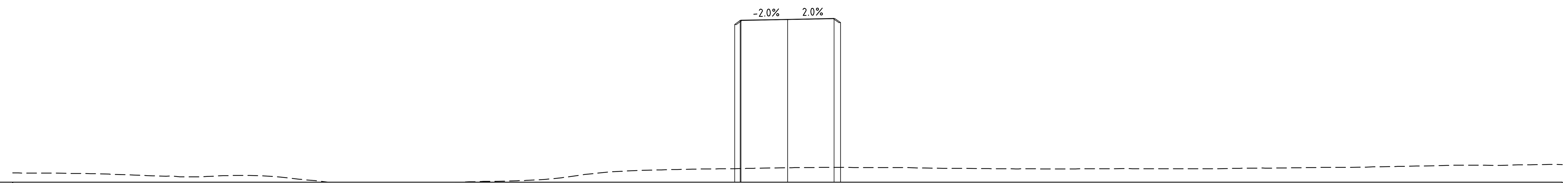
CH. 1840.000



R.L. -3

DESIGN LEVELS	6.569	6.829	6.840	6.900	6.960	6.691
EXISTING LEVELS	-2.152	-2.147	-2.146	-2.121	-2.110	-2.106
LEVEL DIFFERENCE	8.721	8.976	8.986	9.021	9.070	8.797
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

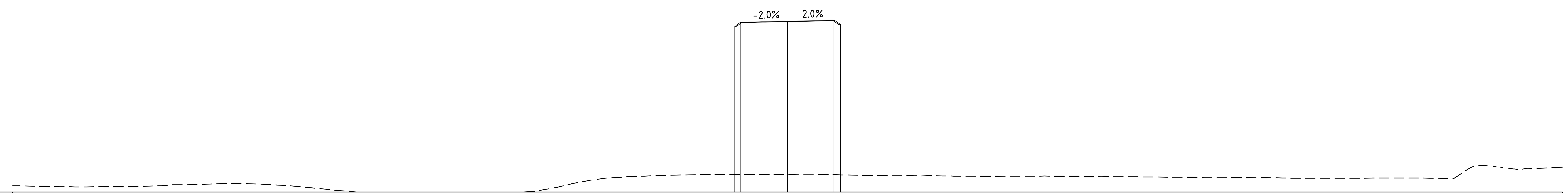
CH. 1820.000



R.L. -3

DESIGN LEVELS	7.167	7.427	7.438	7.498	7.558	7.289
EXISTING LEVELS	-2.126	-2.119	-2.118	-2.067	-2.043	-2.045
LEVEL DIFFERENCE	9.292	9.545	9.555	9.564	9.600	9.334
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1800.000



R.L. -3

DESIGN LEVELS	7.664	7.924	7.935	7.995	8.055	7.786
EXISTING LEVELS	-1.884	-1.882	-1.882	-1.870	-1.892	-1.907
LEVEL DIFFERENCE	9.548	9.806	9.817	9.865	9.946	9.693
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415

CH. 1780.000

1:200 (scale bar 0 – 2m – 30)

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD: 67-08-43
DATE OF CAPTURE: JUN 2022
MAPPING SURVEY STANDARD: 67-08-44
DATE OF CAPTURE: -
MAIN ROADS PROJECT ZONE: PCG94
HEIGHT DATUM: AHD71

wsp
Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED
DATE

Causeway Link Alliance

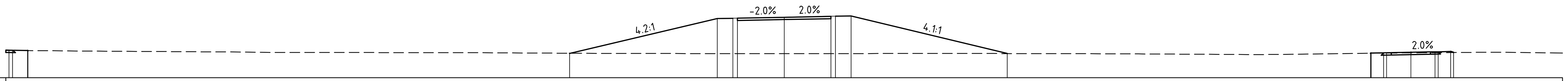
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

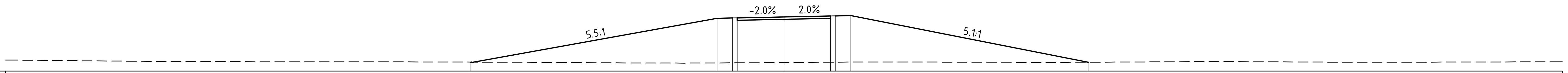
LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES CROSS SECTIONS - MC01 SHEET 11
SHEET: A1
DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-DRG-00611
REV: A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:47 AM Cad File: C:\pwworking\wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00611.dwg



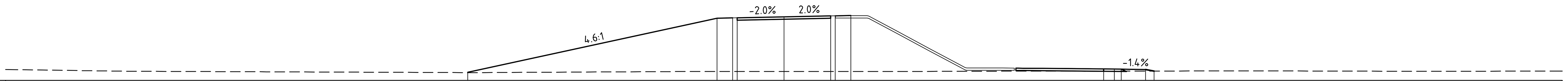
DESIGN LEVELS	1.753	1.744	1.563	3.807	3.834	3.840	3.900	3.960	3.966	3.979	1.560	1.574	1.584	1.600	1.611	1.642	1.673	1.670	1.686	1.622
EXISTING LEVELS	1.748	1.748	1.576	1.554	1.554	1.554	1.554	1.553	1.553	1.554	1.556	1.575	1.575	1.583	1.585	1.601	1.614	1.615	1.621	1.623
LEVEL DIFFERENCE	0.005	-0.004	-0.012	2.253	2.280	2.285	2.346	2.407	2.413	2.424	0.004	-0.000	0.009	0.017	0.026	0.042	0.060	0.055	0.065	-0.000
DESIGN OFFSETS	-48.611	-48.579	-13.786	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300	14.335	37.672	37.702	38.504	38.705	40.259	41.813	42.014	42.816	43.009

CH. 1920.000



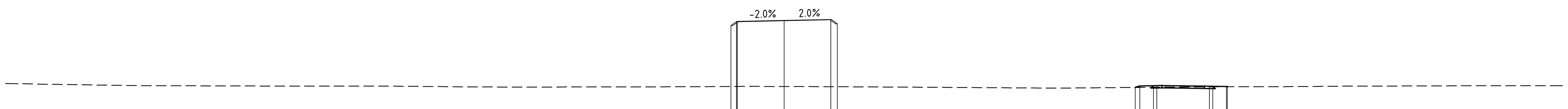
DESIGN LEVELS	1.544	4.407	4.434	4.440	4.500	4.560	4.566	4.579	1.571
EXISTING LEVELS	1.580	1.525	1.531	1.532	1.551	1.575	1.577	1.585	1.573
LEVEL DIFFERENCE	-0.037	2.881	2.903	2.908	2.949	2.985	2.989	2.994	-0.003
DESIGN OFFSETS	-20.107	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300	19.537

CH. 1900.000



DESIGN LEVELS	1.532	5.007	5.034	5.040	5.100	5.160	5.166	5.179	1.747	1.738	1.725	1.704	1.604
EXISTING LEVELS	1.505	1.578	1.580	1.580	1.582	1.583	1.583	1.583	1.594	1.596	1.598	1.602	1.604
LEVEL DIFFERENCE	0.027	3.428	3.454	3.459	3.518	3.577	3.583	3.596	0.152	0.142	0.128	0.102	0.000
DESIGN OFFSETS	-20.317	-4.300	-3.300	-3.000	-0.000	3.000	3.300	4.300	20.535	21.221	21.665	23.234	23.782

CH. 1880.000



DESIGN LEVELS	5.369	5.629	5.640	5.700	5.760	5.491	1.416	1.505	1.525	1.537	1.503	1.493	1.481	1.459
EXISTING LEVELS	1.478	1.480	1.480	1.476	1.464	1.463	1.416	1.418	1.426	1.427	1.456	1.457	1.459	1.459
LEVEL DIFFERENCE	3.891	4.149	4.160	4.223	4.295	4.028	0.000	0.087	0.100	0.110	0.046	0.036	0.021	-0.000
DESIGN OFFSETS	-3.415	-3.050	-3.000	-0.000	3.000	3.415	22.562	22.853	23.726	23.944	27.321	27.539	28.410	28.481

CH. 1860.000

1:200

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED

DATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)

MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION

MRWA DRAWING NUMBER

PROJECT TITLE: CAUSEWAY LINK ALLIANCE

DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
CROSS SECTIONS - MC01
SHEET 12

SHEET: A1

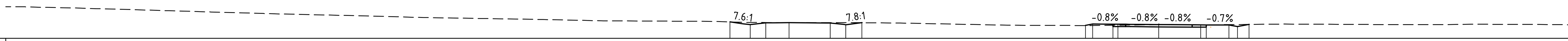
DRAWING STATUS: 15%

DRAWING No.: C301-CLA-0000-CI-DRG-00612

REV: A

Plotted By: Boceski, Mya Plot Date: 07/09/2022 10:48 AM Cad File: C:\pwworking\wsp-aus-pw.bentley.com__wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00612.dwg

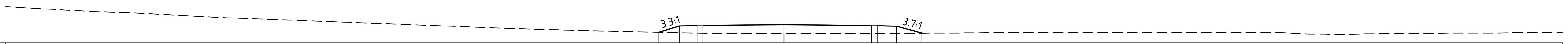
R.L. 1



DESIGN LEVELS	EXISTING LEVELS	LEVEL DIFFERENCE	DESIGN OFFSETS
2.065	2.065	-0.000	-3.770
1.895	2.027	-0.132	-2.484
2.002	2.027	-0.025	-1.492
2.047	2.026	-0.021	-0.000
1.992	2.026	-0.034	2.622
1.885	2.025	-0.141	3.618
2.015	2.015	-0.000	4.644
1.837	1.833	0.004	18.921
1.931	1.837	0.094	19.370
1.920	1.853	0.066	20.669
1.924	1.858	0.066	20.994
1.903	1.891	0.012	23.597
1.883	1.873	0.010	26.267
1.874	1.877	-0.003	26.629
1.864	1.894	-0.029	28.079
1.767	1.899	-0.132	28.622
1.906	1.906	-0.000	29.361

CH. 2000.000

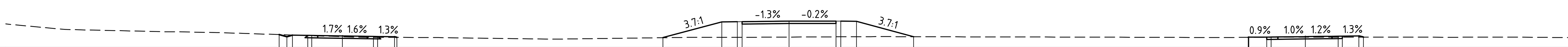
R.L. 1



DESIGN LEVELS	EXISTING LEVELS	LEVEL DIFFERENCE	DESIGN OFFSETS
1.685	1.685	0.000	-8.045
2.090	1.655	0.435	-6.712
2.126	1.634	0.493	-5.595
2.135	1.632	0.503	-5.260
2.187	1.594	0.593	-0.000
2.131	1.615	0.516	5.630
2.121	1.617	0.504	5.991
2.079	1.622	0.457	7.225
1.633	1.629	0.004	8.861

CH. 1980.000

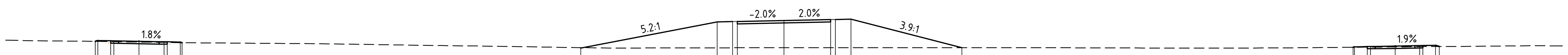
R.L. 1



DESIGN LEVELS	EXISTING LEVELS	LEVEL DIFFERENCE	DESIGN OFFSETS
1.827	1.827	-0.000	-32.554
1.690	1.810	-0.120	-32.058
1.790	1.798	-0.008	-31.693
1.773	1.766	0.008	-30.718
1.776	1.757	0.019	-30.466
1.743	1.692	0.051	-28.516
1.712	1.653	0.058	-26.526
1.701	1.652	0.049	-26.259
1.687	1.647	0.040	-25.190
1.646	1.646	-0.000	-25.027
1.635	1.625	0.010	-8.052
2.639	1.647	0.991	-4.300
2.658	1.648	1.010	-3.300
2.662	1.650	1.012	-3.000
2.700	1.666	1.034	-0.000
2.692	1.682	1.010	3.000
2.692	1.684	1.008	3.300
2.682	1.689	0.993	4.300
1.692	1.690	0.002	7.943
1.647	1.647	0.000	29.302
1.658	1.648	0.010	29.350
1.668	1.653	0.015	30.490
1.678	1.654	0.023	30.772
1.699	1.664	0.035	32.954
1.725	1.665	0.059	35.048
1.721	1.665	0.056	35.313
1.735	1.664	0.071	36.373
1.664	1.664	-0.000	36.654

CH. 1960.000

R.L. 1



DESIGN LEVELS	EXISTING LEVELS	LEVEL DIFFERENCE	DESIGN OFFSETS
1.959	1.959	0.000	-44.239
2.009	1.956	0.053	-44.084
1.995	1.944	0.050	-43.258
1.998	1.941	0.057	-43.051
1.969	1.918	0.052	-41.441
1.941	1.894	0.047	-39.828
1.930	1.891	0.039	-39.620
1.915	1.879	0.037	-38.788
1.877	1.877	-0.000	-38.668
1.535	1.558	-0.024	-13.053
3.207	1.546	1.660	-4.300
3.234	1.549	1.685	-3.300
3.240	1.549	1.690	-3.000
3.300	1.554	1.745	-0.000
3.360	1.554	1.806	3.000
3.366	1.553	1.812	3.300
3.379	1.553	1.826	4.300
1.553	1.554	-0.001	11.427
1.581	1.581	-0.000	36.563
1.610	1.582	0.028	36.653
1.626	1.590	0.036	37.475
1.637	1.591	0.046	37.678
1.667	1.605	0.062	39.257
1.697	1.624	0.073	40.835
1.694	1.626	0.068	41.039
1.710	1.629	0.081	41.853
1.629	1.629	0.000	42.099

CH. 1940.000

1:200

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489
9700 Facsimile +61 8 9489
9777 Email:
perth@wsp.com

DRAWN	M.BOCESKI	09.09.22
DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED

DATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)

MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION

MRWA DRAWING NUMBER

PROJECT TITLE: CAUSEWAY LINK ALLIANCE

DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES
CROSS SECTIONS - MC01
SHEET 13

SHEET: A1

DRAWING STATUS: 15%

DRAWING No.: C301-CLA-0000-CI-DRG-00613

REV: A

APPENDIX 2 PEDESTRIAN AND CYCLIST COUNTS

mainroads WESTERN AUSTRALIA

SITE 50140

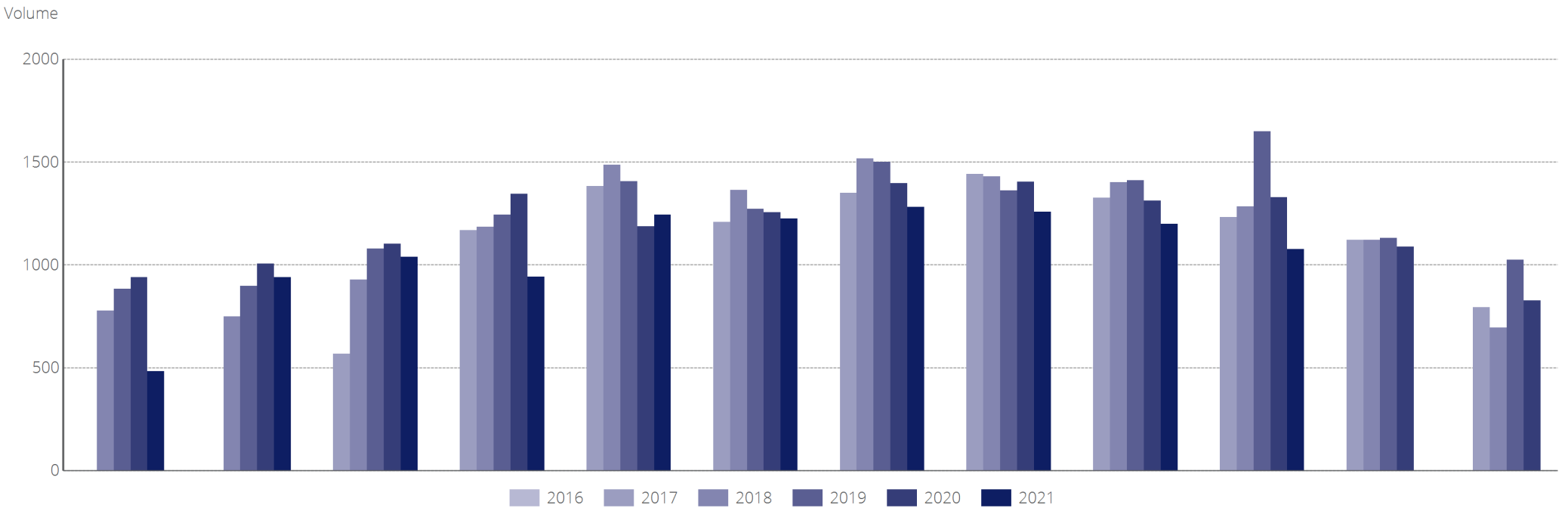
Monthly Volume by Year

Riverside Dr RSP

West Abutment of Causeway Bridge

Monday to Friday

All Bicycles



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2021/22	482	939	1038	942	1243	1225	1281	1258	1199	1077		
2020/21	939	1006	1103	1346	1187	1255	1398	1403	1312	1328	1089	827
2019/20	883	898	1079	1243	1406	1272	1501	1361	1412	1650	1130	1024
2018/19	778	749	928	1186	1486	1363	1517	1430	1401	1284	1121	694
2017/18			568	1168	1382	1209	1350	1442	1327	1233	1122	794
2016/17												

mainroads WESTERN AUSTRALIA

SITE 50140

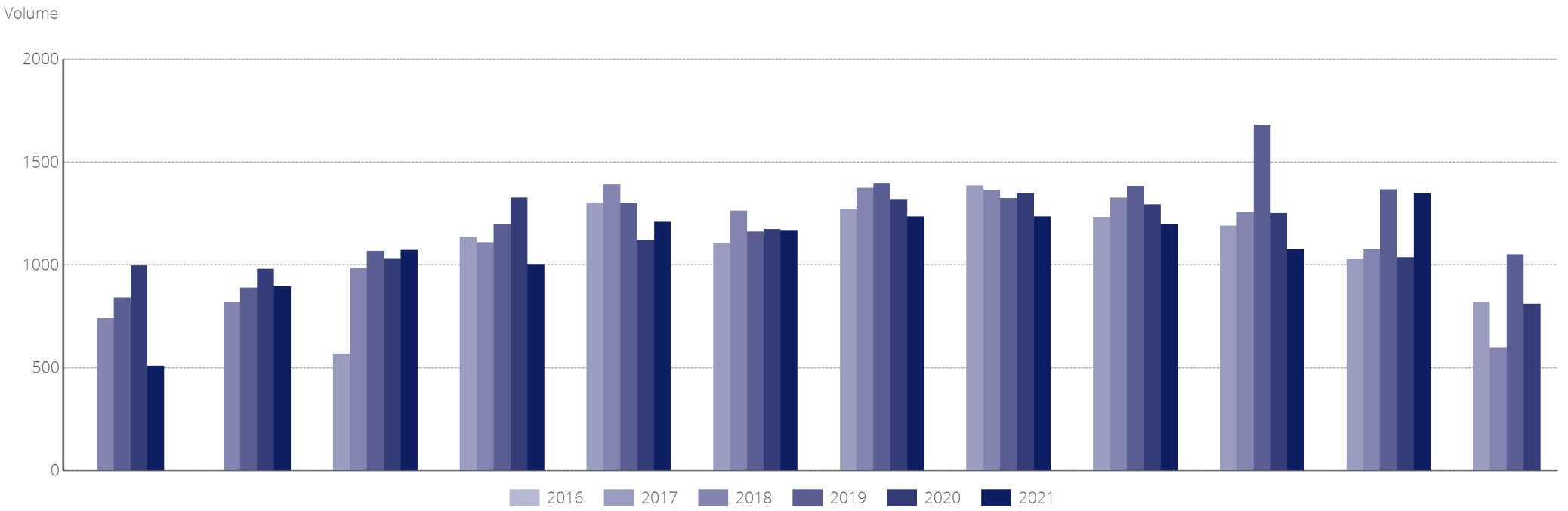
Monthly Volume by Year

Riverside Dr RSP

West Abutment of Causeway Bridge

Monday to Sunday

All Bicycles



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2021/22	509	895	1072	1003	1209	1168	1235	1235	1198	1077	1349	
2020/21	996	981	1032	1327	1121	1173	1320	1350	1294	1251	1036	811
2019/20	840	889	1066	1198	1300	1162	1397	1325	1382	1680	1367	1051
2018/19	739	818	984	1110	1389	1263	1374	1364	1326	1255	1075	597
2017/18			568	1135	1302	1107	1273	1386	1233	1190	1029	817
2016/17												

SITE 50140

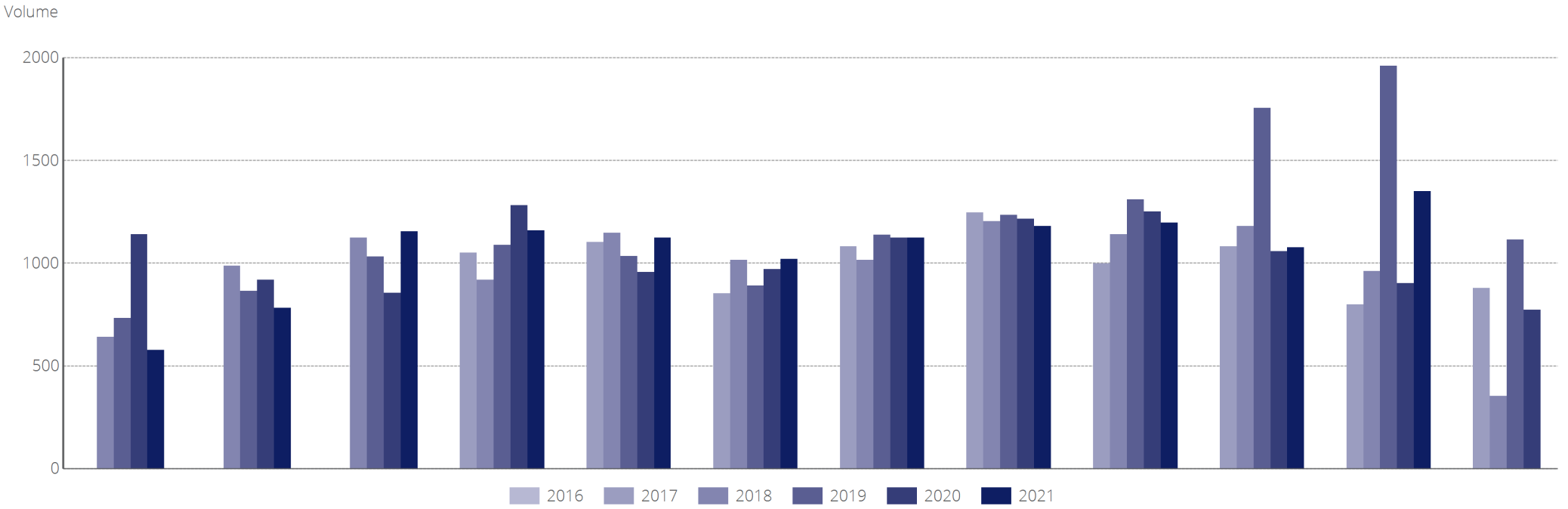
Monthly Volume by Year

Riverside Dr RSP

West Abutment of Causeway Bridge

Weekend

All Bicycles



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2021/22	576	782	1155	1159	1124	1021	1124	1180	1197	1077	1349	
2020/21	1140	918	856	1281	957	971	1124	1216	1252	1057	902	772
2019/20	733	865	1032	1089	1034	890	1138	1234	1310	1756	1960	1115
2018/19	641	988	1124	918	1148	1015	1016	1203	1139	1181	960	354
2017/18				1051	1102	852	1082	1246	999	1082	798	879
2016/17												

SITE 50140

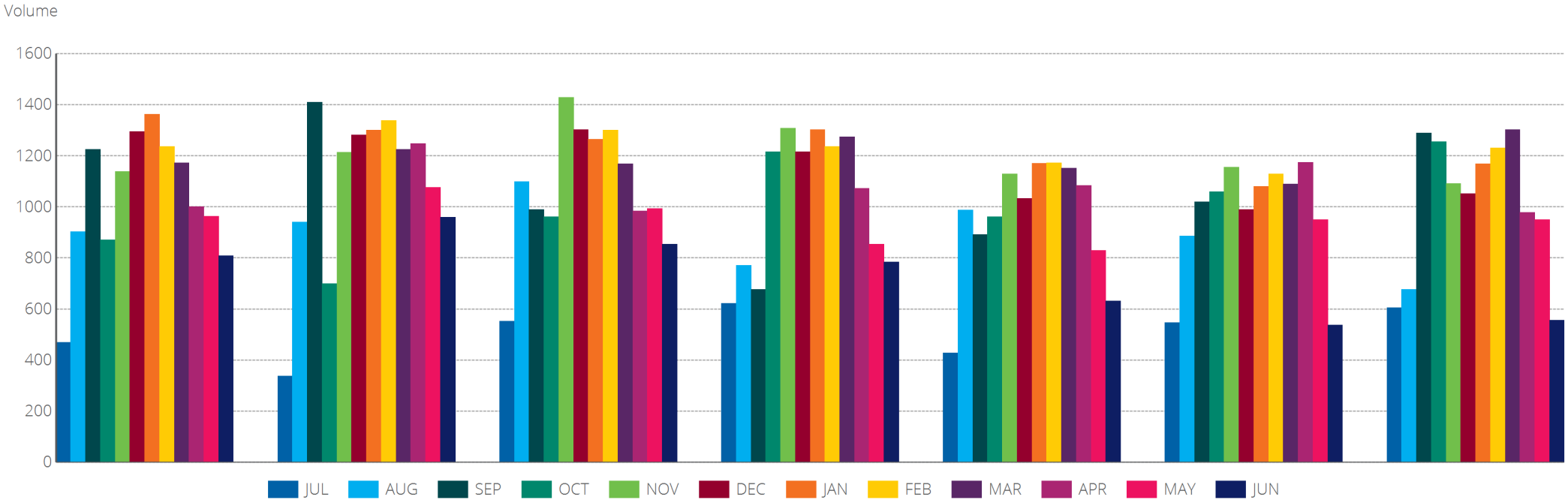
Daily Volume by Month

Riverside Dr RSP

West Abutment of Causeway Bridge

2021/22

All Bicycles



	MON	TUE	WED	THU	FRI	SAT	SUN
JUL	470	338	552	622	427	547	605
AUG	902	940	1099	771	987	885	677
SEP	1225	1409	990	677	892	1020	1289
OCT	871	700	961	1216	961	1060	1256
NOV	1138	1214	1429	1308	1128	1155	1091
DEC	1295	1282	1303	1216	1033	990	1051
JAN	1363	1301	1264	1303	1171	1080	1168
FEB	1237	1339	1301	1236	1173	1128	1230
MAR	1172	1226	1168	1274	1152	1089	1303
APR	1000	1247	983	1073	1084	1174	979
MAY	963	1077	994	854	830	949	950
JUN	809	960	854	784	632	536	555

SITE 50140

Hourly Volume

Riverside Dr RSP

West Abutment of Causeway Bridge

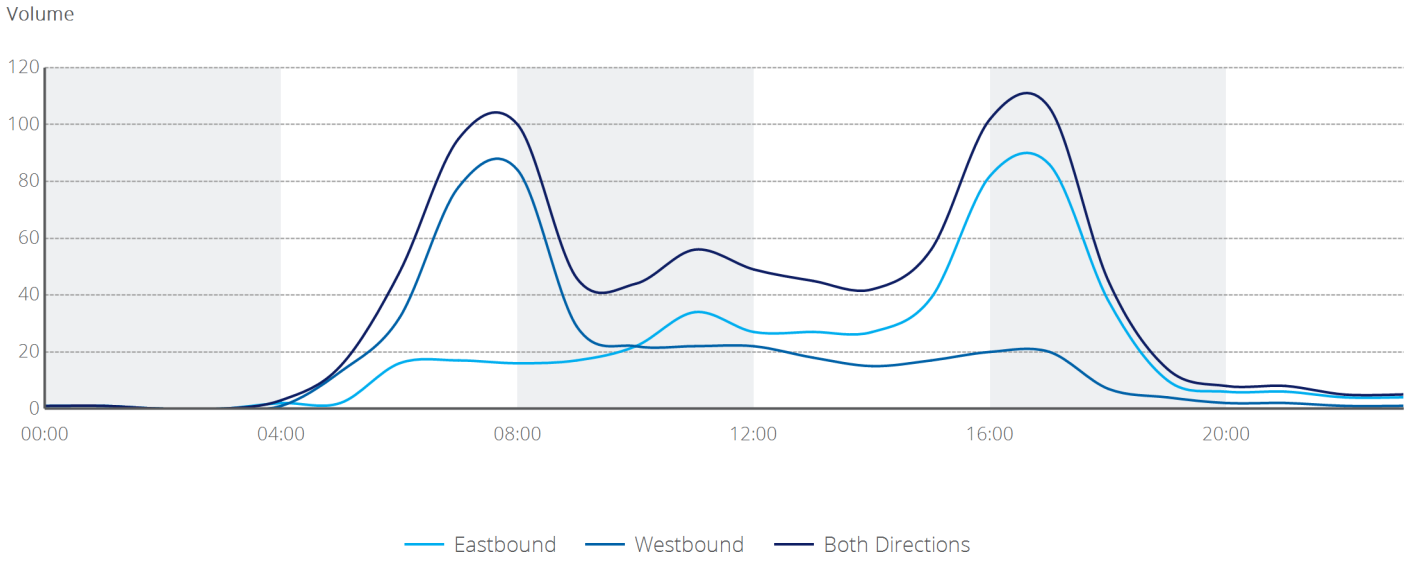
2022/23
Monday to Friday

	All Bicycles		
	EB	WB	Both
00:00	1	0	1
01:00	1	0	1
02:00	0	0	0
03:00	0	0	0
04:00	2	1	3
05:00	2	13	15
06:00	16	32	48
07:00	17	78	95
08:00	16	84	100
09:00	17	29	46
10:00	22	22	44
11:00	34	22	56
12:00	27	22	49
13:00	27	18	45
14:00	27	15	42
15:00	39	17	56
16:00	82	20	102
17:00	86	20	106
18:00	38	7	45
19:00	10	4	14
20:00	6	2	8
21:00	6	2	8
22:00	4	1	5
23:00	4	1	5
TOTAL	484	410	894

Peak Statistics

AM	TIME	11:00	07:30	07:30
	VOL	34	97	113
PM	TIME	16:30	16:30	16:30
	VOL	94	23	117

Information Not Available



SITE 50140

Hourly Volume

2022/23
Monday to Sunday

Riverside Dr RSP

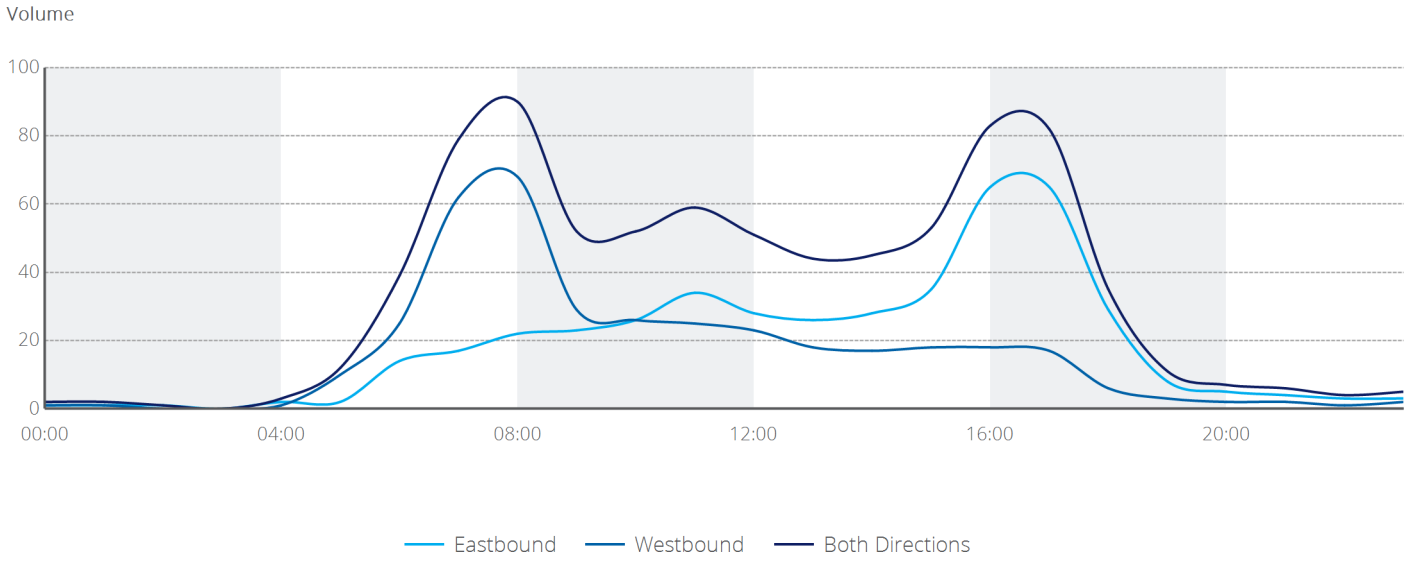
West Abutment of Causeway Bridge

	All Bicycles		
	EB	WB	Both
00:00	1	1	2
01:00	1	1	2
02:00	1	0	1
03:00	0	0	0
04:00	2	1	3
05:00	2	10	12
06:00	14	25	39
07:00	17	62	79
08:00	22	68	90
09:00	23	29	52
10:00	26	26	52
11:00	34	25	59
12:00	28	23	51
13:00	26	18	44
14:00	28	17	45
15:00	35	18	53
16:00	65	18	83
17:00	65	17	82
18:00	29	6	35
19:00	8	3	11
20:00	5	2	7
21:00	4	2	6
22:00	3	1	4
23:00	3	2	5
TOTAL	442	375	817

Peak Statistics

AM	TIME	11:00	07:30	07:45
	VOL	34	75	96
PM	TIME	16:30	12:00	16:30
	VOL	73	23	91

Information Not Available



SITE 50140

Hourly Volume

Riverside Dr RSP

West Abutment of Causeway Bridge

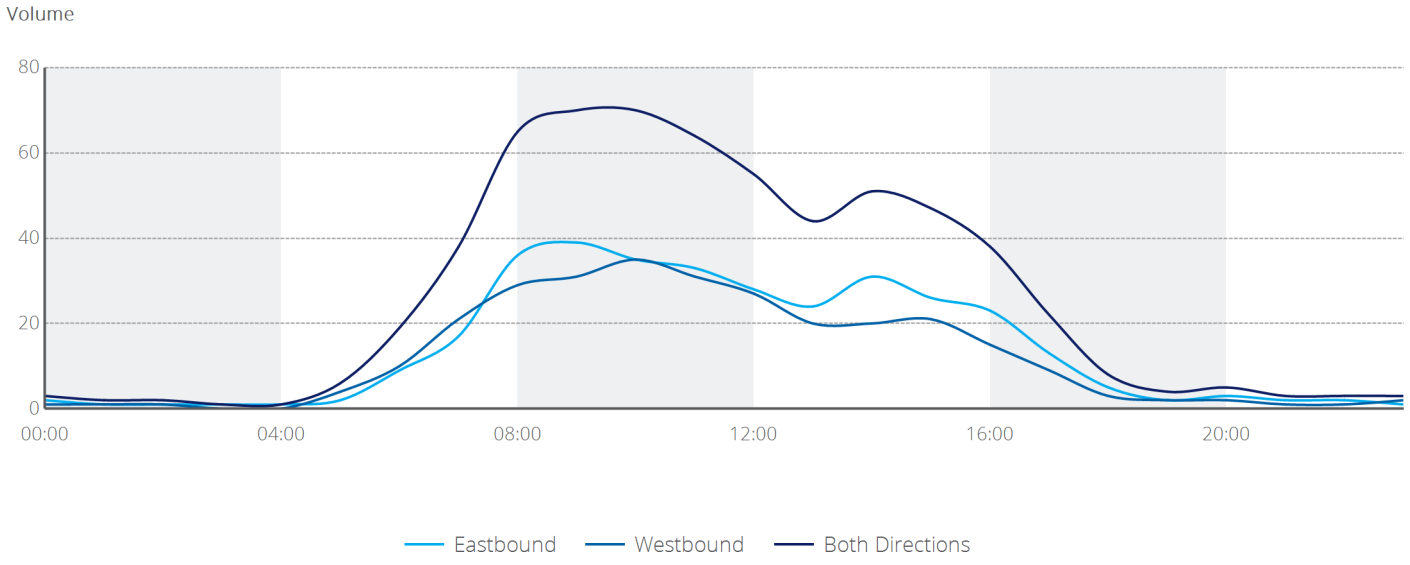
2022/23
Weekend

	All Bicycles		
	EB	WB	Both
00:00	2	1	3
01:00	1	1	2
02:00	1	1	2
03:00	1	0	1
04:00	1	0	1
05:00	2	4	6
06:00	9	10	19
07:00	17	21	38
08:00	36	29	65
09:00	39	31	70
10:00	35	35	70
11:00	33	31	64
12:00	28	27	55
13:00	24	20	44
14:00	31	20	51
15:00	26	21	47
16:00	23	15	38
17:00	13	9	22
18:00	5	3	8
19:00	2	2	4
20:00	3	2	5
21:00	2	1	3
22:00	2	1	3
23:00	1	2	3
TOTAL	337	287	624

Peak Statistics

AM	TIME	09:30	10:00	09:30
	VOL	43	35	77
PM	TIME	14:15	12:00	12:00
	VOL	32	27	55

Information Not Available



mainroads WESTERN AUSTRALIA

SITE 51608

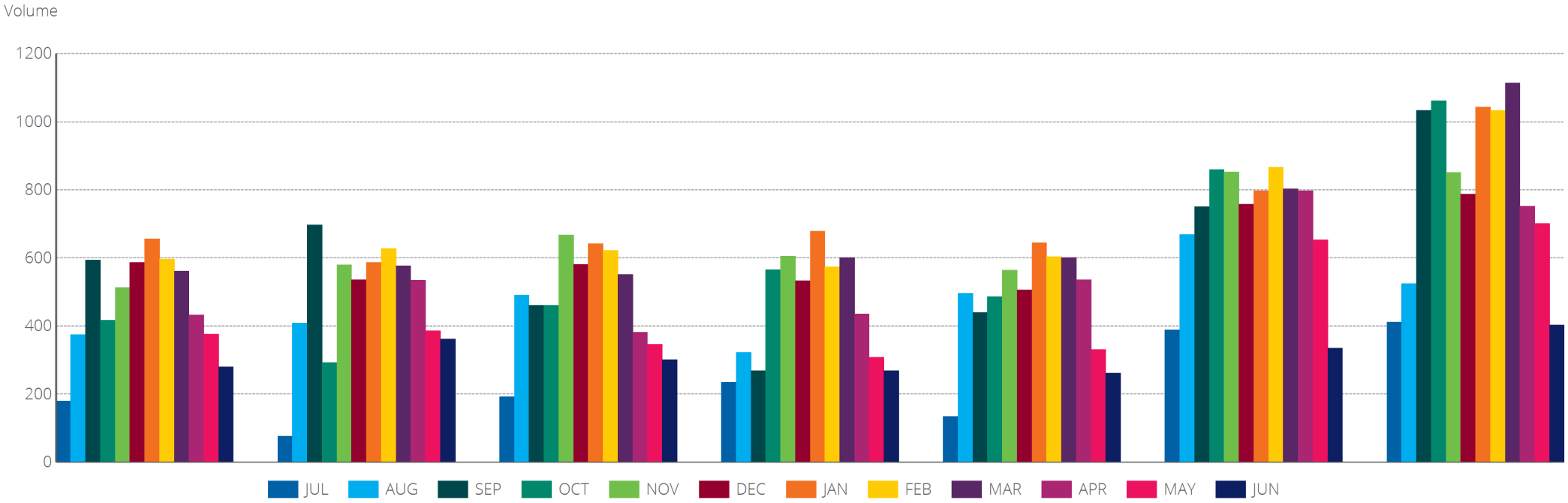
Daily Volume by Month

Riverside Dr RSP

At Causeway Bridge

2021/22

All Bicycles



	MON	TUE	WED	THU	FRI	SAT	SUN
JUL	179	76	192	234	134	388	411
AUG	374	409	491	322	496	668	525
SEP	594	697	460	269	440	751	1034
OCT	417	293	460	565	486	859	1061
NOV	513	580	667	605	564	853	851
DEC	587	536	581	533	506	758	788
JAN	656	587	642	679	645	797	1043
FEB	597	627	622	574	604	866	1033
MAR	561	576	551	601	600	803	1114
APR	433	534	381	435	536	797	752
MAY	376	386	346	308	331	653	701
JUN	279	362	301	269	261	335	402

SITE 51608

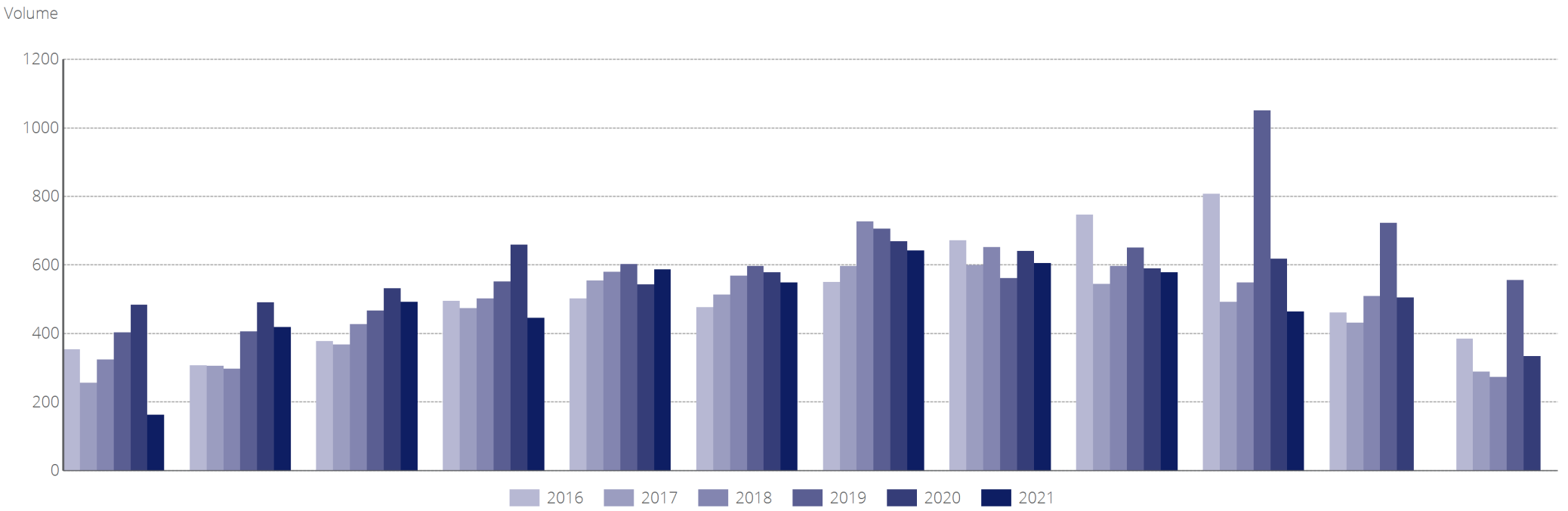
Monthly Volume by Year

Riverside Dr RSP

At Causeway Bridge

Monday to Friday

All Bicycles



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2021/22	163	418	492	445	586	548	642	605	578	464		
2020/21	483	491	532	658	542	578	669	640	590	617	504	334
2019/20	402	406	466	551	602	596	705	561	650	1051	722	555
2018/19	324	296	427	502	580	568	727	651	597	548	509	273
2017/18	256	305	368	473	554	513	596	599	544	492	431	288
2016/17	353	306	377	494	501	476	550	671	746	807	461	385

SITE 51608

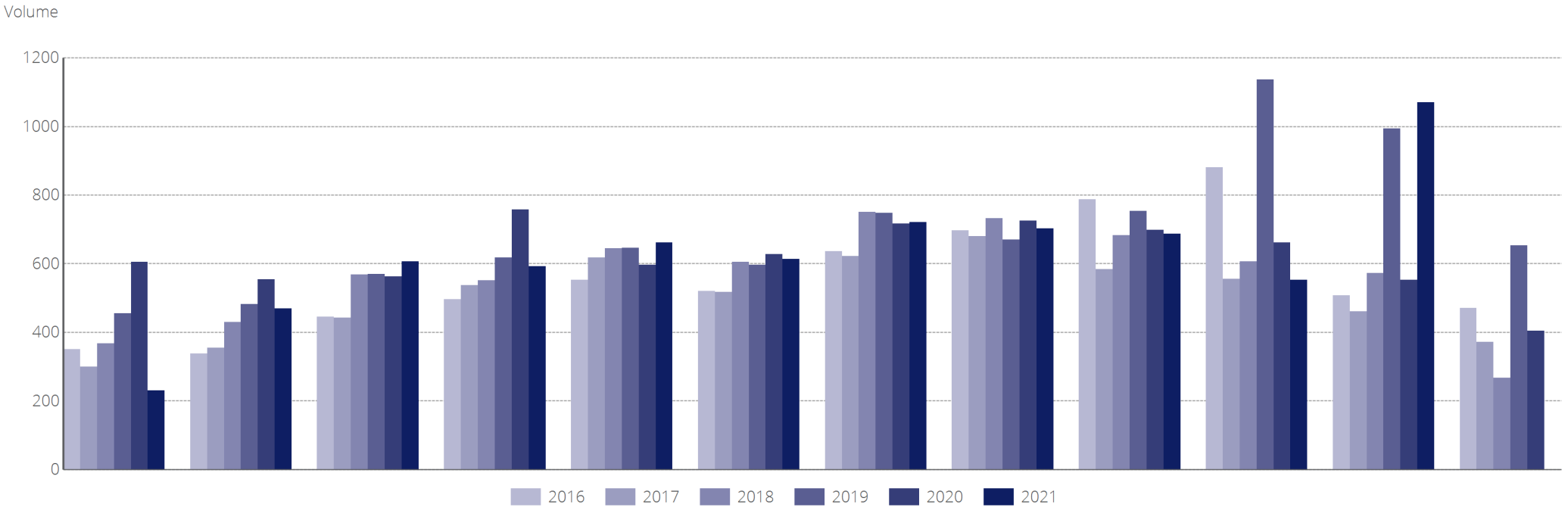
Monthly Volume by Year

Riverside Dr RSP

At Causeway Bridge

Monday to Sunday

All Bicycles



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2021/22	230	469	606	592	662	613	721	703	687	553	1070	
2020/21	605	554	563	758	597	627	716	725	698	661	553	404
2019/20	455	482	569	617	646	597	748	670	754	1137	994	653
2018/19	367	429	568	551	645	605	750	732	683	607	573	267
2017/18	300	354	442	537	618	517	622	680	583	555	460	372
2016/17	350	338	445	496	553	520	636	697	787	880	508	470

SITE 51608

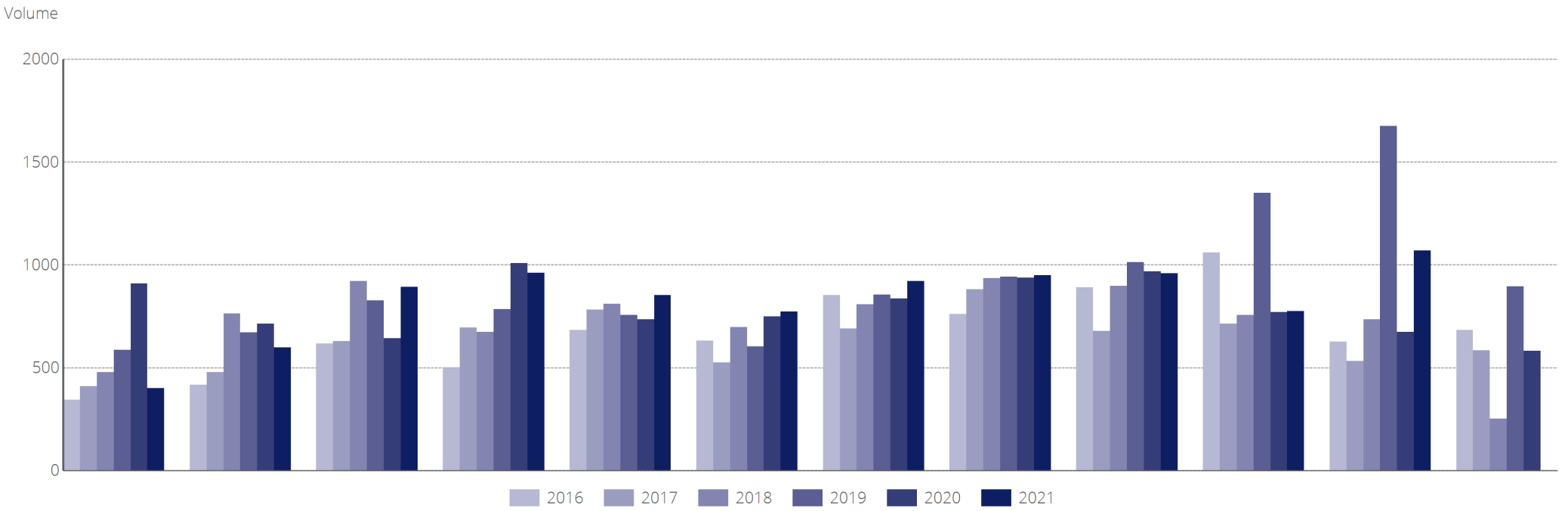
Monthly Volume by Year

Riverside Dr RSP

At Causeway Bridge

Weekend

All Bicycles



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
2021/22	400	597	893	961	853	773	920	950	959	775	1070	
2020/21	910	714	642	1007	735	750	836	938	967	771	674	581
2019/20	587	672	826	784	757	603	855	942	1014	1351	1675	896
2018/19	478	762	920	673	810	696	809	934	897	756	734	251
2017/18	410	479	628	694	781	526	689	882	678	713	533	583
2016/17	343	417	616	501	684	632	853	760	890	1061	626	684

SITE 51608

Hourly Volume

Riverside Dr RSP

At Causeway Bridge

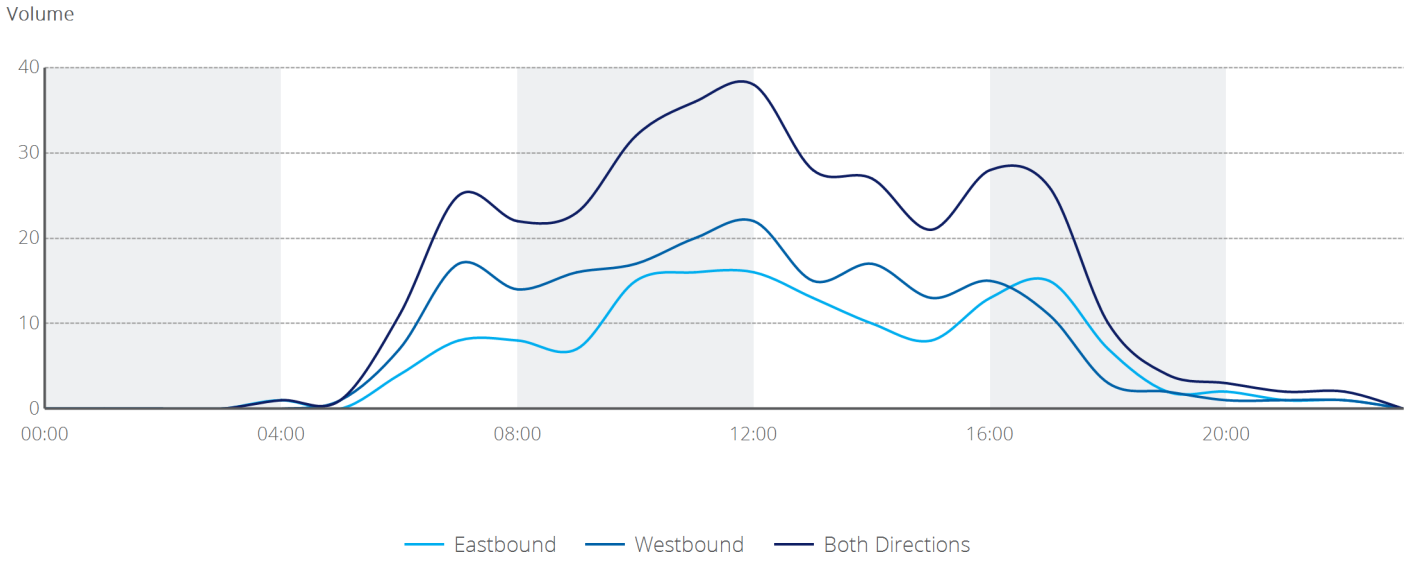
2022/23
Monday to Friday

	All Bicycles		
	EB	WB	Both
00:00	0	0	0
01:00	0	0	0
02:00	0	0	0
03:00	0	0	0
04:00	1	0	1
05:00	0	1	1
06:00	4	7	11
07:00	8	17	25
08:00	8	14	22
09:00	7	16	23
10:00	15	17	32
11:00	16	20	36
12:00	16	22	38
13:00	13	15	28
14:00	10	17	27
15:00	8	13	21
16:00	13	15	28
17:00	15	11	26
18:00	7	3	10
19:00	2	2	4
20:00	2	1	3
21:00	1	1	2
22:00	1	1	2
23:00	0	0	0
TOTAL	147	193	340

Peak Statistics

AM	TIME	10:30	11:30	11:15
	VOL	18	22	38
PM	TIME	12:00	12:00	12:00
	VOL	16	22	38

Information Not Available



SITE 51608

Hourly Volume

Riverside Dr RSP

At Causeway Bridge

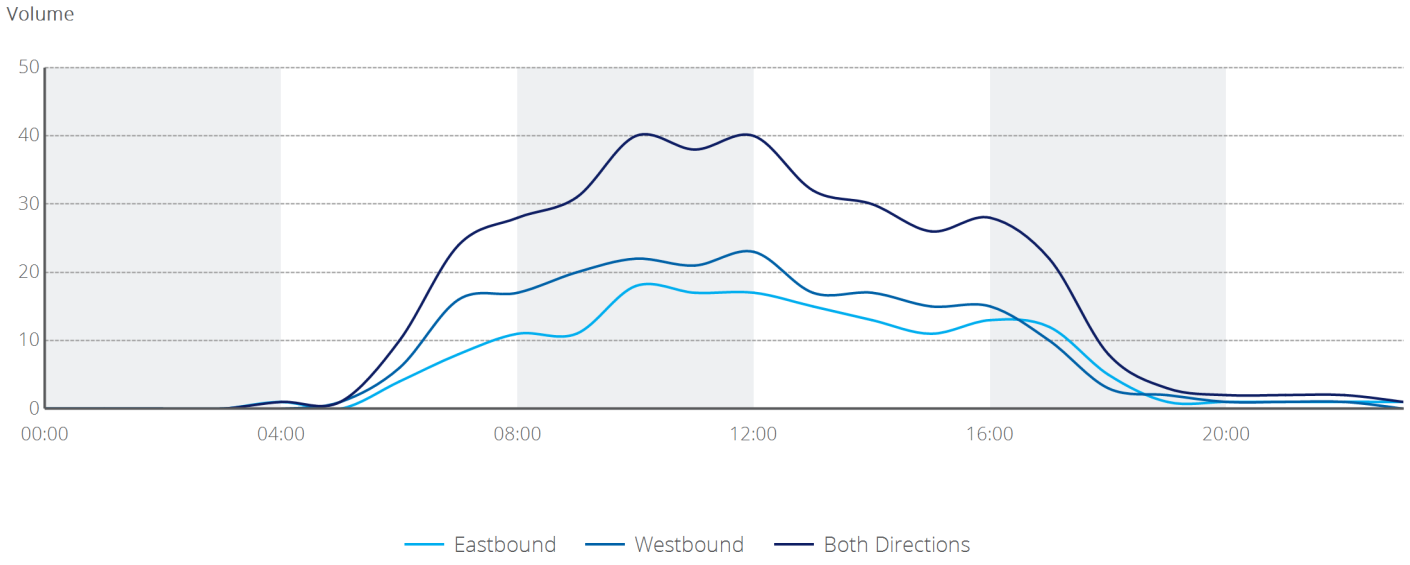
2022/23
Monday to Sunday

	All Bicycles		
	EB	WB	Both
00:00	0	0	0
01:00	0	0	0
02:00	0	0	0
03:00	0	0	0
04:00	1	0	1
05:00	0	1	1
06:00	4	6	10
07:00	8	16	24
08:00	11	17	28
09:00	11	20	31
10:00	18	22	40
11:00	17	21	38
12:00	17	23	40
13:00	15	17	32
14:00	13	17	30
15:00	11	15	26
16:00	13	15	28
17:00	12	10	22
18:00	5	3	8
19:00	1	2	3
20:00	1	1	2
21:00	1	1	2
22:00	1	1	2
23:00	1	0	1
TOTAL	161	208	369

Peak Statistics

AM	TIME	09:45	11:30	11:30
	VOL	18	23	41
PM	TIME	12:00	12:00	12:00
	VOL	17	23	40

Information Not Available



SITE 51608

Hourly Volume

Riverside Dr RSP

At Causeway Bridge

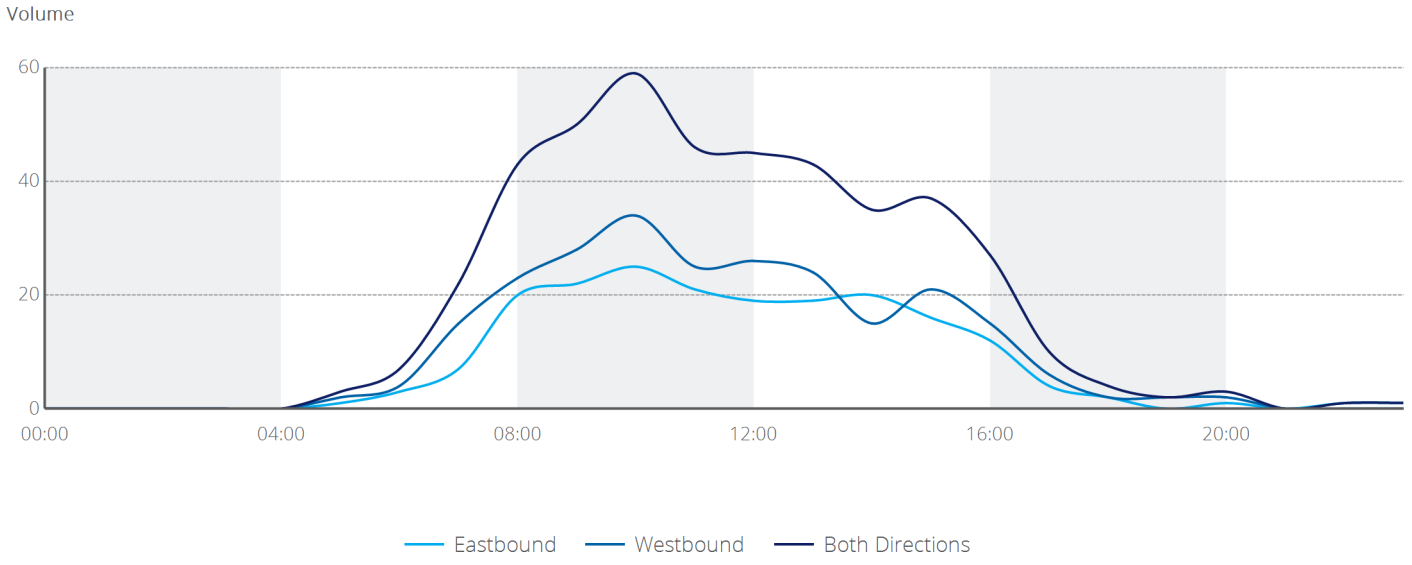
2022/23
Weekend

	All Bicycles		
	EB	WB	Both
00:00	0	0	0
01:00	0	0	0
02:00	0	0	0
03:00	0	0	0
04:00	0	0	0
05:00	1	2	3
06:00	3	4	7
07:00	7	15	22
08:00	20	23	43
09:00	22	28	50
10:00	25	34	59
11:00	21	25	46
12:00	19	26	45
13:00	19	24	43
14:00	20	15	35
15:00	16	21	37
16:00	12	15	27
17:00	4	6	10
18:00	2	2	4
19:00	0	2	2
20:00	1	2	3
21:00	0	0	0
22:00	1	0	1
23:00	1	0	1
TOTAL	194	244	438

Peak Statistics

AM	TIME	09:45	10:00	09:45
	VOL	29	34	62
PM	TIME	14:30	12:00	12:00
	VOL	22	26	45

Information Not Available

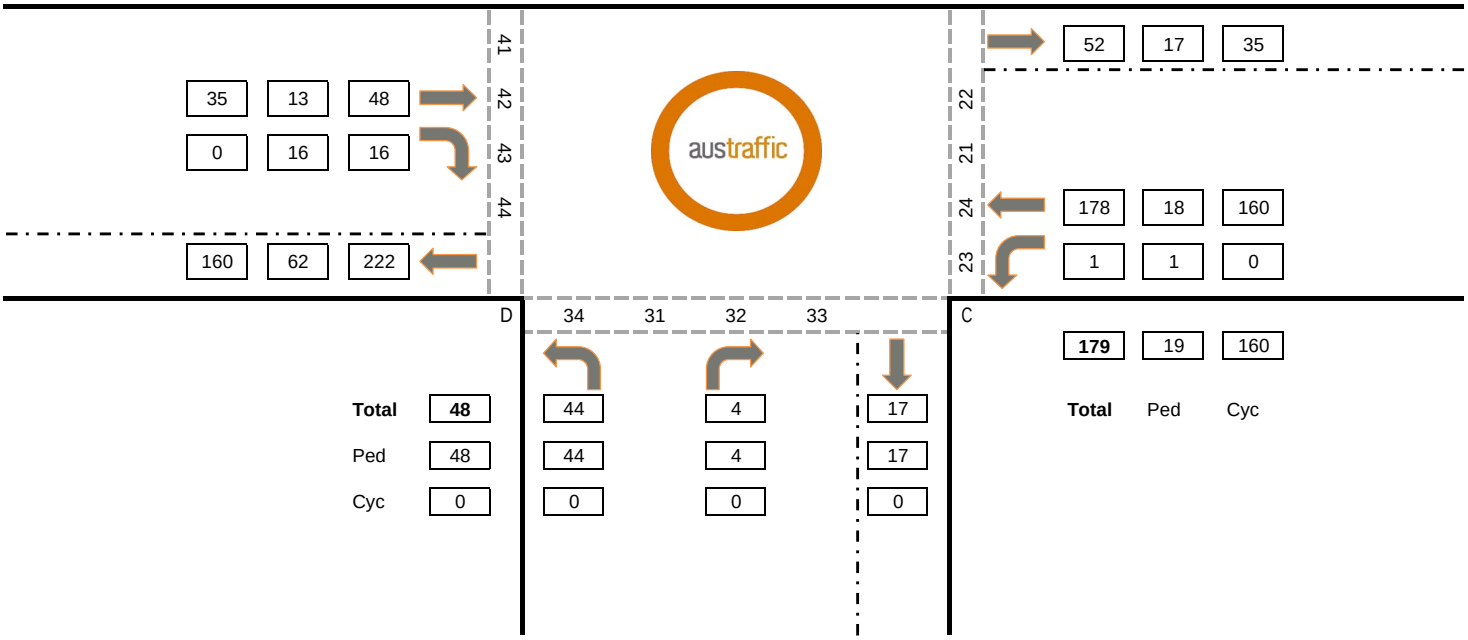


Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Wednesday 30 March 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

1hr Peak start	
AM	07:15
PM	16:15

Time span: 1 hour
Time period: AM
Time start: AM Peak

Cyc	Ped	**Total**
35	29	**64**



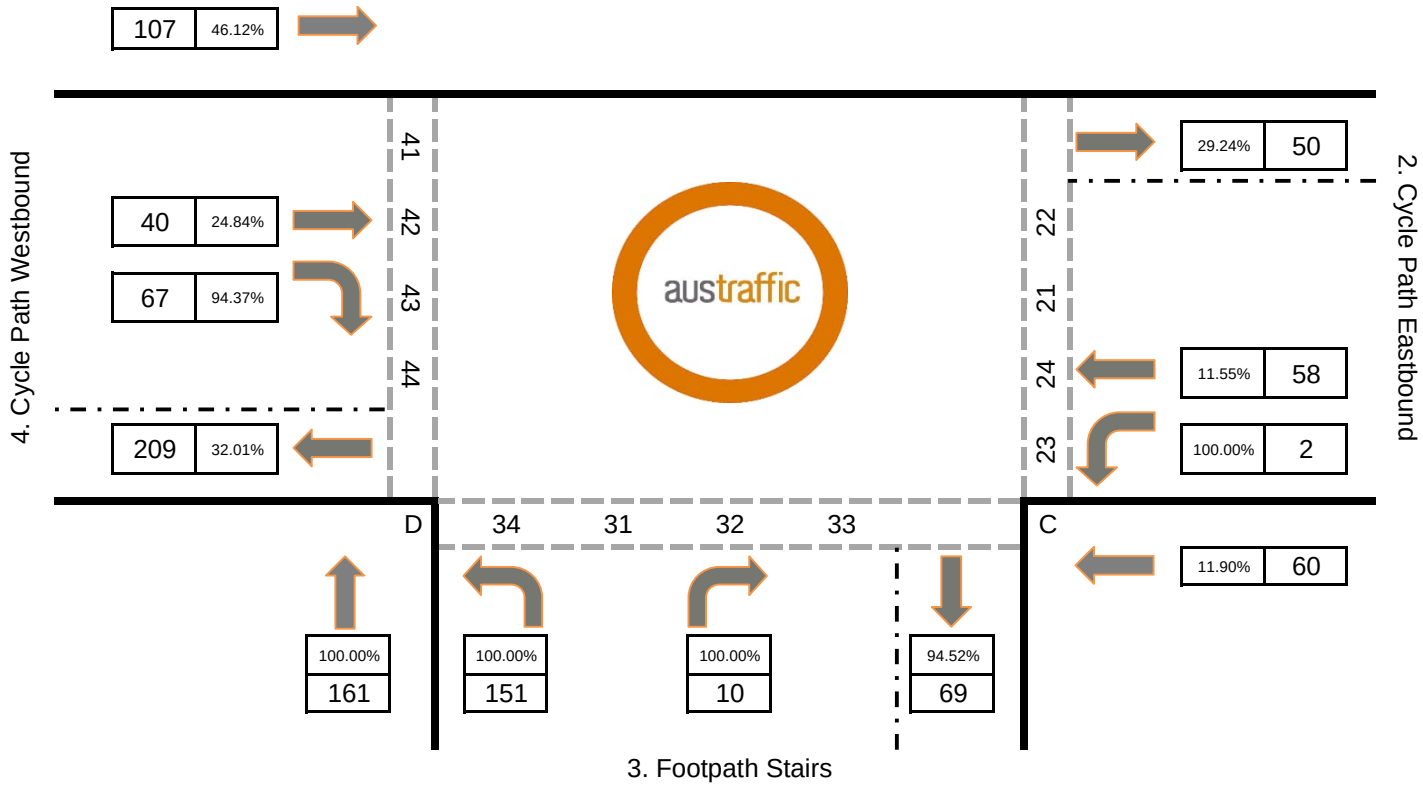
3. Footpath Stairs

Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Wednesday 30 March 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

Span	1 hour
Period	AM
Start	AM Peak
Cat	Ped

1hr Peak start

AM	07:15
PM	16:15

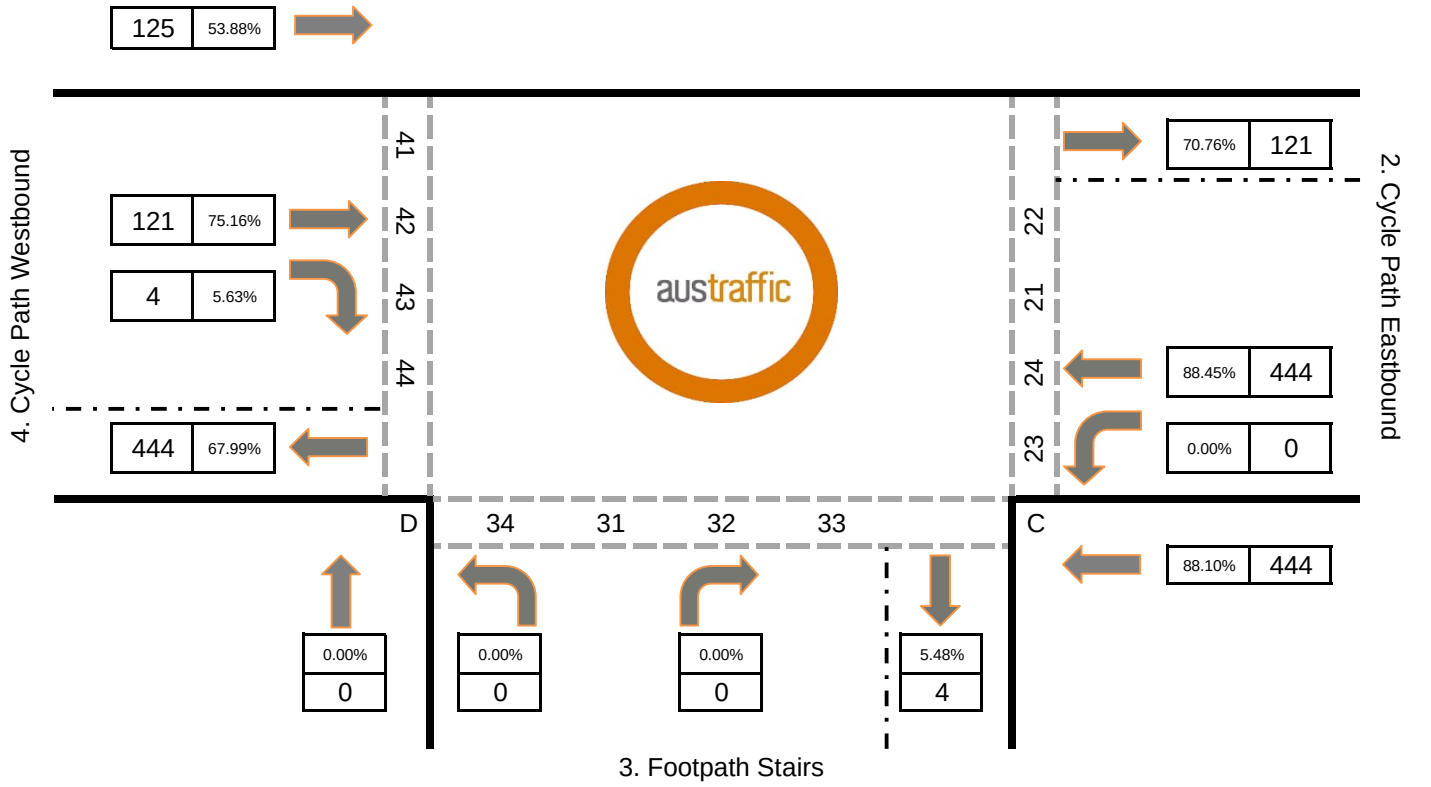


Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Wednesday 30 March 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

Span	1 hour
Period	AM
Start	AM Peak
Cat	Cyc

1hr Peak start

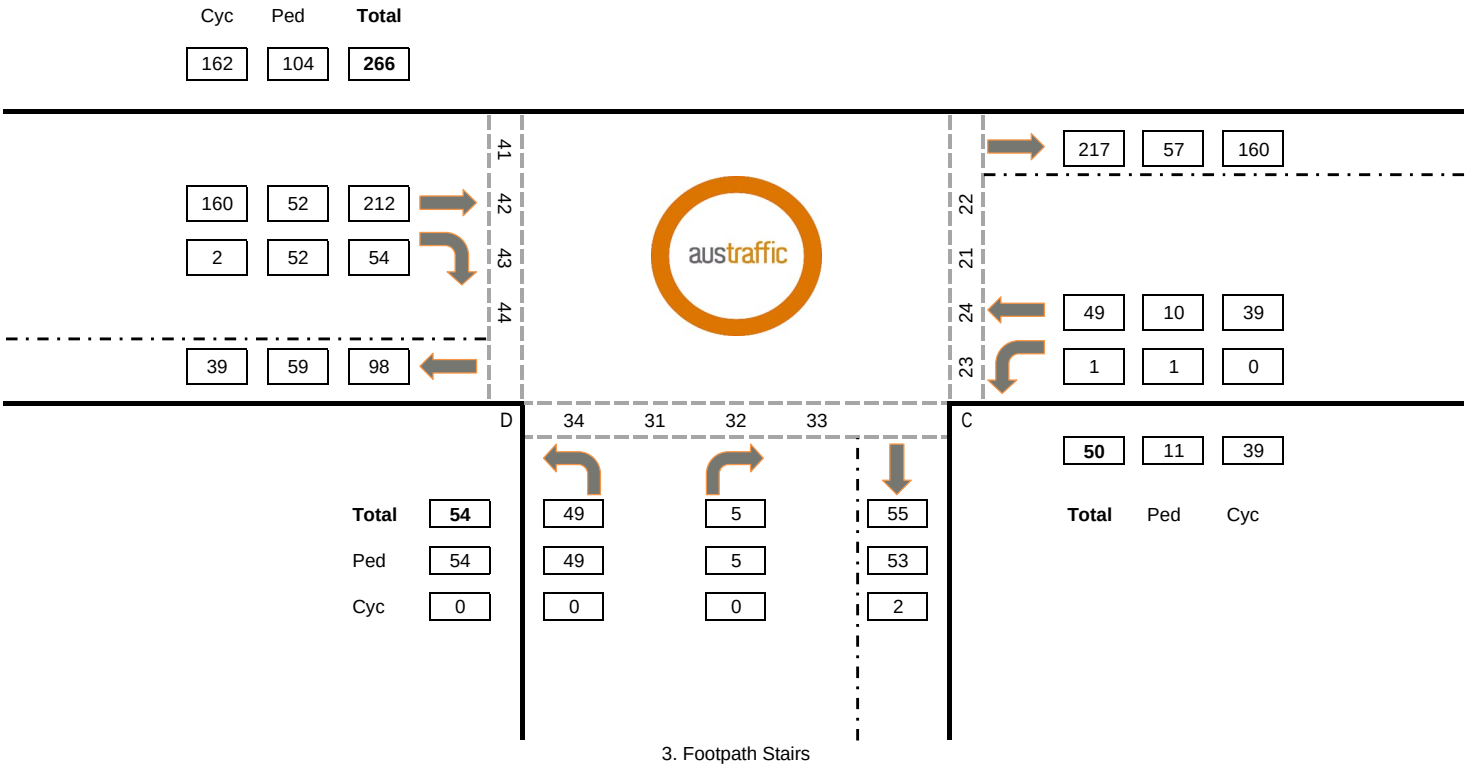
AM	07:15
PM	16:15



Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Wednesday 30 March 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

1hr Peak start	
AM	07:15
PM	16:15

Time span: 1 hour
Time period: PM
Time start: PM Peak



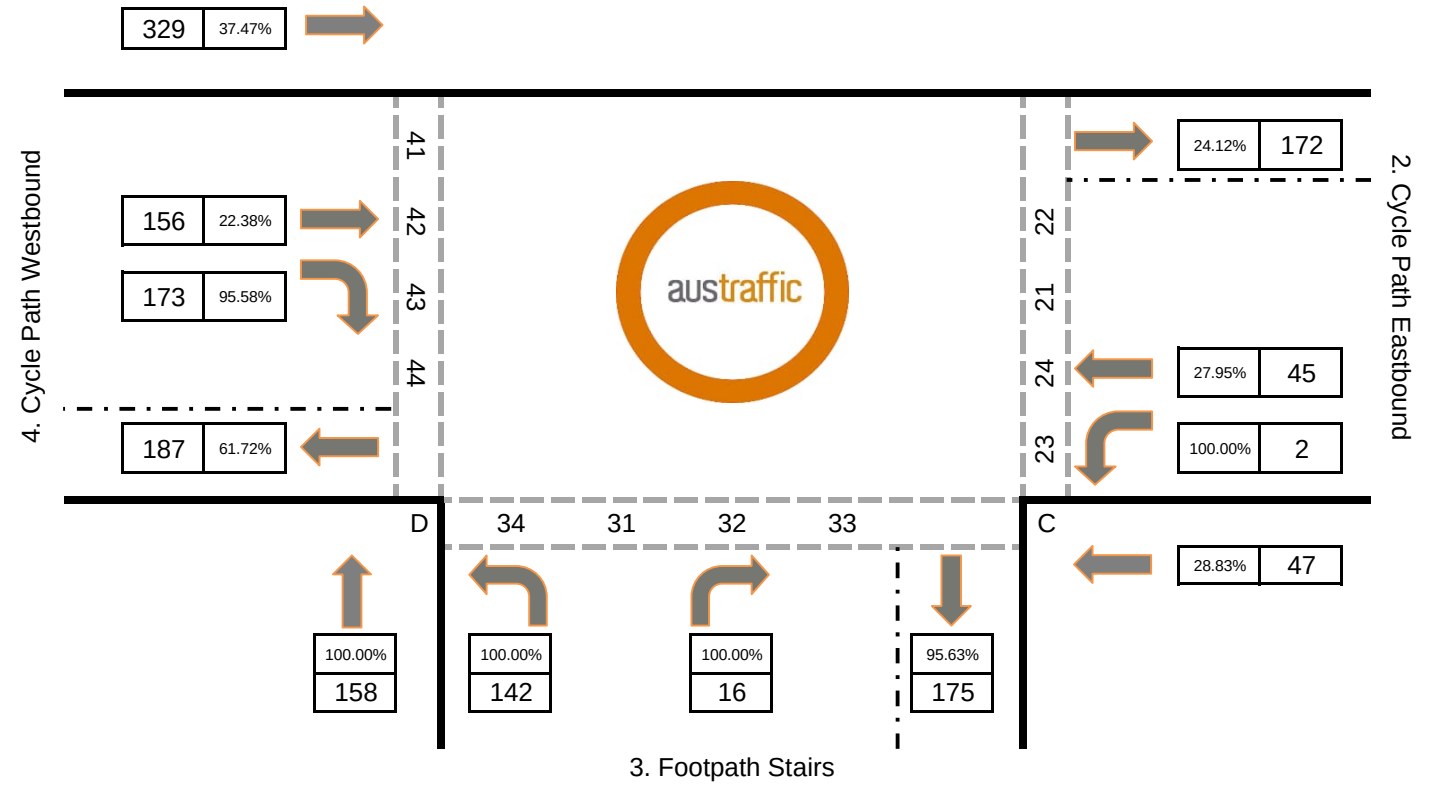
3. Footpath Stairs

Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Wednesday 30 March 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

Span	1 hour
Period	PM
Start	PM Peak
Cat	Ped

1hr Peak start

AM	07:15
PM	16:15

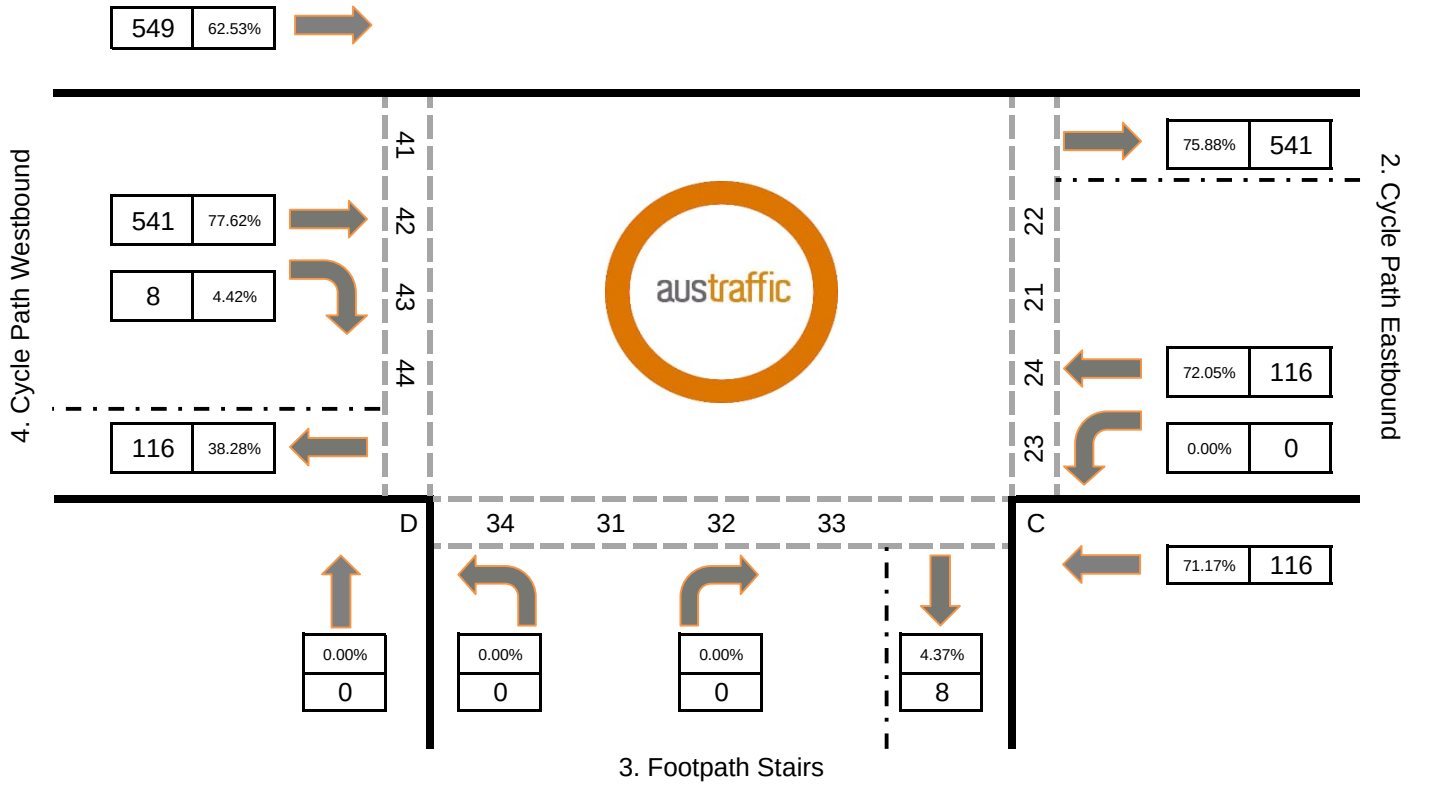


Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Wednesday 30 March 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

Span	1 hour
Period	PM
Start	PM Peak
Cat	Cyc

1hr Peak start

AM	07:15
PM	16:15



Client : Main Roads WA
Job : 809
Day/Date : Wednesday 30 March 2016
Survey Location : Cycle Path near Causeway
Weather : Fine
Note : Video missing from 07:00:00 to 07:12:17

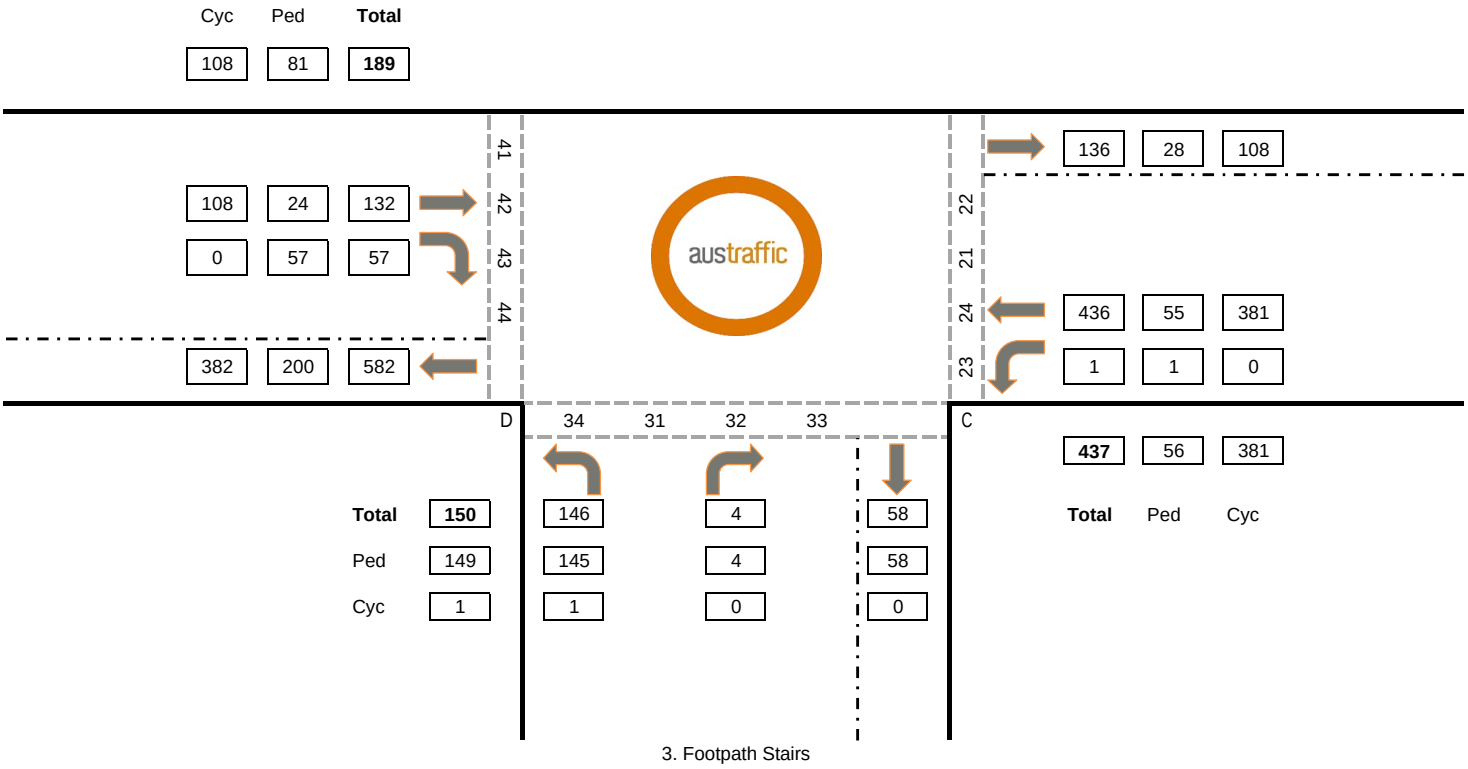
Time Period	Movement 23			Movement 24			Movement 32			Movement 34			Movement 42			Movement 43			TOTAL OF ALL MOVEMENTS	Peak
	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total		
07:00 - 07:15	0	0	0	2	9	11	0	0	0	1	0	1	1	2	3	0	0	0	15	245
07:15 - 07:30	0	0	0	5	36	41	1	0	1	10	0	10	2	11	13	6	0	6	71	291
07:30 - 07:45	0	0	0	3	41	44	1	0	1	11	0	11	2	11	13	5	0	5	74	281
07:45 - 08:00	1	0	1	6	47	53	1	0	1	17	0	17	5	6	11	2	0	2	85	254
08:00 - 08:15	0	0	0	4	36	40	1	0	1	6	0	6	4	7	11	3	0	3	61	204
08:15 - 08:30	0	0	0	7	38	45	0	0	0	7	0	7	3	6	9	0	0	0	61	169
08:30 - 08:45	0	0	0	3	21	24	1	0	1	8	0	8	4	4	8	6	0	6	47	137
08:45 - 09:00	0	0	0	1	16	17	0	0	0	3	0	3	0	9	9	6	0	6	35	114
09:00 - 09:15	0	0	0	2	10	12	0	0	0	8	0	8	0	3	3	3	0	3	26	106
09:15 - 09:30	0	0	0	3	6	9	1	0	1	8	0	8	0	5	5	6	0	6	29	
09:30 - 09:45	0	0	0	0	7	7	0	0	0	9	0	9	2	3	5	3	0	3	24	
09:45 - 10:00	0	0	0	2	5	7	0	0	0	5	0	5	1	8	9	4	2	6	27	
TOTAL	1	0	1	38	272	310	6	0	6	93	0	93	24	75	99	44	2	46	555	291
Peak	1	0	1	18	160	178	4	0	4	44	0	44	13	35	48	16	0	16	291	

Time Period	Movement 23			Movement 24			Movement 32			Movement 34			Movement 42			Movement 43			TOTAL OF ALL MOVEMENTS	Peak
	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total		
15:30 - 15:45	0	0	0	1	2	3	0	0	0	4	0	4	5	14	19	12	0	12	38	128
15:45 - 16:00	0	0	0	2	3	5	0	0	0	1	0	1	1	16	17	1	0	1	24	159
16:00 - 16:15	0	0	0	0	3	3	0	0	0	3	0	3	1	15	16	5	1	6	28	201
16:15 - 16:30	0	0	0	1	3	4	0	0	0	0	0	0	3	25	28	6	0	6	38	256
16:30 - 16:45	0	0	0	11	2	13	1	0	1	5	0	5	7	32	39	10	1	11	69	309
16:45 - 17:00	0	0	0	3	7	10	0	0	0	5	0	5	8	36	44	7	0	7	66	349
17:00 - 17:15	1	0	1	2	8	10	0	0	0	15	0	15	4	41	45	12	0	12	83	370
17:15 - 17:30	0	0	0	1	13	14	0	0	0	8	0	8	21	36	57	12	0	12	91	
17:30 - 17:45	0	0	0	2	12	14	3	0	3	9	0	9	17	46	63	18	2	20	109	
17:45 - 18:00	0	0	0	5	6	11	2	0	2	17	0	17	10	37	47	10	0	10	87	
TOTAL	1	0	1	28	59	87	6	0	6	67	0	67	77	298	375	93	4	97	633	370
Peak	1	0	1	10	39	49	5	0	5	49	0	49	52	160	212	52	2	54	370	

Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Friday 1 April 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

1hr Peak start	
AM	07:15
PM	16:15

Time span: 1 hour
Time period: AM
Time start: AM Peak



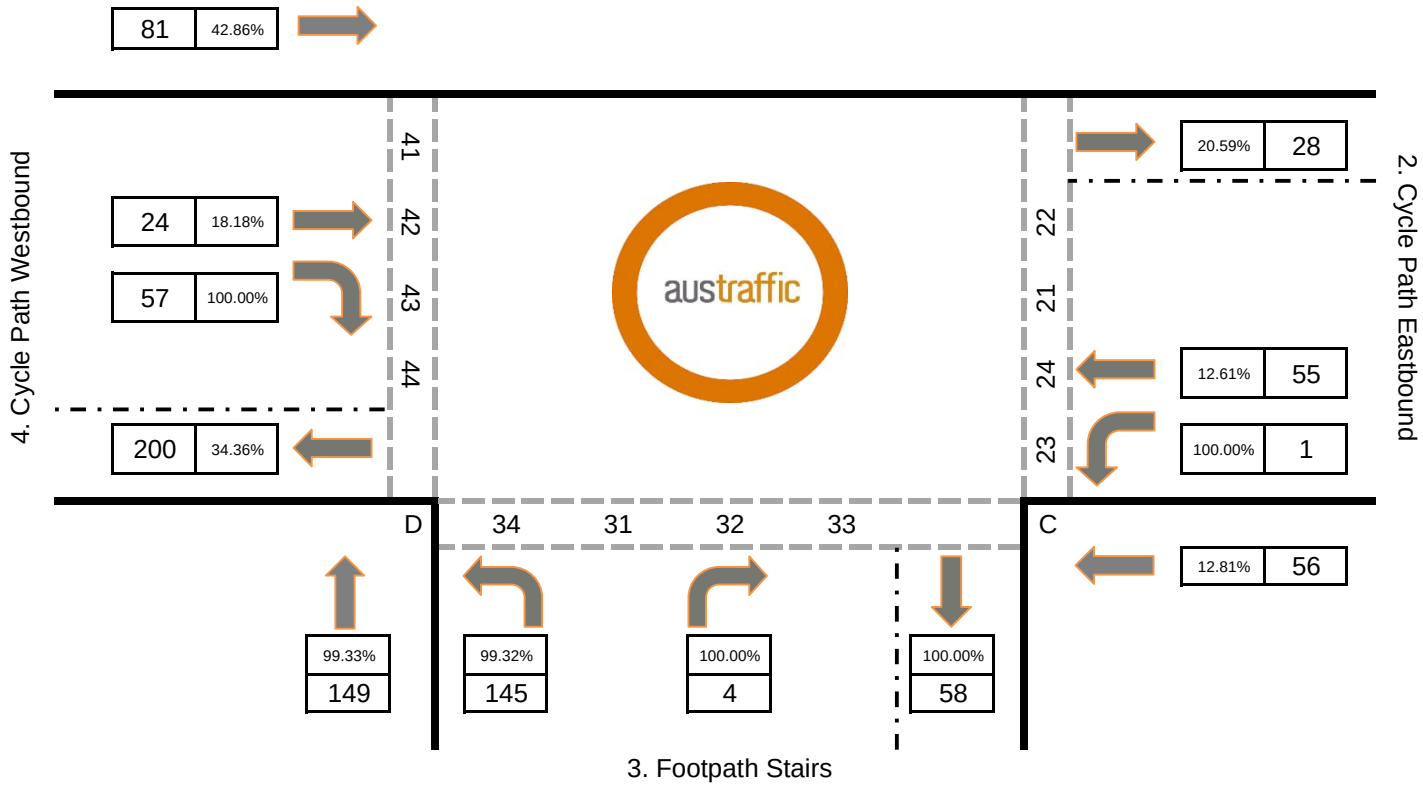
3. Footpath Stairs

Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Friday 1 April 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

Span	1 hour
Period	AM
Start	AM Peak
Cat	Ped

1hr Peak start

AM	07:15
PM	16:15

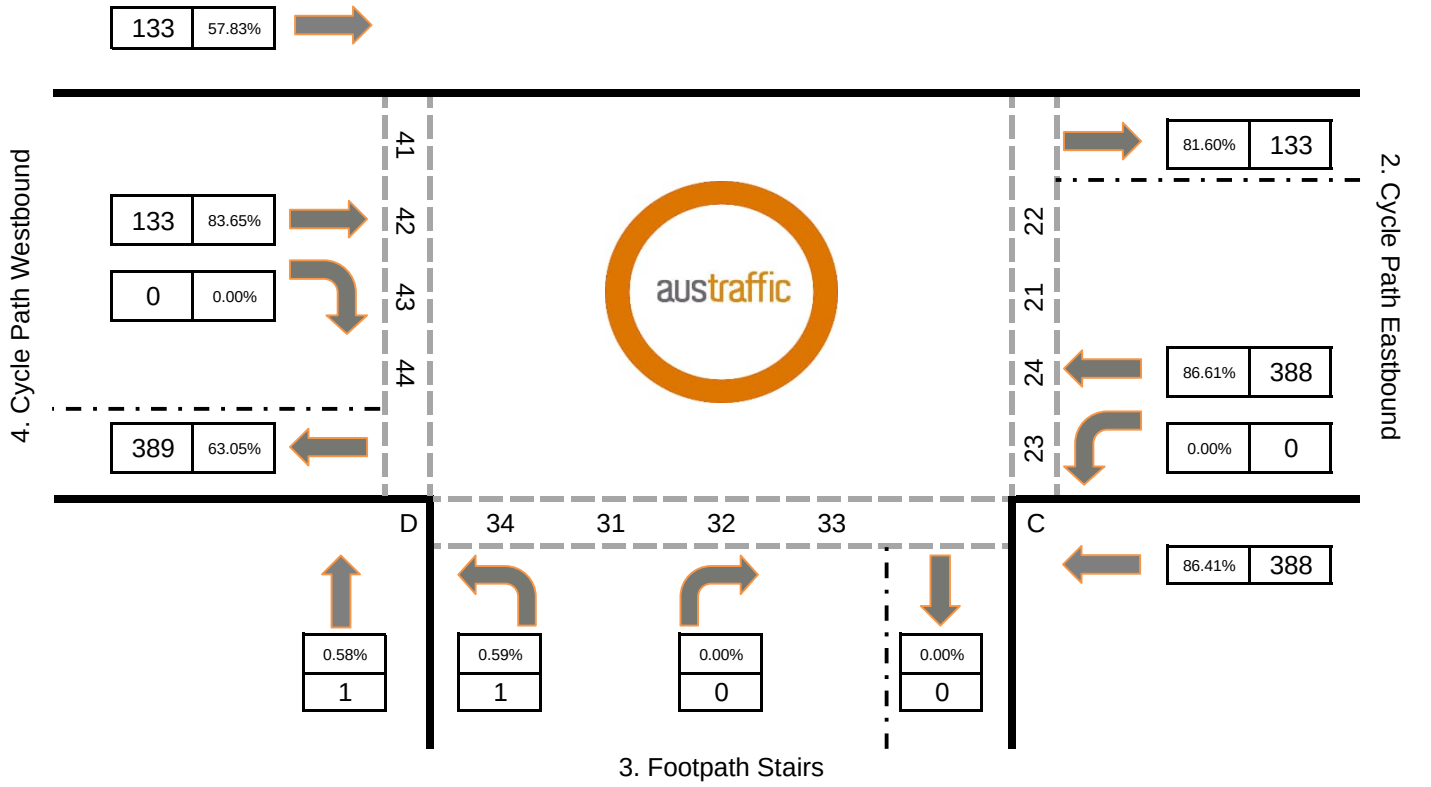


Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Friday 1 April 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

Span	1 hour
Period	AM
Start	AM Peak
Cat	Cyc

1hr Peak start

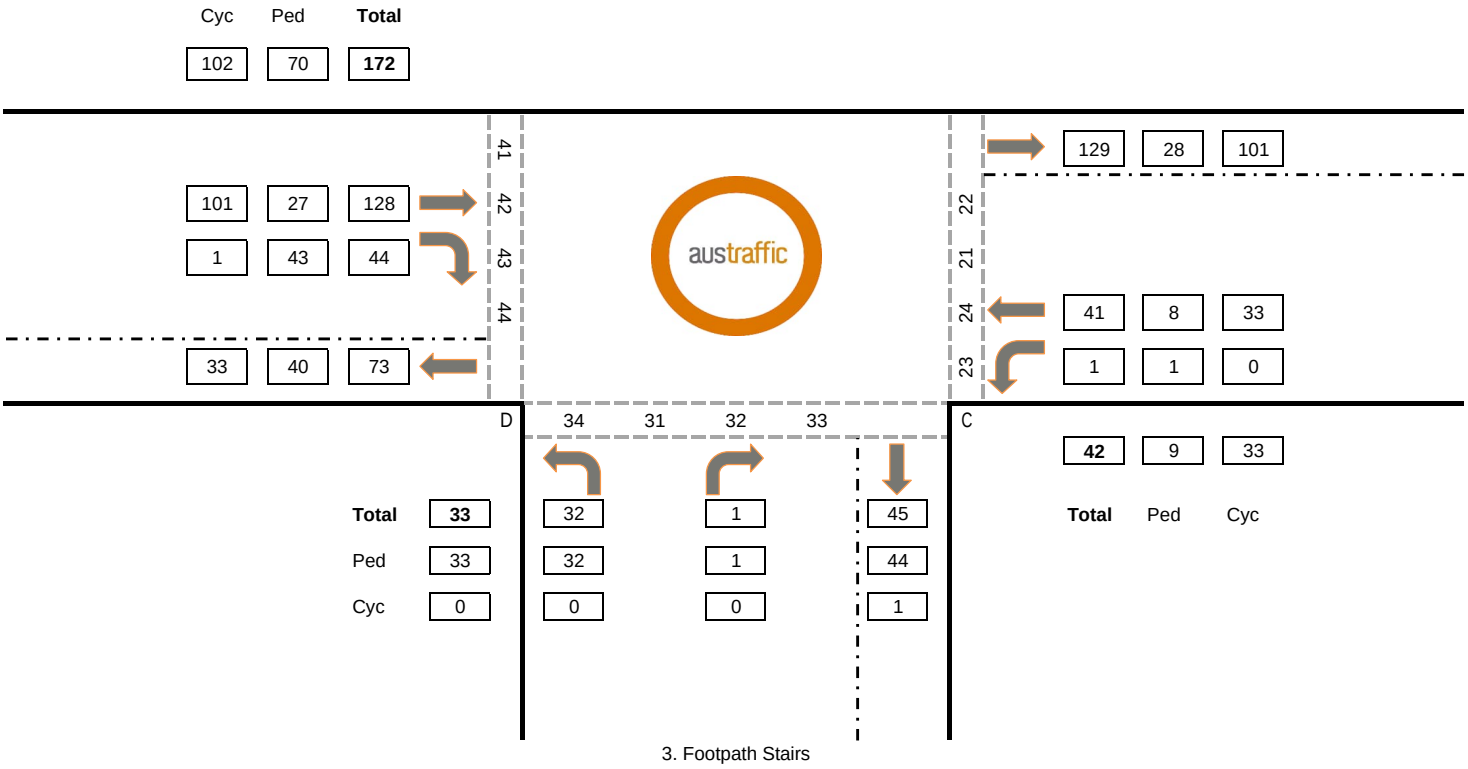
AM	07:15
PM	16:15



Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Friday 1 April 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

1hr Peak start	
AM	07:15
PM	16:15

Time span: 1 hour
Time period: PM
Time start: PM Peak



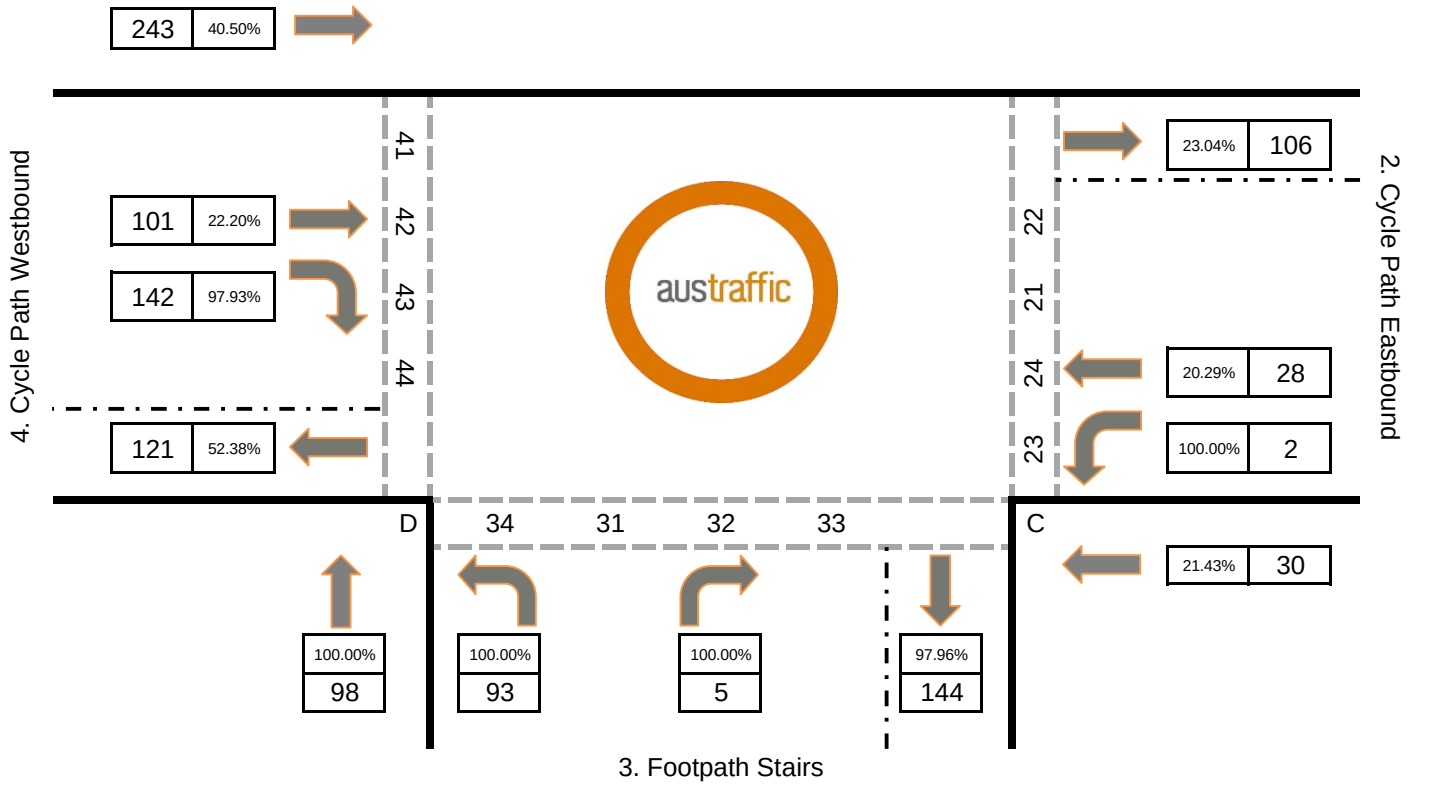
3. Footpath Stairs

Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Friday 1 April 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

Span	1 hour
Period	PM
Start	PM Peak
Cat	Ped

1hr Peak start

AM	07:15
PM	16:15

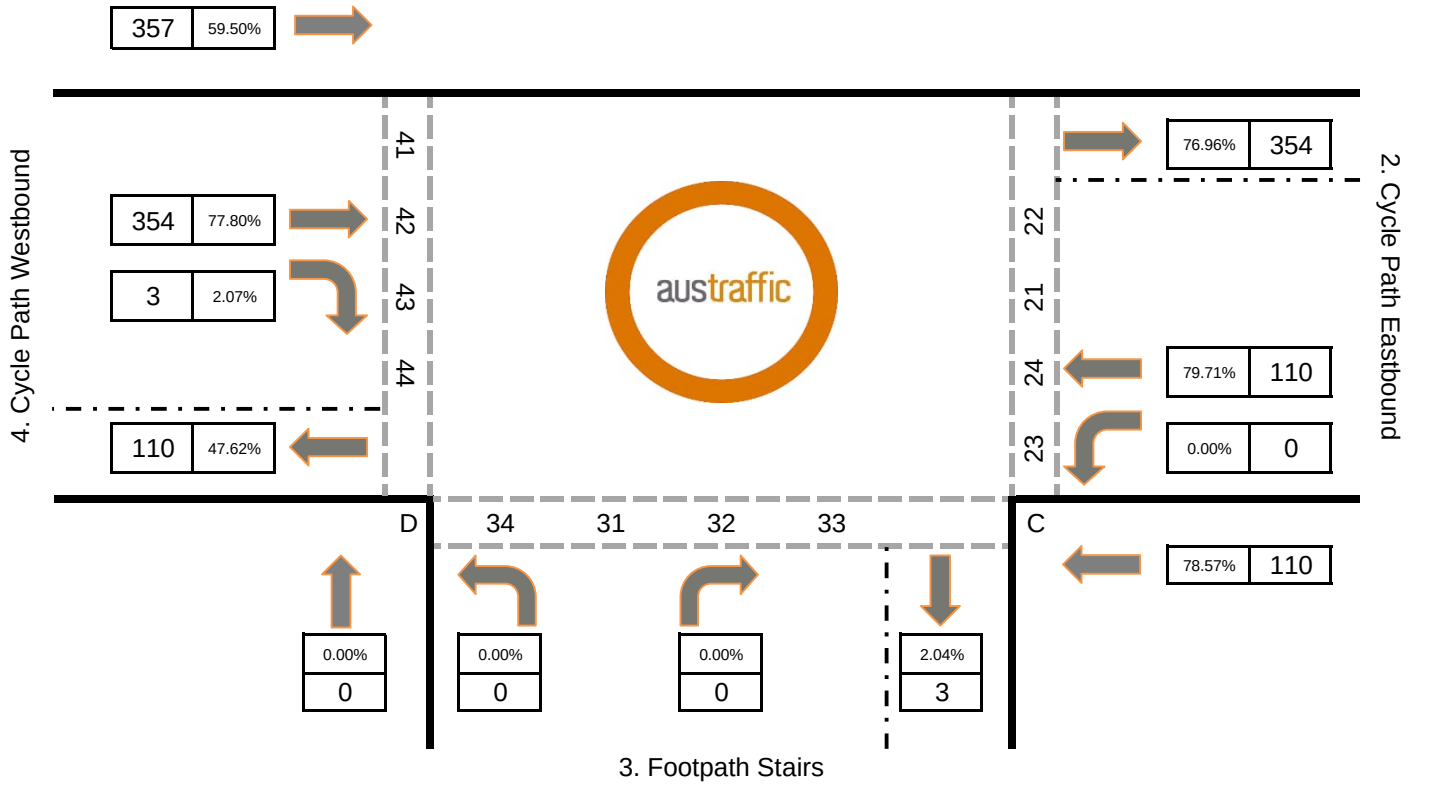


Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Friday 1 April 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

Span	1 hour
Period	PM
Start	PM Peak
Cat	Cyc

1hr Peak start

AM	07:15
PM	16:15



Client : Main Roads WA
Job : 809
Day/Date : Friday 01 April 2016
Survey Location : Cycle Path near Causeway
Weather : Fine

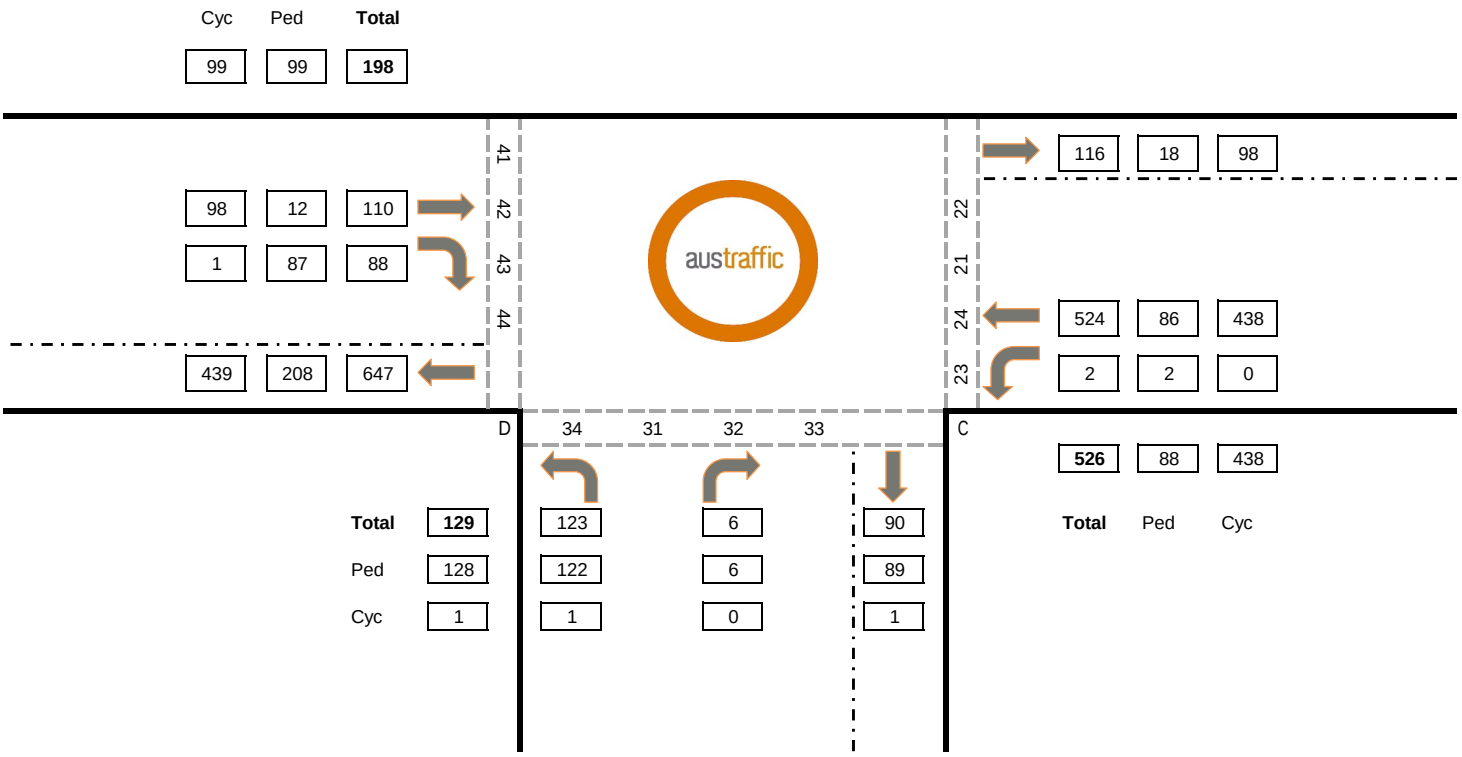
Time Period	Movement 23			Movement 24			Movement 32			Movement 34			Movement 42			Movement 43			TOTAL OF ALL MOVEMENTS	Peak
	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total		
07:00 - 07:15	0	0	0	6	17	23	0	0	0	6	0	6	1	2	3	5	0	5	37	228
07:15 - 07:30	0	0	0	6	29	35	1	0	1	10	0	10	0	11	11	5	0	5	62	244
07:30 - 07:45	0	0	0	1	36	37	0	0	0	11	0	11	2	13	15	4	0	4	67	234
07:45 - 08:00	0	0	0	4	30	34	0	0	0	15	0	15	4	6	10	3	0	3	62	208
08:00 - 08:15	0	0	0	2	41	43	1	0	1	7	0	7	1	0	1	1	0	1	53	177
08:15 - 08:30	0	0	0	7	26	33	0	0	0	7	0	7	3	7	10	2	0	2	52	144
08:30 - 08:45	0	0	0	3	23	26	0	0	0	9	0	9	2	0	2	4	0	4	41	123
08:45 - 09:00	0	0	0	3	18	21	0	0	0	4	0	4	0	3	3	3	0	3	31	117
09:00 - 09:15	0	0	0	1	6	7	0	0	0	6	0	6	1	4	5	2	0	2	20	127
09:15 - 09:30	1	0	1	4	12	16	0	0	0	4	1	5	1	7	8	1	0	1	31	
09:30 - 09:45	0	0	0	2	5	7	0	0	0	7	0	7	1	12	13	8	0	8	35	
09:45 - 10:00	0	0	0	3	2	5	0	0	0	16	0	16	1	13	14	6	0	6	41	
TOTAL	1	0	1	42	245	287	2	0	2	102	1	103	17	78	95	44	0	44	532	244
Peak	0	0	0	13	136	149	2	0	2	43	0	43	7	30	37	13	0	13	244	

Time Period	Movement 23			Movement 24			Movement 32			Movement 34			Movement 42			Movement 43			TOTAL OF ALL MOVEMENTS	Peak
	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total		
15:30 - 15:45	0	0	0	2	1	3	0	0	0	1	0	1	4	10	14	2	0	2	20	121
15:45 - 16:00	0	0	0	2	2	4	0	0	0	1	0	1	7	21	28	5	0	5	38	149
16:00 - 16:15	0	0	0	0	4	4	1	0	1	8	0	8	1	15	16	0	0	0	29	181
16:15 - 16:30	0	0	0	0	5	5	0	0	0	1	0	1	2	21	23	5	0	5	34	215
16:30 - 16:45	0	0	0	2	8	10	2	0	2	3	0	3	4	22	26	7	0	7	48	240
16:45 - 17:00	1	0	1	4	10	14	0	0	0	4	0	4	10	30	40	11	0	11	70	247
17:00 - 17:15	0	0	0	3	10	13	0	0	0	11	0	11	3	25	28	11	0	11	63	237
17:15 - 17:30	0	0	0	1	9	10	1	0	1	8	0	8	5	25	30	10	0	10	59	
17:30 - 17:45	0	0	0	0	4	4	0	0	0	9	0	9	9	21	30	11	1	12	55	
17:45 - 18:00	0	0	0	3	10	13	0	0	0	3	0	3	10	21	31	13	0	13	60	
TOTAL	1	0	1	17	63	80	4	0	4	49	0	49	55	211	266	75	1	76	476	247
Peak	1	0	1	8	33	41	1	0	1	32	0	32	27	101	128	43	1	44	247	

Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Monday 4 April 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

1hr Peak start	
AM	07:15
PM	16:15

Time span: 1 hour
Time period: AM
Time start: AM Peak



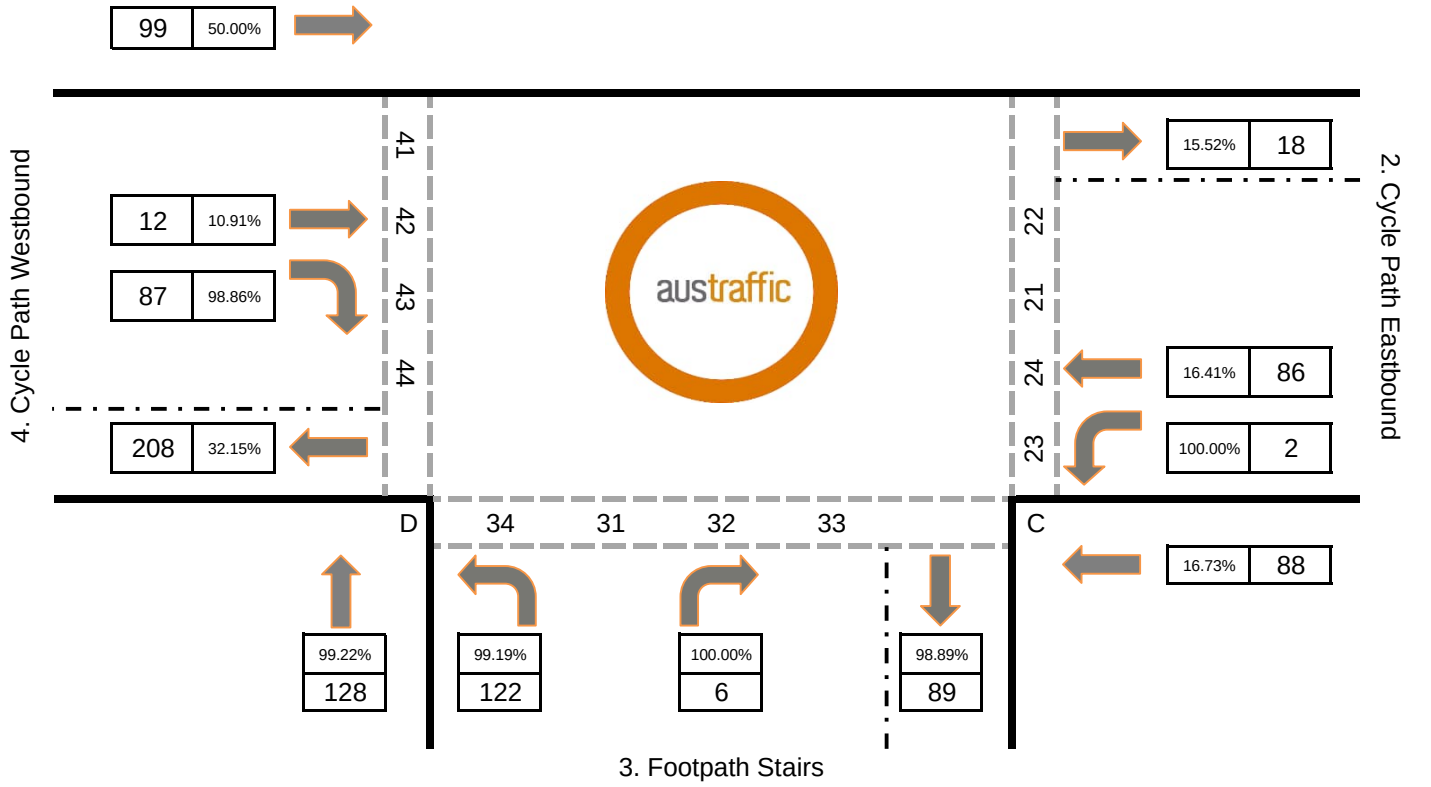
3. Footpath Stairs

Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Monday 4 April 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

Span	1 hour
Period	AM
Start	AM Peak
Cat	Ped

1hr Peak start

AM	07:15
PM	16:15

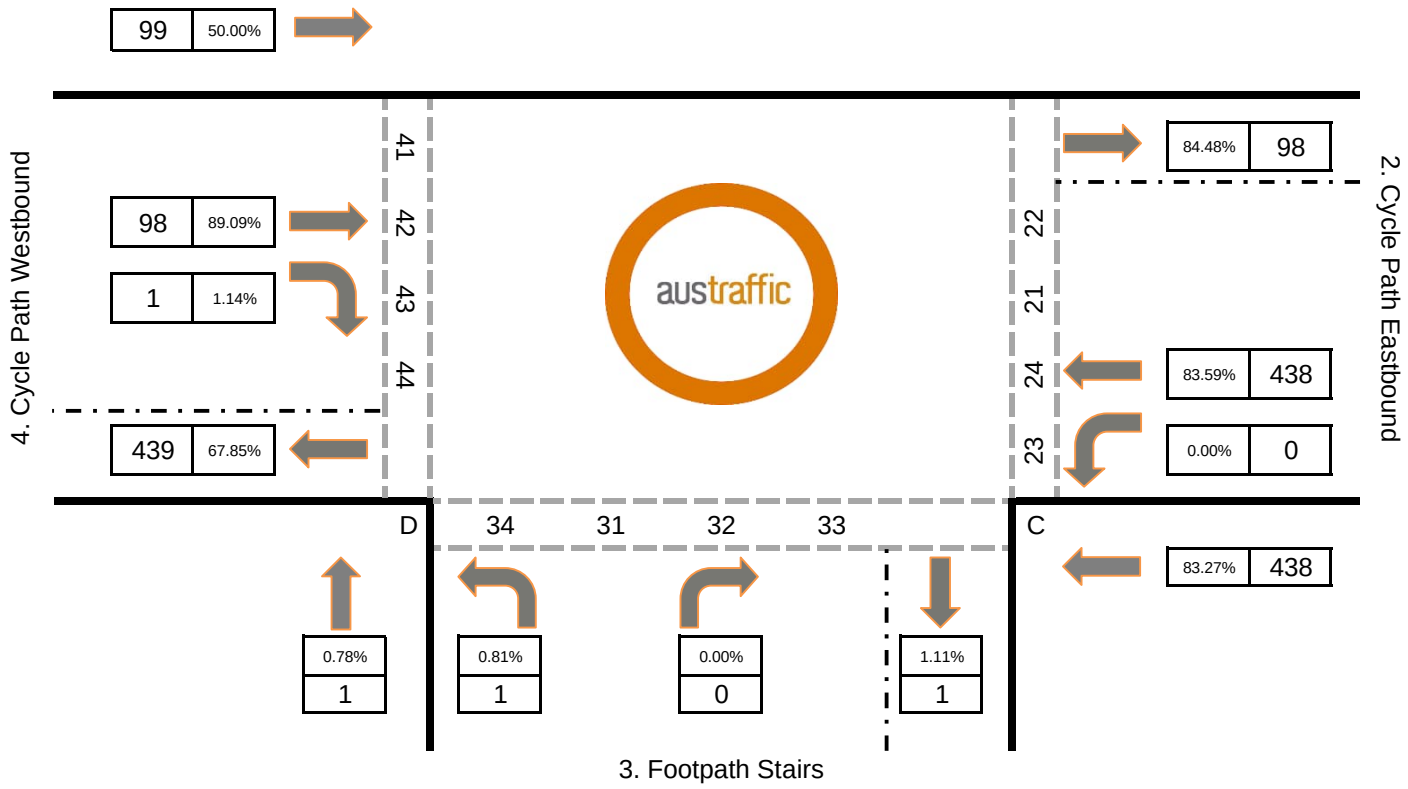


Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Monday 4 April 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

Span: 1 hour
Period: AM
Start: AM Peak
Cat: Cyc

1hr Peak start

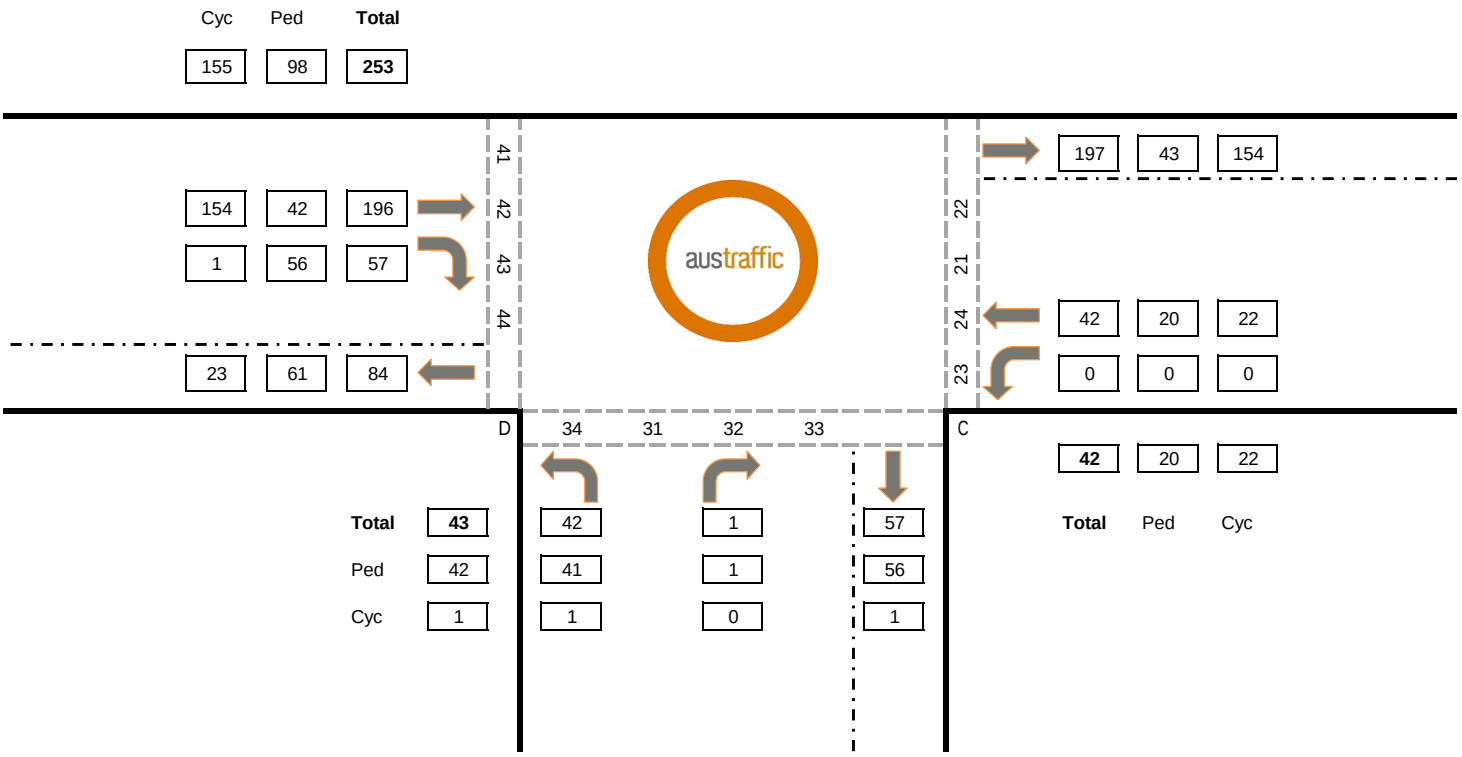
AM	07:15
PM	16:15



Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Monday 4 April 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

1hr Peak start	
AM	07:15
PM	16:15

Time span: 1 hour
Time period: PM
Time start: PM Peak



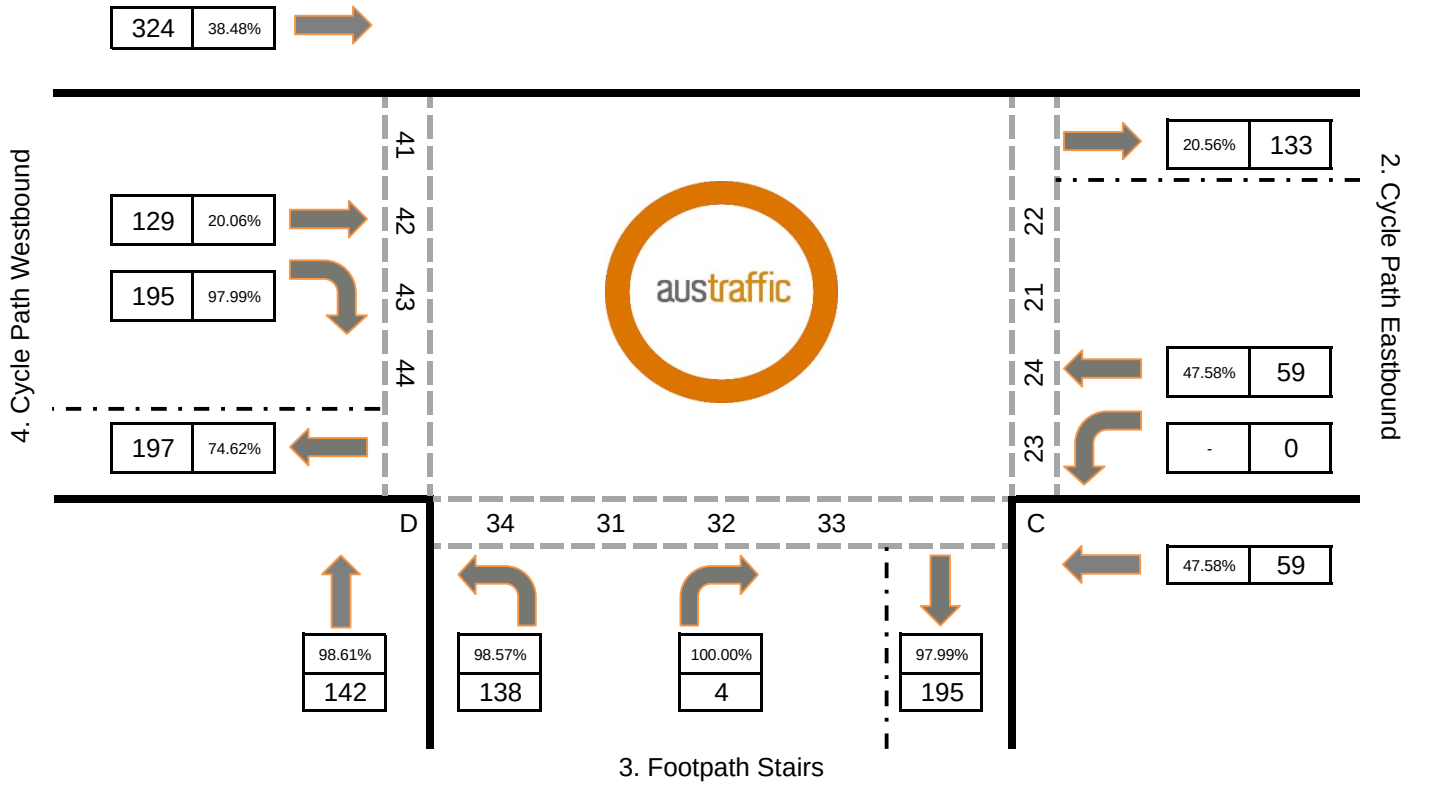
3. Footpath Stairs

Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Monday 4 April 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

Span	1 hour
Period	PM
Start	PM Peak
Cat	Ped

1hr Peak start

AM	07:15
PM	16:15

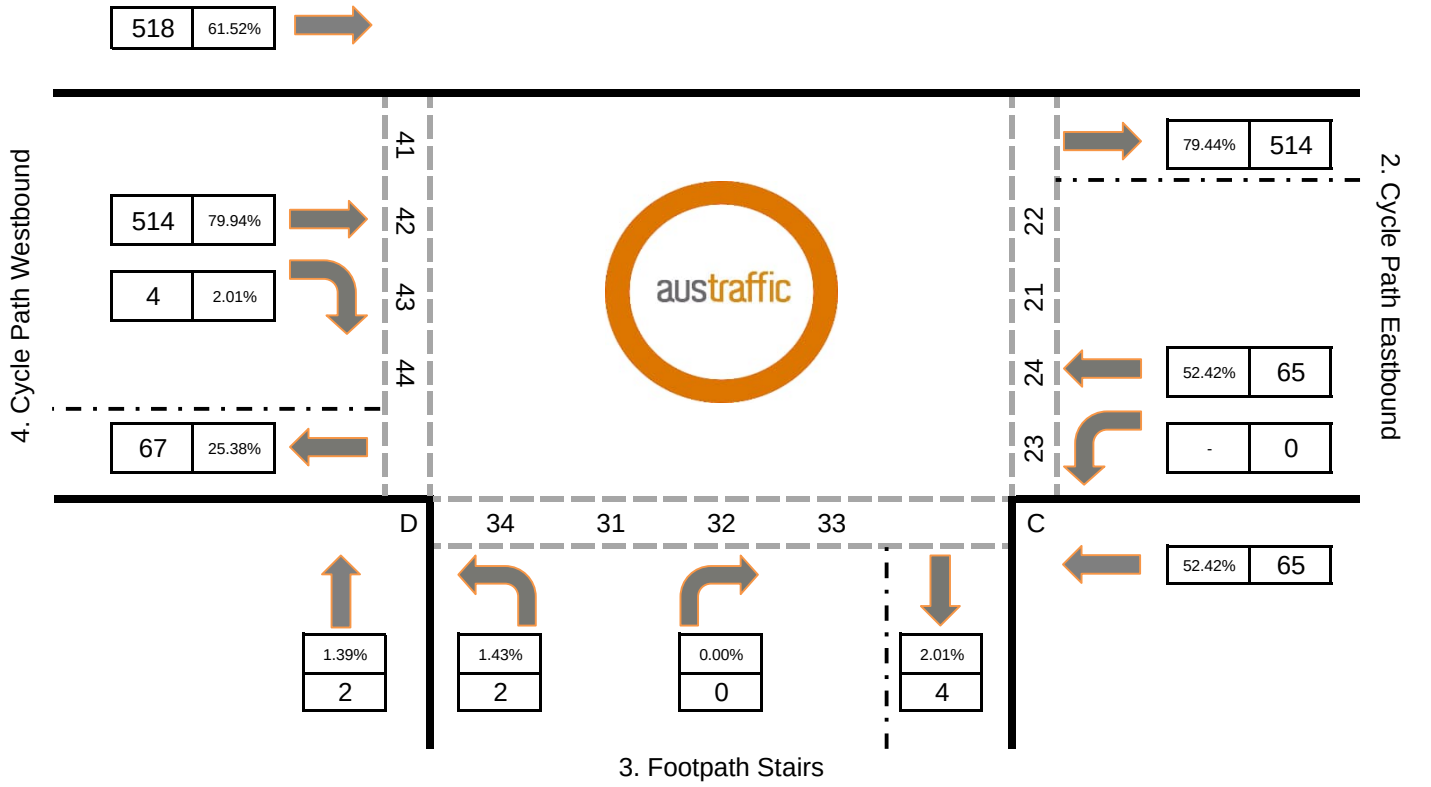


Client :	**Main Roads WA**
Job :	**809**
Day/Date :	**Monday 4 April 2016**
Survey Location :	**Cycle Path near Causeway**
Weather :	**Fine**

Span	1 hour
Period	PM
Start	PM Peak
Cat	Cyc

1hr Peak start

AM	07:15
PM	16:15



Client : Main Roads WA
Job : 809
Day/Date : Monday 04 April 2016
Survey Location : Cycle Path near Causeway
Weather : Fine

Time Period	Movement 23			Movement 24			Movement 32			Movement 34			Movement 42			Movement 43			TOTAL OF ALL MOVEMENTS	Peak
	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total		
07:00 - 07:15	0	0	0	11	22	33	0	0	0	8	1	9	1	6	7	0	0	0	49	264
07:15 - 07:30	0	0	0	2	37	39	1	0	1	9	0	9	2	9	11	9	0	9	69	288
07:30 - 07:45	0	0	0	7	42	49	1	0	1	7	0	7	1	6	7	10	0	10	74	274
07:45 - 08:00	0	0	0	7	43	50	0	0	0	7	0	7	0	6	6	9	0	9	72	233
08:00 - 08:15	1	0	1	9	37	46	1	0	1	13	0	13	1	7	8	4	0	4	73	196
08:15 - 08:30	0	0	0	8	27	35	0	0	0	6	0	6	0	9	9	4	1	5	55	152
08:30 - 08:45	0	0	0	1	18	19	0	0	0	8	0	8	0	5	5	1	0	1	33	118
08:45 - 09:00	0	0	0	5	17	22	0	0	0	7	0	7	0	6	6	0	0	0	35	109
09:00 - 09:15	0	0	0	2	11	13	0	0	0	6	0	6	1	4	5	5	0	5	29	105
09:15 - 09:30	0	0	0	4	6	10	0	0	0	4	0	4	1	3	4	3	0	3	21	
09:30 - 09:45	0	0	0	2	11	13	0	0	0	4	0	4	0	4	4	3	0	3	24	
09:45 - 10:00	0	0	0	3	8	11	0	0	0	7	0	7	1	5	6	7	0	7	31	
TOTAL	1	0	1	61	279	340	3	0	3	86	1	87	8	70	78	55	1	56	565	288
Peak	1	0	1	25	159	184	3	0	3	36	0	36	4	28	32	32	0	32	288	

Time Period	Movement 23			Movement 24			Movement 32			Movement 34			Movement 42			Movement 43			TOTAL OF ALL MOVEMENTS	Peak
	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total	Ped	Cyc	Total		
15:30 - 15:45	0	0	0	0	1	1	0	0	0	2	0	2	2	14	16	8	0	8	27	143
15:45 - 16:00	0	0	0	3	1	4	0	0	0	5	0	5	1	10	11	6	0	6	26	191
16:00 - 16:15	0	0	0	1	2	3	0	0	0	8	0	8	2	15	17	6	0	6	34	223
16:15 - 16:30	0	0	0	0	2	2	1	0	1	4	0	4	4	33	37	11	1	12	56	268
16:30 - 16:45	0	0	0	5	2	7	0	0	0	7	0	7	13	36	49	11	1	12	75	313
16:45 - 17:00	0	0	0	2	6	8	1	0	1	2	0	2	5	31	36	11	0	11	58	317
17:00 - 17:15	0	0	0	9	7	16	1	0	1	4	1	5	9	34	43	14	0	14	79	338
17:15 - 17:30	0	0	0	3	8	11	0	0	0	9	0	9	15	53	68	12	1	13	101	
17:30 - 17:45	0	0	0	5	4	9	0	0	0	14	0	14	7	35	42	14	0	14	79	
17:45 - 18:00	0	0	0	3	3	6	0	0	0	14	0	14	11	32	43	16	0	16	79	
TOTAL	0	0	0	31	36	67	3	0	3	69	1	70	69	293	362	109	3	112	614	338
Peak	0	0	0	20	22	42	1	0	1	41	1	42	42	154	196	56	1	57	338	

McCallum Park Cycle Path

Site: VP001C Location: [-31.968988 +115.883858]
Profile: VRX Cls(14-15) Dir(EW) Sp(0,200) Headway(>0) Span(0 - 100) Lane(0-16)
Created by MTE version 5.0.6.0

	Cycle Combined															Pedestrian Estimate (f = 2.8)		
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks						
Week Beginning	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time	Total	AWDT	AWET
14/05/2018	10208	1311	1827	23.7	30.4	37.3	44.1	156	700	160	1700	213	900	159	1400	868	69	261
21/05/2018	5924	1045	350	24.4	31.3	38.5	48.4	122	700	132	1700	36	700	42	1500	504	68	82
28/05/2018	9172	1048	1966	23.5	30.2	37.3	42.7	130	700	127	1700	237	900	199	1200	514	61	104
4/06/2018	4280	593	658	23.7	30.1	38.7	43.2	72	800	51	1700	76	900	57	1400	359	43	72
11/06/2018	8704	983	1894	23.3	30.2	37.6	42.4	114	700	112	1700	207	900	174	1200	470	46	121
18/06/2018	7198	679	1901	23.1	29.9	36.9	40.8	74	800	83	1700	218	1100	180	1200	353	45	65
25/06/2018	7583	863	1634	23.5	30.2	38	43.2	91	700	99	1700	211	900	144	1300	605	85	90
2/07/2018	5804	493	1669	22.5	29.7	38.3	37.2	52	700	51	1700	197	1100	168	1200	368	34	99
9/07/2018	7227	1220	563	23	29.9	36.7	40.9	113	800	119	1700	82	800	37	1200	398	59	52
16/07/2018	4730	821	312	24.2	30.8	39.2	46.1	90	700	84	1700	52	900	23	1600	330	46	49
23/07/2018	6188	613	1563	23.4	30.2	37.6	42.5	64	700	77	1700	188	900	135	1400	404	46	87
30/07/2018	4102	560	652	23.3	30.1	37.6	41.2	56	700	66	1700	83	1100	65	1200	492	40	147
6/08/2018	6566	605	1771	22.5	29.5	36.5	37.5	64	700	84	1700	202	1100	191	1200	479	53	107
13/08/2018	7874	814	1903	22.8	29.7	37.6	38.4	84	700	112	1700	206	900	172	1200	490	63	89
20/08/2018	8528	927	1946	23.2	30.1	37.6	41.2	110	700	117	1700	238	900	184	1200	481	50	115
27/08/2018	6821	601	1907	22.8	29.9	37.1	39.8	77	700	69	1700	213	1000	205	1200	313	30	81
3/09/2018	6732	654	1732	23.2	30.4	38.7	41.1	71	700	99	1700	268	1000	158	1200	386	42	88
10/09/2018	7058	701	1777	23.3	30.4	38.2	43	96	700	93	1700	220	900	173	1200	404	45	89
17/09/2018	9332	1096	1925	23.6	30.1	37.4	43.7	126	700	125	1700	270	900	144	1200	576	66	123
24/09/2018	9130	1341	1214	22.5	29.9	38.2	37.7	144	700	130	1700	142	1000	122	1200	541	72	91
1/10/2018	9193	1066	1932	23	29.9	36.7	40.7	134	700	116	1700	248	1000	147	1200	492	48	127
8/10/2018	7125	1152	683	24.2	31.1	39.8	45.5	137	700	132	1700	76	800	57	1400	404	55	65
15/10/2018	8021	1174	1077	24.5	31.5	40.6	47.8	144	700	153	1700	156	900	55	1600	504	67	84
22/10/2018	10464	1287	2015	24	30.6	38.8	45.3	175	700	163	1700	269	800	111	1200	543	62	117
29/10/2018	10434	1295	1979	23.8	30.6	38.7	44.4	171	700	141	1700	269	800	127	1200	444	60	72
5/11/2018	9833	1250	1792	23.1	30.1	37.8	41.4	174	700	133	1700	238	900	110	1200	1397	125	387
12/11/2018	10152	1332	1747	24.2	31	39.6	46.9	187	700	160	1700	242	800	88	1200	476	64	77
19/11/2018	9469	1208	1714	24.2	31	39.2	46.9	157	700	135	1700	243	800	76	1500	482	58	97
26/11/2018	9732	1293	1634	24	31	39.2	45.1	169	700	141	1700	232	900	96	1200	489	72	66
3/12/2018	9570	1232	1704	24.4	31.1	39.8	48.2	164	700	136	1700	269	900	61	1700	389	44	86
10/12/2018	8975	1258	1344	24.4	31.1	39.8	47.3	190	700	127	1700	199	700	68	1200	389	50	69
17/12/2018	9095	1298	1303	24.5	31.1	39.4	48.7	206	700	114	1700	270	700	52	1800	339	48	51
24/12/2018	11792	1500	2146	22.7	30.1	38.5	39.6	194	800	69	1200	275	900	130	1200	501	62	95
31/12/2018	11474	1585	1774	22.6	29.7	38.3	37.4	180	800	97	1700	279	800	92	1800	669	106	69
7/01/2019	11744	1525	2061	23.5	30.8	38.9	42.5	235	700	163	1700	302	800	93	1200	473	57	94
14/01/2019	10318	1542	1305	23.8	30.4	38.7	44.4	213	700	155	1700	276	700	51	1900	429	61	63
21/01/2019	9788	1237	1802	22.5	30.1	39.3	38.6	174	700	130	1700	216	800	113	1900	938	57	327
28/01/2019	11337	1439	2071	23.4	30.2	38.7	41.3	232	700	126	1700	270	700	130	1200	528	65	102
4/02/2019	9293	1229	1573	24.6	30.8	38.5	49.3	197	700	136	1700	294	700	63	1800	488	70	69
11/02/2019	10907	1407	1936	23.9	30.8	39.4	45.1	200	700	148	1700	275	800	93	1200	529	71	87
18/02/2019	11418	1435	2122	24	31	39.2	44.9	199	700	154	1700	280	800	115	1700	571	72	107
25/02/2019	10662	1377	1889	24	30.8	39.3	45.4	208	700	148	1700	263	800	104	1200	476	64	79
4/03/2019	8988	1225	1433	23.9	30.6	38.2	44.8	186	700	115	1700	186	800	84	1200	535	78	72
11/03/2019	11088	1459	1896	24.1	30.8	38.3	45.5	218	700	170	1700	281	800	94	1200	537	68	100
18/03/2019	11469	1469	2062	24.1	30.8	38.9	45.6	229	700	163	1700	246	800	134	1200	594	83	89
25/03/2019	10676	1368	1919	23.9	30.6	38.5	44.5	198	700	173	1700	265	900	127	1200	490	60	94
1/04/2019	10590	1335	1958	23.6	30.2	38.3	42.7	177	700	164	1700	257	1000	155	1200	641	59	174
8/04/2019	9994	1382	1541	23.8	31	38.7	44.6	183	700	173	1700	240	800	85	1200	750	82	170
15/04/2019	7815	901	1654	22.9	30.1	38.7	38.7	110	700	92	1700	200	1100	163	1200	504	64	93
22/04/2019	12791	1758	2001	22.2	29.5	37.4	35.2	195	1000	156	1200	259	900	123	1700	650	85	112
29/04/2019	8180	1148	1219	24.1	30.6	38	46.8	151	700	136	1700	152	1000	91	1200	433	56	76
6/05/2019	9637	1184	1860	23.4	30.1	37.1	42.5	154	700	147	1700	211	1000	186	1400	610	68	134
13/05/2019	8022	1084	1301	23.6	30.2	37.2	44.8	143	700	130	1700	129	1000	145	1500	1218	104	350
20/05/2019	8835	1027	1851	23.5	30.1	37.7	43	126	700	123	1700	232	1000	150	1400	877	108	168
27/05/2019	9236	1119	1820	22.8	30.2	38.5	40.1	136	700	140	1700	209	1100	149	1400	1271	92	406
3/06/2019	5676	1005	325	21.4	29.7	39.6	32.1	101	700	91	1600	49	800	27	1200	2206	263	447
10/06/2019	3988	400	993	23.5	29.3	35.5	43.1	44	700	53	1700	140	1000	73	1500	3458	376	790
17/06/2019	6057	1037	435	24.2	30.2	37.4	49.3	117	700	113	1700	75	1000	41	1200	4027	598	520
24/06/2019	4610	651	678	24	30.2	37.3	46.9	77	700	76	1700	103	900	46	1200	3785	450	769
1/07/2019	6085	762	1139	23.2	29.9	37.1	41.2	89	700	92	1700	152	1000	103	1300	5017	632	928
8/07/2019	8990	1092	1766	22.3	29.3	35.6	37.6	111	800	109	1700	206	900	174	1400	5306	635	1066
15/07/2019	6058	1003	522	22.9	29.9	37.6	40.3	93	1100	101	1700	71	1000	52	1200	3299	582	194
22/07/2019	7431	903	1458	23.4	29.9	37.1	43.5	108	700	95	1700	169	1000	157	1200	1178	162	183
29/07/2019	8083	1182	1087	23.8	30.2	38	45.3	125	700	133	1700	147	800	104	1200	1175	130	263
5/08/2019	7797	835	1811	23	29.7	37.1	40.5	105	700	95	1700	197	800	161	1200	941	109	199
12/08/2019	6308	741	1302	23.3	29.9	37.1	42.3	86	700	95	1700	156	1000	138	1200	863	108	161
19/08/2019	7942	992	1490	23.3	29.9	37.1	42	100	700	119	1700	175	1000	131	1300	817	91	181

	Cycle Eastbound														
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
Week Beginning	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
14/05/2018	4954	632	897	22.2	28.6	34.8	34.4	78	700	72	1700	108	900	92	1400
21/05/2018	2895	514	164	23.8	30.1	38	43.4	60	700	71	1700	17	1000	18	1200
28/05/2018	4490	514	960	22.6	29	35.5	36.4	66	700	67	1700	120	1000	107	1200
4/06/2018	2182	300	340	23.2	29.3	38.7	38.5	38	800	27	1700	46	900	28	1200
11/06/2018	4246	480	924	21.9	28.6	36.9	32.7	59	700	60	1700	117	900	82	1400
18/06/2018	3544	337	930	22.2	28.7	36.4	34.5	34	800	45	1700	118	1000	100	1200
25/06/2018	3681	428	772	21.7	28.1	34.3	31.1	46	700	53	1700	106	900	75	1300
2/07/2018	2815	249	786	21.8	28.6	38.6	31.9	24	700	28	1700	100	1100	83	1200
9/07/2018	3638	612	290	22.8	29.5	37.1	38.4	53	1100	64	1700	46	800	19	1200
16/07/2018	2484	433	159	24.8	31.3	42.3	49.6	50	700	52	1700	23	1000	15	1200
23/07/2018	3140	311	792	23.6	30.2	38.4	41.9	32	700	44	1700	102	1000	78	1400
30/07/2018	2132	293	335	24.1	30.8	39.4	45.8	31	800	39	1700	49	1100	39	1200
6/08/2018	3324	311	884	21.9	28.8	36	33.4	34	700	48	1700	105	1100	103	1400
13/08/2018	3969	411	958	21.8	28.6	37.5	31.8	41	700	61	1700	120	1000	100	1200
20/08/2018	4335	466	1002	23.2	30.1	37.6	41.1	56	700	60	1700	127	900	102	1200
27/08/2018	3529	313	983	23.1	30.2	38.5	41.1	42	700	36	1700	120	1100	116	1200
3/09/2018	3523	351	885	24	31	40	44.6	40	700	55	1700	146	1000	89	1200
10/09/2018	3708	373	922	24	31.1	39.2	46.7	55	700	49	1700	128	1100	98	1200
17/09/2018	4811	570	980	24.3	31.1	38.5	47.1	67	700	68	1700	144	900	97	1200
24/09/2018	4730	690	640	23.1	30.2	39.4	39.5	70	700	70	1700	84	1000	63	1400
1/10/2018	4637	522	1014	22.6	29.3	36.5	37.8	63	700	59	1700	136	1000	73	1200
8/10/2018	3588	578	349	24.6	31.3	41.2	46.9	72	700	68	1700	43	900	42	1400
15/10/2018	4143	612	543	26	32.8	42.3	55.8	78	700	85	1700	89	800	32	1500
22/10/2018	5454	676	1036	24.9	31.7	40.3	50.7	94	700	89	1700	148	800	57	1200
29/10/2018	5379	668	1020	25.5	32.4	40.3	53.7	92	700	72	1700	144	800	73	1200
5/11/2018	4961	629	907	23.8	31	39.6	45.5	93	700	66	1700	125	900	66	1600
12/11/2018	5245	691	895	25.4	32	40.7	53.1	100	700	91	1700	130	800	55	1500
19/11/2018	4761	604	872	25.2	31.7	41.2	52.5	78	700	76	1700	126	900	43	1500
26/11/2018	4910	656	814	25	31.9	40.5	50.5	84	700	77	1700	134	900	60	1200
3/12/2018	4835	629	846	26	32.8	41.2	57.8	87	700	78	1700	146	900	34	1200
10/12/2018	4568	646	669	25.6	32.2	41.5	54.1	94	700	69	1700	109	900	40	1200
17/12/2018	4446	639	627	24.7	31.3	39.8	48.1	102	700	64	1700	128	700	32	1800
24/12/2018	6179	789	1117	24.1	31.5	40.3	46.6	105	900	39	1200	153	900	67	1200
31/12/2018	5895	822	892	23.8	31	40	42.9	95	900	55	1700	140	800	60	1700
7/01/2019	6069	786	1069	25.1	32.2	40.6	51.2	107	700	92	1700	175	800	57	1800
14/01/2019	5198	781	648	24.6	31.3	39.6	48.1	103	700	88	1700	142	700	24	1900
21/01/2019	4979	644	879	23.8	31.5	40.9	45.7	91	700	75	1700	113	800	84	2000
28/01/2019	5780	729	1068	23.9	30.8	40.2	44.1	112	700	71	1700	151	800	69	1200
4/02/2019	4585	609	771	24.4	30.6	39.3	47.9	99	700	74	1700	137	700	37	1800
11/02/2019	5514	718	962	25	32	41	50.7	97	700	79	1700	135	800	49	1200
18/02/2019	5809	729	1083	25.6	32.4	41	54	99	700	81	1700	156	900	57	1700
25/02/2019	5482	709	969	24.7	31.7	41	49	103	700	87	1700	141	900	61	1200
4/03/2019	4453	604	717	23.5	30.1	37.9	42.2	95	700	61	1700	95	800	45	1600
11/03/2019	5582	732	961	25	31.7	39.6	50.2	107	700	89	1700	148	800	52	1200
18/03/2019	5790	743	1037	24.6	31.1	40	48.1	115	700	83	1700	145	1000	73	1200
25/03/2019	5326	686	949	22.9	29.5	38.1	37.7	103	700	93	1700	146	900	63	1200
1/04/2019	5381	681	988	24.2	31	39.2	46.8	99	700	90	1700	139	1000	77	1200
8/04/2019	4945	691	744	23.8	30.8	39.6	43.8	101	700	92	1700	110	800	48	1200
15/04/2019	4087	470	868	23.8	31.3	40.7	43.8	59	700	50	1700	115	1100	96	1200
22/04/2019	6440	891	992	20.9	27.7	35.8	27.5	110	1100	90	1200	136	900	67	1700
29/04/2019	4095	563	639	23.5	29.9	37.8	41.8	80	700	73	1700	88	1000	57	1200
6/05/2019	4941	599	974	23.2	29.7	37.1	40.6	81	700	77	1700	116	1100	123	1400
13/05/2019	4073	554	653	23.4	29.9	37.6	42.8	76	700	71	1700	60	900	82	1500
20/05/2019	4449	518	929	23.6	30.2	38.6	42.9	69	700	67	1700	123	900	89	1400
27/05/2019	4646	556	934	20.8	27.4	34.7	26.7	75	700	74	1700	140	1100	82	1400
3/06/2019	2927	519	166	19.4	26.3	35.8	20.3	55	700	47	1200	30	800	15	1200
10/06/2019	2034	204	508	23.6	29.5	36.6	42.9	24	700	30	1700	79	1000	47	1200
17/06/2019	3067	526	218	23.3	29	36	41.9	65	700	59	1700	36	1100	20	1200
24/06/2019	2365	336	343	23.6	29.7	37.5	43.3	43	700	43	1700	61	900	23	1200
1/07/2019	3102	389	578	22.3	28.8	36	35.7	48	700	48	1700	81	1000	58	1300
8/07/2019	4594	569	875	21.8	28.8	35.5	34.5	56	800	61	1700	99	1100	89	1200
15/07/2019	3029	499	267	23	29.8	38.8	40.1	50	1100	49	1700	37	800	30	1200
22/07/2019	3751	458	730	23.5	29.7	37.1	43	60	700	52	1700	101	1000	85	1200
29/07/2019	4064	591	554	22.9	29	36	38.5	65	700	70	1700	81	900	53	1200
5/08/2019	3838	416	878	22.1	28.6	36.9	34.4	52	700	50	1700	111	800	87	1200
12/08/2019	3225	373	680	23	29.5	36.1	41	45	700	53	1700	89	1000	76	1200
19/08/2019	3987	504	733	22	28.4	35.1	33	56	700	63	1700	88	1100	70	1300

	Cycle Westbound														
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
Week Beginning	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
14/05/2018	5254	679	931	25.1	31.7	38.3	53.2	79	700	88	1700	106	900	76	1500
21/05/2018	3029	531	186	25.1	32	38.9	53.3	62	700	60	1700	22	700	24	1500
28/05/2018	4682	534	1006	24.3	31.3	38	48.7	64	700	60	1700	118	900	92	1200
4/06/2018	2098	293	318	24.2	30.8	38.7	48.1	35	800	25	1700	31	1000	30	1400
11/06/2018	4458	504	970	24.7	31.5	38.4	51.6	59	800	52	1700	95	1100	101	1200
18/06/2018	3654	342	971	24	31	37.9	46.8	40	800	38	1700	109	1100	90	1600
25/06/2018	3902	436	862	25.1	31.9	39.4	54.5	45	700	45	1700	105	900	69	1300
2/07/2018	2989	245	883	23.1	30.6	38	42.1	28	700	25	1600	105	1000	86	1200
9/07/2018	3589	608	274	23.3	30.2	36.2	43.5	61	800	55	1600	36	800	18	1200
16/07/2018	2246	388	153	23.5	30.2	36.5	42.3	42	800	33	1700	31	900	13	1600
23/07/2018	3048	301	771	23.2	30.1	37.3	43.1	32	700	33	1700	97	900	57	1400
30/07/2018	1970	267	317	22.6	29.3	36.2	36.2	27	700	27	1600	36	900	27	1300
6/08/2018	3242	294	887	23.2	30.1	36.5	41.8	34	800	36	1700	97	1100	101	1200
13/08/2018	3905	403	945	23.7	30.6	37.6	45.1	42	700	51	1700	100	900	79	1500
20/08/2018	4193	461	944	23.1	30.1	37.8	41.4	54	700	56	1700	111	900	82	1200
27/08/2018	3292	289	925	22.5	29.3	35.5	38.4	35	700	34	1700	108	1000	90	1200
3/09/2018	3209	303	848	22.4	29.5	36.7	37.3	32	700	44	1700	122	1000	69	1200
10/09/2018	3350	328	855	22.5	29.5	36.6	38.9	41	700	44	1700	113	900	76	1200
17/09/2018	4521	526	945	22.8	29.2	35.6	40.2	59	700	57	1700	126	900	66	1600
24/09/2018	4400	650	574	21.9	29.5	36.4	35.8	74	700	60	1700	74	900	63	1200
1/10/2018	4556	544	918	23.5	30.2	37.1	43.6	71	700	57	1700	112	1000	74	1200
8/10/2018	3537	574	334	23.8	31	38.5	44	65	700	63	1700	44	800	28	1700
15/10/2018	3878	562	534	23	29.9	36.9	39.2	65	700	69	1700	77	600	31	1200
22/10/2018	5010	611	979	22.9	29.5	35.6	39.5	80	700	74	1700	130	700	54	1200
29/10/2018	5055	627	960	22.1	28.6	34.5	34.6	80	600	69	1700	125	800	54	1600
5/11/2018	4872	621	885	22.3	29.2	35.8	37.2	82	700	67	1700	117	700	50	1200
12/11/2018	4907	641	852	23	29.7	37.1	40.3	87	700	69	1700	116	700	42	1700
19/11/2018	4708	605	843	23.2	30.1	37.6	41.2	79	700	59	1700	128	800	39	1200
26/11/2018	4822	637	820	22.9	29.9	37.6	39.7	85	600	64	1700	113	800	36	1200
3/12/2018	4735	604	859	22.8	29.3	35.5	38.3	81	600	58	1700	138	700	32	1300
10/12/2018	4407	612	675	23.2	29.7	37.1	40.2	95	700	58	1700	112	700	29	1200
17/12/2018	4649	659	677	24.4	31	39	49.2	104	700	50	1700	142	700	21	1700
24/12/2018	5613	711	1029	21.2	28.4	35.1	31.8	95	700	30	1700	147	700	63	1200
31/12/2018	5579	763	882	21.3	28.4	35	31.6	91	800	42	1700	139	800	44	1800
7/01/2019	5675	738	992	21.9	28.8	36	33.3	128	700	70	1700	145	700	45	1200
14/01/2019	5120	761	658	23	29.9	36.5	40.7	111	600	67	1700	140	600	27	1900
21/01/2019	4809	593	923	21.2	28.4	35.3	31.3	82	700	55	1700	103	800	95	1900
28/01/2019	5557	710	1004	22.8	29.7	36.7	38.5	121	700	55	1700	138	700	61	1200
4/02/2019	4708	621	803	24.8	31	38.1	50.7	98	700	62	1700	157	700	29	1700
11/02/2019	5393	689	974	22.9	29.3	37.1	39.3	103	700	69	1700	149	700	45	1200
18/02/2019	5609	706	1039	22.4	29.2	35.6	35.5	100	700	73	1700	141	800	58	1700
25/02/2019	5180	668	920	23.3	29.9	37.3	41.6	105	700	61	1700	141	800	49	1300
4/03/2019	4535	621	716	24.3	31	38.3	47.3	91	700	54	1700	91	800	40	1200
11/03/2019	5506	727	935	23.3	29.7	36	40.7	110	700	80	1700	134	700	48	1700
18/03/2019	5679	726	1025	23.6	30.4	37.3	43	113	700	80	1700	141	800	61	1200
25/03/2019	5350	682	970	25	31.5	38.8	51.2	95	700	80	1700	135	800	64	1200
1/04/2019	5209	654	970	22.8	29.5	36.7	38.5	81	800	74	1700	118	1000	79	1200
8/04/2019	5049	691	797	23.8	31.1	38.5	45.3	82	800	82	1700	130	800	37	1200
15/04/2019	3728	431	787	21.8	28.6	35.8	33.2	51	700	42	1700	88	900	67	1200
22/04/2019	6351	867	1009	23.5	31	38	43	99	1000	67	1200	124	800	60	1300
29/04/2019	4085	585	580	24.7	31.1	38.2	51.7	71	700	63	1700	77	800	45	1600
6/05/2019	4696	585	886	23.7	30.4	37.3	44.4	73	700	70	1700	103	1000	75	1500
13/05/2019	3949	530	649	23.9	30.4	36.9	46.8	67	700	59	1700	69	1000	63	1500
20/05/2019	4386	509	922	23.5	29.9	36.9	43	57	700	56	1700	121	1000	61	1400
27/05/2019	4590	563	887	24.9	32.2	39.6	53.7	64	800	66	1700	94	800	72	1300
3/06/2019	2749	486	159	23.6	32.8	41.3	44.7	46	700	49	1600	24	900	12	1200
10/06/2019	1954	197	485	23.4	29.2	35	43.2	22	800	24	1600	71	900	34	1500
17/06/2019	2990	511	217	25.1	31.3	38.5	56.9	52	700	54	1700	45	1000	21	1200
24/06/2019	2245	315	335	24.5	31	37.2	50.6	34	700	34	1600	49	1000	23	1200
1/07/2019	2983	372	561	24.2	30.8	37.8	46.9	41	700	44	1700	71	1000	49	1200
8/07/2019	4396	523	891	22.9	29.9	36	40.9	56	800	51	1600	115	900	86	1400
15/07/2019	3029	504	255	22.9	30.2	36.7	40.5	47	1000	52	1700	35	1000	22	1200
22/07/2019	3680	445	729	23.4	29.9	36.7	44.1	47	700	49	1600	81	1100	72	1200
29/07/2019	4019	591	533	24.8	31.3	38.7	52.2	63	800	64	1700	80	800	51	1200
5/08/2019	3959	419	933	23.9	30.4	37.9	46.4	53	700	45	1700	93	1100	74	1200
12/08/2019	3083	368	622	23.5	30.6	38.3	43.7	41	700	42	1700	68	1000	62	1200
19/08/2019	3955	488	757	24.7	31.3	38.7	51	46	800	56	1700	97	900	68	1400

McCallum Park Cycle Path

Site: VP001C Location: [-31.968988 +115.883858]
Profile: VRX Cls(14-15) Dir(EW) Sp(0,200) Headway(>0) Span(0 - 100) Lane(0-16)
Created by MTE version 5.0.6.0

	Cycle Combined															Pedestrian Estimate (f = 2.8)		
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks						
Week Beginning	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time	Total	AWDT	AWET
26/08/2019	6209	937	762	24.1	30.8	38.5	46.8	106	700	126	1700	107	800	57	1600	632	83	109
2/09/2019	8181	834	2005	22.5	29.3	36.4	37	102	700	102	1700	257	1000	179	1200	5136	554	1182
9/09/2019	10241	1312	1841	23.4	30.1	37.4	43	151	700	166	1700	242	900	124	1200	7033	966	1102
16/09/2019	8472	976	1797	23.2	29.9	37.4	41	128	700	124	1700	224	900	144	1200	6031	718	1221
23/09/2019	9549	1225	1712	23.5	30.4	38	43	143	700	147	1700	232	800	132	1200	6233	856	976
30/09/2019	9763	1382	1426	22.4	29.5	37.3	36.6	154	700	133	1700	169	1100	134	1200	6605	741	1451
7/10/2019	10623	1352	1931	23.5	30.4	37.6	43.5	173	700	162	1700	259	900	137	1200	3089	511	268
14/10/2019	9849	1287	1706	23.8	30.2	38.5	45.1	173	700	148	1700	220	800	98	1200	1016	133	175
21/10/2019	10959	1371	2052	24.2	30.6	39.1	46.1	206	700	152	1700	243	1100	174	1200	820	113	127
28/10/2019	7226	841	1511	24.1	31.3	40	44.8	122	700	105	1700	187	900	100	1500	661	74	146
4/11/2019	10197	1415	1562	23.4	30.4	38.3	42.4	190	700	158	1700	234	700	68	1200	1814	158	511
11/11/2019	9550	1295	1539	24.6	31.1	38.4	48.9	191	700	150	1700	262	800	66	1800	776	106	122
18/11/2019	10301	1326	1836	24.1	31	39.6	45.5	199	700	150	1700	247	900	95	1200	688	95	108
25/11/2019	10247	1419	1576	24.1	30.6	39.1	45.1	205	700	155	1700	231	800	85	1800	782	110	117
2/12/2019	9225	1182	1657	24.5	31.3	39.4	47.6	206	700	119	1700	243	700	70	1700	665	84	123
9/12/2019	8371	1218	1141	24.9	31.3	39.2	50.5	198	700	118	1700	244	700	54	1800	628	88	94
16/12/2019	9698	1280	1649	24.4	31.1	40.3	47.9	221	700	122	1700	251	800	77	1200	630	87	98
23/12/2019	11169	1385	2121	23.1	30.6	38.7	41.4	192	700	67	1600	287	900	146	1200	714	92	128
30/12/2019	12627	1720	2013	22.2	29.5	38	35.5	203	700	96	1200	249	700	124	1200	917	139	111
6/01/2020	11707	1600	1853	23.8	30.6	38.5	44.5	243	700	158	1700	281	700	84	1700	655	91	99
13/01/2020	11623	1537	1968	23.7	30.2	38.5	43.2	229	700	168	1700	262	800	111	1800	866	99	185
20/01/2020	11833	1596	1927	23.1	30.2	38	42.6	240	700	159	1700	244	800	111	1800	1688	121	542
27/01/2020	11351	1472	1997	23.6	30.6	38.3	43.5	214	700	128	1700	300	800	119	1200	839	118	126
3/02/2020	10957	1387	2012	24.1	31.1	39.2	45.5	239	700	147	1700	296	800	94	1200	722	91	133
10/02/2020	11248	1431	2047	24.1	31	38.7	45.1	224	700	157	1700	278	800	115	1200	745	90	149
17/02/2020	11090	1501	1792	24	30.8	38.3	44.4	213	700	166	1700	216	700	138	1600	767	96	144
24/02/2020	8351	917	1883	23.4	29.9	37.6	41.7	147	700	95	1700	243	800	104	1200	787	81	192
2/03/2020	11766	1541	2031	23.5	30.4	38.9	42.7	196	700	159	1700	275	900	111	1200	834	108	147
9/03/2020	10043	1446	1406	24.4	31	39.1	47.6	227	700	168	1700	160	900	103	1300	723	88	142
16/03/2020	11281	1320	2342	23.5	30.1	38.5	42	185	700	148	1700	310	900	143	1700	652	77	135
23/03/2020	14549	1735	2936	23.5	30.2	38.9	41.4	235	700	210	1700	343	1000	222	1200	1064	147	165
30/03/2020	17429	2187	3248	22.7	29.3	37.4	36.5	250	700	266	1700	388	1100	306	1500	1164	153	200
6/04/2020	19796	2564	3487	23.2	29.9	37.8	39	308	700	306	1700	475	800	277	1700	1089	136	206
13/04/2020	21392	3181	2744	22.2	29	36.7	34	326	1000	348	1700	320	900	214	1600	1355	183	220
20/04/2020	21866	2725	4121	22.1	29	37.1	33.3	255	1000	291	1700	453	1000	396	1600	1487	189	272
27/04/2020	21604	2691	4076	21.9	28.8	37.1	32.4	252	1000	257	1700	490	1000	357	1200	1268	153	252
4/05/2020	12162	976	3640	22.2	28.8	36.4	33.3	92	900	99	1700	405	1100	331	1200	991	123	188
11/05/2020	19126	2324	3753	22.8	29.5	36.9	37.4	211	700	248	1700	485	1000	334	1200	1223	154	227
18/05/2020	14216	1984	2148	23.3	29.9	38	40.3	195	700	199	1700	255	1000	184	1200	891	122	140
25/05/2020	5357	597	1186	23.8	29.9	38.2	43	63	700	75	1700	148	800	122	1600	843	106	157
1/06/2020	15242	2110	2347	23.1	29.7	36.5	39.7	200	1000	199	1600	253	900	223	1600	915	130	133
8/06/2020	10087	1334	1710	23.9	30.1	37.4	43.5	122	800	144	1700	188	1100	158	1200	759	83	171
15/06/2020	11764	1248	2763	23.3	30.1	37.6	41.1	131	700	124	1700	308	1000	259	1200	630	78	121
22/06/2020	6969	1173	551	24.3	30.8	39.8	45.9	115	700	109	1700	102	800	39	1200	627	99	67
29/06/2020	9822	1055	2273	23.4	30.4	38.7	40.9	99	700	103	1700	283	900	200	1200	677	91	111
6/07/2020	10168	1173	2151	22.7	29.7	37.4	37.9	118	800	106	1700	250	1000	216	1500	775	102	133
13/07/2020	5893	523	1639	23.1	29.7	37.6	39.9	55	800	50	1700	220	1000	143	1200	622	68	142
20/07/2020	10215	1357	1715	23.3	30.4	38.5	41.1	122	700	145	1700	228	1100	176	1200	708	93	122
27/07/2020	10532	1307	2000	23.5	30.1	37.3	42.2	147	800	119	1700	239	900	189	1200	764	81	179
3/08/2020	7056	1068	858	24	30.4	38.9	45.6	118	800	112	1700	117	900	65	1200	493	63	90
10/08/2020	5803	789	929	24.2	30.6	38.2	45.8	97	800	84	1700	139	900	87	1200	501	62	95
17/08/2020	8918	1065	1796	23.6	30.2	37.8	42.3	110	700	114	1700	227	900	170	1200	642	75	135
24/08/2020	11409	1416	2165	23.5	30.1	37.4	42.7	142	700	149	1700	268	1000	165	1300	646	76	134
31/08/2020	7397	934	1364	24.2	30.6	39.8	45.7	107	700	99	1700	184	900	95	1200	604	75	115
7/09/2020	10590	1159	2397	23.6	30.2	38.5	42.8	124	700	121	1700	290	900	223	1200	583	66	128
14/09/2020	7987	1461	340	24.6	31.1	39.4	47.6	176	700	159	1700	51	1100	26	1600	523	78	67
21/09/2020	10212	1329	1785	24.2	30.6	38.7	45.9	136	700	158	1700	288	900	155	1200	678	86	125
28/09/2020	9977	1145	2127	22.9	29.9	38.5	39.3	124	800	122	1700	263	900	171	1200	641	86	107
5/10/2020	12861	1562	2526	23.3	30.2	38.2	41	159	700	159	1700	344	900	172	1200	658	88	108
12/10/2020	11785	1536	2054	23.8	30.4	38.2	45	201	700	163	1700	286	900	119	1300	604	79	105
19/10/2020	11568	1523	1977	24.3	30.8	39.2	46.3	201	700	162	1700	308	800	99	1200	653	85	115
26/10/2020	9758	1485	1167	25	31.5	40.3	49.5	216	700	153	1700	188	800	52	1300	523	65	99
2/11/2020	11294	1383	2191	23.8	30.4	38.5	42.7	179	700	149	1700	278	700	133	1200	1058	110	255
9/11/2020	6666	893	1102	24.3	31.3	39.3	45.9	123	700	94	1700	124	1000	75	1200	457	56	89
16/11/2020	11689	1528	2024	24.3	31	38.3	46.7	220	700	151	1700	279	800	116	1200	666	95	95
23/11/2020	11084	1478	1848	24.3	30.6	38.5	46.8	215	700	145	1700	272	800	110	1200	574	72	108
30/11/2020	10103	1250	1927	24.1	30.6	38.3	46.6	178	700	113	1700	283	900	100	1200	542	65	108

	Cycle Eastbound														
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
Week Beginning	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
26/08/2019	3161	469	407	23.8	30.4	38.7	44.6	57	700	64	1700	57	900	40	1600
2/09/2019	4212	428	1037	22.8	29.9	37.1	39.3	55	700	57	1700	139	1000	92	1200
9/09/2019	5237	672	940	24	30.8	38.6	46.6	79	700	88	1700	137	1000	70	1200
16/09/2019	4319	492	930	23.5	30.2	38.1	43.1	71	700	63	1700	125	900	79	1200
23/09/2019	4936	629	895	23.7	30.6	38.9	43.6	77	700	83	1700	115	900	80	1200
30/09/2019	5082	713	758	23	30.2	37.8	41.1	79	700	71	1700	86	1100	77	1200
7/10/2019	5522	696	1020	24	30.8	38.5	45.7	91	700	88	1700	145	900	80	1500
14/10/2019	5057	670	854	24.1	30.8	39.4	46.9	96	700	84	1700	118	900	47	1400
21/10/2019	6076	711	1260	25	31.5	40.5	49.9	111	700	83	1700	177	1100	148	1200
28/10/2019	3770	436	796	25.7	32.6	41.8	53.9	62	700	59	1700	107	900	53	1500
4/11/2019	5208	719	806	23.7	30.8	39.4	43.8	97	700	87	1700	119	700	41	1400
11/11/2019	4747	639	775	24.5	30.8	38.7	47.5	95	700	80	1700	134	800	33	1800
18/11/2019	5299	693	918	25.5	32.2	40.7	53.2	103	700	82	1700	127	900	51	1200
25/11/2019	5055	697	784	23.7	29.9	39.9	41	97	700	81	1700	118	800	45	1800
2/12/2019	4592	584	837	25	31.5	40	50.2	104	700	63	1700	123	900	46	1700
9/12/2019	4066	590	559	24.3	30.2	39.2	45.5	94	700	59	1700	131	700	29	1800
16/12/2019	4889	644	834	25.8	32.4	42.1	55.7	108	700	66	1700	127	800	44	1200
23/12/2019	5833	726	1102	24.5	31.9	39.6	48.5	106	800	36	1800	163	900	72	1200
30/12/2019	6503	906	986	22.9	30.1	38.9	38.1	102	700	54	1200	125	800	65	1200
6/01/2020	5912	813	925	24.6	31.3	39.4	48.6	117	700	82	1700	140	900	51	1700
13/01/2020	5766	767	965	23.8	30.4	39.6	43.3	108	700	90	1700	122	800	64	1800
20/01/2020	5930	809	944	24.4	31.3	39.6	50.1	115	700	89	1700	114	800	65	2000
27/01/2020	5668	747	968	24.3	31.3	39.2	47	115	700	65	1700	145	900	63	1200
3/02/2020	5470	683	1027	24.8	31.7	39.8	49.1	115	700	77	1700	160	800	47	1200
10/02/2020	5584	691	1064	23.8	30.4	38.9	41.9	110	700	75	1700	142	900	66	1500
17/02/2020	5243	701	870	22.7	28.9	36.9	35.8	103	700	77	1700	112	900	56	1600
24/02/2020	4003	428	933	22.4	28.8	36.5	35.4	70	700	44	1700	119	900	58	1200
2/03/2020	5854	759	1030	24	31.1	39.8	45.3	97	700	78	1700	148	900	65	1200
9/03/2020	4925	701	710	24.3	31	40.5	46.3	104	700	81	1700	85	800	59	1200
16/03/2020	5593	655	1159	23.6	30.4	39.6	43.1	97	700	72	1700	164	900	81	1700
23/03/2020	7204	847	1485	23.6	30.1	39.6	40.9	115	700	101	1700	183	900	117	1200
30/03/2020	8710	1092	1626	22.7	29.5	38.3	36	122	700	130	1700	195	1000	151	1500
6/04/2020	9763	1255	1744	22.7	29.2	37.6	35.3	150	800	153	1700	213	900	132	1700
13/04/2020	11135	1639	1471	23	29.9	38	38.8	173	1000	183	1700	175	1000	120	1600
20/04/2020	11189	1385	2132	22.6	29.3	38	35.2	139	1000	144	1700	237	1100	216	1600
27/04/2020	10827	1350	2040	21.2	27.7	36	27.2	132	1000	127	1600	252	1100	177	1200
4/05/2020	6191	490	1871	21.9	28.3	36.6	31.1	50	700	52	1700	207	1100	187	1200
11/05/2020	9629	1157	1923	22.7	29.3	36.9	35.8	115	700	119	1600	258	1000	173	1200
18/05/2020	7010	975	1068	22.3	28.6	36.9	33.6	98	700	101	1700	125	1000	95	1500
25/05/2020	2775	309	615	24.3	30.2	39.4	45.8	34	700	38	1600	74	800	73	1600
1/06/2020	7591	1043	1189	22.1	28.4	35.6	33.2	98	1000	92	1700	134	900	116	1600
8/06/2020	4987	649	871	23.9	29.9	38.5	42.4	62	700	74	1700	105	1100	90	1400
15/06/2020	5833	605	1405	21.7	28.1	35.8	31	67	700	63	1700	171	1100	139	1500
22/06/2020	3448	584	264	23.7	30.1	39.3	41.2	61	700	57	1700	46	800	19	1200
29/06/2020	4845	533	1091	22.2	29	37.9	32.6	55	700	57	1700	146	1000	111	1200
6/07/2020	5062	590	1057	21.6	28.8	37.1	31.6	66	1100	56	1700	129	1000	108	1500
13/07/2020	2909	267	788	22.5	28.8	38.3	35.5	27	800	27	1600	102	1000	81	1200
20/07/2020	5063	671	854	21.9	28.3	36.7	31.7	68	700	74	1700	119	1100	91	1200
27/07/2020	5205	648	982	23.5	30.1	38	41.8	73	800	61	1700	135	900	100	1200
3/08/2020	3520	540	411	22.6	28.8	36.2	36.9	65	800	54	1700	76	900	33	1500
10/08/2020	2926	408	444	24.1	30.4	38.3	44.7	50	800	40	1700	74	900	46	1200
17/08/2020	4493	537	904	24.2	30.8	39.6	45.1	61	700	60	1700	122	900	91	1200
24/08/2020	5617	690	1083	23.3	30.1	38	41.3	75	700	73	1700	132	1000	98	1300
31/08/2020	3792	485	684	25	31.7	41.9	49.7	59	700	50	1700	93	1000	56	1300
7/09/2020	5324	582	1207	24	30.8	39.2	45.6	67	700	67	1700	157	1000	118	1200
14/09/2020	3936	717	177	24.7	31.5	40.6	47.7	95	700	85	1700	30	1100	16	1200
21/09/2020	5181	677	899	24	30.2	38.7	43.6	73	700	82	1700	142	800	86	1200
28/09/2020	4992	575	1058	24.2	31.1	40	47.4	62	700	55	1700	131	1100	91	1400
5/10/2020	6367	772	1253	23.8	30.6	38.9	43.5	78	800	81	1700	175	900	100	1200
12/10/2020	5762	767	963	24.2	31	39.4	46.5	110	700	81	1700	149	900	59	1300
19/10/2020	5563	750	908	24.2	31	40	45.3	102	700	81	1700	141	800	48	1200
26/10/2020	4858	734	595	25.8	32.2	41.4	54.5	114	700	79	1700	98	800	32	1400
2/11/2020	5485	678	1047	23.6	29.9	38.7	40.6	93	700	77	1700	131	800	67	1200
9/11/2020	3473	462	581	25.9	32.6	40.7	55.6	67	700	48	1700	68	1000	44	1500
16/11/2020	5887	772	1014	25.1	31.9	39.6	51.3	113	700	79	1700	139	800	59	1300
23/11/2020	5616	742	953	25	31.3	39.7	51.1	110	700	74	1700	137	1000	66	1200
30/11/2020	5042	629	950	25.3	31.7	39.4	53.2	100	700	59	1700	158	900	55	1200

	Cycle Westbound														
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
Week Beginning	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
26/08/2019	3048	468	355	24.3	31.3	38	49.1	49	700	62	1700	56	800	26	1300
2/09/2019	3969	407	968	22.1	28.8	35.3	34.5	47	700	45	1700	119	1000	87	1200
9/09/2019	5004	640	901	22.7	29.3	36	39.1	72	700	78	1700	124	800	54	1200
16/09/2019	4153	484	868	22.9	29.5	36.4	38.8	59	800	61	1700	114	800	66	1200
23/09/2019	4613	596	817	23.3	30.2	37.1	42.3	67	700	64	1700	121	800	52	1200
30/09/2019	4681	669	668	21.7	28.6	36.4	31.7	77	800	61	1700	83	1100	57	1200
7/10/2019	5101	656	911	23	30.1	36.4	41.2	82	700	74	1700	114	900	64	1200
14/10/2019	4792	617	853	23.4	29.9	37.3	43.3	77	700	64	1700	107	800	52	1200
21/10/2019	4883	660	792	23.2	29.5	36.2	41.4	95	700	68	1700	109	900	33	1800
28/10/2019	3456	405	715	22.3	29	36.4	34.8	60	700	46	1700	81	800	48	1300
4/11/2019	4989	695	757	23.1	29.9	37.1	40.9	93	700	72	1700	116	700	37	1700
11/11/2019	4803	655	764	24.8	31.5	38.3	50.2	96	700	70	1700	128	800	33	1800
18/11/2019	5002	633	918	22.6	29.2	36.5	37.4	96	700	68	1700	120	800	47	1500
25/11/2019	5192	722	792	24.5	31	38.3	49.1	108	700	74	1700	115	700	41	1200
2/12/2019	4633	598	821	24	31	39.2	45.1	101	700	56	1700	122	700	33	1200
9/12/2019	4305	628	582	25.4	31.9	39.4	55.4	103	700	59	1700	131	600	25	1800
16/12/2019	4809	636	815	23.1	29.7	37.1	40	113	700	56	1700	125	800	34	1800
23/12/2019	5336	659	1020	21.5	28.8	37.1	33.6	99	700	33	1600	131	800	74	1200
30/12/2019	6124	814	1027	21.4	29	36.7	32.8	101	700	44	1700	134	700	59	1200
6/01/2020	5795	788	928	23.1	29.7	37.1	40.2	126	700	76	1700	144	700	36	1200
13/01/2020	5857	770	1003	23.6	30.2	37.4	43.2	121	700	77	1700	141	800	49	1200
20/01/2020	5903	787	983	21.9	29	35.3	35.1	125	700	71	1700	130	800	79	1900
27/01/2020	5683	725	1029	23	29.7	36.4	40	99	600	63	1700	179	800	57	1200
3/02/2020	5487	703	986	23.5	30.2	38	41.9	124	700	70	1700	148	700	51	1700
10/02/2020	5664	740	983	24.4	31.5	38.6	48.3	114	700	82	1700	137	800	52	1200
17/02/2020	5847	801	922	25.1	32	39.2	52.1	110	700	89	1700	112	700	82	1600
24/02/2020	4348	490	950	24.2	30.6	38.5	47.6	77	700	51	1700	127	800	47	1200
2/03/2020	5912	782	1001	23	29.7	37.1	40	100	700	81	1700	128	900	56	1800
9/03/2020	5118	745	696	24.4	31	38.1	48.8	123	700	86	1700	95	700	48	1300
16/03/2020	5688	664	1183	23.3	29.7	36.9	40.9	88	700	76	1700	153	700	63	1600
23/03/2020	7345	889	1451	23.5	30.4	38.2	41.8	120	700	109	1700	171	1000	105	1600
30/03/2020	8719	1095	1623	22.8	29.3	36.5	37	128	700	136	1700	210	1100	156	1500
6/04/2020	10033	1309	1744	23.7	30.4	38	42.7	168	700	153	1700	263	800	146	1700
13/04/2020	10257	1542	1273	21.3	28.1	35.1	28.7	152	1000	165	1700	147	900	95	1200
20/04/2020	10677	1340	1989	21.6	28.6	35.8	31.3	126	700	147	1700	217	1000	188	1500
27/04/2020	10777	1341	2036	22.7	29.9	38.2	37.5	121	1100	131	1700	249	1000	181	1200
4/05/2020	5971	486	1770	22.5	29.2	36.4	35.6	48	900	47	1600	198	1100	154	1300
11/05/2020	9497	1168	1830	23	29.5	36.9	39.1	104	1000	131	1700	228	1000	161	1200
18/05/2020	7206	1009	1080	24.3	30.8	38.7	46.9	97	700	104	1600	130	1000	113	1200
25/05/2020	2582	288	571	23.3	29.7	36.7	40	29	700	38	1700	75	800	56	1500
1/06/2020	7651	1067	1159	24.1	30.6	37.1	46.1	102	1000	107	1600	119	900	116	1500
8/06/2020	5100	685	839	23.9	30.2	36.5	44.6	68	800	76	1600	94	900	71	1200
15/06/2020	5931	643	1358	24.9	31.5	38.6	51	64	700	68	1600	161	800	125	1200
22/06/2020	3521	589	287	24.9	31.5	40.1	50.6	63	1000	55	1600	57	800	21	1200
29/06/2020	4977	523	1182	24.6	31.5	39.3	48.9	50	900	47	1600	168	900	93	1500
6/07/2020	5106	584	1094	23.7	30.4	38	44.1	61	800	50	1700	132	900	108	1500
13/07/2020	2984	256	851	23.7	30.6	36.9	44.2	28	800	24	1700	118	1000	68	1300
20/07/2020	5152	686	861	24.8	31.9	39.2	50.4	60	1000	71	1700	110	1100	85	1200
27/07/2020	5327	658	1018	23.6	30.1	36.7	42.7	73	800	58	1700	122	1000	89	1200
3/08/2020	3536	529	447	25.3	31.7	39.8	54.3	55	700	58	1700	49	800	41	1200
10/08/2020	2877	381	486	24.3	30.8	38.2	47	47	800	44	1700	67	1000	41	1200
17/08/2020	4425	528	892	23	29.5	36.5	39.5	51	800	54	1700	117	1000	80	1200
24/08/2020	5792	726	1082	23.7	29.9	36.9	43.9	74	800	76	1700	142	900	81	1200
31/08/2020	3605	449	681	23.3	29.9	36.9	41.4	48	700	49	1700	94	900	46	1200
7/09/2020	5266	577	1191	23.1	29.7	38.2	39.9	65	800	54	1700	151	900	105	1200
14/09/2020	4051	745	164	24.4	31	38.5	47.5	82	800	74	1700	21	800	11	1600
21/09/2020	5031	652	886	24.4	31	38.7	48.4	63	700	75	1700	153	900	69	1200
28/09/2020	4985	569	1069	21.6	28.1	35.3	31.2	71	800	67	1700	137	900	86	1200
5/10/2020	6494	789	1274	22.7	29.7	36.9	38.5	82	700	78	1700	169	900	74	1300
12/10/2020	6023	768	1091	23.5	29.9	36.1	43.7	91	700	81	1700	142	800	60	1300
19/10/2020	6005	773	1069	24.4	30.8	38.5	47.1	99	700	81	1700	167	800	51	1200
26/10/2020	4900	751	572	24.2	30.8	38.5	44.4	102	700	75	1700	91	800	26	1300
2/11/2020	5809	704	1144	23.9	30.8	38.2	44.6	86	700	72	1700	156	700	66	1200
9/11/2020	3193	430	521	22.5	29.2	36	35.5	56	700	46	1700	62	700	35	1300
16/11/2020	5802	756	1010	23.4	30.1	36.4	42.1	108	700	72	1700	144	900	62	1200
23/11/2020	5468	735	896	23.5	29.9	37.1	42.4	106	700	70	1700	139	800	44	1200
30/11/2020	5061	621	978	23	29.3	36	40	83	600	53	1700	140	800	46	1200

McCallum Park Cycle Path

Site: VP001C Location: [-31.968988 +115.883858]
Profile: VRX Cls(14-15) Dir(EW) Sp(0,200) Headway(>0) Span(0 - 100) Lane(0-16)
Created by MTE version 5.0.6.0

	Cycle Combined																Pedestrian		
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks				Estimate (f = 2.8)		
Week Beginning	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time	Total	AWDT	AWET
7/12/2020	9343	1311	1394	24.7	31.5	39.8	49.3	213	700	120	1700	202	800	67	1200	529	68	95
14/12/2020	10582	1405	1778	24.6	30.8	39.8	47.6	219	700	122	1700	281	700	91	1800	563	72	101
21/12/2020	9909	1232	1874	24	30.8	38.7	44.6	216	700	65	1700	259	700	92	1800	552	69	103
28/12/2020	12290	1741	1792	23.1	30.2	38.5	39.2	257	700	86	1900	215	900	104	1800	783	106	126
4/01/2021	11628	1474	2129	24	31.1	39.4	44.1	220	700	115	1700	300	700	99	1900	675	85	125
11/01/2021	11885	1616	1902	23.8	30.6	38.3	44.7	225	700	152	1700	273	800	102	1900	588	86	79
18/01/2021	12892	1640	2346	24.2	31.3	39.2	46.2	255	700	159	1700	336	700	108	1200	616	81	107
25/01/2021	13218	1923	1803	23.5	30.2	38.2	41.7	247	700	137	1700	296	700	57	1700	770	119	88
1/02/2021	7940	1296	731	23.1	29.9	37.4	38.4	154	700	158	1800	137	700	32	1400	680	110	66
8/02/2021	12255	1519	2331	24	30.4	38.7	44	193	700	145	1700	361	800	105	1800	580	81	87
15/02/2021	11538	1480	2070	24.5	31	39.6	46.8	213	700	153	1700	314	800	102	1800	520	69	87
22/02/2021	11849	1446	2309	24.2	30.6	39.1	46.1	229	700	139	1700	300	700	122	1200	667	70	159
1/03/2021	8586	815	2257	23.8	30.2	38	43.4	90	700	99	1700	308	900	103	1200	545	59	125
8/03/2021	11583	1433	2210	24.1	30.6	38	45.2	221	700	163	1700	251	800	166	1700	574	74	103
15/03/2021	10871	1475	1749	24.9	31.3	39.3	49.7	228	700	161	1700	310	800	95	1800	537	68	99
22/03/2021	11666	1447	2216	23.9	30.1	38.2	44.2	192	700	165	1700	327	800	116	1700	636	82	112
29/03/2021	11715	1579	1911	23.6	30.1	37.4	42.1	217	700	155	1700	287	800	92	1300	587	82	88
5/04/2021	11064	1789	1061	23.3	30.1	38.3	40.5	212	600	164	1600	131	600	83	1600	753	104	118
12/04/2021	11638	1445	2207	23.4	29.9	37.8	40.8	168	600	154	1600	264	700	124	1300	681	89	118
19/04/2021	12643	1478	2627	23.7	30.1	38.3	41.9	190	600	168	1600	324	900	268	1600	708	69	181
26/04/2021	13527	1806	2250	23.5	29.9	37.6	41.5	183	800	165	1700	271	900	157	1200	680	97	98
3/05/2021	9425	1030	2137	23.8	30.2	37.9	43.1	118	700	111	1700	246	900	168	1500	602	69	128
10/05/2021	9787	1242	1790	24.1	30.8	39.2	44.8	151	700	151	1700	225	800	124	1400	607	78	108
17/05/2021	8979	1431	912	24.5	30.8	38.2	48	169	700	143	1700	177	800	45	1200	538	80	69
24/05/2021	5862	1031	353	24.7	31.1	38.8	48.2	130	700	113	1700	45	1100	42	1600	518	68	90
31/05/2021	9406	1281	1500	23.7	30.1	37.1	43.8	147	700	131	1700	187	900	133	1200	834	83	210
7/06/2021	8168	924	1773	22.2	29.2	37.8	35.5	92	1000	75	1600	202	1000	142	1200	1297	203	140
14/06/2021	6302	900	902	24.2	30.4	37.8	47	97	700	98	1700	109	1000	76	1300	481	74	55
21/06/2021	6937	941	1115	23.9	30.1	37.7	44.9	96	700	92	1700	153	800	107	1300	476	60	88
28/06/2021	7302	874	1467	23.2	29.7	38	39.1	74	1100	113	1600	165	1000	129	1400	764	109	109
5/07/2021	4969	370	1560	22.2	29.3	38.4	34.4	35	800	52	1700	201	1000	171	1200	625	72	132
12/07/2021	2883	272	761	23	29.3	36.2	39.2	31	800	28	1700	98	800	78	1200	515	60	108
19/07/2021	5847	650	1299	23.3	29.5	37.6	40.5	68	800	80	1700	173	800	103	1200	605	68	132
26/07/2021	2010	277	312	22.9	29.7	37.6	37.7	39	800	33	1700	38	800	39	1600	868	63	276
2/08/2021	7305	1080	953	24	30.2	38	44.6	105	700	120	1700	150	800	79	1200	632	82	112
9/08/2021	7643	714	2037	23.4	29.9	38.4	40.2	83	800	81	1700	224	1100	198	1200	628	75	128
16/08/2021	7668	1013	1301	24.2	30.4	39.7	44.9	108	800	113	1700	163	900	102	1300	613	74	121
23/08/2021	7669	1043	1228	24.4	30.8	40	46.3	125	700	116	1700	147	1000	88	1200	619	72	129
30/08/2021	7599	646	2184	23.2	29.5	38.5	39.2	76	700	95	1700	278	1000	180	1300	662	58	186
6/09/2021	9619	1136	1969	23.8	30.2	39.2	42.8	134	700	134	1700	254	1000	172	1200	723	91	135
13/09/2021	8495	1012	1717	24.1	30.4	39.1	45	111	700	110	1700	244	900	153	1200	599	74	115
20/09/2021	9867	1409	1412	23.9	30.4	38.7	44	158	700	168	1700	160	800	115	1200	815	80	208
27/09/2021	8027	1058	1368	23.5	30.2	39.5	41.5	121	800	100	1700	170	900	121	1300	724	88	142
4/10/2021	10364	1207	2165	23.3	30.1	38.6	41.1	124	700	120	1700	277	1000	151	1200	672	90	112
11/10/2021	9917	1186	1993	23.8	30.6	39.6	43	152	700	133	1700	245	1000	129	1200	868	88	214
18/10/2021	8429	849	2091	23.8	30.6	40.3	42.5	101	700	95	1700	278	900	137	1200	706	94	118
25/10/2021	8637	808	2300	23.6	30.1	38.7	42.7	91	700	95	1700	298	900	145	1200	602	71	124
1/11/2021	10174	1200	2086	23.4	30.1	39.1	40.8	152	700	119	1700	255	900	153	1200	1550	143	419
8/11/2021	9849	1258	1781	24.2	30.6	39.6	44.5	137	700	124	1700	220	700	92	1700	644	85	109
15/11/2021	10466	1389	1760	24.4	31	40	46.6	183	700	143	1700	241	800	105	1200	611	80	105
22/11/2021	9851	1307	1659	24.7	31.1	39.8	47.5	169	700	139	1700	275	800	76	1800	579	77	98
29/11/2021	10269	1378	1690	24.4	30.6	39.4	47	183	700	123	1700	265	800	80	1800	557	72	98
6/12/2021	9692	1210	1821	24.4	31	40.3	45.6	189	700	112	1700	256	800	92	1200	546	77	82
13/12/2021	9916	1266	1793	24.4	31	40.7	46.2	205	700	112	1700	274	800	91	1200	518	62	105
20/12/2021	8443	1405	709	24.9	31	40.9	49.8	232	700	89	1700	163	700	26	1800	425	65	50
27/12/2021	12068	1562	2130	23.4	30.2	38.7	40.6	272	700	74	1900	267	900	124	1200	744	96	133
3/01/2022	13024	1696	2273	23.5	30.1	38.7	41.3	253	700	104	1800	312	800	113	1200	670	83	128
10/01/2022	12862	1650	2307	23.8	30.4	39.8	43.5	229	700	152	1700	328	800	103	1200	772	93	153
17/01/2022	9498	1300	1498	24.8	31.5	40	48.7	229	700	98	1800	314	700	89	1900	731	98	121
24/01/2022	11649	1662	1670	23.3	29.9	39.2	40.8	204	700	125	1700	304	700	72	1800	1129	174	131
31/01/2022	9722	1256	1722	24.7	31.1	41.4	46.8	193	700	120	1700	304	700	59	1200	540	65	108
7/02/2022	11725	1491	2135	24.1	30.4	40.1	44.3	218	700	141	1700	311	700	98	1800	599	71	122
14/02/2022	10307	1309	1880	24.8	31	41.9	47.4	217	700	110	1700	318	700	112	1800	613	74	121
21/02/2022	11637	1468	2149	24.2	30.2	40	45.1	228	700	133	1700	291	800	115	1800	633	85	104
28/02/2022	10651	1302	2071	23.7	30.4	40.7	41.9	181	700	120	1700	290	900	118	1800	730	95	127
7/03/2022	12082	1524	2231	23.7	30.3	39.8	41.2	218	700	129	1800	298	800	115	1700	709	85	142
14/03/2022	12305	1516	2362	23.7	30.2	40.1	42.3	207	700	147	1700	309	800	124	1200	666	82	129

	Cycle Eastbound															
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks				
Week Beginning	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
7/12/2020	4603	636	712	24.1	30.6	39.4	43.9	103	700	62	1700	114	800	43	1200
14/12/2020	5190	699	848	24.7	30.6	40.7	47.2	107	700	62	1700	128	700	46	1800
21/12/2020	4785	592	914	23	29.5	38.5	37.4	105	700	34	1700	133	700	41	1700
28/12/2020	5926	849	841	21.6	27.9	36.9	29.5	116	700	44	1800	112	900	59	1200
4/01/2021	5547	675	1087	23	29.3	38.2	37.5	95	700	54	1700	152	700	55	1800
11/01/2021	5652	788	856	22.5	29	37.3	35.6	105	700	77	1700	125	800	54	1900
18/01/2021	6389	794	1211	25.1	32.2	40.5	51.6	119	700	82	1700	171	700	69	1200
25/01/2021	6552	981	824	23.4	30.1	38.8	39.5	117	700	74	1700	139	900	30	1800
1/02/2021	3761	621	329	21.7	27.4	34.9	28.3	74	700	79	1800	65	700	17	1400
8/02/2021	6152	771	1148	24.3	30.8	39.1	45.6	94	700	72	1700	177	800	61	1200
15/02/2021	5825	752	1032	25.8	32.2	40.7	54.7	120	700	79	1700	155	800	57	1800
22/02/2021	5768	713	1102	24	30.4	39.4	44	117	700	76	1700	136	800	57	1200
1/03/2021	4196	397	1105	23.6	29.9	38.9	40.9	47	700	48	1700	163	900	54	1200
8/03/2021	5651	703	1067	23	29.3	37.3	38.2	110	700	82	1700	120	800	88	1700
15/03/2021	5180	704	830	24.1	30.1	39.5	43.1	106	700	84	1700	136	800	52	1800
22/03/2021	5754	724	1067	24.7	31	39.5	48.5	104	700	80	1700	154	800	61	1400
29/03/2021	5736	785	907	23.7	30.4	38	42.9	110	700	84	1700	139	800	51	1200
5/04/2021	5413	884	497	22.8	29.5	38.2	37.2	103	600	82	1600	54	800	38	1500
12/04/2021	5757	714	1093	23.1	29.9	38.7	38.9	88	600	80	1600	142	900	63	1500
19/04/2021	6168	716	1294	23.6	29.9	38.8	41.4	96	600	83	1600	170	900	153	1600
26/04/2021	6688	897	1101	23.4	29.7	38.3	40.3	89	900	86	1700	131	900	77	1600
3/05/2021	4619	496	1069	23.3	29.3	37.3	39.1	66	700	56	1700	125	900	94	1500
10/05/2021	4732	599	869	22.2	27.9	37.3	32	83	700	69	1700	113	800	71	1300
17/05/2021	4396	704	438	24.3	30.4	38.2	46	89	700	75	1700	86	800	24	1200
24/05/2021	2881	507	173	23.1	29	37.2	36.8	72	700	53	1700	18	800	26	1600
31/05/2021	4654	626	763	23.1	29.3	36.1	39.2	82	700	67	1700	109	900	74	1200
7/06/2021	3920	444	850	21.6	28.2	36.2	31.2	48	1000	38	1200	101	1100	76	1200
14/06/2021	3143	453	440	23.4	29.3	37	40.3	54	700	48	1700	50	900	40	1400
21/06/2021	3393	463	540	22.9	29	36.5	39.2	52	700	41	1700	79	800	44	1200
28/06/2021	3548	433	691	22.4	28.8	36.9	34.1	38	1100	59	1600	77	1000	65	1400
5/07/2021	2493	190	772	21.8	29	37.6	32.6	21	800	25	1700	97	1000	91	1200
12/07/2021	1444	144	362	23.3	29.6	37.7	39.3	21	800	15	1600	50	800	35	1200
19/07/2021	2982	326	675	23.8	30.1	38.3	43.4	38	800	39	1700	98	800	56	1200
26/07/2021	1051	145	163	24	30.5	38.5	44.5	23	800	19	1600	21	800	22	1500
2/08/2021	3572	529	463	22.9	28.8	36.9	36.8	59	700	57	1700	68	900	39	1200
9/08/2021	3814	363	1000	23	29.2	38.6	37.1	45	800	36	1700	119	1100	103	1200
16/08/2021	3815	500	657	23.9	30.1	39.9	42.1	59	700	53	1700	79	900	55	1300
23/08/2021	3820	520	610	23.8	29.9	40.6	41	71	700	56	1700	79	1000	50	1200
30/08/2021	3841	340	1071	23.2	29.7	39.6	39.1	47	700	48	1700	126	1000	98	1400
6/09/2021	4815	574	973	23.2	29.5	39.2	38.8	78	700	65	1700	107	1000	95	1200
13/09/2021	4217	511	832	24.2	30.4	39.4	45	60	700	59	1700	116	1000	81	1200
20/09/2021	4848	685	711	23	29.3	38	37.8	81	700	81	1700	91	800	63	1200
27/09/2021	4048	523	716	24.1	30.8	40.7	44.4	59	700	53	1700	94	900	61	1200
4/10/2021	5308	616	1115	23.6	30.2	40	42.8	61	700	59	1700	155	1100	77	1200
11/10/2021	5092	604	1036	24.5	31.3	40.5	47.3	81	700	70	1700	143	900	64	1300
18/10/2021	4190	430	1021	24.3	30.8	41	45.2	52	700	48	1700	137	900	82	1200
25/10/2021	4301	414	1115	24.3	30.6	39.6	46.4	46	700	50	1700	143	900	77	1500
1/11/2021	5075	612	1008	24.5	31.3	40.5	48.1	83	700	60	1700	125	800	91	1200
8/11/2021	4768	617	841	23.5	29.7	39.1	39.4	72	800	64	1700	115	800	42	1700
15/11/2021	5210	702	850	24.4	31	40.5	45.8	97	700	74	1700	123	900	60	1200
22/11/2021	4951	660	826	24.5	30.8	41.1	45.7	91	700	73	1700	152	800	44	1700
29/11/2021	5117	697	817	25.1	31.3	40.7	50.8	98	700	65	1700	126	800	41	1800
6/12/2021	4732	590	892	24.4	31	41.2	44.8	92	700	56	1700	121	900	52	1200
13/12/2021	5019	640	911	25.8	32.2	43.2	54.1	107	700	57	1700	133	800	50	1200
20/12/2021	4175	704	327	25.1	31.1	42.2	49.7	120	700	45	1700	79	700	13	1900
27/12/2021	5839	752	1040	23.1	29.5	39.2	37.7	123	700	38	1800	125	900	67	1200
3/01/2022	6477	842	1133	23.9	30.3	40	42.6	124	700	55	1800	157	900	71	1200
10/01/2022	6336	815	1131	24.4	31	41	46.5	109	700	85	1700	165	800	51	1200
17/01/2022	4571	631	708	23.7	29.5	39.8	40.3	119	700	48	1700	151	700	47	1900
24/01/2022	5600	792	819	23.2	29.3	39.8	38.5	98	700	60	1700	146	700	36	1700
31/01/2022	4687	588	873	23.5	29.3	39.6	37.8	100	700	60	1700	153	700	33	1200
7/02/2022	5744	736	1031	24.8	31.1	41.9	48.8	110	700	71	1700	159	800	51	1800
14/02/2022	4998	641	896	24	29.7	42.5	41.6	112	700	52	1700	162	700	62	1800
21/02/2022	5684	719	1044	24.4	30.4	42	45.4	115	700	70	1700	141	800	57	1800
28/02/2022	5142	632	990	23.8	30.6	42.5	42.4	90	700	63	1700	156	900	64	1800
7/03/2022	5977	735	1151	23.3	29.9	40.1	38.3	102	700	68	1800	152	800	69	1200
14/03/2022	6054	742	1172	24.4	31.1	40.8	46.4	103	700	71	1700	157	900	69	1200

	Cycle Westbound															
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks				
Week Beginning	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
7/12/2020	4740	675	683	25.4	32.2	40.1	54.4	109	700	58	1700	99	700	32	1300
14/12/2020	5392	707	930	24.5	31	38.7	48	111	700	60	1700	153	700	45	1800
21/12/2020	5124	641	961	24.9	31.7	39.1	51.3	111	700	34	1900	126	700	58	1800
28/12/2020	6364	892	952	24.5	31.9	39.2	48.3	140	700	44	1900	114	800	50	1800
4/01/2021	6081	800	1042	24.9	32.2	40.1	50	125	700	62	1700	148	700	48	1900
11/01/2021	6233	828	1046	25.1	31.7	39.3	52.9	120	700	75	1700	148	800	48	1900
18/01/2021	6503	847	1135	23.3	30.2	38	40.9	136	700	76	1700	165	700	52	1800
25/01/2021	6666	942	979	23.6	30.6	37.8	43.8	129	700	63	1700	168	700	29	1700
1/02/2021	4179	675	402	24.4	31.3	38.2	47.4	80	700	79	1800	72	700	18	1200
8/02/2021	6103	747	1183	23.7	30.2	38.3	42.3	99	700	73	1700	184	800	46	1700
15/02/2021	5713	727	1039	23.2	29.2	37.1	38.8	104	600	74	1700	159	800	46	1200
22/02/2021	6081	734	1207	24.4	30.6	38.6	48	112	600	64	1700	168	700	65	1200
1/03/2021	4390	417	1152	24.1	30.6	37.3	45.9	43	700	51	1700	160	800	49	1200
8/03/2021	5932	729	1143	25.1	31.3	38.5	51.9	111	700	80	1700	132	700	78	1700
15/03/2021	5691	771	919	25.6	32	39.3	55.8	122	700	77	1700	174	800	44	1800
22/03/2021	5912	723	1149	23.3	29.3	36.2	40	88	700	85	1700	173	800	64	1700
29/03/2021	5979	794	1005	23.5	29.7	37.1	41.3	107	700	71	1700	149	800	48	1300
5/04/2021	5651	905	564	23.7	30.6	38.7	43.6	109	600	82	1600	79	600	46	1600
12/04/2021	5881	731	1114	23.6	30.1	37.3	42.7	81	700	73	1600	139	700	63	1300
19/04/2021	6475	762	1334	23.8	30.2	37.8	42.5	95	600	85	1600	157	800	140	1500
26/04/2021	6839	908	1149	23.7	29.9	37.3	42.6	103	800	78	1700	149	800	82	1200
3/05/2021	4806	534	1068	24.3	31	38.2	46.9	54	800	55	1700	121	900	78	1200
10/05/2021	5055	643	921	25.9	32.4	39.9	56.8	72	800	82	1700	113	700	60	1400
17/05/2021	4583	727	474	24.7	31	38	49.9	80	700	68	1700	91	800	21	1200
24/05/2021	2981	524	180	26.3	32.6	39.2	59.2	59	800	60	1700	29	1100	17	1600
31/05/2021	4752	656	737	24.3	30.6	37.6	48.2	65	700	64	1700	92	1000	59	1200
7/06/2021	4248	480	923	22.7	29.9	38.8	39.6	47	900	39	1600	113	800	67	1200
14/06/2021	3159	447	462	25.1	31.1	38.5	53.7	46	800	50	1700	61	1000	42	1300
21/06/2021	3544	479	576	24.8	31	38.7	50.4	48	1100	51	1700	75	800	64	1300
28/06/2021	3754	440	776	23.9	30.6	38.5	43.7	35	1100	56	1700	88	1000	64	1400
5/07/2021	2476	180	788	22.6	29.5	39.3	36.2	15	800	27	1700	104	1000	80	1200
12/07/2021	1439	128	399	22.7	29	35.5	39.2	11	700	15	1700	52	1000	44	1200
19/07/2021	2865	324	624	22.9	29	36.4	37.4	30	800	41	1700	80	900	47	1200
26/07/2021	959	132	149	21.6	28.4	35.7	30.2	16	800	18	1700	17	800	19	1600
2/08/2021	3733	550	491	25.1	31.3	39.2	52	47	700	63	1700	83	800	40	1200
9/08/2021	3829	351	1037	23.8	30.2	38.5	43.3	37	800	45	1700	117	900	95	1200
16/08/2021	3853	513	644	24.4	30.8	39.7	47.7	54	800	60	1700	88	800	49	1200
23/08/2021	3849	523	618	24.9	31.7	39.9	51.5	54	700	61	1700	72	800	47	1600
30/08/2021	3758	306	1113	23.2	29.5	36.7	39.2	29	700	47	1700	152	1000	88	1300
6/09/2021	4804	562	997	24.3	31	39.1	46.8	56	700	68	1700	147	1000	78	1200
13/09/2021	4278	502	885	24	30.4	38.3	45.1	51	700	51	1700	148	900	72	1200
20/09/2021	5019	723	702	24.8	31.3	39.2	50.1	77	700	87	1700	75	700	52	1200
27/09/2021	3979	535	652	22.9	29.9	38.2	38.5	68	800	46	1700	77	900	62	1300
4/10/2021	5056	591	1050	23	29.7	37.4	39.4	63	700	61	1700	143	1000	75	1400
11/10/2021	4825	582	957	23	29.5	38.1	38.5	71	700	63	1700	116	1000	69	1200
18/10/2021	4239	420	1070	23.3	30.2	39.1	39.9	50	700	47	1700	163	800	59	1600
25/10/2021	4336	393	1185	23	29.5	37.6	39	45	700	45	1700	160	1000	70	1200
1/11/2021	5099	588	1079	22.2	28.6	36.5	33.6	69	700	60	1700	137	900	62	1200
8/11/2021	5081	640	940	24.8	31.3	40	49.3	69	700	60	1700	132	700	52	1600
15/11/2021	5256	687	910	24.5	31	39.2	47.4	86	700	69	1700	134	800	45	1200
22/11/2021	4900	647	833	24.8	31.3	39.2	49.4	78	700	67	1700	151	700	42	1800
29/11/2021	5152	681	874	23.7	29.7	37.6	43.3	88	600	58	1700	144	700	39	1800
6/12/2021	4960	620	929	24.3	31	39.4	46.5	96	700	56	1700	137	800	40	1200
13/12/2021	4897	626	883	23	29.3	37.3	38.1	97	700	55	1700	141	800	41	1200
20/12/2021	4268	701	383	24.8	30.8	39.8	49.8	112	700	45	1700	84	700	14	1800
27/12/2021	6229	810	1090	23.7	30.8	38.7	43.4	149	700	41	1900	142	900	58	1800
3/01/2022	6547	853	1140	23.1	29.7	37.3	40	129	700	48	1800	172	800	47	1700
10/01/2022	6526	835	1177	23.2	29.7	38.1	40.4	121	600	67	1700	178	700	52	1200
17/01/2022	4927	669	790	25.8	32.8	40.1	56.4	129	600	52	1800	165	600	42	1900
24/01/2022	6049	870	851	23.5	30.2	38.7	43	109	600	65	1700	158	700	38	1800
31/01/2022	5035	667	849	25.8	32.4	42.3	55.2	112	600	60	1700	151	700	28	1900
7/02/2022	5981	755	1104	23.4	29.7	38.4	40	108	700	69	1700	154	700	50	1700
14/02/2022	5309	668	984	25.6	31.9	41.7	52.9	115	600	57	1700	178	800	50	1800
21/02/2022	5953	748	1106	24.1	30.1	38.3	44.9	113	700	65	1800	150	800	58	1800
28/02/2022	5509	670	1081	23.6	30.2	39.9	41.4	91	700	57	1700	149	800	54	1800
7/03/2022	6105	789	1080	24	30.8	39.2	44.1	116	700	62	1700	147	800	55	1700
14/03/2022	6251	774	1190	23	29.3	36.9	38.3	104	700	76	1700	165	800	60	1300

McCallum Park Cycle Path

Site: VP001C Location: [-31.968988 +115.883858]
Profile: VRX Cls(14-15) Dir(EW) Sp(0,200) Headway(>0) Span(0 - 100) Lane(0-16)
Created by MTE version 5.0.6.0

	Cycle Combined														Pedestrian Estimate (f = 2.8)			Cycle Eastbound												Cycle Westbound											
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks							Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks				Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
Week Beginning	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time	Total	AWDT	AWET	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
21/03/2022	10460	1495	1494	24	30.4	39.6	42.8	185	700	157	1700	201	900	102	1700	647	73	142	5018	718	715	22.8	28.6	39.1	35.2	89	700	71	1700	92	900	51	1700	5442	777	779	25.1	31.5	39.6	49.9	96	700	86	1700	109	900	58	1200
28/03/2022	10368	1266	2019	24.2	30.8	40.7	43.9	161	700	132	1700	267	700	101	1200	677	87	122	4915	587	990	22.3	27.9	38.3	30.8	74	700	60	1700	133	800	55	1200	5453	679	1029	25.9	32.4	42	55.8	87	700	71	1700	142	700	49	1700
4/04/2022	10698	1419	1802	23.8	30.2	40.1	43.3	179	600	156	1600	260	900	84	1300	748	94	139	5265	691	906	23.6	29.9	40.7	40.9	90	600	77	1600	146	900	45	1500	5433	728	896	24.1	30.6	39.5	45.5	89	600	79	1600	133	800	44	1300
11/04/2022	12133	1643	1959	22.8	29.5	38.6	37.3	166	700	130	1600	246	800	112	1500	694	98	101	5992	806	980	23	29.7	39.2	37.4	81	700	67	1600	124	900	66	1500	6141	837	979	22.6	29.3	38	37.2	85	700	63	1600	130	700	48	1300
18/04/2022	13109	1755	2166	22.4	29.3	38.7	35.2	172	700	137	1600	261	800	140	1200	717	84	149	6518	869	1087	21.4	27.9	37.4	28.3	91	1000	73	1600	134	900	80	1400	6591	887	1079	23.5	30.4	39.6	42.1	87	700	65	1600	138	800	69	1200
25/04/2022	9870	1130	2111	22.8	29.3	37.6	37.6	123	800	100	1600	259	1000	168	1200	716	81	157	4967	573	1051	22.8	29.3	38.3	37.6	67	800	50	1600	132	1000	91	1200	4903	557	1060	22.8	29.2	37.3	37.7	57	700	50	1600	127	1000	77	1200
2/05/2022	9985	1242	1888	23.5	29.9	40	41.5	147	700	136	1700	216	900	158	1200	652	77	134	4898	596	959	22.6	28.8	39.2	35.1	75	700	68	1700	118	1000	91	1200	5087	646	929	24.4	30.6	40.7	47.6	72	700	70	1600	111	900	79	1400
9/05/2022	7025	923	1205	24.1	30.2	40.5	44.6	103	700	106	1700	150	1000	108	1200	488	58	98	3479	451	613	24.7	30.8	42.3	48.6	56	700	51	1700	82	1100	63	1200	3546	472	592	23.6	29.5	37.4	40.6	47	700	54	1700	79	800	46	1200
16/05/2022	8357	1010	1655	24.2	30.6	39.1	45.3	105	700	113	1700	240	1000	131	1200	498	66	84	4167	508	814	23	29	38.4	37.2	59	700	54	1700	115	1000	66	1200	4190	502	841	25.3	31.5	39.1	53.4	46	700	59	1700	125	1000	65	1200
23/05/2022	8009	912	1724	23.5	29.7	38.7	41.4	95	700	100	1700	221	1000	154	1200	636	76	128	3899	433	867	23.3	29.3	38.9	39.7	52	700	45	1700	111	1000	74	1200	4110	479	857	23.7	30.2	38.7	43	48	800	55	1700	111	1000	80	1200
30/05/2022	8576	1045	1676	23.6	29.7	39.1	42.5	112	700	120	1700	211	1000	144	1400	618	76	118	4112	501	803	23.2	29.2	38.7	39.6	61	800	58	1700	101	1000	80	1400	4464	543	874	24	30.2	39.2	45.1	54	700	62	1700	111	1000	69	1200
6/06/2022	5046	822	469	20.7	29.2	40.1	30.4	75	800	66	1600	57	800	50	1600	1766	327	66	2479	401	238	18.9	25.6	36.4	17.6	36	700	34	1400	31	800	25	1200	2567	421	231	22.3	31.5	42.3	42.9	41	800	34	1600	30	900	29	1600
13/06/2022	4898	808	428	24.3	30.8	40.5	44	85	700	78	1700	46	1100	42	1400	465	67	65	2382	388	220	24.6	30.8	41.4	45.4	44	700	35	1600	26	800	27	1400	2516	420	208	23.9	30.8	39.2	42.7	41	700	44	1700	25	1100	17	1700
20/06/2022	8401	928	1881	23.5	29.7	38.7	40.8	97	700	90	1700	232	1100	171	1200	591	70	121	4171	458	940	22.6	28.8	37.9	34.4	53	700	45	1700	118	1100	83	1500	4230	470	941	24.4	30.6	38.9	47.2	50	800	45	1700	115	1100	95	1200

McCallum Park Cycle Path

Site: VP001C Location: [-31.968988 +115.883858]
Profile: VRX Cls(14-15) Dir(EW) Sp(0,200) Headway(>0) Span(0 - 100) Lane(0-16)
Created by MTE version 5.0.6.0

	Cycle Combined														Pedestrian Estimate (f = 2.8)			Cycle Eastbound												Cycle Westbound											
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks				Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks				Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
Month Beginning	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time	Total	AWDT	AWET	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
Jun 2018	30997	793	1593	23.2	29.9	37.6	41.3	84	700	86	1700	181	900	145	1200	1950	55	89	15294	393	782	22.2	28.6	36.2	33.6	43	700	46	1700	99	900	76	1200	15703	400	811	24.3	31.1	38.3	48.8	44	800	40	1700	84	1100	70	1200
Jul 2018	27921	816	1108	23.2	30.1	37.8	41.5	79	700	87	1700	138	900	94	1200	1696	47	74	14022	416	540	23	29.9	38.7	39.6	40	700	50	1700	67	900	53	1400	13899	399	568	23.4	30.4	37.3	43.5	39	700	37	1700	71	900	45	1200
Aug 2018	27867	666	1568	23	29.9	37.4	39.9	76	700	86	1700	175	900	153	1200	1993	47	114	14188	341	794	22.8	29.7	37.8	38.3	39	700	46	1700	96	1000	83	1200	13679	326	773	23.2	30.1	37.3	41.5	37	700	40	1700	83	900	70	1200
Sep 2018	36066	948	1711	23	30.1	37.8	40.4	109	700	112	1700	206	1000	160	1200	2069	56	94	18737	496	882	23.6	30.6	39.1	43	58	700	61	1700	114	1000	91	1200	17329	452	829	22.3	29.3	36.2	37.6	51	700	51	1700	101	900	69	1200
Oct 2018	38823	1192	1426	24	30.8	39.1	45.2	151	700	143	1700	177	900	87	1200	2119	58	98	19881	609	735	24.7	31.5	40.7	48.8	79	700	76	1700	98	900	45	1500	18942	583	691	23.3	30.1	36.9	41.4	72	700	67	1700	79	900	43	1200
Nov 2018	42333	1267	1808	23.8	30.8	39.2	45	171	700	140	1700	246	800	100	1200	2981	78	158	21569	645	923	25	31.9	40.7	51.2	89	700	76	1700	126	800	54	1200	20764	622	885	22.7	29.3	36.9	38.5	82	700	64	1700	120	800	45	1200
Dec 2018	44288	1335	1626	23.8	30.8	39.2	44.9	187	700	107	1700	232	700	75	1200	1886	55	73	22483	683	814	24.9	31.9	40.5	50.6	94	700	59	1700	126	800	42	1200	21805	652	812	22.7	29.5	36.7	39	93	700	48	1700	129	700	33	1200
Jan 2019	47881	1478	1735	23.2	30.4	38.9	41.3	208	700	139	1700	258	800	83	1800	2632	66	138	24438	759	872	24.4	31.5	40.5	47.1	102	700	79	1700	139	800	41	1800	23443	719	864	22	29	35.9	35.2	107	700	60	1700	124	700	44	1900
Feb 2019	42649	1362	1926	24.1	30.8	39.2	45.9	203	700	146	1700	277	700	87	1700	2102	69	91	21558	690	971	24.9	31.7	40.7	50.3	100	700	80	1700	140	800	48	1700	21091	673	955	23.3	29.9	37.3	41.3	104	700	66	1700	144	700	41	1200
Mar 2019	47043	1364	1840	23.9	30.6	38.3	44.4	204	700	152	1700	247	800	109	1200	2386	72	86	23639	684	927	23.9	30.6	38.9	44.4	104	700	80	1700	126	900	58	1200	23404	680	913	23.8	30.6	37.6	44.4	100	700	72	1700	128	800	50	1200
Apr 2019	43285	1317	1788	23.2	30.2	38.2	40.7	153	700	138	1700	217	900	130	1200	2659	71	137	21927	670	898	23.1	30.2	38.9	40.4	82	700	74	1700	112	900	70	1200	21358	647	891	23.2	30.2	37.4	41	71	700	64	1700	107	800	60	1200
May 2019	38175	1118	1558	23.7	30.4	37.8	44.5	140	700	135	1700	181	1000	134	1400	3483	88	182	19263	560	799	23.1	29.5	37.4	39.9	76	700	72	1700	92	1000	82	1400	18912	558	759	24.4	31	38.3	49.1	65	700	63	1700	89	1000	57	1500
Jun 2019	23971	774	850	22.7	29.7	37.8	40.1	85	700	80	1700	111	1000	64	1200	14288	421	586	12260	396	434	21.8	28.4	36	33.3	47	700	43	1700	60	1000	35	1200	11711	377	416	23.8	31	38.7	47.2	38	700	40	1600	51	1000	29	1200
Jul 2019	32304	980	1221	23.1	29.7	36.9	41.2	100	700	105	1700	145	1000	117	1200	15192	454	593	16342	498	612	22.7	29.3	36.8	38.5	54	700	56	1700	79	1000	64	1200	15962	482	609	23.5	30.2	36.9	44	46	700	49	1700	66	1100	53	1200
Aug 2019	32283	895	1398	23.4	30.1	37.6	42.9	101	700	110	1700	160	1000	129	1200	3967	101	195	16234	450	703	22.6	29	36.7	37.6	53	700	58	1700	85	1000	69	1200	16049	445	695	24.2	31	38.3	48.2	48	700	52	1700	76	1000	60	1200
Sep 2019	38932	1138	1669	23.1	29.9	37.4	40.5	132	700	133	1700	205	900	129	1200	25631	791	1003	20033	584	864	23.5	30.4	38.3	42.9	70	700	72	1700	115	1000	71	1200	18899	555	805	22.6	29.5	36.2	38	62	700	61	1700	103	800	57	1200
Oct 2019	42891	1246	1779	23.7	30.4	38.5	44.3	171	700	147	1700	212	900	135	1200	10729	291	505	22582	643	973	24.4	31.1	39.8	47.7	92	700	81	1700	119	900	86	1200	20309	603	806	23.1	29.7	36.7	40.5	80	700	66	1700	94	900	50	1200
Nov 2019	41893	1315	1587	24	30.8	38.9	45.2	190	700	147	1700	225	800	71	1200	4281	114	210	21210	663	810	24.5	31.1	40.1	47.3	95	700	79	1700	118	800	37	1200	20683	652	778	23.5	30.4	37.4	43	95	700	68	1700	107	800	33	1200
Dec 2019	43832	1315	1655	24	31	39.2	45.5	204	700	103	1700	237	800	76	1200	3079	95	111	22168	665	837	24.7	31.5	40.3	48.8	101	700	54	1700	121	800	40	1200	21664	650	818	23.3	30.2	38.2	42.3	103	700	49	1700	119	700	36	1200
Jan 2020	51537	1566	1940	23.4	30.2	38.3	42.2	228	700	146	1700	251	800	96	1800	4384	109	234	25926	795	955	24.1	31.1	39.4	46.3	112	700	76	1700	123	800	49	1800	25611	771	985	22.6	29.5	36.7	38	116	700	69	1700	129	700	47	1800
Feb 2020	43784	1309	1956	23.9	30.8	38.5	44.4	206	700	141	1700	265	800	102	1200	3143	89	151	21314	626	978	23.5	30.1	38.3	40.8	100	700	68	1700	137	900	52	1200	22470	683	978	24.3	31.3	38.5	47.8	106	700	73	1700	139	800	51	1200
Mar 2020	53721	1565	2143	23.6	30.4	38.7	42.6	213	700	182	1700	267	900	136	1200	3747	111	145	26561	767	1076	23.8	30.6	39.7	43.1	104	700	88	1700	141	900	75	1200	27160	798	1066	23.4	30.1	37.4	42	109	700	94	1700	131	700	61	1200
Apr 2020	87457	2739	3400	22.4	29.2	37.1	35.1	269	700	297	1700	377	1000	276	1600	5349	162	224	44473	1388	1743	22.6	29.3	37.6	35.3	133	1000	150	1700	199	1000	152	1600	42984	1351	1657	22.3	29.2	36.5	34.9	139	700	147	1700	177	1000	127	1500
May 2020	61264	1508	2960	22.7	29.3	37.3	36.6	144	700	159	1700	338	1000	260	1200	4617	128	193	30692	746	1503	22.2	28.8	36.9	33	76	700	79	1700	175	1000	133	1200	30572	762	1457	23.2	30.1	37.6	40.3	68	700	80	1700	167	900	127	1200
Jun 2020	45071	1379	1843	23.6	30.1	37.8	42	128	700	133	1600	204	900	160	1200	3074	95	123	22397	679	932	22.8	29.2	37.4	36.9	66	700	68	1700	104	1100	85	1200	22674	700	911	24.3	31	38	47.2	64	800	72	1600	104	800	75	1200
Jul 2020	41622	1133	1944	23.3	30.1	38	40.8	112	800	108	1700	241	1000	175	1200	3045	88	127	20582	565	947	22.2	28.8	37.3	33.7	57	700	56	1700	122	1000	94	1200	21040	568	997	24.4	31.1	38.7	47.8	56	800	52	1700	128	900	81	1200
Aug 2020	38474	1094	1549	23.6	30.1	37.8	42.9	115	700	116	1700	196	900	134	1200	2716	69	126	19198	550	765	23.4	30.1	38	41.4	62	700	57	1700	105	900	68	1200	19276	544	785	23.8	30.2	37.6	44.5	56	800	59	1700	97	1000	66	1200
Sep 2020	38769	1227	1471	24	30.6	38.9	45.2	132	700	136	1700	200	900	124	1200	2556	77	108	19470	615	741	24.4	31	39.8	46.6	71	700	71	1700	101	1000	67	1200	19299	612	730	23.7	30.2	38	43.9	67	800	65	1700	104	900	57	1200
Oct 2020	51926	1472	2172	23.8	30.6	38.9	44.1	188	700	153	1700	283	900	133	1200	2751	80	109	25561	731	1054	24.4	31.1	40	47	98	700	77	1700	142	900	70	1200	26365	741	1118	23.3	30.1	37.4	41.2	91	700	76	1700	150	800	63	1200
Nov 2020	41291	1277	1609	24.1	30.8	38.7	45.4	178	700	132	1700	210	800	97	1200	2898	82	131	20738	642	806	24.8	31.3	39.6	49.2	92	700	68	1700	103	800	51	1200	20553	635	803	23.4	30.1	37.1	41.6	86	700	64	1700	107	800	46	1200
Dec 2020	46571	1419	1743	24.3	31	39.1	46.5	226	700	100	1700	246	800	78	1200	2541	75	101	22786	693	856	24	30.4	39.3	43.6	111	700	51	1700	121	800	43	1200	23785	725	888	24.6	31.5	38.9	49.4	115	700	49	1700	127	700	38	1800
Jan 2021	54872	1663	1994	23.7	30.8	38.7	43.1	233	700	138	1700	277	700	89	1800	3018	94	105	26689	812	964	23.3	30.1	38.5	39.7	108	700	71	1700	133	700	47	1800	28183	851	1031	24.1	31.1	38.9	46.3	126	700	67	1700	145	700	42	1800
Feb 2021	43582	1435	1860	24	30.4	38.9	44.3	197	700	141	1700	272	800	85	1200	2447	83	100	21506	714	903	24.2	30.8	39.6	44.6	101	700	72	1700	132	800	44	1800	22076	721	958	23.9	30.2	38	44	96	700	69	1700	141	800	42	1200
Mar 2021	46712	1298	2108	24.3	30.6	38.3	46	185	700	149	1700	298	800	114	1700	2494	70	110	22773	636	1017	24	30.4	38.9	44	94	700	76	1700	139	800	58	1700	23939	661	1091	24.5	30.8	38	48	92	700	74	1700	159	800	57	1700
Apr 2021	52082	1658	1951	23.4	29.9	38	41	182	600	158	1600	240	800	140	1600	3009	91	126	25567	818	947	23.2	29.7	38.3	39.3	90	600	80	1600	117	900	75	1600	26515	840	1004	23.7	30.1	37.6	42.6	95	700	77	1600	127	800	65	1600
May 2021	39694	1182	1488	24.1	30.4	38.3	45	141	700	130	1700	186	800	102	1200	2541	74	98	19396	576	730	23.2	29.2	37.6	38.7	77	700	63	1700	91	900	52	1200	20298	606	758	25	31.5	38.9	51.1	64	700	67	1700	98	800	50	1200
Jun 2021	31736	962	1322	23.4	30.1	37.6	42.4	96	700	96	1700	151	1000	108	1200	3307	106	123	15593	473	648	22.8	29	36.7	37.5	52	700	47	1700	75	800	57	1200	16143	489	674	24.1	30.8	38.5	47.2	44	700	49	1700	81	1000	54	1300
Jul 2021	20761	461	1179	22.9	29.5	37.6	38	43	800	57	1700	133	1000	108	1200	2609	71	116	10369	234	581	22.8	29.3	37.8	37	25	800	27	1700	63	1000	56	1200	10392	228	598	23.1	29.7	37.3	39	18	1000	30	1700	69	1000	52	1200
Aug 2021	32173	952	1247	24	30.4	39.2	44	102	700	110	1700	148	900	103	1200	3072	74	161	16016	475	617	23.6	29.7	39.2	40.4	58	700	52	1700	73	1000	54	1200	16157	477	629	24.4	30.8	39.4	47.6	44	700	58	1700	81	800	49	1200
Sep 2021	38976	1110	1820	23.7	30.2	38.7	42.9	124	700	125	1700	219	1000	153	1200	3076	81	161	19343	553	897	23.2	29.5	38.7	39.2	67	700	63	1700	102	1000	81	1200	19633	556	924	24.2	30.8	38.7	46.5	57	700	62	1700	117	1000	72	1200
Oct 2021	40275	974	1983	23.6	30.2	39.2	41.9	114	700	106	1700	245	900	135	1200	3183	84	142	20422	496	1000	24.2	31	40.5	45.7	58	700	54	1700	131	900	71	1200	19853	477	983	22.9	29.5	37.8	37.9	55	700	52	1700	121	1000	64	1200
Nov 2021	43151	1299	1821	24.2	30.6	39.6	45.2	163	700	132	1700	245	800	95	1200	3522	94	183	21484	656	881	24.4	31	40.5	46	87	700	69	1700	124	800	54	1200	21667	643	940	24	30.4	39.1	44.4	76	700	64	1700	135	700	41	1200
Dec 2021	43318	1361	1503	24.4	30.8	40.1	46.6	219	700	93	1700	226	800	63	1200	2387	75	84	21323	671	736	24.8	31.1	41.4	47.8	108	700	47	1700	110	800	34	1200	21995	690	767	24.1	30.6	38.9	45.4	110	700	46	1700	120	700	29	1200
Jan 2022	52609	1565	1975	23.7	30.2	39.4	42.5	227	700	118	1700	287	700	81	1800	3648	111	133	25705	764	966	23.7	30.1	40.3	41.1	112	700	62	1700	132	700	44	1200	26904	800	1009	23.7	30.4	38.3	43.7	120	600	56	1700	155	700	40	1800
Feb 2022	43366	1380	1971	24.4	30.6	40.7	45.8	214	700	125	1700	300	700	92	1800	2380	74	114	21102	671	961	24.2	30.4	41.6	44	109	700	64	1700	151	700	48	1800	22264	709	1011	24.6	31	40	47.5	108	600	61	1700	149	700	43	1800
Mar 2022	49088	1425	2039	23.8	30.4	40.1	42.5	190	700	136	1700	263	900	107	1200	3034	85	135	23822	686	1007	23.4	29.9	40.5	39.5	91	700	64	1700	135	900	56	1200	25266	739	1032	24.2	31	40	45.2	99	700	71	1700	139	800	51	1700
Apr 2022	49009	1485	1980	23.1	29.7	39.1	38.9	153	600	126	1600	249	800	107	1200	3046	89	132	24222	732	984	22.6	29	39.1	35.3	77	700	63	1600	129	900	59	1500	24787	753	997	23.6	30.2	39.1	42.4	78	600	63	1600	130	800	50	1200
May 2022	37809	1026	1692	23.7	30.1	39.1	42.5	113	700	116	1700	214	1000	142	1200	2595	71	115	18658	499	853	23.3	29.3	39.4	39.4	61	700	56	1700	110	1000	76	1200	19151	527	839	24.1	30.4	39.1	45.6	52	700	60	1700	105	1000	66	1200
Jun 2022	29033	915	1114	23.2	29.9	39.4	40.4	94	700	84	1700	125	1100	96	1400	3670	133	92	14228	447	550	22.5	29	39.1	35.1	48	700	41	1700	62	1100	51	1400	14805	468	563	23.9	30.6	39.8	45.4	46	700	43	1700	64	1000	49	1200

McCallum Park Pedestrian Path

Site: VP001P Location: [-31.968988 +115.883858]
Profile: VRX Cls(14-15) Dir(EW) Sp(0,200) Headway(>0) Span(0 - 100) Lane(0-16)
Created by MTE version 5.0.6.0

Week Beginning	Cycle Combined															
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
14/05/2018	291	24	87	9.8	17.1	40.1	4.47	2	900	3	1200	25	1100	20	1200
21/05/2018	96	16	7	9.3	14	72.4	6.25	2	1000	2	1800	1	800	2	1500
28/05/2018	115	13	26	9.2	12.1	113	3.48	2	900	1	1600	4	1100	4	1700
4/06/2018	65	8	13	12.9	17.8	112	9.23	1	900	1	1200	3	700	2	1500
11/06/2018	218	16	69	8.6	14.2	92	4.13	2	900	2	1200	30	700	6	1200
18/06/2018	105	9	30	10.3	16.8	79.6	6.67	1	700	1	1800	5	1000	4	1200
25/06/2018	157	17	35	10.1	15.2	111	5.73	2	900	1	1200	7	1100	10	1700
2/07/2018	115	9	35	14.2	17.1	194	11.3	1	1000	1	1500	5	1100	5	1200
9/07/2018	130	21	12	9.9	14.7	141	8.46	2	600	2	1200	3	800	1	1500
16/07/2018	66	9	10	13.1	17.7	172	9.09	2	700	1	1500	3	700	2	1200
23/07/2018	86	8	23	8.5	14.2	80.3	4.65	1	1000	1	1500	3	900	4	1600
30/07/2018	113	10	32	10.3	10	150	5.31	2	1100	1	1700	17	800	3	1700
6/08/2018	116	9	37	10.7	13.2	91	11.2	2	600	1	1600	6	1100	4	1700
13/08/2018	132	12	35	8.8	11.5	117	4.55	3	1000	1	1600	5	1000	5	1400
20/08/2018	181	20	42	8.7	10.3	96.1	5.53	3	1100	3	1700	7	1000	4	1200
27/08/2018	103	11	25	12.2	18.5	187	9.71	2	900	1	1600	4	800	2	1200
3/09/2018	130	14	29	13	16.9	169	11.5	2	600	2	1700	6	800	4	1200
10/09/2018	116	11	30	11.1	13.9	147	9.48	2	600	1	1300	5	1000	3	1300
17/09/2018	166	18	39	9.9	11.9	69.4	9.04	2	600	2	1800	9	700	3	1200
24/09/2018	159	22	25	10.1	11.3	96.8	8.18	3	1000	3	1800	5	1000	3	1300
1/10/2018	164	19	36	10.3	13.7	104	6.1	2	600	2	1500	8	900	3	1600
8/10/2018	98	15	12	8.4	9.9	119	4.08	2	1100	2	1800	2	700	2	1200
15/10/2018	112	14	20	9.3	14.9	114	6.25	2	900	2	1800	5	800	2	1400
22/10/2018	163	18	38	10.1	15.8	114	6.14	3	900	2	1800	5	900	7	1800
29/10/2018	160	17	37	11.1	19.2	94	11.3	2	900	2	1800	6	800	3	1300
5/11/2018	248	26	59	11.1	20.8	81.8	10.1	2	700	6	1700	7	1000	11	1200
12/11/2018	131	17	23	8.5	11.4	60.9	5.34	3	900	1	1700	3	800	2	1300
19/11/2018	131	16	27	8.3	12	96.9	4.58	3	600	1	1800	3	700	3	1500
26/11/2018	159	20	29	10.8	16	107	8.18	3	600	2	1800	8	800	2	1400
3/12/2018	112	14	20	13.5	24.9	169	14.3	2	700	2	1800	3	700	3	1900
10/12/2018	91	11	17	9.9	14.6	102	7.69	1	600	2	1700	5	800	1	1400
17/12/2018	92	12	16	11.1	15.2	139	10.9	2	1000	2	1800	4	700	2	1900
24/12/2018	128	19	18	11	16.4	104	10.2	2	800	2	1800	3	800	3	1800
31/12/2018	145	19	25	11.2	16	147	9.66	2	1100	2	1900	5	700	3	1800
7/01/2019	149	18	29	8.5	11.6	88.9	6.04	2	700	4	1800	5	800	3	1800
14/01/2019	137	21	17	8.9	14.5	90.5	5.84	3	700	2	1800	3	600	2	1700
21/01/2019	185	13	61	12.2	18.8	137	8.65	2	700	1	2300	6	700	13	2000
28/01/2019	149	16	34	9.2	14.8	69.4	6.71	3	700	1	1600	6	1000	4	1400
4/02/2019	109	14	19	9.1	12.9	65	6.42	4	600	2	1800	4	700	2	1900
11/02/2019	127	17	22	10.6	12.3	185	6.3	2	800	2	1800	6	700	2	1800
18/02/2019	137	18	23	9.6	13.7	137	6.57	3	600	2	1800	5	700	2	1800
25/02/2019	150	17	33	8	10.5	64.7	4.67	2	600	3	1700	7	700	3	1700
4/03/2019	134	17	26	9.4	15.3	76.8	4.48	2	600	3	1800	4	700	5	1400
11/03/2019	127	14	29	10.9	16.7	135	7.09	2	700	2	1800	6	700	3	1800
18/03/2019	130	15	28	10.4	12.1	158	6.15	2	700	2	1800	5	700	3	1800
25/03/2019	150	17	33	7.6	9.4	84.8	2.67	2	700	2	1800	5	900	3	1700
1/04/2019	176	15	52	9.4	12.7	98.4	6.25	2	600	2	1700	24	800	3	1700
8/04/2019	161	20	30	9.4	12.5	83.5	7.45	2	900	3	1200	5	800	3	1300
15/04/2019	138	15	32	13.2	20.5	151	11.6	1	1100	2	1700	7	700	3	1400
22/04/2019	189	28	25	9.6	13.4	100	6.35	3	800	3	1700	6	700	3	1200
29/04/2019	159	21	27	8.7	10.6	63.9	8.81	3	600	2	1700	5	900	4	1700
6/05/2019	153	17	34	8.7	12.9	65.2	5.88	3	600	2	1700	3	1000	6	1200
13/05/2019	130	13	32	12.3	21.5	166	10	2	700	2	1700	10	1100	3	1300
20/05/2019	124	13	31	9.1	15	79.9	6.45	3	800	1	1600	5	800	3	1200
27/05/2019	222	14	76	9.8	16.7	96.2	7.66	2	600	2	1600	8	1000	15	1400
3/06/2019	133	27	0	9.6	15.9	107	7.52	2	1000	4	1300	-	0	-	0
10/06/2019	1	0	0	7	-	-	0	-	0	0	2300	-	0	-	0
17/06/2019	0	0	0	-	-	-	-	-	0	-	0	-	0	-	0
24/06/2019	12	2	0	13.2	20.6	22.2	0	0	800	1	1200	-	0	-	0
1/07/2019	41	8	1	17.1	23.1	32.4	9.76	2	800	2	1300	-	0	1	1400
8/07/2019	19	4	1	13.5	17.5	20.7	0	2	1100	1	1200	1	600	-	0
15/07/2019	36	1	15	20.5	43.8	182	25	1	600	0	1200	3	1100	3	1200
22/07/2019	123	11	33	10.2	14.8	86.6	9.76	1	800	1	1400	5	900	5	1500
29/07/2019	138	16	30	9.7	14.2	131	6.52	2	600	2	1700	11	800	2	1200
5/08/2019	134	13	34	9.3	9.7	139	5.22	2	600	1	1200	5	900	4	1600
12/08/2019	94	7	29	12	13.4	199	7.45	1	600	1	1400	3	700	5	1600
19/08/2019	128	13	31	11.8	13	176	9.38	1	600	2	1800	5	900	5	1200
26/08/2019	90	11	19	9	11.4	77.5	6.67	2	1000	2	1600	4	1100	2	1300
2/09/2019	25	5	0	25.6	46.8	145	32	2	800	1	1200	-	0	-	0
9/09/2019	200	40	0	14.2	22.9	94.4	13	9	900	17	1400	-	0	-	0
16/09/2019	231	46	0	12.2	21.5	60.2	13.4	32	1000	5	1300	-	0	-	0
23/09/2019	340	68	0	12.1	18.9	58.5	12.1	21	800	13	1400	-	0	-	0
30/09/2019	79	16	0	7.8	16.7	30.1	2.53	7	1000	1	1200	-	0	-	0

Week Beginning	Pedestrian Estimate (f = 2.8)			Cycle Eastbound															
				Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
	Total	AWDT	AWET	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
14/05/2018	6617	825	1246	111	12	26	7.2	12.6	34	1.8	2	900	2	1400	7	1100	3	1200
21/05/2018	4219	683	402	38	7	2	9.8	15	57.4	5.26	1	900	1	1800	1	800	1	1500
28/05/2018	5165	618	1038	57	6	15	9.6	12.9	120	3.51	1	900	1	1700	3	1000	2	1700
4/06/2018	3483	422	686	29	4	6	10.3	16.3	57.9	6.9	1	900	1	1200	2	700	1	1500
11/06/2018	5872	650	1311	99	9	28	8.2	14.9	40.7	3.03	1	900	2	1200	6	700	3	1600
18/06/2018	4880	547	1072	53	4	16	10.3	10.5	79.8	5.66	1	700	1	1600	3	900	3	1200
25/06/2018	5166	610	1057	81	8	22	9.2	14.4	136	2.47	1	1100	1	1200	5	1100	8	1700
2/07/2018	3962	414	947	45	3	15	19.8	18.2	197	11.1	1	1000	0	1400	3	1100	2	1200
9/07/2018	4732	739	520	55	10	3	7.9	13.9	40.9	5.46	1	900	2	1200	1	700	1	1600
16/07/2018	3945	538	628	31	4	5	16.3	21.1	172	9.68	1	700	1	1500	1	900	1	1200
23/07/2018	4387	491	966	43	4	12	9.9	16.8	80.3	6.98	0	700	1	1500	2	900	2	1500
30/07/2018	5172	730	761	35	4	8	15.3	14.7	155	8.57	1	1100	1	1200	2	900	1	1200
6/08/2018	3702	399	854	66	5	21	11.6	21	92.5	12.1	1	600	1	1600	5	1100	2	1600
13/08/2018	6397	656	1558	66	6	17	8.6	15.6	42.7	6.06	1	900	1	1800	2	600	4	1400
20/08/2018	4345	450	1049	99	11	23	9.9	12.1	174	5.05	2	1000	2	1700	4	900	3	1200
27/08/2018	4530	697	524	49	5	13	13.7	20.2	188	10.2	1	900	1	1400	2	800	2	1300
3/09/2018	5063	584	1071	58	7	11	14.1	25.9	160	15.5	1	1000	1	1700	2	800	3	1200
10/09/2018	4685	685	630	48	5	12	11.8	19.5	74.1	10.4	1	600	0	1500	3	800	2	1300
17/09/2018	4922	623	903	89	9	22	10.5	17.5	80.5	8.99	1	600	1	1800	6	700	2	1200
24/09/2018	5513	737	913	77	11	11	10.2	11.3	94.7	6.49	1	600	1	1800	3	1000	2	1700
1/10/2018	3953	417	934	91	10	22	10.5	16.8	152	4.4	1	800	1	1500	6	900	1	1200
8/10/2018	5779	775	952	57	8	8	8.9	9.8	119	5.26	2	1100	1	1600	1	700	1	1200
15/10/2018	4494	487	1031	56	7	12	11.4	17.9	124	7.14	1	1000	1	1800	4	800	2	1800
22/10/2018	5392	652	1065	88	9	22	9.3	16.6	67.7	7.96	2	900	1	1800	4	900	2	1400
29/10/2018	4698	539	1003	90	10	21	10.1	19.6	54.6	10	1	800	1	1700	3	800	2	1300
5/11/2018	5396	719	900	136	13	36	10.5	20.5	50.4	9.56	1	900	3	1700	3	1000	10	1200
12/11/2018	5597	707	1032	71	9	12	8.7	14.9	57.1	4.23	1	900	1	1200	2	800	2	1300
19/11/2018	5004	687	786	59	7	13	9.6	15.8	52.6	8.48	2	900	1	1300	3	900	2	1400
26/11/2018	5044	697	779	89	10	19	10.5	14.2	142	7.87	1	800	1	1700	5	800	2	1400
3/12/2018	4542	614	735	60	8	11	15.7	26.8	182	16.7	1	1000	1	1800	2	900	2	1900
10/12/2018	4676	642	733	49	6	10	7.9	12.9	37.8	4.08	1	700	1	1700	4	800	1	1800
17/12/2018	4219	637	517	49	5	11	13.9	26.9	139	14.3	1	600	1	1400	3	700	1	1400
24/12/2018	4662	595	843	70	10	10	10.1	16.6	38.4	10	2	800	2	1800	2	900	2	1800
31/12/2018	4950	696	735	80	11	13	11.4	22	141	10	1	1100	1	1800	3	700	2	1800
7/01/2019	5155	694	842	72	9	13	10.5	14.9	115	11.1	1	600	2	1800	3	800	2	1500
14/01/2019	4755	721	576	74	11	9	9.5	19.6	60.1	9.46	2	800	1	1800	3	600	1	1700
21/01/2019	4779	608	871	94	7	31	11	18.7	115	9.57	1	800	1	2300	3	700	13	2000
28/01/2019	5073	656	896	80	8	19	8.8	15	36.6	5	2	600	1	1600	5	1000	3	1400
4/02/2019	4869	667	766	52	7	9	9.2	13.2	54.2	3.85	1	700	1	1800	3	700	1	1900
11/02/2019	5149	687	857	65	8	12	11.2	17.6	193	9.23	1	800	1	1800	3	700	1	1800
18/02/2019	5544	769	850	62	8	11	8.2	16.8	51.8	3.23	2	600	1	1500	2	700	1	1300
25/02/2019	5051	689	804	75	9	16	7.2	10.4	46.6	2.67	1	600	2	1700	3	700	3	1700
4/03/2019	4948	634	889	69	9	12	10.5	17.3	79.8	4.35	1	600	2	1800	2	700	3	1200
11/03/2019	5927	785	1001	51	5	14	15.2	21.1	149	7.84	1	500	1	1800	2	700	2	1600
18/03/2019	5640	740	971	66	7	16	13.6	19.5	190	7.58	1	600	1	1200	3	1000	2	1600
25/03/2019	5852	770	1000	76	7	20	8.2	10.5	72.4	2.63	1	600	1	1800	4	900	2	1300
1/04/2019	5806	725	1091	81	7	24	6.4	9.8	44.5	2.47	1	700	1	1700	11	800	2	1700
8/04/2019	5970	829	912	87	11	16	9.8	12.4	68.6	9.2	1	900	1	1700	3	1100	3	1300
15/04/2019	4146	479	875	67	7	15	15.3	36.9	124	16.4	1	900	1	1800	3	1100	2	1500
22/04/2019	6093	823	990	102	15	13	9.1	14.3	53.3	6.86	2	1000	2	1600	2	800	2	1200
29/04/2019	5017	649	885	78	11	11	9.5	10.9	74.3	8.97	2	600	1	1200	2	700	2	1300
6/05/2019	5353	692	948	87	9	21	9.3	14.2	67	4.6	1	600	1	1700	3	1000	5	1300
13/05/2019	4343	574	737	61	6	16	12.9	21.3	173	8.2	1	700	1	1600	6	1100	2	1300
20/05/2019	4553	556	886	57	6	14	10.1	18.7	49.6	8.77	1	800	1	1200	3	1100	2	1200
27/05/2019	5006	575	1067	100	5	37	9.9	15.3	122	6	1	700	1	1600	5	1000	10	1400
3/06/2019	2542	508	1	66	13	0	8.3	14.8	53.2	4.55	2	1100	2	1300	-	0	-	0
10/06/2019	6	1	2	1	0	0	7	-	-	0	-	0	0	2300	-	0	-	0
17/06/2019	14	2	2	0	0	0	-	-	-	-	-	0	-	0	-	0	-	0
24/06/2019	48	8	3	0	0	0	-	-	-	-	-	0	-	0	-	0	-	0
1/07/2019	27	4	5	10	2	1	15.6	-	-	10	1	800	0	1300	-	0	1	1400
8/07/2019	61	11	4	8	1	1	12.9	-	-	0	1	1100	0	1200	1	600	-	0
15/07/2019	1610	85	592	13	1	5	13	37.4	50	23.1	0	600	0	1200	2	1100	1	1200
22/07/2019	4209	475	917	54	5	15	8.9	12.5	80.4	7.41	0	700	1	1200	3	900	4	1500
29/07/2019	5565	644	1172	65	7	14	10	15.3	97.7	4.62	1	700	1	1300	5	900	1	1200
5/08/2019	4547	530	948	58	4	20	8.7	11.3	87.5	3.45	1	600	0	1600	3	900	4	1600
12/08/2019	4589	551	918	47	4	15	10.2	13.8	79.2	8.51	1	600	0	1200	2	600	3	1600
19/08/2019	4556	578	833	76	7	20	9.3	11.8	61.1	7.9	1	700	1	1700	2	900	5	1200
26/08/2019	4267	617	592	36	4	9	10	12.9	77.5	5.56	1	1000	1	1600	3	800	1	1300
2/09/2019	1103	221	0	10	2	0	31.8	-	-	30	1	800	1	1200	-	0	-	0
9/09/2019	1017	203	0	103	21	0	15.7	20.7	121	8.74	7	900	9	1400	-	0	-	0
16/09/2019	834	167	0	111	22	0	12.7	27	52.4	23.4	18	1000	0	1300	-	0	-	0
23/09/2019	706	141	0	191	38	0	11.3	18.9	80	8.9	10	800	10	1400	-	0	-	0
30/09/2019	260	51	2	29	6	0	4.4	5	30.1	6.9	3	1000	0	1200	-	0	-	0

Week Beginning	Cycle Westbound															
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
14/05/2018	180	12	61	11.5	19.4	68.1	6.11	1	1000	2	1200	19	1100	18	1200
21/05/2018	58	10	5	9	13.1	72.4	6.9	1	600	2	2000	1	900	2	1600
28/05/2018	58	7	11	8.8	11.3	79.1	3.45	1	900	1	1600	2	900	2	1700
4/06/2018	36	4	7	14.9	20	112	11.1	1	900	1	1700	1	700	1	1600
11/06/2018	119	7	41	8.8	11.9	98.9	5.04	1	700	1	1400	24	700	4	1400
18/06/2018	52	5	14	10.2	21.1	65.8	7.69	1	900	1	1800	3	700	1	1200
25/06/2018	76	10	14	11.1	17.7	93.7	9.21	2	600	1	1700	3	800	2	1700
2/07/2018	70	6	21	10.7	17.4	98.4	11.4	0	800	1	1600	3	900	3	1200
9/07/2018	75	11	9	11.5	15.2	171	10.7	2	600	1	1600	3	800	1	1500
16/07/2018	35	5	6	10.2	12	97.2	8.57	1	700	0	1400	3	700	1	1200
23/07/2018	43	4	11	7	11.8	40.7	2.33	1	1000	0	1300	2	700	2	1600
30/07/2018	78	6	24	8	9.7	125	3.85	1	1100	1	1700	16	800	2	1700
6/08/2018	50	4	16	9.4	11.9	83.7	10	1	600	0	1600	2	900	2	1700
13/08/2018	66	6	18	9	11	137	3.03	1	1000	1	1300	4	700	2	1700
20/08/2018	82	9	19	7.4	8.3	47.6	6.1	2	1100	1	1700	3	1000	2	1300
27/08/2018	54	6	13	10.8	13.5	159	9.26	1	900	1	1600	2	800	2	1500
3/09/2018	72	7	18	12.1	13.1	173	8.33	1	600	1	1700	4	800	2	1500
10/09/2018	68	6	18	10.6	9.3	157	8.82	1	600	1	1300	3	700	2	1300
17/09/2018	77	9	17	9.2	10.8	63.8	9.09	1	600	1	1700	4	700	2	1700
24/09/2018	82	11	14	10.1	11.9	99.9	9.76	2	1000	1	1700	2	900	2	1200
1/10/2018	73	9	14	10	9.6	78.4	8.22	1	600	1	1800	3	800	2	1300
8/10/2018	41	7	4	7.7	9.9	56.3	2.44	1	1000	1	1800	1	700	1	1200
15/10/2018	56	8	9	7.3	10.7	40.9	5.36	1	900	1	1500	2	1100	1	1600
22/10/2018	75	9	16	10.9	15.7	192	4	1	900	1	1300	2	800	5	1800
29/10/2018	70	8	16	12.5	19.3	147	12.9	1	900	1	1800	3	800	2	1600
5/11/2018	112	13	23	11.8	20.9	92.5	10.7	1	700	3	1700	5	1000	4	1300
12/11/2018	60	8	11	8.2	10.4	61.4	6.67	1	600	1	1700	2	900	2	1500
19/11/2018	72	9	14	7.3	10.5	118	1.39	2	600	1	1200	3	700	2	1500
26/11/2018	70	10	11	11.2	16.5	84.4	8.57	2	600	1	1800	3	700	1	1600
3/12/2018	52	7	10	10.9	11.4	77.9	11.5	1	700	1	1600	2	700	1	1400
10/12/2018	42	5	8	12.2	18.9	102	11.9	1	500	1	1700	2	700	1	1400
17/12/2018	43	7	5	7.9	12	45.3	6.98	1	700	1	1800	2	800	1	1800
24/12/2018	58	9	8	12.1	15.5	108	10.3	1	800	1	1900	3	800	1	1800
31/12/2018	65	8	12	10.9	12.1	153	9.23	1	800	1	1900	3	800	2	1800
7/01/2019	77	9	16	6.7	9.9	27.4	1.3	1	700	2	1800	3	700	2	1800
14/01/2019	63	10	8	8.2	12.1	109	1.59	2	700	1	1800	2	800	1	1700
21/01/2019	91	6	30	13.4	19.7	145	7.69	2	700	1	1600	3	700	10	1900
28/01/2019	69	8	15	9.6	14.9	75	8.7	2	700	1	1900	2	900	2	1800
4/02/2019	57	7	10	8.9	12.8	66.2	8.77	3	600	1	1800	2	800	1	1900
11/02/2019	62	9	10	10	10.6	165	3.23	1	600	1	1800	3	700	1	1800
18/02/2019	75	10	13	10.8	11.7	174	9.33	1	600	1	1900	3	700	1	1800
25/02/2019	75	8	17	8.7	11.3	75.5	6.67	1	600	1	1900	4	700	2	1800
4/03/2019	65	8	14	8.3	12.7	71.5	4.62	1	700	1	1900	2	700	3	1400
11/03/2019	76	9	16	8.1	10.3	75.5	6.58	1	700	1	1200	4	700	2	2100
18/03/2019	64	8	12	7	7.5	59.8	4.69	1	700	2	1800	3	700	3	1800
25/03/2019	74	9	14	7	9.1	97.7	2.7	2	700	1	1800	3	800	2	1700
1/04/2019	95	8	28	12	17.2	145	9.47	2	600	1	1700	14	800	3	1800
8/04/2019	74	9	14	9	13.4	108	5.41	1	700	1	1200	4	800	1	1200
15/04/2019	71	8	17	11.3	9.6	169	7.04	1	700	1	1700	5	700	2	1400
22/04/2019	87	13	12	10.2	12.7	129	5.75	2	800	2	1700	5	700	1	1200
29/04/2019	81	10	16	7.9	10.2	44.2	8.64	1	1000	1	1700	4	900	3	1700
6/05/2019	66	8	13	8	9.2	63.7	7.58	2	600	1	1700	1	600	3	1700
13/05/2019	69	7	16	11.7	21.8	150	11.6	1	700	1	1700	4	1100	2	1500
20/05/2019	67	7	17	8.4	10.4	83.5	4.48	2	800	1	1600	3	800	2	1500
27/05/2019	122	9	39	9.7	19	84.5	9.02	2	600	1	1700	5	800	5	1300
3/06/2019	67	13	0	10.8	17.5	135	10.5	1	700	2	1300	-	0	-	0
10/06/2019	0	0	0	-	-	-	-	-	0	-	0	-	0	-	0
17/06/2019	0	0	0	-	-	-	-	-	0	-	0	-	0	-	0
24/06/2019	12	2	0	13.2	20.6	22.2	0	0	800	1	1200	-	0	-	0
1/07/2019	31	6	0	17.6	22.5	32.4	9.68	2	800	1	1300	-	0	-	0
8/07/2019	11	2	0	13.9	17.3	17.4	0	1	1100	1	1200	-	0	-	0
15/07/2019	23	1	10	24.8	60.7	182	26.1	0	600	-	0	2	900	2	1200
22/07/2019	69	7	18	11.2	16.5	88.6	11.6	1	800	1	1400	2	900	2	1200
29/07/2019	73	8	16	9.5	13.1	152	8.22	1	600	1	1700	9	800	1	1200
5/08/2019	76	10	14	9.8	9.1	166	6.58	1	700	1	1200	3	800	2	1500
12/08/2019	47	4	15	13.8	10	199	6.38	0	1000	1	1700	3	700	2	1600
19/08/2019	52	6	11	15.6	17.7	188	11.5	1	800	1	1800	3	900	3	1500
26/08/2019	54	7	10	8.3	10.3	51.3	7.41	1	600	1	1600	2	700	1	1200
2/09/2019	15	3	0	21.5	54.2	60.4	33.3	1	800	0	1200	-	0	-	0
9/09/2019	97	19	0	12.6	26.6	94.4	17.5	3	1100	8	1400	-	0	-	0
16/09/2019	120	24	0	11.7	21.1	103	4.17	14	1000	5	1300	-	0	-	0
23/09/2019	149	30	0	13.1	29.3	58.5	16.1	11	800	3	1400	-	0	-	0
30/09/2019	50	10	0	9.9	17.3	20.7	0	4	1000	1	1400	-	0	-	0

McCallum Park Pedestrian Path

Site: VP001P Location: [-31.968988 +115.883858]
Profile: VRX Cls(14-15) Dir(EW) Sp(0,200) Headway(>0) Span(0 - 100) Lane(0-16)
Created by MTE version 5.0.6.0

Cycle Combined

Week Beginning	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
7/10/2019	143	18	26	11.1	13.9	121	4.9	11	1100	2	1400	4	1000	3	1400
14/10/2019	157	21	27	9.2	11.7	103	6.37	2	1100	3	1600	5	700	3	1300
21/10/2019	111	14	21	7.7	9.8	86.5	5.41	2	600	1	1700	6	800	3	1700
28/10/2019	119	15	23	10.2	17.1	108	10.9	1	600	2	1400	3	800	2	1500
4/11/2019	140	16	30	10	15.1	77.4	6.43	2	600	2	1800	5	1100	4	1400
11/11/2019	91	13	14	10.8	18.4	74.4	11	2	600	1	1800	3	1000	2	1400
18/11/2019	137	18	24	12.2	15.3	172	10.2	2	600	3	1300	4	1100	4	1700
25/11/2019	120	16	19	9.7	13.1	138	7.5	3	700	1	1600	4	800	2	1800
2/12/2019	122	15	23	9.4	16	70.3	6.56	2	600	2	1300	4	700	3	1800
9/12/2019	78	11	11	11.9	24.2	108	14.1	1	600	2	1900	2	800	2	1900
16/12/2019	88	10	18	9.6	19.1	67.2	9.09	2	600	1	1900	4	600	2	1900
23/12/2019	109	10	29	9.1	18.1	67	3.67	2	600	1	1900	4	700	3	1300
30/12/2019	151	20	26	8.9	14.1	66.2	7.95	3	800	2	1300	6	800	2	1900
6/01/2020	120	14	26	8.6	12.7	63.4	7.5	2	900	2	1800	5	700	3	1800
13/01/2020	126	14	28	8.1	11.7	54.9	4.76	2	600	2	1800	5	800	4	1800
20/01/2020	217	18	65	9.6	12.6	69.6	4.61	3	600	1	1900	4	600	21	2000
27/01/2020	145	16	32	7.5	10.5	67.6	4.14	2	600	2	1800	7	900	3	1700
3/02/2020	113	12	28	7.5	11.6	50.4	5.31	1	600	3	1900	6	700	2	1500
10/02/2020	161	14	45	9.1	12.6	77.9	6.21	2	800	1	1800	10	900	3	1600
17/02/2020	127	15	27	9.1	13.1	101	5.51	2	600	1	1300	5	800	2	1900
24/02/2020	88	8	25	6.8	10.9	26.7	2.27	1	600	1	1700	4	600	2	1600
2/03/2020	140	18	26	10.5	18.5	74.4	7.86	2	700	2	1700	3	900	3	1400
9/03/2020	100	12	19	8.8	12.3	112	5	2	600	1	1200	4	900	3	1800
16/03/2020	148	16	34	7.6	10.4	59.2	2.7	2	600	3	1600	7	800	3	1800
23/03/2020	173	20	37	9.2	12.2	71.1	8.09	3	900	3	1800	7	900	3	1600
30/03/2020	225	29	40	10.3	13.9	122	9.33	4	1000	5	1700	5	1000	6	1400
6/04/2020	199	24	40	7.7	12.4	44.6	3.02	3	800	3	1700	7	1000	6	1700
13/04/2020	326	43	55	8.4	10.6	56.5	4.91	8	900	4	1600	7	800	5	1300
20/04/2020	296	33	66	10	11.9	107	7.1	4	900	6	1700	9	800	11	1700
27/04/2020	324	38	66	6.8	8	40.9	3.4	5	1100	4	1500	8	1000	6	1600
4/05/2020	214	15	70	8.8	9.8	85.4	5.61	2	1100	1	1700	9	1000	8	1500
11/05/2020	266	33	51	6.4	8.8	36.6	3.01	5	900	5	1700	8	900	5	1400
18/05/2020	238	32	39	9.3	9.6	105	7.14	4	800	2	1400	7	800	3	1200
25/05/2020	102	10	26	12.9	18.3	181	10.8	1	1000	2	1600	4	900	4	1700
1/06/2020	268	38	40	8.2	11.5	75.4	2.99	5	900	4	1700	5	900	4	1500
8/06/2020	153	20	27	11.6	17.2	104	11.1	2	900	2	1600	5	1000	4	1200
15/06/2020	176	17	45	9.8	11.4	118	5.68	3	900	2	1600	5	700	6	1700
22/06/2020	120	20	11	12.2	20.9	139	10	2	1000	2	1200	3	600	1	1600
29/06/2020	134	13	35	7.7	10.8	73.9	3.73	2	900	2	1700	6	800	6	1500
6/07/2020	155	16	38	12.3	11.4	145	10.3	2	600	2	1400	6	700	3	1200
13/07/2020	104	8	32	9.6	12.7	84.9	6.73	1	700	1	1600	6	900	4	1500
20/07/2020	141	18	26	8.6	10.8	118	4.26	2	1100	3	1800	4	700	4	1200
27/07/2020	166	14	49	8.4	9.7	103	4.82	2	1000	2	1600	19	800	3	1600
3/08/2020	108	17	11	9.3	11.5	116	7.41	2	1000	2	1800	2	800	3	1500
10/08/2020	71	9	14	9.3	13.5	111	7.04	2	800	1	1700	4	900	3	1200
17/08/2020	134	15	31	9	8.6	152	5.97	2	600	2	1700	6	900	3	1500
24/08/2020	146	16	33	8.7	10.4	72.8	6.85	2	1000	1	1600	5	900	4	1200
31/08/2020	118	8	39	6.8	8.9	81	1.7	1	900	2	1800	24	800	3	1600
7/09/2020	153	17	35	10.8	13.1	106	9.8	2	1000	1	1700	5	700	4	1300
14/09/2020	92	15	8	10.8	11.4	140	7.61	2	1000	2	1800	2	800	1	1200
21/09/2020	128	15	27	11	11.8	165	6.25	2	600	2	1800	5	1000	3	1400
28/09/2020	129	15	26	9.7	13.1	82.1	9.3	2	1000	1	1700	4	900	4	1300
5/10/2020	169	22	30	7.4	9.6	61.3	4.14	3	700	2	1200	5	800	4	1500
12/10/2020	154	17	34	8	10.9	71.5	5.84	3	900	2	1800	5	900	3	1300
19/10/2020	134	18	23	7.3	10.8	51.2	2.99	2	600	2	1700	4	700	4	1800
26/10/2020	91	14	12	7.7	11.7	50.1	4.4	2	800	2	1800	1	600	1	1800
2/11/2020	163	15	45	7.4	8.5	95.9	3.68	2	900	2	1800	7	1100	10	1300
9/11/2020	68	8	14	13.9	23	176	13.2	1	800	1	1800	3	700	1	1200
16/11/2020	117	14	24	8.9	12.5	69.3	3.42	2	900	1	1300	5	600	2	1300
23/11/2020	87	9	22	7.4	9.2	95.3	4.6	2	600	1	1700	3	600	2	1400
30/11/2020	117	15	22	8.2	9.4	111	5.13	2	900	2	1800	4	800	2	1400
7/12/2020	80	9	18	8.3	9	196	1.25	2	600	1	1700	3	600	2	1900
14/12/2020	103	13	20	10.3	19.2	118	6.8	2	600	1	1900	5	700	2	1800
21/12/2020	81	8	21	9.8	12.9	110	7.41	2	800	1	1900	4	700	2	1300
28/12/2020	118	17	17	8.2	13	52	5.93	2	600	3	1900	2	600	2	1200
4/01/2021	126	18	19	7	11	40.3	2.38	3	800	2	1900	3	700	3	1600
11/01/2021	132	16	25	8.3	12.2	49.2	3.03	2	800	2	1700	4	800	3	1900
18/01/2021	129	13	33	7.3	12.2	41.5	3.1	2	900	2	1900	7	1000	4	1800
25/01/2021	139	20	20	7.9	11.9	42.7	5.04	4	800	1	1400	6	700	1	1900
1/02/2021	108	16	15	9.9	10.7	184	3.7	2	700	2	1700	5	700	1	1300
8/02/2021	97	12	20	7.9	12.7	30.8	3.09	1	1100	1	1900	4	800	3	1200
15/02/2021	104	13	20	9.3	17.1	109	4.81	2	800	1	1800	4	800	4	1900
22/02/2021	108	12	24	9.7	15.2	64.6	8.33	2	700	1	1700	4	700	4	1200

Pedestrian Estimate (f = 2.8) and Cycle Eastbound

Week Beginning	Pedestrian Estimate (f = 2.8)			Cycle Eastbound Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
	Total	AWDT	AWET	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
7/10/2019	2803	270	726	48	3	16	7.5	13.2	48.5	2.08	1	900	1	1200	2	800	2	1400
14/10/2019	5107	686	838	86	11	16	10.1	12.2	114	6.98	1	1100	2	1600	3	600	2	1300
21/10/2019	4894	699	700	56	7	11	6.6	8.5	42.6	3.57	1	900	1	1700	4	800	2	1700
28/10/2019	4606	533	971	69	8	14	9.1	14.2	123	5.8	1	600	2	1400	2	900	2	1500
4/11/2019	5712	737	1013	78	9	17	9.8	16.3	49.4	5.13	1	600	1	1600	4	1100	3	1400
11/11/2019	4872	667	768	47	6	8	9.4	18.4	46.6	8.51	1	600	1	1800	2	1000	1	1800
18/11/2019	5057	706	763	65	7	14	11	15.9	85.9	9.23	1	600	1	1300	3	1100	3	1600
25/11/2019	4981	716	702	50	7	8	9.3	17.3	42.4	6	1	700	1	1600	2	800	1	1400
2/12/2019	4356	551	800	67	9	12	10.6	18.7	77.7	7.46	1	700	2	1300	3	1000	1	1300
9/12/2019	4284	638	546	38	6	4	15	30	108	18.4	1	700	1	1900	1	600	2	1900
16/12/2019	4273	573	705	51	7	9	11.3	24	55.2	13.7	1	700	1	1800	3	600	2	1900
23/12/2019	5135	653	935	53	6	13	11.1	19.8	62.6	5.66	1	1000	1	1900	2	1100	2	1600
30/12/2019	5705	807	836	80	11	14	10.2	17	72.2	8.75	2	1000	1	1300	4	800	1	1800
6/01/2020	5682	777	899	66	8	14	8.4	12.8	60	6.06	1	900	1	1800	2	600	2	1800
13/01/2020	5734	766	952	59	7	13	8.9	16.9	39.3	5.09	1	700	1	1800	4	900	2	1800
20/01/2020	5379	745	826	134	9	45	10.4	14.1	126	4.48	1	600	1	1700	3	700	21	2000
27/01/2020	5188	687	878	81	9	18	7.3	11.1	74.1	2.47	1	600	1	1800	4	700	2	1800
3/02/2020	5331	643	1057	53	6	13	6.3	12	28.5	1.89	1	200	1	1900	3	700	2	1500
10/02/2020	5608	731	977	92	9	24	8.9	13.2	75.9	5.44	1	600	1	2300	7	1000	2	2000
17/02/2020	5298	698	903	73	9	15	8.4	13.1	50.9	4.11	1	600	1	1300	4	900	2	1800
24/02/2020	4723	545	1000	44	4	13	7.3	14.8	26.7	4.55	0	600	1	1300	3	600	2	1400
2/03/2020	6112	793	1073	77	9	16	12.3	21.2	89.6	9.09	1	1000	1	1700	2	100	3	1400
9/03/2020	5762	759	984	55	7	11	10.5	14.7	112	7.27	1	900	0	1200	2	700	2	1800
16/03/2020	6023	725	1200	83	9	19	7.8	10.3	53.8	2.41	1	600	2	1600	4	1000	2	1800
23/03/2020	8003	1027	1434	93	11	18	9.4	13.6	74.2	7.53	2	700	2	1800	4	900	2	1600
30/03/2020	9180	1222	1535	114	14	23	10.9	14.3	145	7.02	2	1000	3	1700	3	1000	3	1200
6/04/2020	9912	1326	1642	111	12	25	8.1	13.5	42.9	1.8	2	900	1	1600	4	800	3	1700
13/04/2020	11391	1616	1657	169	23	28	8.8	12.7	84.6	4.73	4	900	3	1600	4	1000	3	1300
20/04/2020	11874	1565	2024	142	15	33	9.6	12	106	6.34	1	1000	3	1700	5	900	4	1600
27/04/2020	11619	1505	2047	159	17	36	6.9	9	49.5	4.4	3	1000	3	1500	7	1100	4	1400
4/05/2020	8168	889	1862	105	6	37	8.9	11	64	5.71	1	1000	0	1400	6	1000	5	1500
11/05/2020	10718	1411	1831	122	16	22	6.6	9.4	33.1	2.46	3	900	2	1700	4	900	2	1400
18/05/2020	9053	1272	1347	112	14	21	7.4	9.2	66.9	4.46	2	900	1	1400	3	800	3	1200
25/05/2020	5611	654	1171	42	4	12	9.8	13.7	54.5	4.76	0	700	1	1600	2	700	3	1700
1/06/2020	9889	1414	1409	140	19	22	8	12.6	77.6	2.14	3	900	2	1500	3	1000	3	1300
8/06/2020	6978	913	1206	76	9	15	12.2	21.2	81	13.2	2	1100	1	1600	3	1000	2	1200
15/06/2020	7151	882	1370	82	8	21	11.9	13.2	137	7.32	2	900	1	1600	3	700	2	1700
22/06/2020	5835	905	655	54	9	6	13	21.4	149	11.1	1	1000	1	1200	2	800	1	1600
29/06/2020	6619	756	1420	64	6	17	9.1	12.9	87.4	4.69	1	700	1	1300	3	800	4	1500
6/07/2020	6560	806	1266	66	7	16	14.8	13.4	145	13.6	1	800	1	1700	3	800	2	1200
13/07/2020	4640	504	1060	48	4	15	10.5	16.6	85.5	8.33	1	1000	1	1500	2	1100	3	1500
20/07/2020	6580	889	1069	68	8	14	6.3	9.4	22.5	0	1	900	1	1700	2	800	3	1200
27/07/2020	7224	855	1475	82	5	28	8.8	9.3	151	3.66	1	900	1	1800	12	800	2	1400
3/08/2020	4732	714	580	43	7	4	12.5	21.8	122	11.6	1	1000	1	1800	1	700	1	1200
10/08/2020	4471	596	746	30	3	9	7.2	12.2	30.3	6.67	0	800	1	1200	3	900	2	1200
17/08/2020	6068	717	1242	67	8	15	8.8	8.2	95	5.97	1	1000	1	1300	3	900	2	1500
24/08/2020	6916	905	1196	83	9	19	7.9	10.1	74	4.82	1	900	1	1600	3	800	3	1300
31/08/2020	5171	643	979	46	4	14	5.8	10.5	21.8	0	1	900	1	1700	8	800	1	1600
7/09/2020	6599	830	1224	77	8	19	10.2	13.8	83.4	9.09	1	1000	1	1300	4	700	2	1700
14/09/2020	5191	874	412	42	7	4	11.6	13.7	124	7.14	1	1000	1	1700	1	800	1	1200
21/09/2020	6281	843	1034	70	7	17	9.5	13.1	150	2.86	1	600	1	1300	4	1000	2	1400
28/09/2020	6243	774	1187	63	9	10	9.1	11.7	88.5	7.94	1	1000	1	1200	2	900	2	1200
5/10/2020	6743	869	1200	97	12	20	7.3	9.9	86.1	3.09	2	900	1	1500	4	1100	3	1500
12/10/2020	6933	945	1104	84	10	17	8.2	10.8	89.6	5.95	2	900	1	1800	2	1000	2	1300
19/10/2020	6224	898	867	76	10	12	6.9	9.2	43.7	3.95	1	600	1	1700	3	900	3	1800
26/10/2020	5955	911	701	41	6	5	6.2	11.5	20.2	0	1	1000	1	1800	1	800	1	1200
2/11/2020	6944	903	1214	82	7	25	6.9	8.7	57.2	3.66	1	1000	1	1800	5	1100	7	1300
9/11/2020	4424	573	780	33	3	8	9.1	12.4	42.2	9.09	1	900	1	1800	2	700	1	1200
16/11/2020	6544	915	985	65	8	13	9.4	15.1	71	3.08	1	900	1	1800	3	600	2	1300
23/11/2020	6109	819	1007	41	4	11	8.7	10	95.3	7.32	1	600	1	1800	2	600	2	1400
30/11/2020	5795	760	997	51	6	10	5.8	9.6	18.4	0	1	900	1	1800	4	800	1	1600
7/12/2020	5259	743	773	40	3	12	6.3	10.1	22.3	0	1	900	0	1700	3	600	1	1300
14/12/2020	5603	783	843	57	7	11	10.9	20.2	47.6	7.02	1	900	1	2000	2	700	2	1800
21/12/2020	4690	617	803	37	3	11	7.9	13	29.5	5.41	1	700	0	1500	2	700	2	1300
28/12/2020	5865	787	965	55	8	8	7.8	12.7	29.3	1.82	1	900	1	1800	2	700	1	1200
4/01/2021	5942	785	1008	59	8	10	7.6	10.6	42.2	3.39	2	800	1	1800	2	900	1	1500
11/01/2021	6112	857	914	59	7	11	7.6	11.9	26.1	1.7	1	800	1	1700	2	600	1	1400
18/01/2021	6166	835	996	59	5	17	7.4	12.2	37.5	5.09	1	700	1	1900	4	1000	3	1800
25/01/2021	6140	884	861	75	11	9	8.6	14.1	41	5.33	2	800	1	1400	2	800	1	1200
1/02/2021	5958	988	510	51	8	6	12.6	10.3	189	5.88	1	800	1	1700	2	700	1	1300
8/02/2021	6479	868	1070	39	5	7	8.6	12.6	30.5	2.56	1	1100	1	1200	1	700	2	1700
15/02/2021	6163	829	1008	58	7	13	7.2	12.3	53.8	1.72	1	900	1	1800	3	800	3	1900
22/02/2021	6179	783	1133	48	5	11	10.7	18.2	39.3	8.33	1	600	0	1700	2	700	3	1200

Cycle Westbound

Week Beginning	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
7/10/2019	95	15	10	12.9	13.9	145	6.32	11	1100	1	1400	2	1000	2	1400
14/10/2019	71	10	11	8.2	11.2	72.1	5.63	1	600	2	1700	3	700	2	1800
21/10/2019	55	7	10	8.8	10.6	91	7.27	1	1000	1	1700	2	600	1	1600
28/10/2019	50	6	9	11.8	26.6	51.9	18	1	900	1	1800	2	800	1	1400
4/11/2019	62	7	13	10.4	13.4	96.8	8.07	1	900	1	1800	3	900	1	1300
11/11/2019	44	6	7	12.2	20.2	74.4	13.6	1	600	0	1800	1	700	2	1700
18/11/2019	72	11	10	13.3	14.2	186	11.1	1	600	2	1300	1	700	2	1800
25/11/2019	70	10	11	10.1	11.7	161	8.57	1	800	1	1200	3	700	1	1800
2/12/2019	55	7	11	8	12.7	45.1	5.46	1	600	1	1900	3	700	2	1800
9/12/2019	40	5	7	8.9	14.9	42.4	10	1	600	1	1900	2	700	1	2000
16/12/2019	37	4	9	7.4	8.8	67.2	2.7	1	600	1	2000	2	700	1	1400
23/12/2019	56	5	16	7.1	10.3	67.6	1.79	1	600	0	1200	3	700	2	1300
30/12/2019	71	9	13	7.4	12.1	41	7.04	1	800	1	1800	3	800	1	1200
6/01/2020	54	6	12	8.8	14.1	64.2	9.26	1	500	1	1800	4	700	1	1800
13/01/2020	67	8	15	7.3	10.7	60.7	4.48	2	600	1	1900	5	800	2	1800
20/01/2020	83	9	20	8.2	10.7	69.7	4.82	2	600	1	1900	3	600	3	1900
27/01/2020	64	7	14	7.8	9	59.9	6.25	1	600	1	1900	3	800	1	1700
3/02/2020	60	6	15	8.5	11.5	53.4	8.33	1	600	2	1900	4	800	1	1700
10/02/2020	69	6	21	9.3	11.6	81.1	7.25	1	800	1	1900	9	900	2	1400
17/02/2020	54	6	12	10.1	12.6	120	7.41	1	900	1	1200	4	800	2	1900
24/02/2020	44	4	12	6.3	9.9	17.8	0	0	500	0	1700	2	900	2	1600
2/03/2020	63	9	10	8.3	11.2	52.5	6.35	1	600	1	1700	2	800	2	1800
9/03/2020	45	6	9	6.8	9.8	36.3	2.22	1	600	0	1200	3	900	1	1800
16/03/2020	65	7	15	7.4	10.7	64.5	3.08	1	1100	1	1600	4	800	1	1700
23/03/2020	80	8	19	9	10.2	70	8.75	2	900	1	1800	4	700	2	1800
30/03/2020	111	15	17	9.6	14.8	63.2	11.7	2	900	2	1800	2	1000	4	1400
6/04/2020	88	11	16	7.2	9.8	47.7	4.55	2	800	2	1800	3	1000	3	1700
13/04/2020	157	21	27	7.9	9.4	87.9	5.1	3	900	2	1700	4	800	3	1800
20/04/2020	154	17	34	10.4	11.8	127	7.79	2	900	2	1700	6	800	7	1700
27/04/2020	165	21	30	6.8	7.7	75.4	2.42	3	1100	2	1700	4	1000	3	1600
4/05/2020	109	9	33	8.6	9.1	102	5.51	1	800	1	1700	5	800	4	1200
11/05/2020	144	17	30	6.2	7.7	50.7	3.47	2	1000	3	1700	5	800	3	1700
18/05/2020	126	18	19	10.9	10.6	170	9.52	3	800	1	1700	4	800	2	1700
25/05/2020	60	7	14	15.1	26.2	184	15	1	1000	1	1600	3	900	1	1500
1/06/2020	128	18	19	8.4	10.3	159	3.91	2	900	2	1600	4	900	2	1500
8/06/2020	77	11	12	10.9	13.9	126	9.09	2	900	1	1600	2	600	2	1200
15/06/2020	94	9	24	8	10	60.8	4.26	2	900	1	1700	3	900	4	1700
22/06/2020	66	11	5	11.6	15.9	103	9.09	2	1100	1	1600	2	700	-	0
29/06/2020	70	7	18	6.5	8.9	48.5	2.86	1	900	1	1700	4	900	2	1500
6/07/2020	89	9	23	10.4	11	144	7.87	1	600	1	1400	4	700	2	1300
13/07/2020	56	4	17	8.9	12.1	73.2	5.36	1	700	1	1600	4	900	2	1200
20/07/2020	73	10	12	10.8	13.5	153	8.22	2	1100	1	1600	4	700	2	1400
27/07/2020	84	8	22	8.1	10.2	70.1	5.95	1	800	1	1600	7	800	3	1700
3/08/2020	65	10	8	7.1	9.4	57.1	4.62	1	700	1	1700	2	800	2	1500
10/08/2020	41	6	6	10.8	14.4	111	7.32	1	800	1	1700	2	700	1	1700
17/08/2020	67	7	16	9.1	8.8	182	5.97	1	600	1	1700	3	900	2	1800
24/08/2020	63	7	14	9.7	11.8	71.5	9.52	1	800	1	1600	3	900	3	1200
31/08/2020	72	5	25	7.4	8.7	86.3	2.78	0	600	1	1800	16	800	2	1600
7/09/2020	76	9	16	11.5	11	132	10.5	1	600	1	1900	3	800	3	1300
14/09/2020	50	8	5	10.1	10.6	140	8	1	1100	2	1800	2	900	1	1200
21/09/2020	58	7	11	12.8	11.4	171	10.3	1	800	1	1800	2	700	1	1200
28/09/2020	66	7	16	10.3	14.3	67.5	10.6	1	1000	1	1600	2	1100	3	1300
5/10/2020	72	10	10	7.5	9.7	50.8	5.56	2	700	1	1200	3	800	1	1500
12/10/2020	70	7	17	7.7	11.3	56.8	5.71	1	900	1	1800	3	900	2	1300
19/10/2020	58	7	11	7.8	12.4	55.3	1.72	1	1100	1	2000	3	800	1	1800
26/10/2020	50	7	7	8.8	14.9	50.1	8	2	800	1	1900	1	600	1	1800
2/11/2020	81	8	20	7.9	8.4	165	3.7	2	900	1	1300	4	1000	4	1300
9/11/2020	35	5	6	18.4	42.5	176	17.1	1	800	0	1200	2	600	1	1200
16/11/2020	52	6	12	8.2	10.5	60.9	3.85	1	600	1	1300	2	900	2	1600
23/11/2020	46	5	11	6.3	8.8	53.7	2.17	1	600	1	1700	3	700	1	1600
30/11/2020	66	8	12	10	8.4	118	9.09	1	600	1	1700	4	700	1	1400
7/12/2020	40	6	6	10.2	8.7	196	2.5	1	600	1	1700	2	900	2	1900
14/12/2020	46	6	9	9.7	15.6	121	6.52	1	600	1	1900	3	700	1	2000
21/12/2020	44	5	10	11.4	13.5	110	9.09	1	600	1	1900	2	700	1	1600
28/12/2020	63	9	10	8.6	14.3	55	9.52	2	600	2	1900	2	800	1	1200
4/01/2021	67	10	10	6.4	11	30.6	1.49	2	600	1	1900	2	700	2	1600
11/01/2021	73	9	14	9	19.1	59	4.11	1	700	1	1900	3	800	2	1900
18/01/2021	70	8	16	7.2	12.2	43.2	1.43	1	900	1	1700	3	700	2	1700
25/01/2021	64	9	11	7.1	10.2	43.7	4.69	2	700	1	1700	4	700	1	2000
1/02/2021	57	8	9	7.4	11.1	60	1.75	1	700	1	1800	4	700	1	1200
8/02/2021	58	7	13	7.4	13	30.8	3.45	1	700	1	1800	3	800	2	1200
15/02/2021	46	6	7	11.9	20.9	112	8.7	1	800	1	1900	2	700	1	1700
22/02/2021	60	7	13	8.8	11.1	66	8.33	1	700	1	1700	3	600	2	2100

McCallum Park Pedestrian Path

Site: VP001P Location: [-31.968988 +115.883858]
Profile: VRX Cls(14-15) Dir(EW) Sp(0,200) Headway(>0) Span(0 - 100) Lane(0-16)
Created by MTE version 5.0.6.0

Cycle Combined / Pedestrian Estimate (f = 2.8)

Week Beginning	Cycle Combined															Pedestrian Estimate (f = 2.8)		
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks						
	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time	Total	AWDT	AWET
1/03/2021	66	5	22	7.6	9.7	51.2	4.55	0	600	1	1800	5	800	2	1800	5695	630	1273
8/03/2021	99	9	28	8	12.8	47.3	1.01	1	900	1	1800	5	700	4	1500	6381	847	1074
15/03/2021	79	10	14	7.8	10.6	49.5	6.33	1	700	1	1800	2	600	2	1800	5785	757	1001
22/03/2021	140	15	33	7.1	10.9	48.2	2.14	3	1000	1	1200	5	900	3	1700	6681	914	1055
29/03/2021	123	16	21	7.7	13.2	28.4	3.25	3	900	1	1800	4	700	2	1500	6741	932	1040
5/04/2021	146	17	30	6.7	11	31.2	2.74	3	900	1	1600	16	700	2	1500	6667	992	853
12/04/2021	140	14	36	9.7	14.8	72.9	6.43	2	800	2	1500	14	700	2	1200	6765	836	1293
19/04/2021	146	16	33	8.4	10.8	125	2.74	2	600	2	1700	5	700	5	1600	7117	858	1414
26/04/2021	149	17	32	7.1	10.5	46.5	4.03	3	900	1	1500	6	700	4	1200	7442	1037	1130
3/05/2021	112	10	30	9.7	8.8	139	6.25	2	900	1	1700	6	800	3	1300	5883	758	1047
10/05/2021	123	15	24	9.2	9.8	168	4.88	2	900	2	1700	5	700	3	1700	6303	809	1130
17/05/2021	89	13	12	8.5	10.8	75.3	5.62	1	1100	1	1200	3	700	1	1400	6028	902	759
24/05/2021	87	13	12	10.4	13.8	111	11.5	1	800	3	1700	5	1000	2	1800	4828	705	651
31/05/2021	144	15	35	7.3	10.7	77	4.17	2	700	2	1700	5	1000	4	1800	6229	803	1108
7/06/2021	243	38	26	6.6	7.2	84.6	2.88	6	1100	5	1200	4	700	3	1400	6370	816	1144
14/06/2021	106	14	19	7.6	8.8	61.7	5.66	2	1000	1	1700	4	600	2	1500	4449	656	584
21/06/2021	125	18	19	9.5	11.2	106	7.2	2	900	2	1600	4	1000	2	1200	4981	688	772
28/06/2021	125	16	22	7.7	10.3	57.2	4.8	2	1000	5	1700	5	700	3	1500	6439	913	938
5/07/2021	70	6	21	12.7	18.7	149	12.9	1	800	1	1800	3	800	2	1500	4721	469	1187
12/07/2021	31	2	10	13.7	21.1	103	9.68	1	1000	0	1400	3	900	1	1200	3229	345	752
19/07/2021	74	6	22	8.5	12.3	51	5.41	1	900	1	1700	3	800	3	1400	5000	580	1050
26/07/2021	83	5	30	8.2	12.8	81.7	7.23	1	1000	1	1700	17	800	2	1600	2942	341	620
2/08/2021	121	17	17	7.6	9.7	81.4	4.96	3	900	2	1500	6	800	1	1500	5222	764	700
9/08/2021	113	10	32	7.6	8.1	122	4.43	1	700	1	1700	5	800	3	1500	5309	544	1295
16/08/2021	101	13	18	11.3	13.7	163	7.92	1	1000	2	1700	4	700	3	1600	5421	713	927
23/08/2021	116	16	19	7	10.2	71.9	1.72	3	1000	2	1800	3	900	2	1500	5390	731	867
30/08/2021	111	9	34	7.7	9.5	60.6	4.51	1	600	1	1600	4	900	4	1400	5140	543	1214
6/09/2021	140	17	29	8	10.5	62.2	5.71	2	600	2	1600	9	800	3	1300	6088	747	1176
13/09/2021	117	15	22	7.1	8.1	77.9	4.27	2	700	1	1400	4	800	2	1400	5622	690	1087
20/09/2021	120	16	20	9.3	11.3	133	5	3	600	2	1500	3	900	3	1200	6000	865	837
27/09/2021	130	16	25	8.7	10.5	135	5.39	2	900	2	1700	6	800	4	1300	5810	764	994
4/10/2021	135	16	27	8	9.1	133	3.7	2	800	2	1700	4	700	3	1300	6266	759	1236
11/10/2021	136	16	27	7.3	11.2	54.2	1.47	2	1000	2	1700	11	700	2	1200	6667	706	1568
18/10/2021	106	8	32	6.9	8.3	68.8	2.83	1	600	1	1700	6	700	3	1200	5270	608	1116
25/10/2021	100	8	31	9.7	14.2	68.8	11	2	700	1	1800	9	700	4	1200	5401	589	1228
1/11/2021	201	15	62	6.5	8.8	38.7	3.98	3	600	2	1700	13	1000	6	1200	6837	814	1385
8/11/2021	97	14	14	9	13.3	63.8	7.22	2	1100	2	1800	3	900	2	1600	5664	742	977
15/11/2021	92	10	20	6.9	10.4	64.2	2.17	1	500	1	1700	4	700	3	1200	6505	858	1108
22/11/2021	76	9	15	11.4	10.2	179	3.95	1	600	1	1600	5	700	2	1800	5544	776	833
29/11/2021	88	11	17	9.5	12.8	75.1	5.68	1	700	1	1200	3	700	2	1600	5577	791	812
6/12/2021	87	7	27	10.2	17.3	118	9.2	2	600	1	1800	3	700	4	2000	5522	716	972
13/12/2021	128	13	32	10.1	14.5	144	6.25	3	600	2	1700	6	800	2	1400	5280	692	910
20/12/2021	54	9	5	7.7	12.2	21.1	0	2	900	1	1800	1	300	1	2300	4265	700	384
27/12/2021	98	9	27	7.1	11.1	37.1	3.06	2	600	1	1900	3	800	3	2000	5098	633	966
3/01/2022	125	16	24	8.1	11	145	2.4	2	600	1	1700	3	800	2	1300	6286	843	1036
10/01/2022	127	14	29	7.1	10.7	59	5.51	2	600	1	1800	6	800	3	1700	6255	828	1057
17/01/2022	62	9	9	7.7	13.9	25.2	1.61	1	800	1	1900	3	800	1	1700	4396	600	699
24/01/2022	139	22	16	7.9	11.5	67.8	5.76	3	800	4	1900	5	700	1	1900	5939	796	980
31/01/2022	112	13	23	7.6	11	56.1	4.46	3	600	1	1900	6	700	2	1300	5165	719	784
7/02/2022	127	16	23	8	13.5	53.8	5.51	4	600	2	1900	3	700	2	1900	5816	749	1035
14/02/2022	84	10	16	8	11.5	51.2	7.14	2	600	1	2300	4	700	2	1900	4866	635	846
21/02/2022	115	15	21	8.3	11.3	58.9	6.09	3	600	2	1800	6	800	2	1200	5718	741	1006
28/02/2022	124	16	23	10.2	15.8	88.2	8.87	2	600	1	1800	6	1000	3	1200	5725	731	1035
7/03/2022	123	14	28	7.3	12.3	29.6	0.81	2	900	1	1700	5	1000	4	1700	6191	787	1127
14/03/2022	160	17	39	9.3	12.2	140	4.38	4	600	1	1500	6	1000	6	1300	6563	838	1187
21/03/2022	108	14	19	7.6	12.7	55.2	4.63	2	600	1	1800	6	800	1	1300	6421	862	1056
28/03/2022	107	12	23	9	16.6	56.6	6.54	1	800	1	1700	4	800	2	1600	6635	849	1195
4/04/2022	144	14	36	7.3	11.9	58.3	2.78	2	900	1	1600	14	700	3	1500	6370	833	1104
11/04/2022	172	23	28	6.9	8.3	63.9	4.07	3	900	2	1500	5	1000	3	1200	6776	945	1025
18/04/2022	183	22	37	8.6	12.4	90.3	3.28	3	500	3	1600	6	1100	4	1300	7288	972	1215
25/04/2022	134	17	24	9.1	11.4	119	5.97	2	600	2	1200	4	1100	3	1200	6635	814	1284
2/05/2022	151	19	28	8	10.3	73.9	4.64	2	1000	2	1200	4	800	3	1500	6336	816	1128
9/05/2022	92	10	21	9.7	14.8	93.5	9.78	1	600	1	1700	3	700	4	1600	5267	673	951
16/05/2022	124	15	24	9.1	12.1	105	6.45	2	1000	2	1700	5	900	3	1500	5959	789	1008
23/05/2022	106	11	27	10.4	12.6	171	8.49	2	600	1	1700	5	900	4	1700	6174	732	1256
30/05/2022	135	13	35	7.6	10.6	81.6	4.44	2	600	1	1200	6	900	5	1300	5736	702	1113
6/06/2022	244	46	7	6.1	8.8	28.9	2.05	3	1100	7	1900	2	800	1	1200	5368	795	698
13/06/2022	64	9	10	6.6	10.1	34.1	1.56	1	600	2	1500	2	800	2	1600	4600	661	648
20/06/2022	95	9	24	7.9	11.9	55	6.32	1	600	1	1700	4	1000	3	1300	6320	753	1277

Cycle Eastbound

Week Beginning	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
1/03/2021	34	2	12	7.3	10	51.2	2.94	0	900	0	1200	3	700	2	1800
8/03/2021	53	5	13	7.4	12.2	24.6	0	1	900	1	1800	3	1000	2	1200
15/03/2021	32	4	5	10.2	24.7	49.5	9.38	1	800	1	1800	1	600	1	1800
22/03/2021	72	8	16	7.6	12.7	37.6	2.78	1	1000	1	1200	3	600	1	1600
29/03/2021	62	8	10	8.3	14.3	28.4	4.84	1	900	1	1300	2	700	2	1800
5/04/2021	81	11	13	6.5	10.4	28.1	2.47	2	900	1	1600	5	700	2	1700
12/04/2021	85	9	21	9.9	14.8	72.2	5.88	1	800	1	1500	8	700	2	1200
19/04/2021	64	7	15	7.6	11	28	3.13	1	600	1	1700	2	700	2	1600
26/04/2021	71	7	17	8.5	14.4	35.6	5.63	2	900	1	1500	3	700	3	1200
3/05/2021	54	5	14	9.5	10.8	73.3	7.41	1	600	0	1400	3	700	2	1300
10/05/2021	51	7	8	13.7	12.9	180	7.84	1	900	1	1700	2	700	2	1500
17/05/2021	33	5	4	11.1	17.4	75.3	12.1	1	800	1	1200	2	1000	1	1400
24/05/2021	39	6	4	11	21.1	92.8	12.8	1	1100	1	1700	1	900	1	1800
31/05/2021	67	6	18	5.9	7.9	31.4	2.99	1	1000	1	1600	3	1000	3	1800
7/06/2021	130	22	10	6.9	6	113	3.85	5	1100	3	1200	1	700	2	1400
14/06/2021	46	5	10	7.2	8.8	62	4.35	1	800	1	1700	3	600	1	1400
21/06/2021	65	10	9	10	11.2	114	9.23	1	600	1	1200	2	800	2	1200
28/06/2021	47	7	7	6	9.7	18.1	0	1	1000	3	1700	2	700	2	1500
5/07/2021	31	3	9	15.8	25.2	149	16.1	1	800	1	1500	2	1000	2	1400
12/07/2021	16	2	4	16.3	27.1	103	12.5	0	900	0	1400	1	800	1	1200
19/07/2021	38	3	11	8.3	12.6	47.9	5.26	0	900	1	1800	2	800	2	1700
26/07/2021	41	2	15	6.9	10	58.8	7.32	1	1000	0	1400	7	800	2	1600
2/08/2021	59	8	9	9.1	13	90.4	6.78	1	900	2	1500	3	800	1	1400
9/08/2021	44	4	12	6	6.9	36.8	2.27	1	700	1	1400	2	1100	3	1500
16/08/2021	42	6	7	12.7	19.3	148	9.52	1	1000	1	1400	1	900	3	1600
23/08/2021	46	6	8	8.5	12.4	77.7	2.17	1	1000	1	1800	2	800	1	1500
30/08/2021	46	4	13	8.6	11.7	54.9	4.35	1	600	1	1600	2	900	2	1300
6/09/2021	59	6	15	8.3	12.6	69.1	6.78	0	600	1	1600	4	800	2	1300
13/09/2021	50	6	9	6.8	9	45.8	4	1	1000	1	1400	2	1000	1	1300
20/09/2021	62	8	10	10	10.4	150	6.45	1	600	2	1500	2	900	3	1200
27/09/2021	47	5	10	9.7	11.1	163	2.13	1	700	1	1800	3	800	3	1300
4/10/2021	50	6	10	10.6	11.9	156	8	1	800	1	1700	3	1100	1	1300
11/10/2021	58	7	12	8.4	14.1	55.9	1.72	1	800	1	1400	3	700	2	1200
18/10/2021	41	3	14	5.2	7.1	13.2	0	0	700	0	1700	2	700	1	1200
25/10/2021	39	3	12	10.6	15.7	58.1	12.8	1	700	0	2000	3	700	2	1200
1/11/2021	85	5	31	7.8	12.5	41.6	5.88	1	600	1	1300	8	1100	4	1200
8/11/2021	47	7	5	8.1	12.7	48.2	4.26	1	1100	1	1700	2	800	1	1200
15/11/2021	43	5	10	6.8	11.3	32.3	2.33	1	500	1	1200	2	1000	3	1200
22/11/2021	38	4	8	13.5	18.2	179	5.26	0	500	1	1800	2	600	1	2300
29/11/2021	46	6	9	11.7	15.1	75.1	10.9	1	700	1	1200	2	700	2	1600
6/12/2021	50	4	16	12.8	23.8	118	14	1	600	1	1800	1	0	4	2000
13/12/2021	57	6	14	9	18.5	37.5	5.26	1	600	1	1700	3	900	2	1400
20/12/2021	28	4	4	8.9	15	21.1	0	1	600	0	1800	1	300	1	2300
27/12/2021	57	5	16	7.6	13.8	35.7	1.75	1	600	1	1900	3	800	2	1500
3/01/2022	72	9	15	7.2	11.5	46.5	1.39	1	600	1	1300	2	600	2	1600
10/01/2022	55	6	13	6.9	10.1	67.7	3.64	1	600	1	1800	3	800	2	1700
17/01/2022	28	4	5	8.2	14.9	24.2	0	1	900	0	1700	2	800	1	1900
24/01/2022	66	10	9	8.1	12.1	60.3	4.55	1	700	2	2000	3	700	1	1900
31/01/2022	60	7	13	7.6	11	31.1	1.67	1	600	1	1900	4	700	2	1300
7/02/2022	71	9	14	8.8	15.2	43.6	7.04	2	600	1	1800	2	800	2	1900
14/02/2022	41	5	9	8.5	11.8	51.2	7.32	1	900	0	1900	3	700	1	1800
21/02/2022	55	7	11	9.7	17.2	58.4	7.27	1	600	1	1800	3	700	2	1200
28/02/2022	69	8	15	11	16.9	89.6	8.7	1	600	1	1800	4	1000	3	1200
7/03/2022	63	7	15	8	14.8	31.8	1.59	1	900	0	1700	3	900	4	1700
14/03/2022	80	7	22	9	15.6	69	5	2	600	1	1300	4	700	2	1200
21/03/2022	58	8	9	6.4	10.4	29	1.72	1	600	1	1800	4	800	1	1400
28/03/2022	60	7	12	9.9	17.8	58.5	8.33	1	700	1	1700	3	600	1	1400
4/04/2022	75	8	19	6.7	12.7	31.5	1.33	1	900	1	1800	8	700	1	1400
11/04/2022	94	12	17	6.9	8.8	83.3	3.19	1	800	1	1500	3	1100	3	1300
18/04/2022	105	12	22	8.3	12.8	73	0.95	1	500	2	1600	4	1100	3	1200
25/04/2022	61	9	9	8.6	11.5	51.7	6.56	1	600	2	1200	2	900	2	1200
2/05/2022	73	10	12	7.5	11.1	61.9	2.74	1	1000	1	1200	2	800	2	1500
9/05/2022	36	4	8	9.1	12	53.6	8.33	0	700	1	1300	2	700	3	1600
16/05/2022	50	6	11	12.3	17.7	113	8	1	1000	1	1700	2	900	2	1500
23/05/2022	47	4	13	13	16.1	176	12.8	1	700	0	1200	3	900	2	1300
30/05/2022	52	5	14	6.7	11.4	41.4	3.85	1	700	1	1200	3	700	2	1500
6/06/2022	141	27	4	5.3	6.1	26.2	0.71	2	1100	4	1500	1	800	1	1200
13/06/2022	26	3	5	5.9	10.1	13.7	0	0	1000	1	1500	2	800	1	1200
20/06/2022	50	4	15	7.8	11.2	55	6	1	600	1	1300	4	1000	2	1400

Cycle Westbound

Week Beginning	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
1/03/2021	32	2	10	7.9	9.5	39	6.25	0	600	0	1700	3	800	1	1200
8/03/2021	46	3	15	8.7	13.1	47.3	2.17	1	600	0	1200	4	700	2	1500
15/03/2021	47	6	9	6.2	8.2	46.6	4.26	1	700	1	1800	2	800	1	1700
22/03/2021	68	7	18	6.5	8.8	55.6	1.47	1	800	0	1200	3	900	2	1700
29/03/2021	61	8	11	7.1	10.5	26.7	1.64	2	800	1	1800	2	600	2	1500
5/04/2021	65	6	18	6.9	11.9	34	3.08	1	700	0	1200	12	700	1	1900
12/04/2021	55	5	15	9.5	15.5	73.4	7.27	1	500	1	1500	6	700	1	1300
19/04/2021	82	9	19	9	10.6	196	2.44	2	500	1	1700	4	700	3	1600
26/04/2021	78	10	15	5.9	6.9	57.5	2.56	1	900	1	1500	4	700	1	1200
3/05/2021	58	5	17	9.9	7.9	145	5.17	1	900	1	1700	3	800	1	1400
10/05/2021	72	8	16	5.9	7	45.7	2.78	1	600	1	1700	3	700	2	1400
17/05/2021	56	8	8	7	10.6	41	1.79	1	700	1	1200	3	700	1	1700
24/05/2021	48	7	8	10	9.7	111	10.4	1	800	1	1700	4	1000	1	1200
31/05/2021	77	9	17	8.5	11.2	104	5.2	1	700	2	1700	3	900	2	1600
7/06/2021	113	16	16	6.3	8.3	46.4	1.77	1	900	2	1600	3	700	2	1700
14/06/2021	60	8	9	7.9	9	58.8	6.67	1	700	1	1600	1	700	2	1700
21/06/2021	60	8	10	8.9	11.5	82.9	5	1	900	1	1700	3	1000	1	1300
28/06/2021	78	10	15	8.8	12.3	57.2	7.69	1	1000	3	1700	4	700	2	1700
5/07/2021	39	3	13	10.3	10.8	123	10.3	0	600	1	1200	2	700	2	1500
12/07/2021	15	1	6	11	12.2	66	6.67	0	600	0	1600	2	900	1	1200
19/07/2021	36	3	11	8.8	12.4	51	5.56	0	800	1	1700	2	700	2	1400
26/07/2021	42	2	15	9.6	13.4	81.7	7.14	0	1000	1	1700	10	800	1	1400
2/08/2021	62	9	9	6.2	9.2	49.5	3.23	1	900	1	1700	3	800	1	1200
9/08/2021	69	6	20	8.6	9	134	5.8	1	700	1	1700	4	800	2	1700
16/08/2021	59	8	11	10.3	11.2	163	6.78	1	600	1	1700	3	700	1	1400
23/08/2021	70	10	11	6.1	8.7	43.6	1.43	1	600	1	1200	2	900	2	1200
30/08/2021	65	5	21	7	7.9	61.4	4.62	1	800	1	1600	2	800	4	1400
6/09/2021	81	11	14	7.7	10	52.1	4.94	1	600	1	1600	5	800	1	1300
13/09/2021	67	8	13	7.2	8	84.1	4.48	1	700	1	1700	3	800	1	1400
20/09/2021	58	8	10	8.5	11.5	58.2	3.45	2	600	1	1200	2	1100	1	2100
27/09/2021	83	11	15	8.1	8.7	72.1	7.23	1	600	2	1700	4	800	2	1500
4/10/2021	85	10	17	6.5	8.8	93.8	1.18	1	800	1	1700	3	700	2	1300
11/10/2021	78	10	15	6.5	10.1	51	1.28	1	600	1	1700	8	700	1	1600
18/10/2021	65	6	19	7.9	12.7	71.1	4.62	1	600	1	1700	4	700	2	1200
25/10/2021	61	5	19	9.1	14	68.9	9.84	1	600	1	1800	6	700	2	1200
1/11/2021	116	11	31	5.5	6.6	37.6	2.59	2	600	1	1700	7	1000	3	1200
8/11/2021	50	6	9	9.7	15.9	63.8	10	1	600	1	1800	2	900	2	1600
15/11/2021	49	6	11	6.9	9.8	64.2	2.04	1	600	1	1700	3	700	1	1200
22/11/2021	38	5	7	9.4	8.7	153	2.63	1	600	0	1200	4	700	1	1800
29/11/2021	42	5	9	7	10.2	23.2	0	0	400	1	1200	2	1000	1	1700
6/12/2021	37	3	11	6.7	10.3	26.6	2.7	1	600	0	1900	2	700	2	1800
13/12/2021	71	7	18	10.9	13.1	172	7.04	1	600	1	1800	4	800	2	2000
20/12/2021	26	5	1	6.4	10.3	19.3	0	1	900	1	1800	1	800	-	0
27/12/2021	41	4	11	6.5	9.6	37.1	4.88	1	600	1	1900	2	700	2	2000
3/01/2022	53	7	9	9.4	9.5	179	3.77	1	800	1	1900	2	700	2	1800
10/01/2022	72	8	16	7.3	11	36.6	6.94	1	600	1	1700	4	700	1	1300
17/01/2022	34	5	4	7.3	11.5	25.2	2.94	1	800	1	1900	1	800	1	1700
24/01/2022	73	12	7	7.8	11.1	72.8	6.85	1	600	3	1900	2	700	-	0
31/01/2022	52	6	10	7.6	11.6	58.7	7.69	2	600	1	1800	2	700	1	2100
7/02/2022	56	8	9	7.1	11	57.8	3.57	2	600	1	1900	2	700	1	1200
14/02/2022	43	6	7	7.5	12.9	37.7	6.98	2	600	0	1600	2	800	1	1600
21/02/2022	60	8	11	6.9	7.7	59	5	2	600	1	1800	4	800	1	1600
28/02/2022	55	8	9	9.2	13	59.4	9.09	1	600	1	1500	2	900	1	1700
7/03/2022	60	7	13	6.6	11.7	22.8	0	1	900	1	1700	3	1000	3	1900
14/03/2022	80	9	17	9.6	7.7	140	3.75	2	600	1	1500	4	1000	4	1300
21/03/2022	50	6	10	9	17.1	55.8	8	1	600	1	2000	2	800	1	1300
28/03/2022	47	5	11	7.8	12.4	31.6	4.26	1	1000	1	1500	2	800	1	1600
4/04/2022	69	7	18	8	12.1	69.3	4.35	1	900	1	1400	6	700	2	1200
11/04/2022	78	11	11	7	8.4	56.8	5.13	2	900	1	1500	3	1000	2	1200
18/04/2022	78	10	15	8.9	6.9	165	6.41	2	700	1	1500	4	600	2	1600
25/04/2022	73	9	15	9.4	11.6	156	5.48	1	600	1	1700	3	700	1	1200
2/05/2022	78	9	16	8.5	10.1	87	6.41	1	600	1	1400	3	700	2	1600
9/05/2022	56	6	13	10.1	15.4	93.5	10.7	1	600	1	1500	2	800	2	1500
16/05/2022	74	10	13	6.9	8.2	57.3	5.41	1	1000	1	1700	3	900	2	1600
23/05/2022	59	6	14	8.4	11.9	107	5.09	2	600	1	1700	2	800	2	1700
30/05/2022	83	8	22	8.2	10.2	104	4.82	1	600	1	1700	5	900	4	1300
6/06/2022	103	19	3	7.2	12.3	61.8	3.88	1	1000	6	1900	1	800	1	1600
13/06/2022	38	6	5	7.1	11.9	34.1	2.63	1	600	1	1700	1	1000	2	1600
20/06/2022	45	5	10	7.9	13.6	38.8	6.67	1	900	1	1700	2	800	2	1700

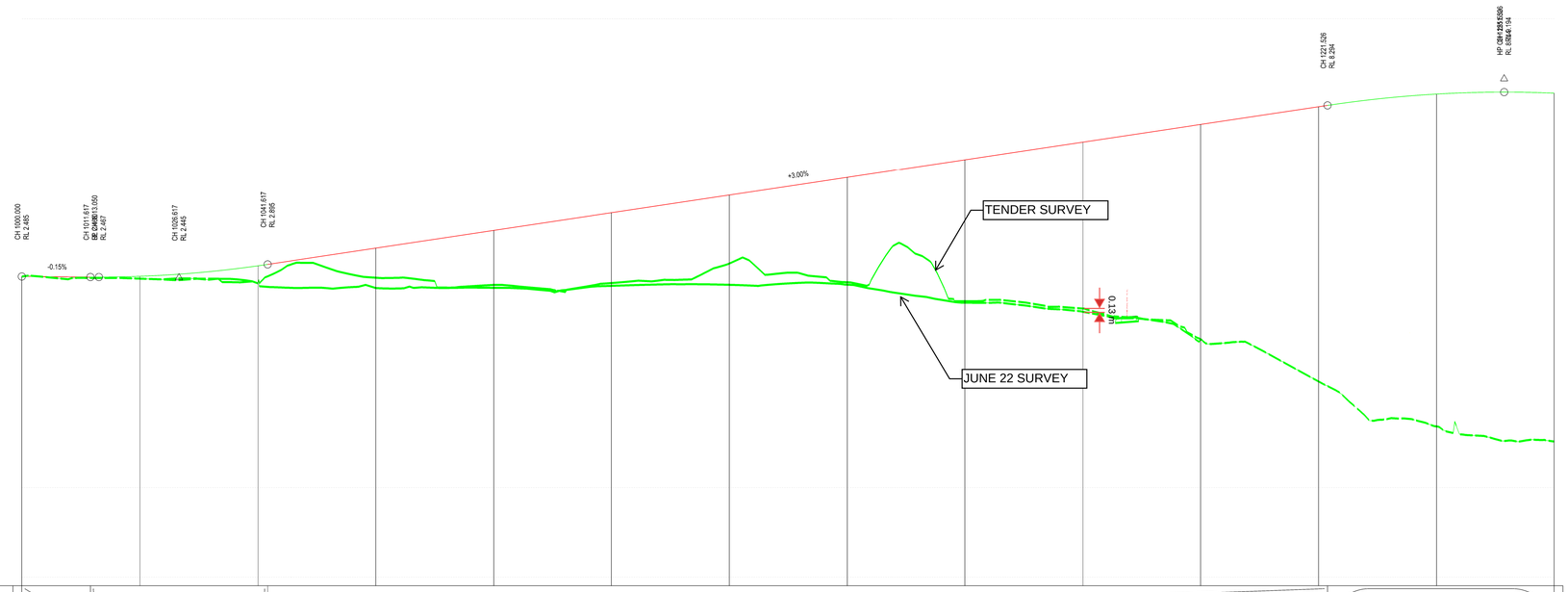
McCallum Park Pedestrian Path

Site: VP001P Location: [-31.968988 +115.883858]
Profile: VRX Cls(14-15) Dir(EW) Sp(0,200) Headway(>0) Span(0 - 100) Lane(0-16)
Created by MTE version 5.0.6.0

	Cycle Combined														Pedestrian Estimate (f = 2.8)			Cycle Eastbound													Cycle Westbound												
	Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks							Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks				Volume			Speed km/h				Avg Weekday Peaks				Avg Weekend Peaks			
Month Beginning	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time	Total	AWDT	AWET	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time	Total	AWDT	AWET	Mean	85%	99%	% > 25	AM Total	AM Time	PM Total	PM Time	AM Total	AM Time	PM Total	PM Time
Jun 2018	580	13	35	10	13.9	94.5	5.86	2	900	1	1200	8	700	4	1700	20817	562	1002	280	6	17	9.4	13	87.3	3.93	1	900	1	1200	2	700	2	1700	300	7	18	10.6	14.2	97.5	7.67	1	900	0	1800	6	700	1	1400
Jul 2018	463	12	21	10.7	14.5	124	7.56	1	1000	1	1700	3	900	2	1200	19859	565	825	207	6	10	11.9	15.6	178	6.76	1	900	1	1200	2	900	1	1500	256	7	12	9.8	12.1	97.7	8.2	1	1000	1	1600	2	800	1	1200
Aug 2018	561	12	36	10.1	12.1	122	7.31	1	1000	1	1700	6	800	3	1700	18589	471	969	275	6	17	11	13.6	129	8	1	1000	1	1700	2	1000	2	1400	286	6	19	9.2	10.8	126	6.64	1	600	1	1700	5	800	2	1700
Sep 2018	621	16	29	10.9	13.3	100	9.18	2	600	2	1800	4	700	3	1200	21828	616	952	297	8	14	11.8	17	96	10.1	1	600	1	1800	2	800	1	1200	324	8	16	10	10.4	108	8.33	1	600	1	1700	2	700	2	1500
Oct 2018	597	17	26	9.8	14.1	75.5	6.7	2	900	2	1800	4	900	2	1800	23555	709	906	326	9	16	10.2	16.5	107	7.06	1	900	1	1700	3	900	1	1800	271	8	11	9.4	11.7	76.2	6.27	1	900	1	1800	1	800	1	1800
Nov 2018	711	19	36	10.1	15.7	79	7.88	2	600	2	1700	4	800	4	1200	22627	692	926	374	10	20	9.8	17.3	54.4	8.02	1	900	1	1700	2	800	3	1200	337	10	16	10.3	15.5	91	7.72	2	600	1	1700	2	700	1	1300
Dec 2018	503	15	20	11.4	17.1	93.4	10.5	1	800	2	1800	4	800	1	1400	20341	625	721	275	7	12	11.8	19.5	93.4	10.9	1	800	1	1800	2	800	1	1400	228	7	8	10.9	14.5	99.3	10.1	1	700	1	1800	2	800	1	1400
Jan 2019	665	18	33	10.2	15.9	111	7.52	2	700	2	1800	4	700	4	1900	21775	684	756	347	9	16	10.3	17.8	90	9.22	1	600	1	1800	2	700	4	2000	318	8	16	10	15.1	131	5.66	1	700	1	1900	2	700	3	1900
Feb 2019	518	16	24	9.6	13.7	73.8	6.18	3	600	2	1900	4	700	2	1800	20727	700	842	256	8	13	9.4	14.5	52.8	5.47	1	600	1	1800	2	700	1	1400	262	8	12	9.9	12.2	110	6.87	2	600	1	1900	2	700	1	1800
Mar 2019	624	16	30	9.2	12.1	78.7	4.81	2	700	2	1800	5	700	3	1800	24506	723	933	303	7	15	10.8	14.8	100	4.62	1	600	1	1800	2	700	1	1700	321	9	14	7.6	10.2	68.9	4.98	1	700	1	1800	3	700	2	1800
Apr 2019	706	20	34	10.2	13.5	98.2	7.93	2	600	2	1700	9	800	2	1200	23384	711	967	359	10	17	9.9	14	65.9	8.64	1	1000	1	1700	4	800	1	1200	347	9	17	10.5	13.1	123	7.21	1	600	1	1700	5	800	1	1600
May 2019	595	15	31	10	14.5	83.7	8.24	2	600	1	1600	4	1100	3	1300	20770	603	864	288	7	15	10.8	15.1	90.9	7.99	1	700	1	1600	3	1100	2	1300	307	8	15	9.2	13.5	82.4	8.47	1	600	1	1700	2	1100	2	1700
Jun 2019	297	7	15	9.1	16.2	50.1	5.72	1	1000	1	1300	2	1000	3	1400	4743	130	215	140	3	7	8	14.7	50.3	2.86	0	1100	1	1300	1	1000	2	1400	157	4	8	10.2	19.2	85.7	8.28	0	700	1	1300	1	800	1	1300
Jul 2019	278	8	12	12.2	19.9	82.2	10.4	1	800	1	1200	2	900	2	1200	7844	209	379	113	3	5	9.9	17.1	77.3	7.97	0	1100	0	1200	1	900	1	1500	165	5	7	13.9	21.8	120	12.1	1	800	1	1300	1	900	1	1200
Aug 2019	509	11	30	10.8	12.6	140	7.27	1	600	1	1700	4	900	2	1200	21106	576	938	245	5	16	9.9	13	83.7	6.53	1	600	1	1600	2	900	2	1200	264	6	14	11.6	10.4	174	7.96	1	600	1	1700	3	800	1	1500
Sep 2019	812	38	2	12.9	21.3	74.2	13.1	9	1000	7	1400	1	800	0	1700	4141	174	53	424	20	1	13.2	22.3	80.1	13	5	1000	5	1400	1	800	0	1800	388	18	1	12.7	21.1	69.1	13.1	4	1000	3	1400	0	700	0	1700
Oct 2019	548	17	18	9.3	13.9	81.5	5.84	4	1100	1	1700	3	800	1	1700	15461	475	566	246	7	11	7.9	11.7	77.4	5.29	1	1000	1	1600	2	800	1	1700	302	10	8	10.4	13.9	89.8	6.29	3	1100	1	1700	1	700	1	1800
Nov 2019	533	16	22	10.7	15.5	93.1	8.63	2	600	1	1800	3	1100	2	1700	22036	686	848	276	8	13	10	16.4	65.1	6.88	1	600	1	1400	2	1100	1	1700	257	8	10	11.5	14.1	153	10.5	1	600	1	1800	1	700	1	1700
Dec 2019	462	13	19	9.7	18.1	64.4	8.01	2	600	1	1900	3	800	2	1900	20442	622	752	242	7	9	11.3	19.7	71.3	9.92	1	700	1	1900	1	600	1	1900	220	6	10	8	11.5	63.6	5.91	1	600	1	1900	2	700	1	1800
Jan 2020	646	16	36	8.6	12.4	60.7	5.42	2	600	2	1800	4	800	6	2000	24334	753	878	357	8	21	9.2	13.4	60.2	5.04	1	600	1	1800	2	900	5	2000	289	7	15	7.8	10.9	64.7	5.88	1	600	1	1900	3	800	1	1800
Feb 2020	530	12	32	8.4	11.7	64.6	5.47	1	600	1	1900	5	900	2	1800	21727	654	960	285	7	17	8.1	12.6	62.5	4.56	1	600	1	1800	3	700	1	1800	245	5	15	8.8	10.7	74.4	6.53	1	900	1	1900	3	900	1	1900
Mar 2020	634	17	28	9.2	13	63.4	6.31	2	900	2	1800	4	900	2	1800	29310	861	1152	342	9	16	10.1	15.1	83	6.43	1	700	1	1800	2	1000	1	1800	292	8	13	8.2	10.3	60.1	6.16	1	600	1	1800	2	900	1	1800
Apr 2020	1143	34	50	8.7	11.5	61.1	5.69	4	900	5	1700	6	1000	6	1700	46112	1473	1714	581	17	27	8.8	12.5	60.7	4.99	2	900	2	1700	3	1000	3	1700	562	17	23	8.7	10.1	67.9	6.41	2	900	2	1700	3	800	3	1700
May 2020	997	24	50	8.3	9.5	71.7	5.22	3	900	2	1700	6	800	4	1500	38992	1070	1651	474	11	25	7.7	10.4	55.9	4.01	1	900	1	1700	3	1000	3	1500	523	13	25	8.8	9	93.7	6.31	2	1100	1	1700	4	800	2	1600
Jun 2020	725	22	31	9.9	12.6	92.3	6.48	3	900	2	1600	4	1000	3	1500	30900	983	1160	355	10	16	10.6	14.2	103	7.04	1	900	1	1500	2	1000	1	1500	370	11	15	9.3	11.2	90.6	5.95	2	900	1	1600	2	900	2	1500
Jul 2020	594	15	33	9.3	11	96.8	6.06	2	1000	2	1700	4	800	3	1500	27627	783	1203	270	6	15	9.8	11.3	103	5.93	1	900	1	1700	2	800	2	1200	324	8	17	9	10.4	81.6	6.17	1	1000	1	1700	3	900	1	1500
Aug 2020	565	14	28	9.1	10.7	84.8	6.55	2	1000	1	1700	5	800	2	1500	25934	736	1048	283	7	15	9.2	10.9	99.4	6.36	1	1000	1	1800	3	800	1	1200	282	7	13	9	10.6	78.9	6.74	1	800	1	1700	2	800	1	1700
Sep 2020	538	15	27	10.2	11.7	110	7.25	2	1000	2	1800	8	800	2	1200	25121	810	912	260	7	13	9.5	13.1	102	5.77	1	1000	1	1700	3	800	1	1700	278	8	14	10.7	11.2	134	8.63	1	1100	1	1800	5	800	1	1200
Oct 2020	619	17	27	7.6	10.8	50.7	4.69	2	900	2	1800	3	900	2	1500	29094	878	1088	330	9	14	7.3	10.8	49.5	3.94	1	900	1	1800	2	900	1	1200	289	8	13	7.9	10.9	55.4	5.54	1	700	1	1700	2	800	1	1300
Nov 2020	444	11	23	8.7	10.4	82.9	5.18	1	600	1	1800	3	800	3	1300	24816	787	922	224	5	12	8.3	11.9	67.6	4.91	1	600	1	1800	2	800	2	1300	220	6	11	9.3	9.5	150	5.46	1	600	0	1700	1	700	1	1300
Dec 2020	442	12	20	9.2	12.9	94.8	5.66	2	600	1	1900	4	700	1	1300	24079	750	854	213	5	11	7.9	14.2	39.6	2.82	1	900	1	1800	2	800	1	1300	229	7	9	10.3	10.6	120	8.3	1	600	1	1900	2	700	1	1900
Jan 2021	577	17	23	7.6	11.9	41.1	3.47	2	800	2	1900	4	700	1	1700	27025	835	949	277	8	11	7.8	11.9	38.2	3.97	1	800	1	1400	2	1000	1	1800	300	9	12	7.4	11.9	43.2	3	1	800	1	1900	2	700	1	1700
Feb 2021	417	13	20	9.2	13.1	64.8	5.04	2	700	1	1900	3	700	2	1200	24779	867	930	196	6	9	9.7	13.1	130	4.59	1	800	1	1800	2	800	1	1200	221	7	10	8.7	13.3	64.6	5.43	1	700	1	1900	2	700	1	1200
Mar 2021	429	10	24	7.6	11.2	47.1	3.03	1	1000	1	1800	4	700	2	1800	27098	795	1100	215	5	11	8	13.2	47.6	3.26	1	900	1	1800	2	700	1	1800	214	5	13	7.2	9.9	47.2	2.8	1	800	0	1800	3	800	1	1700
Apr 2021	595	16	30	7.9	11.3	49.9	3.7	2	800	1	1700	10	700	2	1500	29917	942	1150	305	9	15	8.1	12.8	49.7	4.26	1	800	1	1500	4	700	1	1500	290	8	15	7.7	10.2	52.5	3.1	1	700	1	1700	6	700	1	1500
May 2021	491	13	22	9.2	10.5	103	6.72	2	900	2	1700	4	700	2	1700	26118	795	943	217	6	9	10.8	13.5	123	8.76	1	900	1	1700	1	700	1	1400	274	7	12	8	7.9	104	5.11	1	900	1	1700	2	700	1	1700
Jun 2021	645	21	24	7.6	8.3	60.4	4.65	2	1000	2	1700	3	1000	2	1700	23662	748	902	320	10	11	7.4	8.1	102	4.69	2	1000	1	1700	1	600	1	1200	325	10	13	7.7	9.4	58.3	4.62	1	1000	1	1700	2	1000	1	1700
Jul 2021	292	6	18	9.8	12.2	104	7.53	1	1000	1	1700	2	700	2	1700	19154	490	930	131	3	7	10.1	13.7	134	7.63	0	1000	0	1700	1	800	1	1700	161	3	10	9.6	12.2	97.2	7.45	0	1000	1	1700	2	700	1	1500
Aug 2021	518	14	24	8.2	9.9	75.1	4.63	2	1000	1	1700	7	800	2	1500	23334	683	923	225	6	10	8.8	12.4	87.1	5.33	1	1000	1	1400	3	800	1	1500	293	8	14	7.7	9.5	67.8	4.1	1	900	1	1700	4	800	1	1200
Sep 2021	548	16	26	7.9	10	63.2	4.93	2	600	1	1700	4	800	2	1400	25155	751	1078	234	6	12	8.4	11.2	70.1	5.13	1	600	1	1500	2	1000	1	1300	314	9	14	7.6	9.3	60.9	4.78	1	600	1	1700	3	800	1	1400
Oct 2021	528	12	28	8.2	11.2	70.5	4.74	1	600	1	1700	6	700	2	1200	25844	646	1228	208	5	11	9.3	12	147	5.29	0	800	0	1700	2	800	1	1200	320	7	17	7.5	9.7	70.6	4.38	1	600	1	1700	4	700	1	1200
Nov 2021	486	12	28	8	10.4	63.9	4.53	1	900	1	1800	4	1000	2	1200	26191	799	1076	224	5	13	8.9	12.6	65.8	5.36	1	1100	1	1800	2	1100	2	1200	262	7	14	7.2	8.6	64	3.82	1	600	1	1700	2	900	1	1200
Dec 2021	382	10	20	9.3	13.1	75.1	5.24	2	600	1	1900	3	800	2	2000	22170	696	769	195	5	10	10.2	17.7	76.8	6.67	1	600	0	1900	1	700	1	2000	187	5	10	8.4	11.1	86.8	3.74	1	600	1	1900	2	800	1	1700
Jan 2022	530	15	21	7.7	11.2	43.4	4.34	2	600	1	1900	4	800	1	1700	25644	770	947	265	7	11	7.7	11.9	51.2	3.02	1	600	1	2000	2	800	1	1600	265	8	9	7.8	10.6	49	5.66	1	800	1	1900	2	700	1	2000
Feb 2022	425	13	21	8.1	11.4	58.2	5.88	3	600	1	1800	4	700	1	1900	21543	710	917	221	7	11	8.9	13.4	58.2	5.88	1	600	1	1800	2	700	1	1900	204	7	9	7.3	10.5	58.6	5.88	2	600	1	1800	2	800	0	1200
Mar 2022	548	14	27	8.7	13.3	59	4.75	2	600	1	1800	5	1000	3	1700	27436	810	1101	287	7	15	8.9	16.5	59.8	5.23	1	600	1	1800	2	800	2	1200	261	7	12	8.5	11.1	89.8	4.22	1	600	0	1700	2	1000	1	1300
Apr 2022	674	19	30	7.9	11	58	4.01	2	900	2	1600	5	700	2	1200	29105	891	1155	364	10	16	7.6	11.9	53.1	2.75	1	1100	1	1600	3	700	1	1300	310	9	14	8.3	10.2	68.5	5.48	1	900	1	1600	2	700	1	1200
May 2022	515	13	25	9	11	85.5	6.6	2	600	1	1700	4	900	2	1600	26426	750	1104	218	6	11	10.1	14.6	107	6.88	1	1000	1	1200	2	900	1	1500	297	8	14	8.2	10.1	87.1	6.4	1	600	1	1700	2	800	1	1600
Jun 2022	586	20	19	7	10.1	55.7	3.75	2	900	2	1700	3	800	2	1300	23947	749	934	294	10	9	6.2	8.8	40.4	2.38	1	1100	1	1300	1	1000	1	1500	292	10	10	7.9	11.2	66	5.14	1	900	2	1900	2	800	1	1300

APPENDIX 3 CALCULATIONS

1) SURVEY COMPARISON



DATUM RL -8

VERTICAL ALIGNMENT	G=-0.15% L = 11.617	K = 9.519 L = 30.000	G=3.00% L = 179.908									K = -9.998 L = 60.000	
HORIZONTAL ALIGNMENT	L = 31.865	R = 15.000 L = 27.160	L = 0.735	R = 18.000 L = 50.837		R = 21.000 L = 49.874		R = 200.000 L = 231.000					
CUT / FILL	0.00	-0.08	-0.54	-1.35	-1.94	-2.48	-3.04	-3.64	-4.85	-5.76	-7.31	-9.32	-11.27
DESIGN SURFACE LEVELS	2.49	2.49	2.85	3.45	4.05	4.65	5.25	5.85	6.45	7.05	7.65	8.25	8.68
EXISTING SURFACE LEVELS	2.49	2.41	2.30	2.10	2.10	2.17	2.20	2.21	1.60	1.29	0.34	-1.07	-2.59
CHAINAGE	1000	1020	1040	1060	1080	1100	1120	1140	1160	1180	1200	1220	1240

LONGITUDINAL SECTION MC01

SCALE: H 1:500 V: 1:100

AMENDMENTS

No.	DESCRIPTION	APPROVED & DATE

NOTES

METADATA

GROUND SURVEY STANDARD:

DATE OF CAPTURE:

MAPPING SURVEY STANDARD:

DATE OF CAPTURE:

MAIN ROADS PROJECT ZONE:

HEIGHT DATUM:

mainroads WESTERN AUSTRALIA

PLANNING AND TECHNICAL SERVICES DIRECTORATE

ROAD AND TRAFFIC ENGINEERING BRANCH

WATERLOO CRESCENT EAST PERTH 6004

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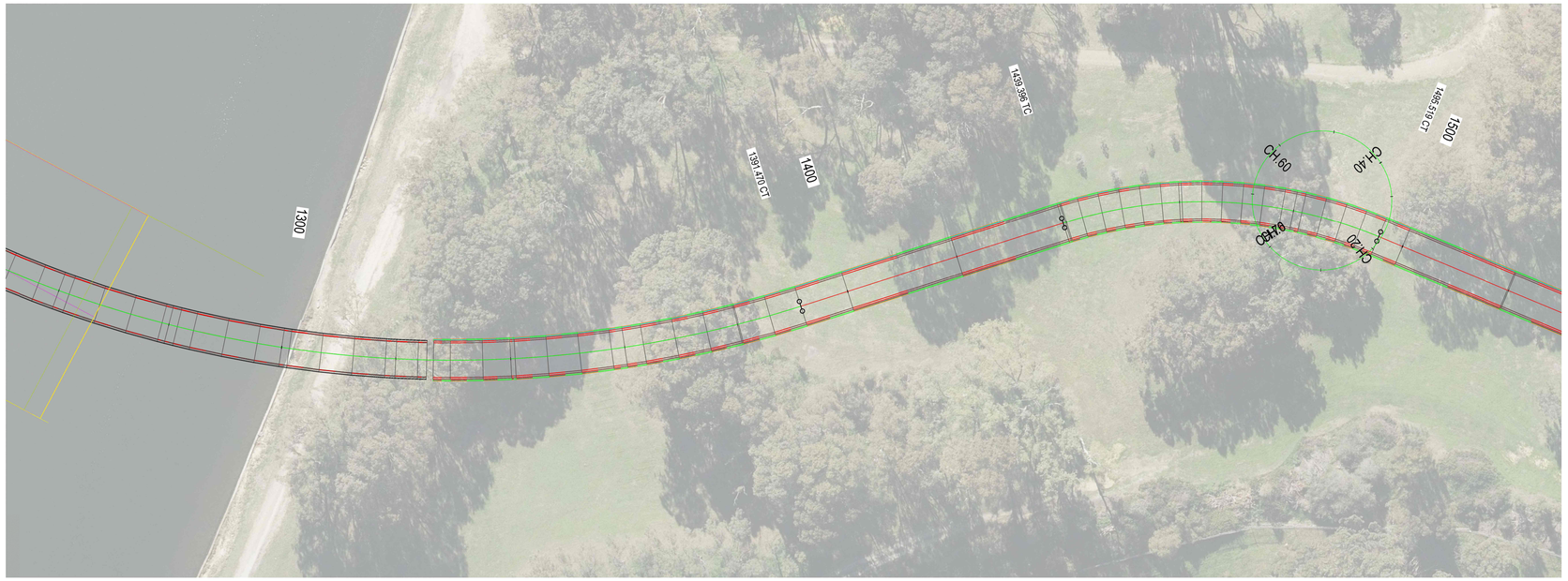
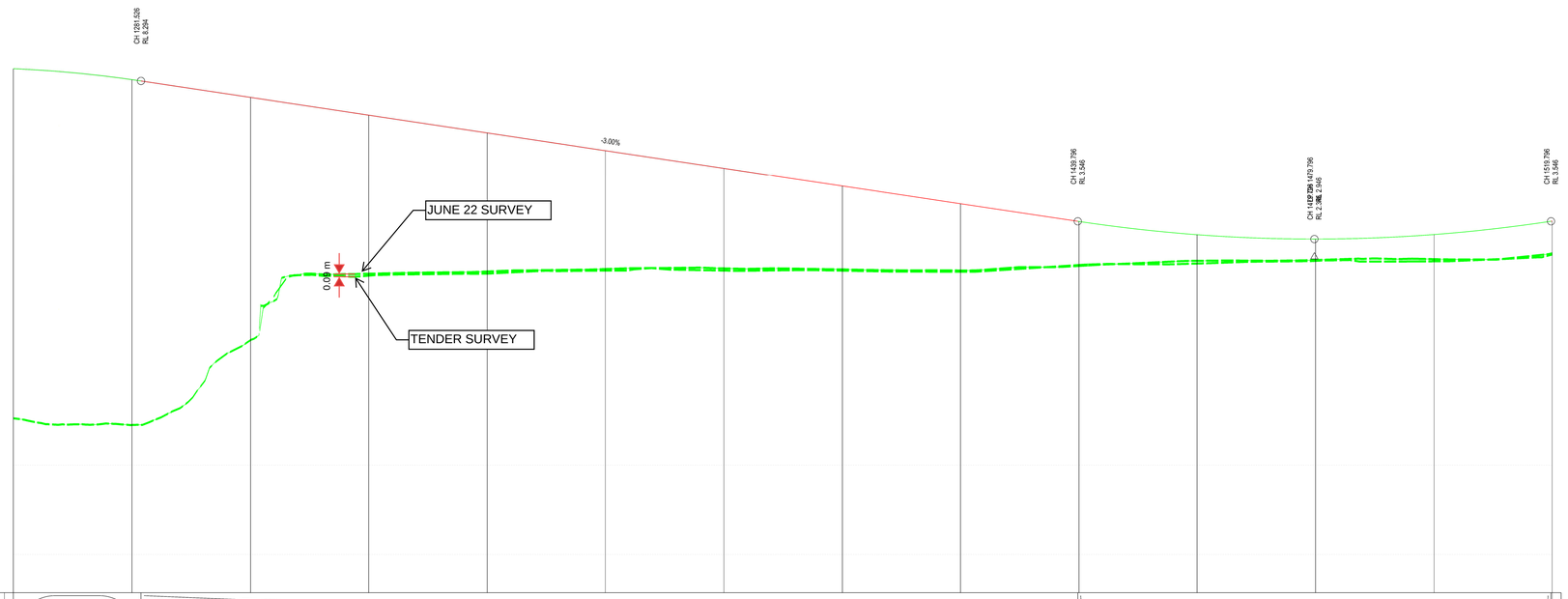
LOCAL AUTHORITY

MRWA DRAWING NUMBER





DATUM RL -9

VERTICAL ALIGNMENT	K = -9.998 L = 60.000	G=-3.00% L = 158.270									K = 13.333 L = 80.000		G=3.00% L = 128.495	
HORIZONTAL ALIGNMENT	R = 200.000 L = 231.000							L = 47.926		R = 80.000 L = 56.123			L = 70.209	
CUT / FILL	-11.81	-11.67	-8.20	-5.36	-4.69	-4.01	-3.38	-2.82	-2.25	-1.50	-0.88	-0.71	-0.83	
DESIGN SURFACE LEVELS	8.71	8.34	7.74	7.14	6.54	5.94	5.34	4.74	4.14	3.54	3.09	2.95	3.10	
EXISTING SURFACE LEVELS	-3.10	-3.33	-0.46	1.78	1.85	1.93	1.96	1.92	1.89	2.04	2.21	2.24	2.27	
CHAINAGE	1260	1280	1300	1320	1340	1360	1380	1400	1420	1440	1460	1480	1500	

LONGITUDINAL SECTION MC01

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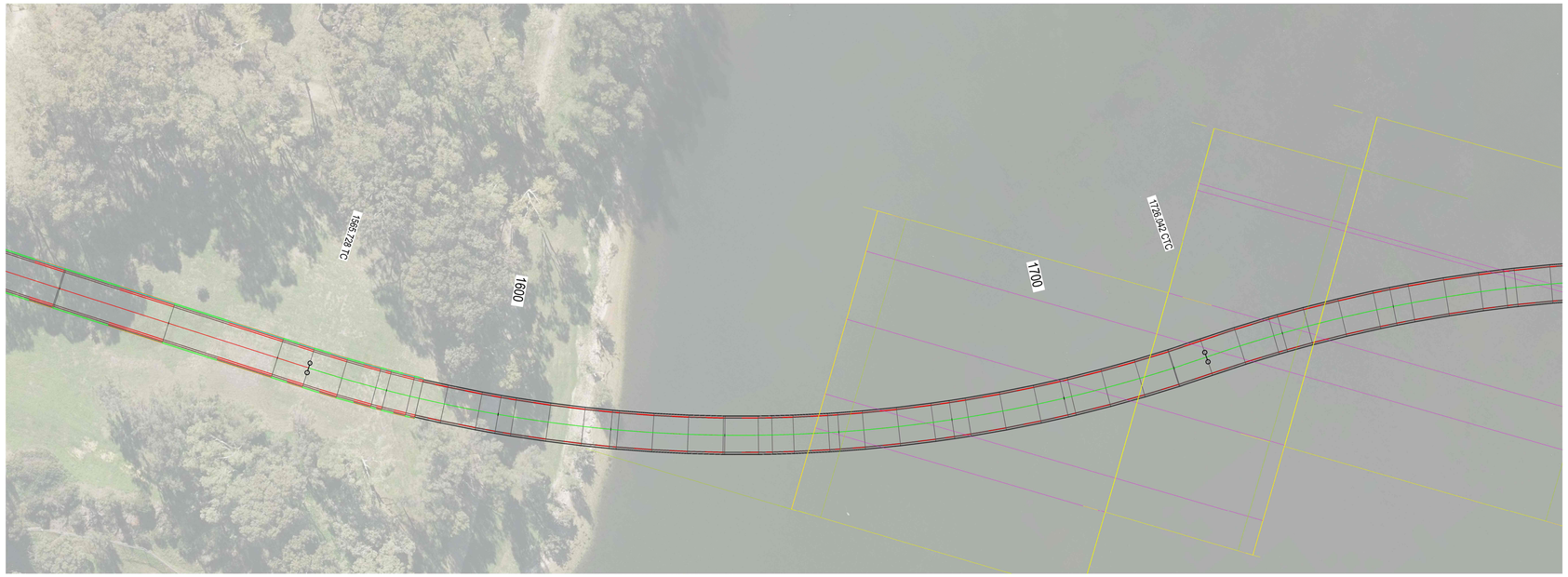

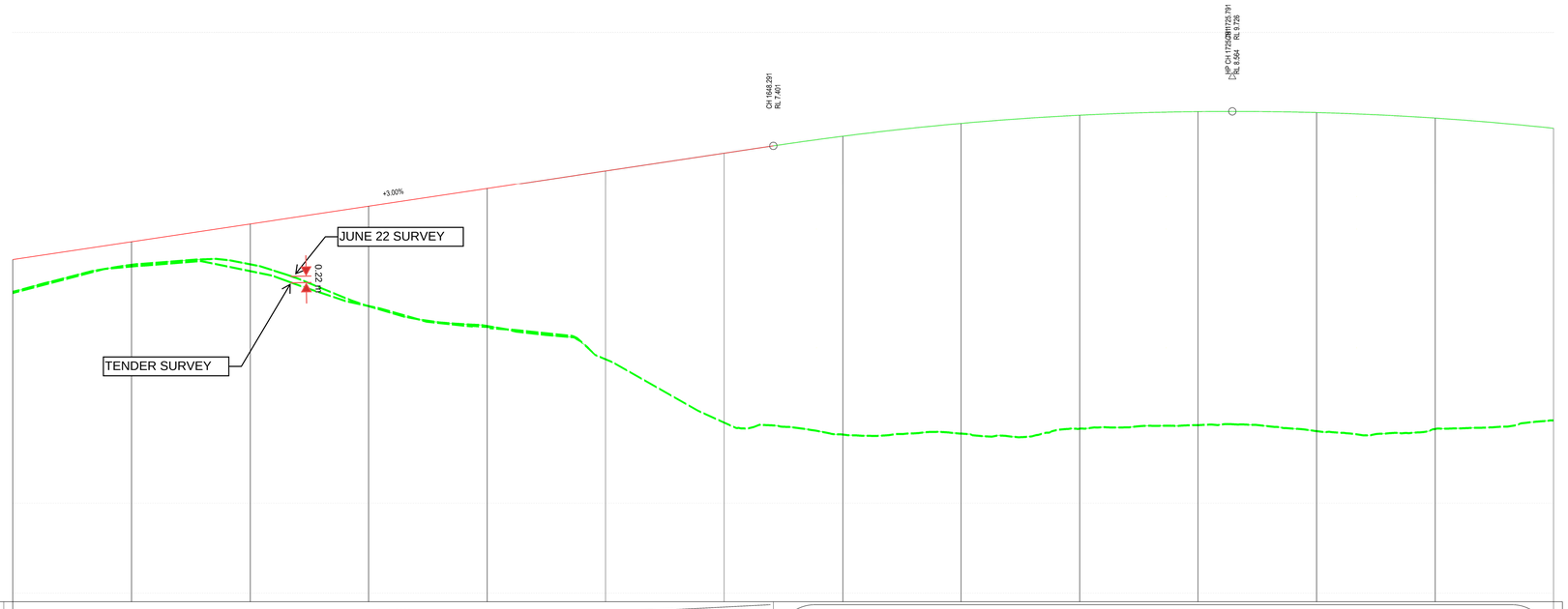

DATUM RL -8

VERTICAL ALIGNMENT	G=3.00% L = 128.495							K = -25.833 L = 155.000						
HORIZONTAL ALIGNMENT	L = 70.209		R = 250.000 L = 160.315								R = 250.000 L = 136.385			
CUT / FILL	-1.09	-0.78	-1.36	-3.37	-4.64	-6.36	-9.10	-10.07	-10.47	-10.59	-10.59	-10.76	-10.50	
DESIGN SURFACE LEVELS	3.55	4.15	4.75	5.35	5.95	6.55	7.15	7.73	8.16	8.43	8.56	8.52	8.34	
EXISTING SURFACE LEVELS	2.47	3.37	3.39	1.98	1.31	0.19	-1.95	-2.35	-2.31	-2.15	-2.03	-2.23	-2.16	
CHAINAGE	1520	1540	1560	1580	1600	1620	1640	1660	1680	1700	1720	1740	1760	

LONGITUDINAL SECTION MC01

SCALE: H 1:500 V: 1:100

AMENDMENTS

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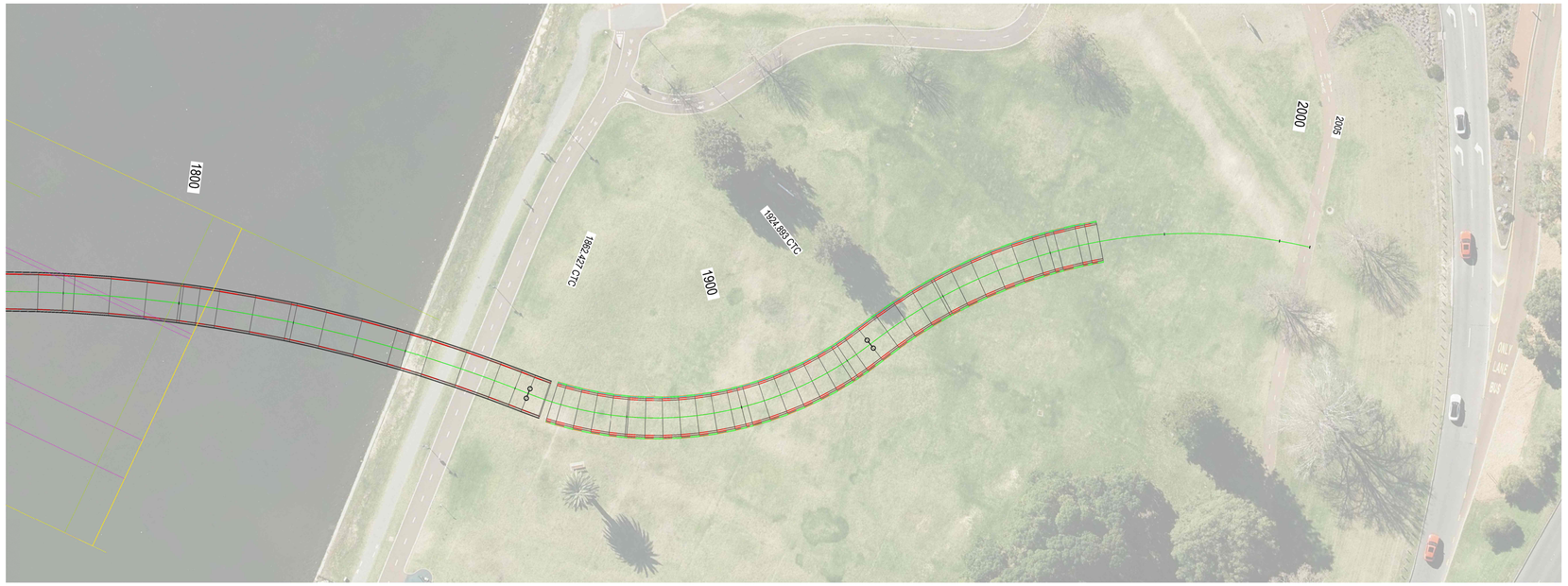

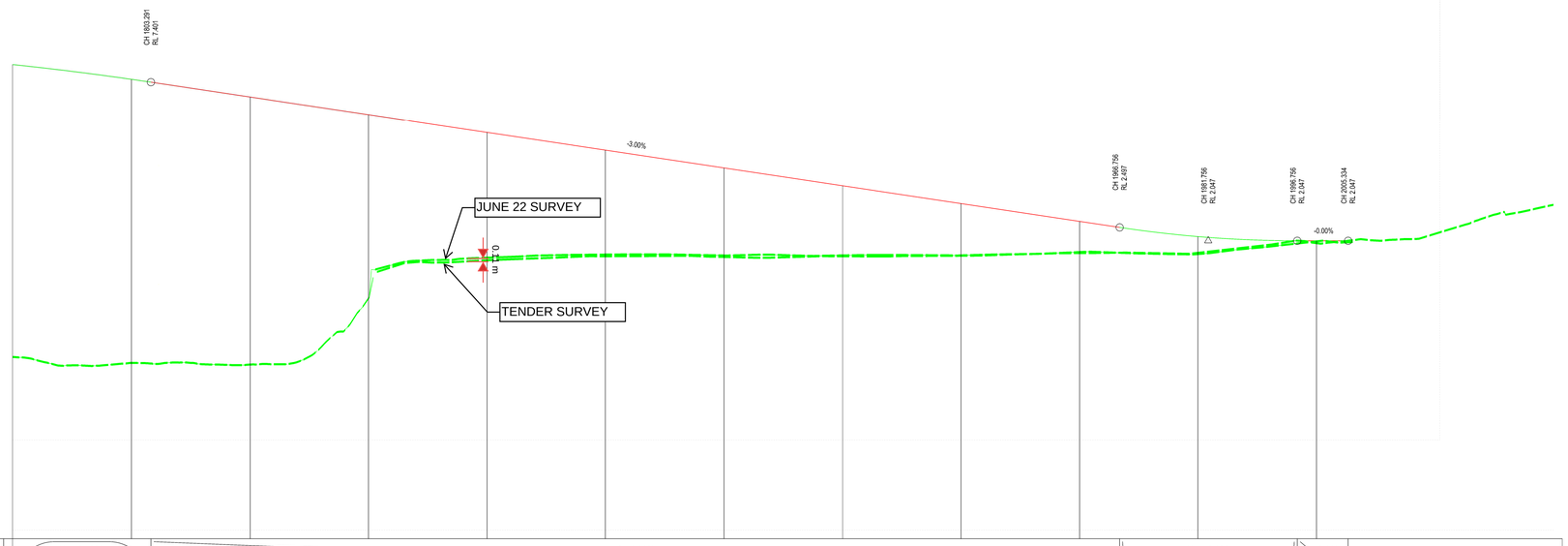

DATUM RL -8

VERTICAL ALIGNMENT	K = -25.833 L = 155.000		G=-3.00% L = 163.465						K = 10.000 L = 30.000	G=-0.00% L = 8.578			
HORIZONTAL ALIGNMENT	R = 250.000 L = 136.385				R = 60.000 L = 62.466			R = 90.000 L = 80.441					
CUT / FILL	-9.86	-9.56	-9.02	-6.19	-4.22	-3.52	-2.95	-2.35	-1.75	-1.03	-0.59	-0.02	0.00
DESIGN SURFACE LEVELS	7.99	7.50	6.90	6.30	5.70	5.10	4.50	3.90	3.30	2.70	2.19	2.05	0.00
EXISTING SURFACE LEVELS	-1.87	-2.07	-2.12	0.11	1.48	1.58	1.55	1.55	1.55	1.67	1.60	2.03	0.00
CHAINAGE	1780	1800	1820	1840	1860	1880	1900	1920	1940	1960	1980	2000	2040

LONGITUDINAL SECTION MC01

SCALE: H 1:500 V: 1:100

AMENDMENTS

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SCALES

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MRWA DRAWING NUMBER

2) DRAINAGE CALCULATION

Bridge 9506 Point Fraser Bridge			
Design Rainfall	50	mm/h	1 year ARI, 5 min duration storm event = 66.5mm/hr (ARR 2016 IFDs, BOM) However, design rainfall intensity is the lesser of 1 year ARI, 5 min duration, or 50mm/hr (MRWA Supplement to AGRD Part 5A)
Scupper Details			
Intake Diameter	0.15	m	
Kerb Depth	0.03	m	
Bridge Details			
Deck Width	6	m	
	%	m/m	
Cross fall	2	0.02	
Allowable spread width	1.25	m	Half width of trafficable lane + shoulder width
Manning's coefficient	0.014		

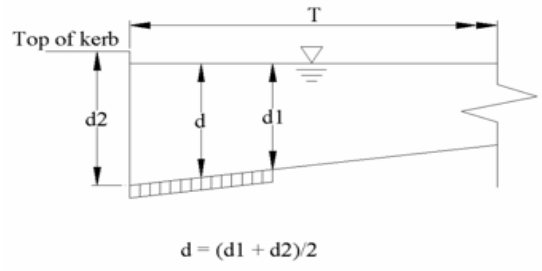
Spacing	Scupper No.	Location	Distance to u/s	Catchment Area	Q	Bypass Q from u/s	Q tot	Pavement grade	Gutter Flow Width	Ponding Depth	Grated Inlets on Grade					Bypass	Pit
											E_0	R_f		R_s	Scupper/Pit Intake capacity Q_i		
		(m)	(m)	(m^2)	l/s	l/s	l/s	%	(m)	(m)					l/s	l/s	
15	1	15	15	90	1.125	0.000	1.125	3.000%	0.51	0.010	0.605	1.404	1.000	0.014	0.686	0.44	PSC13
8	2	23	8	48	0.600	0.439	1.039	3.000%	0.50	0.010	0.618	1.406	1.000	0.014	0.647	0.39	PSC12
8	3	31	8	48	0.600	0.391	0.991	3.000%	0.49	0.010	0.626	1.408	1.000	0.015	0.626	0.37	PSC11
8	4	39	8	48	0.600	0.366	0.966	3.000%	0.48	0.010	0.630	1.409	1.000	0.015	0.614	0.35	PSC10
8	5	47	8	48	0.600	0.352	0.952	3.000%	0.48	0.010	0.632	1.409	1.000	0.015	0.607	0.34	PSC09
27	6	74	27	162	2.025	0.345	2.370	3.000%	0.67	0.013	0.489	1.378	1.000	0.010	1.170	1.20	PSC08
8	7	82	8	48	0.600	1.200	1.800	3.000%	0.61	0.012	0.530	1.388	1.000	0.011	0.963	0.84	PSC07
8	8	90	8	48	0.600	0.837	1.437	3.000%	0.56	0.011	0.565	1.396	1.000	0.012	0.820	0.62	PSC06
8	9	98	8	48	0.600	0.617	1.217	3.000%	0.53	0.011	0.592	1.401	1.000	0.013	0.727	0.49	PSC05
8	10	106	8	48	0.600	0.490	1.090	3.000%	0.50	0.010	0.610	1.405	1.000	0.014	0.671	0.42	PSC04
8	11	114	8	48	0.600	0.419	1.019	3.000%	0.49	0.010	0.621	1.407	1.000	0.014	0.639	0.38	PSC03
8	12	122	8	48	0.600	0.381	0.981	3.000%	0.48	0.010	0.628	1.408	1.000	0.015	0.621	0.36	PSC02
8	13	130	8	48	0.600	0.360	0.960	3.000%	0.48	0.010	0.631	1.409	1.000	0.015	0.611	0.35	PSC01

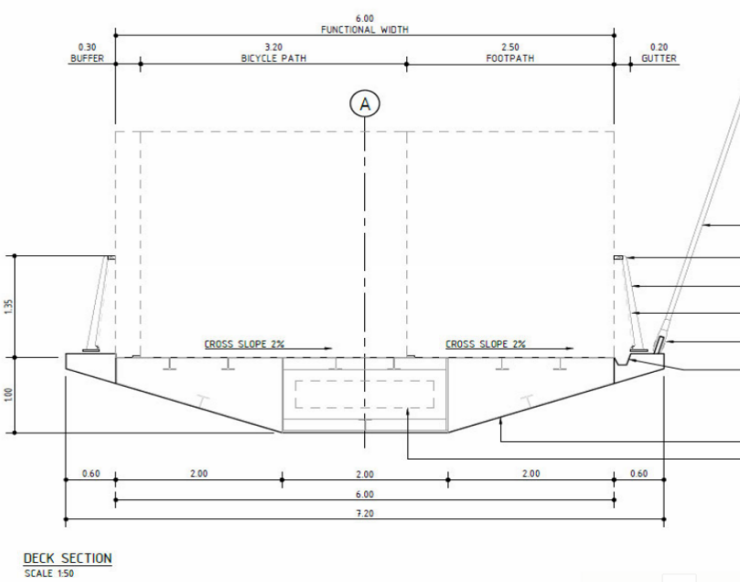
Table 3 Design basis

Design Item	Design Storm
Gutter flow spread width for bridge deck (for direct disposal into river)	1 year ARI (63% AEP), maximum 50mm/hr
Gutter flow spread width for bridge deck (to drainage network)	1 year ARI (63% AEP), maximum 50mm/hr
Shared path serviceability and flood protection	5 year ARI (20% AEP)
Rainfall depth for water quality treatment	1 year ARI (63% AEP), 1 hour duration

Table 4 Spread widths

Typical Road Profile	Allowable Spread Width
6m Main Separated Path (off Bridge Deck)	1.25m
6m Main Separated Path (on Bridge Deck)	1.25m
Other shared paths	Half lane width plus shoulders





Bridge 9506 Point Fraser Bridge			
Design Rainfall	50	mm/h	1 year ARI, 5 min duration storm event = 66.5mm/hr (ARR 2016 IFDs, BOM)
			However, design rainfall intensity is the lesser of 1 year ARI, 5 min duration, or 50mm/hr (MRWA Supplement to AGRD Part 5A)
Scupper Details			
Intake Diameter	0.15	m	
Kerb Depth	0.03	m	
Bridge Details			
Deck Width	6	m	
	%	m/m	
Cross fall	2	0.02	
Allowable spread width	1.25	m	Half width of trafficable lane + shoulder width
Manning's coefficient	0.014		

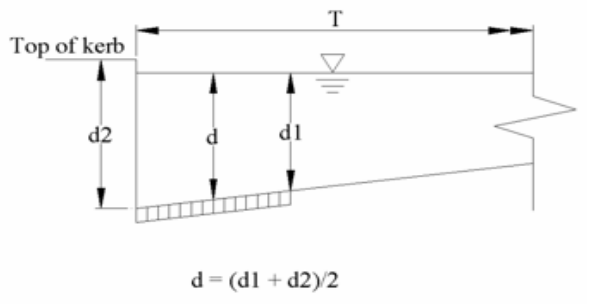
Spacing	Scupper No.	Location	Distance to u/s	Catchment Area	Q	Bypass Q from u/s	Q tot	Pavement grade	Flow Width	Ponding Depth	Grated Inlets on Grade					Bypass	Pit
											E_0	R_f		R_s	Scupper/Pit Intake capacity Q_i		
		(m)	(m)	(m^2)	l/s	l/s	l/s	%	(m)	(m)					l/s	l/s	
19	1	19	19	114	1.425	0.000	1.425	3.000%	0.56	0.011	0.566	1.396	1.000	0.012	0.815	0.61	PSC14
8	2	27	8	48	0.600	0.610	1.210	3.000%	0.52	0.010	0.593	1.401	1.000	0.013	0.724	0.49	PSC15
8	3	35	8	48	0.600	0.486	1.086	3.000%	0.50	0.010	0.611	1.405	1.000	0.014	0.669	0.42	PSC16
8	4	43	8	48	0.600	0.417	1.017	3.000%	0.49	0.010	0.919	1.407	1.000	0.014	0.936	0.08	PSC17
8	5	51	8	48	0.600	0.081	0.681	3.000%	0.42	0.008	0.963	1.419	1.000	0.017	0.656	0.02	PSC18
32	NA	83	32	192	2.400	0.025	2.425	3.000%	0.68	0.014	0.788	1.377	1.000	0.010	1.915	0.51	P2/1

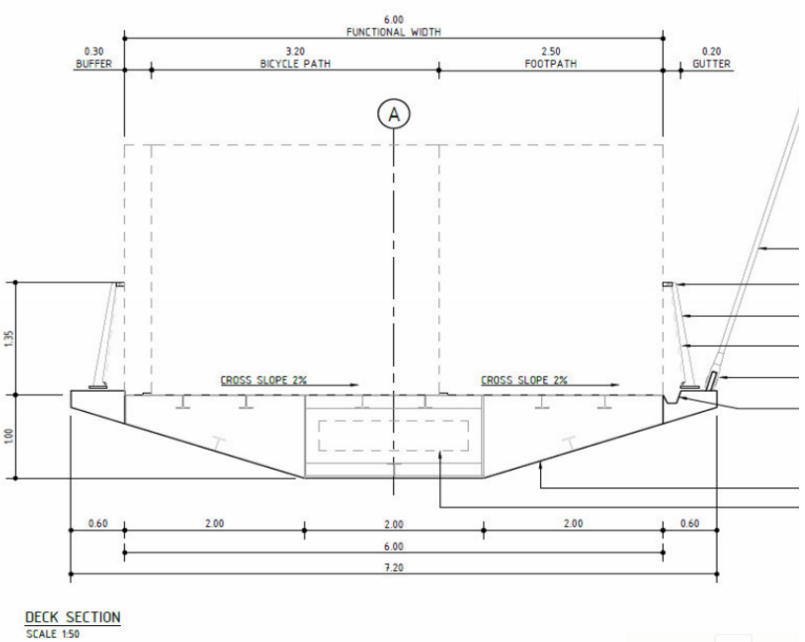
Table 3 Design basis

Design Item	Design Storm
Gutter flow spread width for bridge deck (for direct disposal into river)	1 year ARI (63% AEP), maximum 50mm/hr
Gutter flow spread width for bridge deck (to drainage network)	1 year ARI (63% AEP), maximum 50mm/hr
Shared path serviceability and flood protection	5 year ARI (20% AEP)
Rainfall depth for water quality treatment	1 year ARI (63% AEP), 1 hour duration

Table 4 Spread widths

Typical Road Profile	Allowable Spread Width
6m Main Separated Path (off Bridge Deck)	1.25m
6m Main Separated Path (on Bridge Deck)	1.25m
Other shared paths	Half lane width plus shoulders





Bridge 9505 McCallum Park			
Design Rainfall	50	mm/h	1 year ARI, 5 min duration storm event = 66.5mm/hr (ARR 2016 IFDs, BOM)
			However, design rainfall intensity is the lesser of 1 year ARI, 5 min duration, or 50mm/hr (MRWA Supplement to AGRD Part 5A)
Scupper Details			
Intake Diameter	0.15	m	
Kerb depth	0.03	m	
Bridge Details			
Deck Width	6	m	
	%	m/m	
Cross fall	2	0.02	
Allowable spread width	1.25	m	Half width of trafficable lane + shoulder width
Manning's coefficient	0.014		

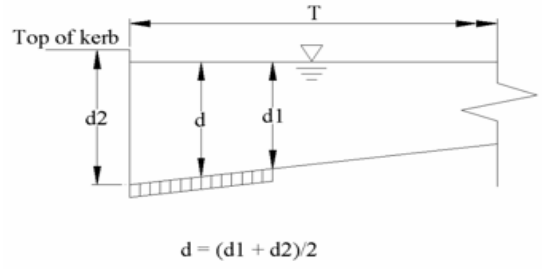
Spacing	Scupper No.	Location	Distance to u/s	Catchment Area	Q	Bypass Q from u/s	Q tot	Pavement grade	Flow Width	Ponding Depth	Grated Inlets on-Grade					Bypass	Pit
											E_0	R_f		R_s	Scupper/Pit Intake capacity Q_i		
(m)		(m)	(m)	(m^2)	l/s	l/s	l/s	%	(m)	(m)					l/s	l/s	
18	1	18	18	108	1.350	0.000	1.350	3.000%	0.55	0.011	0.575	1.398	1.000	0.013	0.784	0.57	MSC12
8	2	26	8	48	0.600	0.566	1.166	3.000%	0.52	0.010	0.599	1.403	1.000	0.014	0.705	0.46	MSC11
8	3	34	8	48	0.600	0.462	1.062	3.000%	0.50	0.010	0.614	1.406	1.000	0.014	0.658	0.40	MSC10
8	4	42	8	48	0.600	0.404	1.004	3.000%	0.49	0.010	0.624	1.407	1.000	0.015	0.631	0.37	MSC09
8	5	50	8	48	0.600	0.372	0.972	3.000%	0.48	0.010	0.629	1.408	1.000	0.015	0.617	0.36	MSC08
8	6	58	8	48	0.600	0.355	0.955	3.000%	0.48	0.010	0.632	1.409	1.000	0.015	0.609	0.35	MSC07
8	7	66	8	48	0.600	0.347	0.947	3.000%	0.48	0.010	0.633	1.409	1.000	0.015	0.605	0.34	MSC06
8	8	74	8	48	0.600	0.342	0.942	3.000%	0.48	0.010	0.634	1.409	1.000	0.015	0.602	0.34	MSC05
8	9	82	8	48	0.600	0.339	0.939	3.000%	0.48	0.010	0.635	1.409	1.000	0.015	0.601	0.34	MSC04
8	10	90	8	48	0.600	0.338	0.938	3.000%	0.48	0.010	0.635	1.410	1.000	0.015	0.601	0.34	MSC03
8	11	98	8	48	0.600	0.337	0.937	3.000%	0.48	0.010	0.635	1.410	1.000	0.015	0.600	0.34	MSC02
8	12	106	8	48	0.600	0.337	0.937	3.000%	0.48	0.010	0.635	1.410	1.000	0.015	0.600	0.34	MSC01
42	NA	148	42	252	3.150	0.337	3.487	3.000%	0.78	0.016	0.434	1.362	1.000	0.008	1.531	1.96	P3/1

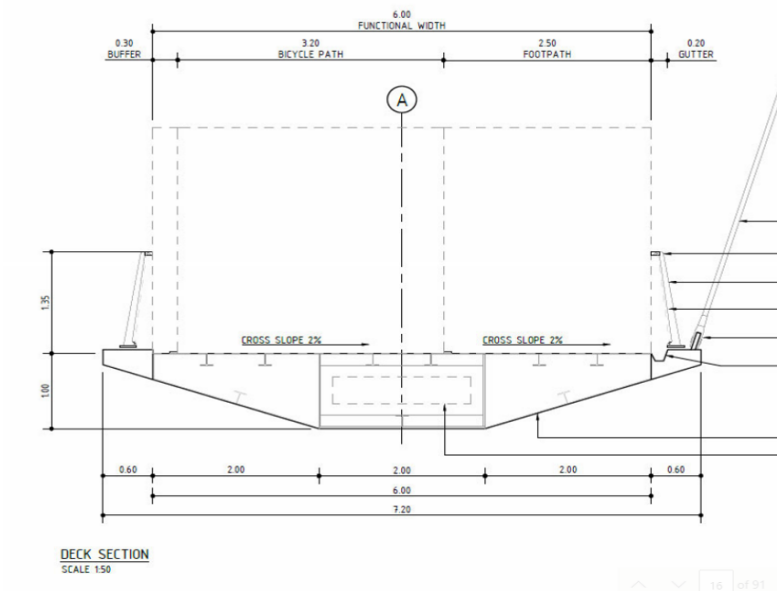
Table 3 Design basis

Design Item	Design Storm
Gutter flow spread width for bridge deck (for direct disposal into river)	1 year ARI (63% AEP), maximum 50mm/hr
Gutter flow spread width for bridge deck (to drainage network)	1 year ARI (63% AEP), maximum 50mm/hr
Shared path serviceability and flood protection	5 year ARI (20% AEP)
Rainfall depth for water quality treatment	1 year ARI (63% AEP), 1 hour duration

Table 4 Spread widths

Typical Road Profile	Allowable Spread Width
6m Main Separated Path (off Bridge Deck)	1.25m
6m Main Separated Path (on Bridge Deck)	1.25m
Other shared paths	Half lane width plus shoulders





Bridge 9505 McCallum Park			
Design Rainfall	50	mm/h	1 year ARI, 5 min duration storm event = 66.5mm/hr (ARR 2016 IFDs, BOM)
			However, design rainfall intensity is the lesser of 1 year ARI, 5 min duration, or 50mm/hr (MRWA Supplement to AGRD Part 5A)
Scupper Details			
Intake Diameter	0.15	m	
Kerb depth	0.03	m	
Bridge Details			
Deck Width	6	m	
	%	m/m	
Cross fall	2	0.02	
Allowable spread width	1.25	m	Half width of trafficable lane + shoulder width
Manning's coefficient	0.014		

Spacing	Scupper No.	Location	Distance to u/s	Catchment Area	Q	Bypass Q from u/s	Q tot	Pavement grade	Flow Width	Ponding Depth	Grated Inlets on-Grade					Bypass	Pit
											E_0	R_f		R_s	Scupper/Pit Intake capacity Q_i		
(m)		(m)	(m)	(m^2)	l/s	l/s	l/s	%	(m)	(m)					l/s	l/s	
21	1	21	21	126	1.575	0.000	1.575	3.000%	0.58	0.012	0.551	1.393	1.000	0.012	0.876	0.70	MSC13
8	2	29	8	48	0.600	0.699	1.299	3.000%	0.54	0.011	0.581	1.399	1.000	0.013	0.762	0.54	MSC14
8	3	37	8	48	0.600	0.537	1.137	3.000%	0.51	0.010	0.603	1.403	1.000	0.014	0.692	0.45	MSC15
8	4	45	8	48	0.600	0.445	1.045	3.000%	0.50	0.010	0.617	1.406	1.000	0.014	0.651	0.39	MSC16
8	5	53	8	48	0.600	0.395	0.995	3.000%	0.49	0.010	0.625	1.408	1.000	0.015	0.627	0.37	MSC17
8	6	61	8	48	0.600	0.367	0.967	3.000%	0.48	0.010	0.630	1.409	1.000	0.015	0.615	0.35	MSC18
8	7	69	8	48	0.600	0.353	0.953	3.000%	0.48	0.010	0.632	1.409	1.000	0.015	0.608	0.35	MSC19
8	8	77	8	48	0.600	0.345	0.945	3.000%	0.48	0.010	0.634	1.409	1.000	0.015	0.604	0.34	MSC20
8	9	85	8	48	0.600	0.341	0.941	3.000%	0.48	0.010	0.634	1.409	1.000	0.015	0.602	0.34	MSC21
8	10	93	8	48	0.600	0.339	0.939	3.000%	0.48	0.010	0.635	1.409	1.000	0.015	0.601	0.34	MSC22
8	11	101	8	48	0.600	0.338	0.938	3.000%	0.48	0.010	0.635	1.410	1.000	0.015	0.601	0.34	MSC23
41	NA	142	41	246	3.075	0.337	3.412	3.000%	0.77	0.015	0.730	1.363	1.000	0.008	2.498	0.91	P4/1

Table 3 Design basis

Design Item	Design Storm
Gutter flow spread width for bridge deck (for direct disposal into river)	1 year ARI (63% AEP), maximum 50mm/hr
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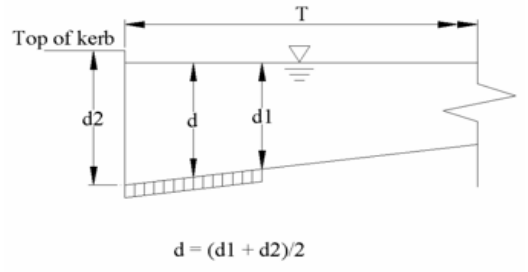
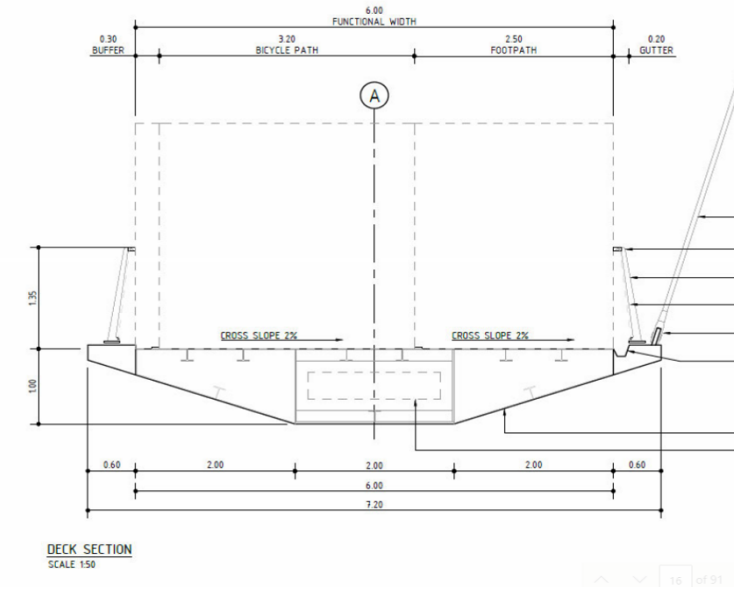




APPENDIX 4 KEY CORRESPONDENCE

1) DEPARTMENT OF BIODIVERSITY, CONSERVATION AND ATTRACTIONS MEETING MINUTES

Minutes of Meetings

Department of Biodiversity, Conservation and Attractions Meeting

13-05-2022	09:00	Microsoft Teams
Meeting No.	**C301-HS-DBAC-MOM-0001_20220513**	
Minute Taker	Michelle Rhodes	
Attendees	**Main Roads and Causeway Link Alliance** Mike Kapitola, Project Director, Main Roads - mike.kapitola@mainroads.wa.gov.au Alanna Stern, Project Manager, Main Roads - Alanna.Stern@mainroads.wa.gov.au John Braid, Principal Environment Officer, Infrastructure Delivery Directorate - john.braid@mainroads.wa.gov.au Claire Paddison, Stakeholder and Engagement - claire.paddison@361degrees.com.au Niall O Lionaird, Construction Manager - niall.olionaird@civmec.com.au Michelle Rhodes, Sustainability and Environment - michellerhodes@360environmental.com.au **The Department of Biodiversity, Conservation and Attractions (DBCA)** Markus Nordstrom - markus.nordstrom@dbca.wa.gov.au Suzanna Chan - suzanna.chan@dbca.wa.gov.au	
Apologies	Peter Ricciardello, Alliance Director - Peter.Ricciardello@civmec.com.au	

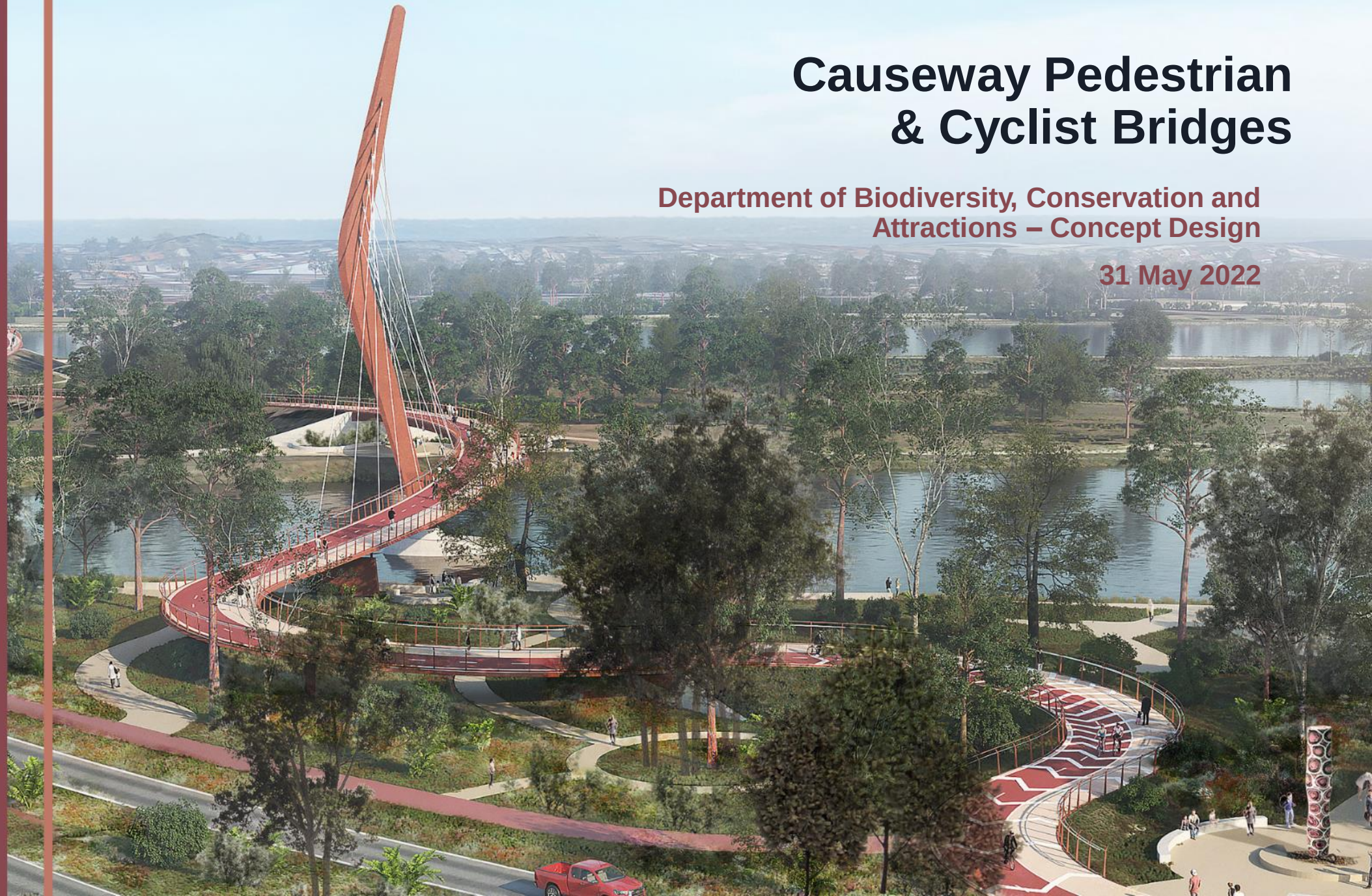
ITEM	DESCRIPTION	ACTION BY	DUE
1	**Introduction and Approvals**		
1.1	**Introductions and Overview** ▪ Alliance team introduction and status update for Causeway Pedestrian and Cyclist Bridge	Note	
1.2	**Approvals** ▪ Development Application has been submitted to the Department of Planning, Lands and Heritage. Swan River Trust (SRT) and City of Perth approvals required. SRT approval is required for works within the Swan and Canning River Reserves. MN/SC have been providing progress updates, so the Board is informed. This is considered a significant project and has the potential to impact on the environment. The Board meets monthly. ▪ DBCA has reviewed the designs through to alliance bid and evaluation phases and has provided comment and advice to MRWA on earlier designs. DBCA (MN) indicated the artists impressions looked modified from earlier versions and Main Roads (MK) advised there has not been any changes to the proposals since then. ▪ Main Roads (JB) advised the Native Vegetation Clearing Permit has been approved for the project. ▪ Form 7 expires June 30 and will need to be renewed prior to this (can only extent if current).	SC/MN will update Board and seek DA sign off	20/05
2	**Schedule and Engagement**		

ITEM	DESCRIPTION	ACTION BY	DUE
2.1	**Schedule and Early Works** ▪ Early works (Niall): o Sep/Oct 22 - geotechnical (on land only) and commence service relocation o Earthworks on embankment o May 2024 - completion ▪ Main Roads (MK) advised that over the next 2 months the scope, design and any issues really need to be teased out. Design and development stage not at 15 percent as yet.	Note	
2.2	**Engagement with DBCA and SRT** ▪ DBCA to provide comment on DA following presentation from the alliance team. SC indicated this may require input from the Rivers and estuary Branch and/or Science Team. Now is the appropriate time to engage and provide feedback. ▪ Swan River Trust Board have been kept up to date. This project is important to the Board and they may want a briefing from the alliance. Frequency of ongoing briefings will be determined and advised.	CP to book presentation time with DBCA DBCA to confirm if SRT Board would like a presentation	20/05
3	**Environmental Management**		
3.1	**Environmental Management Documentation** ▪ DBCA will comment on the Construction Environmental Management Plan. ▪ Refer to Lloyd Street Bridge (although no piles in river) has conditions that are applicable. ▪ Tonkin Bridge – water quality management in EMP. Conditions on Tonkin Gap are useful.	MR/JB	30/05

Causeway Pedestrian & Cyclist Bridges

Department of Biodiversity, Conservation and Attractions – Concept Design

31 May 2022



Causeway Link Alliance

Introduction

- Alliance Construction Manager – Niall O Lionaird
- Alliance Community and Stakeholder Manager – Claire Paddison
- Main Roads Project Manager – Alanna Stern
- Main Roads Project Communications and Stakeholder Engagement – Sam Xanthis
- Alliance Landscape Architect – Anthony Brookfield
- Alliance Sustainability and Environment Manager – Michelle Rhodes
- Alliance Senior Project Engineer – Mathieu Lemoine

Causeway Link Alliance

Agenda

- Project Overview and Stakeholder Engagement – Niall (5 min)
- Architect Design – Mathieu (5 min)
- Urban & Landscape Design – Anthony (15 min)
- Civil & Alignment – Tim (5 min)
- Footprint, Ground Improvement, Earthworks, River Works Method – Mathieu (10 min)
- Approvals – Michelle (5 min)
- Questions and Discussion – (15 min)

Causeway Link Alliance

Stakeholder Engagement

- Project success dependent on engagement and alignment of expectations
- Stakeholder input must evolve with the design
- Alliance Stakeholder Reference Group
- Each design discipline – regular meetings
- Formal submissions 15%, 85%, 100% fully understood prior
- Alignment Freeze by July

Causeway Link Alliance

Stakeholder Engagement

Building on extensive consultation by MRWA to date, the Alliance will focus on early engagement to:

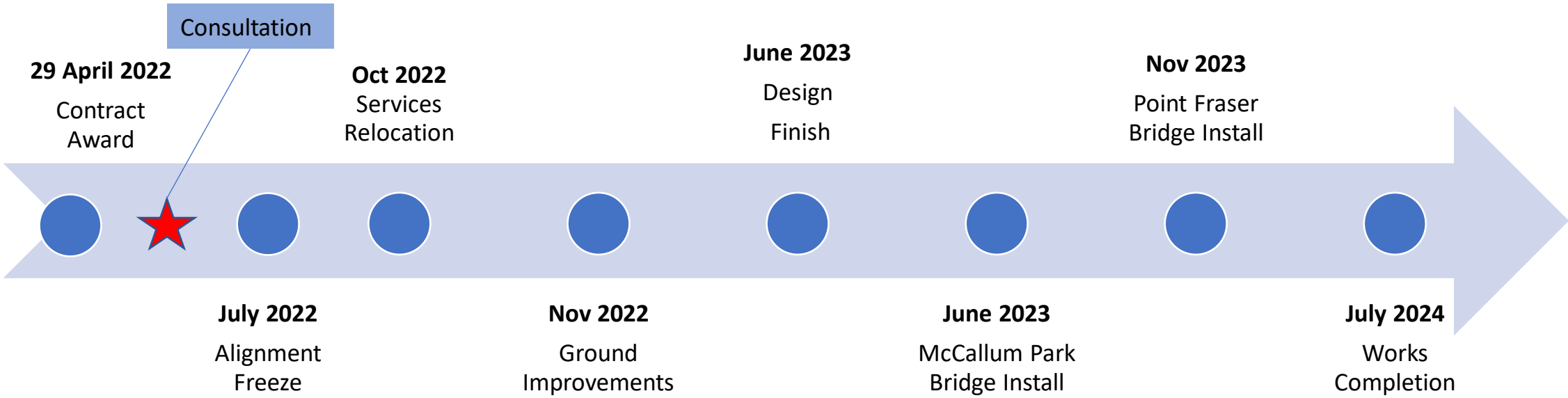
- Build relationships
- Seek feedback on design
  - Bridge Alignment
  - 15% Design
  - DA approval process
- Identify any key issues / opportunities

Key stakeholders inc:

- Local Governments
- Matagarup Elders Group
- State Government Agencies inc:
  - DBCA; DPLH; DoT; OGA
- Utilities and service providers
- Immediate neighbours
  - Point Fraser businesses
- Community groups
  - WA Water Sports Assoc; Westcycle

Causeway Link Alliance

Project Schedule



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URBAN AND LANDSCAPE DESIGN FRAMEWORK (ULDF)

WORK THROUGH A METHODICAL DESIGN PROCESS TO ENSURE SITE, HISTORY, PLACE, CULTURE AND THE DESIRES OF PEOPLE AND KEY STAKEHOLDERS INFORM BOTH THE DESIGN OF THE BRIDGE AS WELL AS THE LANDSCAPE AND URBAN OUTCOME.

THE DEFINED ULDF PROCESS INCLUDES THE FOLLOWING;

CONTEXT ANALYSIS

DESIGN VISION & PRINCIPLES

URBAN AND LANDSCAPE CONCEPT

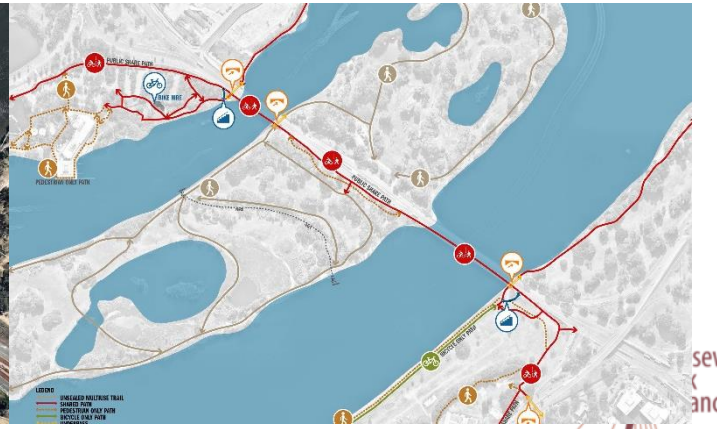
STRATEGIES

AN ‘OUTLINE’ ULDF WAS SUBMITTED AS PART OF THE BID – STARTING POINT

Causeway Link Alliance

CONTEXT ANALYSIS

- CURRENT AND HISTORICAL LAND-USE
- PLANNING CONTEXT
- ABORIGINAL HERITAGE
- STATE HERITAGE REGISTER
- UNDERSTANDING THE ENVIRONMENT
- LANDSCAPE CHARACTER AND VISUAL ANALYSIS
- CONNECTIVITY
- STAKEHOLDERS – ToVP/CoP/DBCA/BPB/BUSINESS



KEY DESIGN PRINCIPLES

Fundamentally the vision for the design is to improve community connectivity and safety via the creation of culturally responsive, beautiful and harmonious bridge. It will be a Perth landmark and gateway to the city and it must sympathetically integrate with the Swan River landscape environment.

Context and Character

We have analysed the historic and current landscape and cultural characteristic of the landscape areas from a holistic perspective, as well as looking at their individual qualities. The design concept responds to this unique sense of place.

Landscape Quality

The concept builds upon the qualities of the site promoting use of native planting, locally sourced materials, ensuring designs are refined and add to a sense of delight. The design seeks to embed the bridge within the landscape ensuring the bridge truly feels part of the site.

Built Form and Scale

The landscape and key urban design moves respond to the scale and form of the bridge forming a cohesive design response. Spaces created on the riverfront and within the parklands seek to harmonise the impact of the infrastructure.

Functionality & Build Quality

Hard and soft landscaping, as well as key infrastructure elements, are high performing for their locality. They will embed high quality detailing and refinement in build quality, ensuring a an enduring landscape is established to support the bridge experience.

Sustainability

The principle of designing a landscape which is in tune with its locality, emphasising the use of native, water-wise plants, WSUD, tree planting, low maintenance and recycling of site won materials. Additional re-wilding and solar power source elements are included.

Amenity

The landscape design integrates opportunity for social interactions as well as planned events and gatherings. The spaces created will be comfortable, pleasant to experience and informative. A range of facilities are included encouraging bike use and recreation.

Legibility

Clear sightlines, clear pathways, riverside staircases and passive view lines create an experience which is intuitive and easily understood. Wayfinding will support legibility through signage as well as landscape design techniques and landmark art work.

Safety

Pathways are designed in a safe manner with pedestrians and cyclists separated where possible. Appropriate lighting is included and CPTED principles adopted to ensure clear sightlines and avoidance of hidden spaces. Planting will be extensive but kept low throughout.

Community

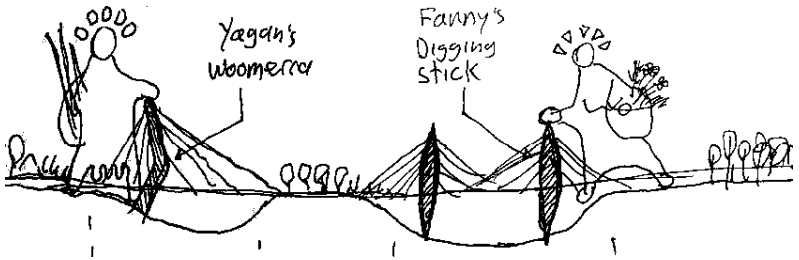
A key focus of the design is to facilitate a safe and pleasant movement network for the community. The design also seeks to enrich the experience through creating places to pause and view the landscape, as well as learn about the rich cultural significance of Whadjuk Country.

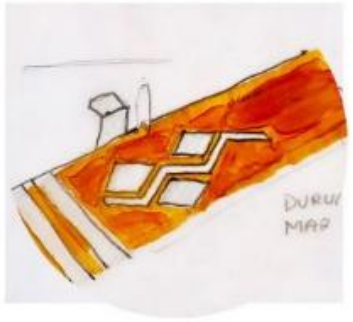
Aesthetics

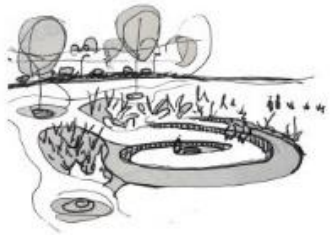
The design complements the beauty of the bridge structure with the intrinsic qualities of the Swan River landscape. Refined landscape design, with appropriately formed furniture and art elements, will combine to create a landscape with high aesthetic value.

KEY DESIGN PRINCIPLES

WHADJUK INSPIRED DESIGN, INTERPRETATION AND PUBLIC ART







Causeway Link Alliance

ULDF - DESIGN VISION & PRINCIPLES

EXPERIENCES FOR PEOPLE

BEAUTIFUL

CULTURAL

CONNECTED SAFE

TOUCH THE WATER

EXPANSIVE VIEWS

QUIET AND BUZZY

WALK

CYCLE

REST

EXPLORE

EVENTS

GATHERINGS

LANDSCAPE

FISHING

PICNIC

CIRCUIT

EVENING

PRECEDENT INSPIRATION

RIVER EDGE

INFRASTRUCTURE

INTERP DESIGN

PLANTING

KEY ULDF MOVES

TREES

Retain, plant, shade, natives, safety

CULTURE

Whadjuk, narrative, themes, stories, strategies, art,

CONNECTIONS

Existing, new, character, safe, legible

GRADES

Integrate, variety, minimise bulk, planting

SOCIAL SPACES

Gather, relax, views, variety, enrich

NATIVES

Groundcovers, wildflowers, river edge

Causeway Link Alliance

ULDF - DESIGN VISION & PRINCIPLES

DESIGN AND ENGAGEMENT LEARNINGS FROM NEARBY PROJECTS

- **POINT FRASER**
- **OPTUS STADIUM / CHEVRON PARKLANDS**
- **WATERBANK**
- **CITY OF PERTH RIVERFRONT MASTER PLAN**
- **BURSWOOD PARK MASTER PLAN**
- **BURSWOOD PENINSULA**

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Heirisson Island North

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Heirisson Island South

Causeway Link Alliance

McCallum Park

Causeway Link Alliance

Point Fraser

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ULDF – URBAN AND LANDSCAPE CONCEPT

POINT FRASER – CITY, COMMERCE, ECO, NATIVE, CONSTRAINED, CONNECTED

HIERISSON ISLAND – CALM, NATURE, CULTURE, CANOPY

MCCALLUM PARK – ENERGETIC, RECREATIONAL, ACTIVE

ONE LANDSCAPE INSPIRED BY NATURE AND CULTURE - 3 PLACES TO GATHER, CONNECT AND REFLECT

Causeway Link Alliance

ULDF – URBAN AND LANDSCAPE CONCEPT

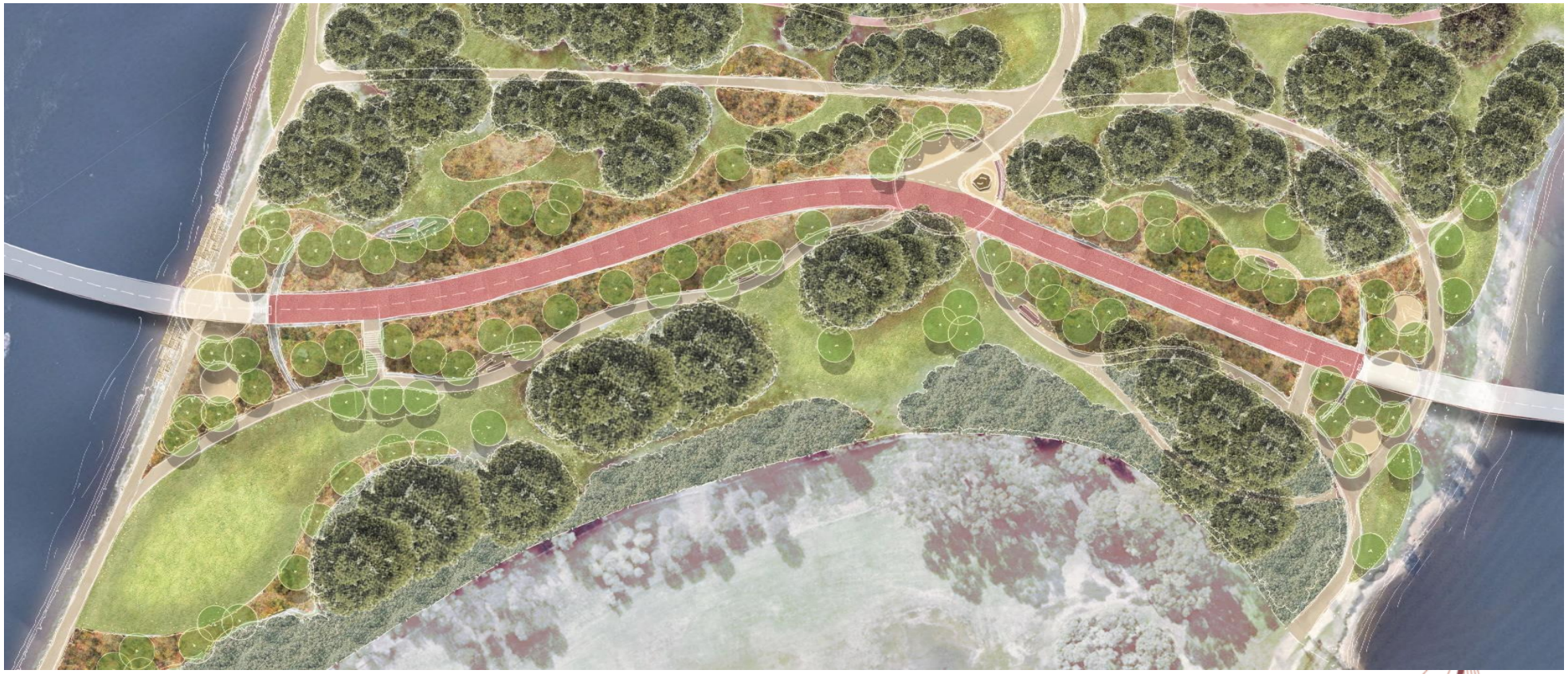
POINT FRASER

- **BRIDGE WINDS THROUGH THE TREES FLOATING ABOVE THE WILDFLOWERS**
- **PATHWAYS CREATING DIRECT AND MEANDERING ROUTES THROUGH THE AREA**
- **LANDMARK WHADJUK ENTRY MARKER**
- **RANGE OF SOCIAL GATHERING SPACES**
- **RICH AND LAYERED INTERPRETATION**

ULDF – URBAN AND LANDSCAPE CONCEPT

HIERISSON ISLAND

- **RIVER EDGE GATHERING SPACES**
- **CENTRAL WELCOME SPACE**
- **LANDFORM COMBINES WITH GROUNDCOVER PLANTING AND TREES TO SOFTEN THE BRIDGE IMPACT ON THE ISLAND**



ULDF – URBAN AND LANDSCAPE CONCEPT

MCCALLUM PARK

- **STRATEGIC DESIGN VISION ANTICIPATING ToVP AMBITIONS FOR THE AREA**
- **RIVER EDGE EXPERIENCE WITH CYCLISTS RE-ROUTED**
- **FLEXIBLE EVENT ZONES**
- **RANGE OF GATHERING SPACES**
- **WILDFLOWER PLANTING EXPANDING ON MRWA WCI**

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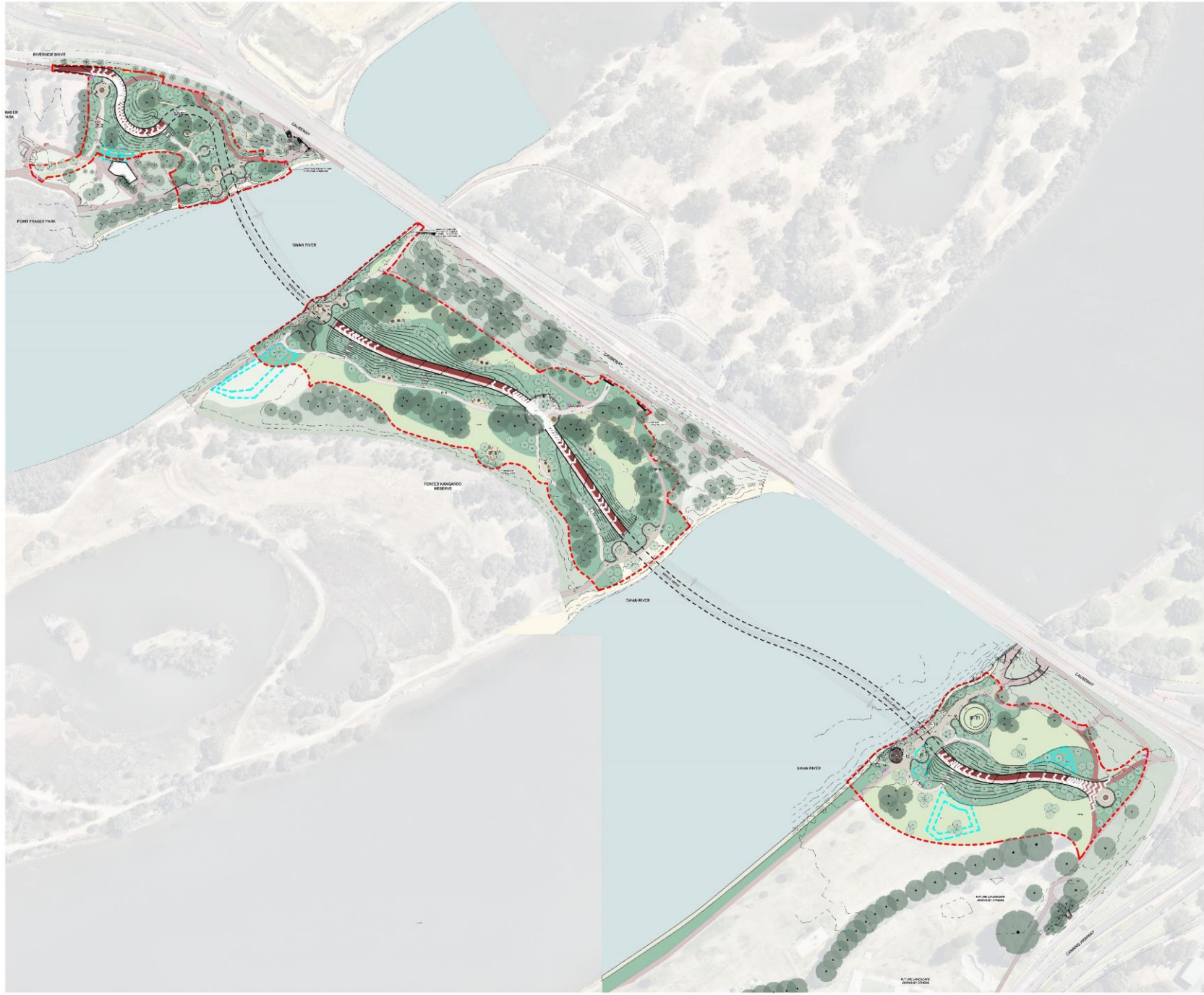

REFERENCE MAP

NOTES

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3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
5. Refer others for lighting design and bridge design
6. Interpretation and Public Art features to be determined
7. River's edge design to be developed with DBCA and LGA's
8. All soft landscaping to be irrigated. Water availability and extent to be determined.
9. This drawing is an uncontrolled copy. Unless noted otherwise

CONSULTANT

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Nominated Architects NSW:
Tony Grist 5358
Glenn Scott 6842
Ross de la Motte 7388

CLIENT
WSP

PROJECT
CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGE PROJECT

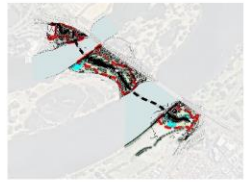
STATUS
GENERAL ARRANGEMENT PLANS

DRAWING TITLE
LANDSCAPE SCOPE AREA PLAN

REVIEWED LM	SCALE @ A1 1:1250
APPROVED AB	PROJECT NO. 015781
DRAWING NO. L_05	REV NO. F

Causeway Link Alliance

REFERENCE MAP



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30m

CONSULTANT

Hassell

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Glenn Scott 6842
Ross de la Motte 7388

CLIENT
WSP

PROJECT
CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGE PROJECT

STATUS
GENERAL ARRANGEMENT PLANS

DRAWING TITLE
POINT FRASER

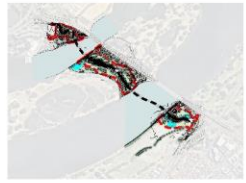
REVIEWED LM	SCALE @ A1 1:500
APPROVED AB	PROJECT NO. 015781
DRAWING NO. L_01	REV NO. F

Causeway Link Alliance

INSET PLAN - SHOWING 2.5m WIDE CONCRETE PAVING PATHWAY TO CONNECT TO CARPARK ON NORTHERN SIDE OF CAUSEWAY

60m

REFERENCE MAP



NOTES

1. Do not scale drawing. Written dimensions govern
2. All dimensions are in millimeters unless noted otherwise
3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
5. Refer others for lighting design and bridge design
6. Interpretation and Public Art features to be determined
7. River's edge design to be developed with DBCA and LGA's
8. All soft landscaping to be irrigated. Water availability and extent to be determined.
9. This drawing is an uncontrolled copy. Unless noted otherwise

30m

CONSULTANT

Hassell

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sydney@hassellstudio.com
Nominated Architects NSW:
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WSP

PROJECT
CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGE PROJECT

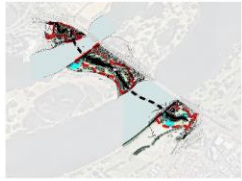
STATUS
GENERAL ARRANGEMENT PLANS

DRAWING TITLE
HEIRISSON ISLAND

REVIEWED LM	SCALE @ A1 1:500
APPROVED AB	PROJECT NO. 015781
DRAWING NO. L_02	REV NO. F

Causeway Link Alliance

REFERENCE MAP



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PROJECT
CAUSEWAY PEDESTRIAN AND
CYCLIST BRIDGE PROJECT

STATUS
GENERAL ARRANGEMENT PLANS

DRAWING TITLE
MCCALLUM PARK

REVIEWED LM	SCALE @ A1 1:500
APPROVED AB	PROJECT NO. 015781
DRAWING NO. L_03	REV NO. F

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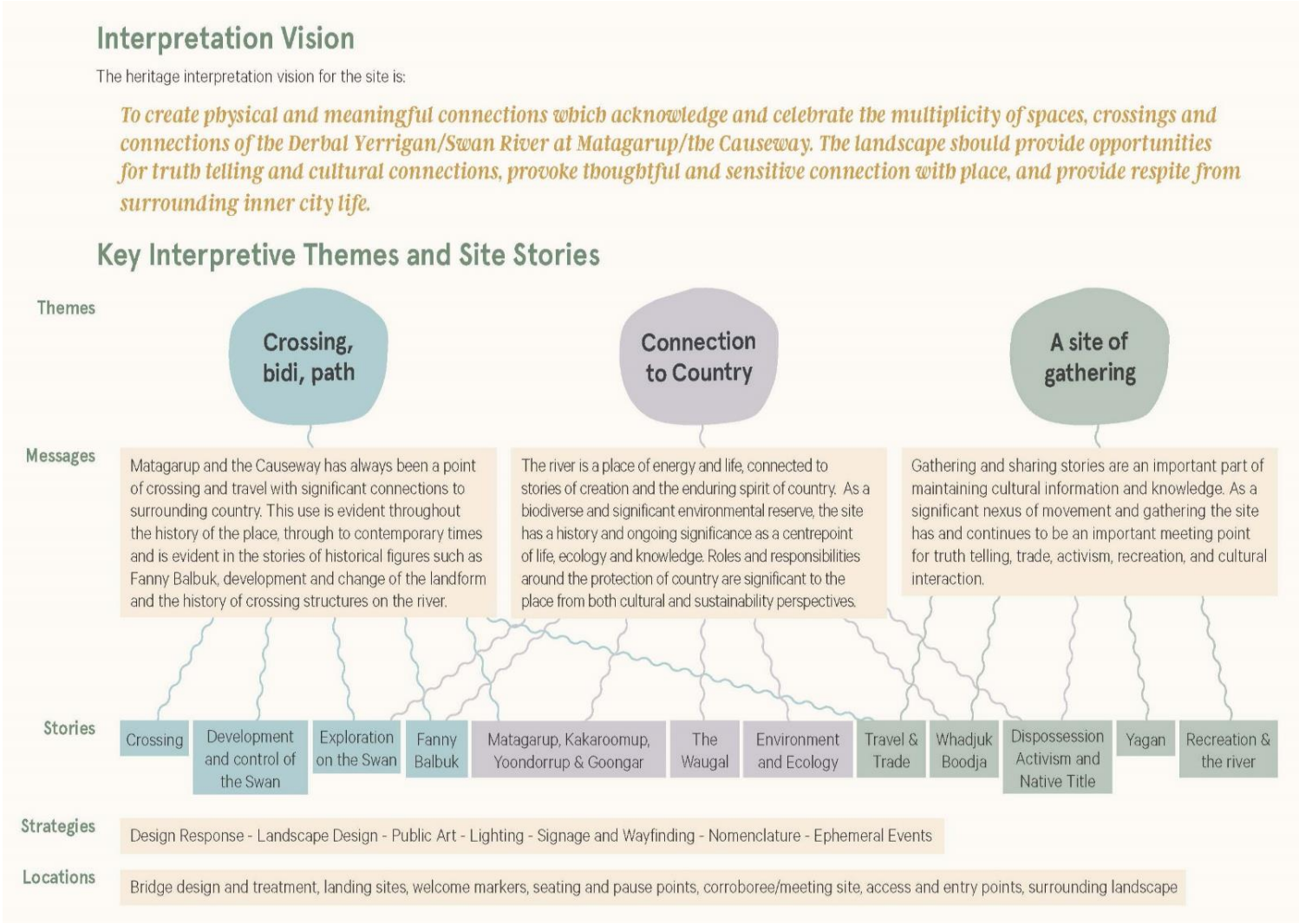
ULDF – STRATEGIES

- **The ULDF has been prepared in tandem with the Draft Interpretation Plan.**
- **The Interpretation Plan looks to establish the vision, define key themes and stories and identify specific interpretation strategies located at key nodes within the project area.**



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ULDF – STRATEGIES

7 INTERPRETATION STRATEGIES ARE DEFINED

1 - DESIGN RESPONSE

2 - LANDSCAPE DESIGN

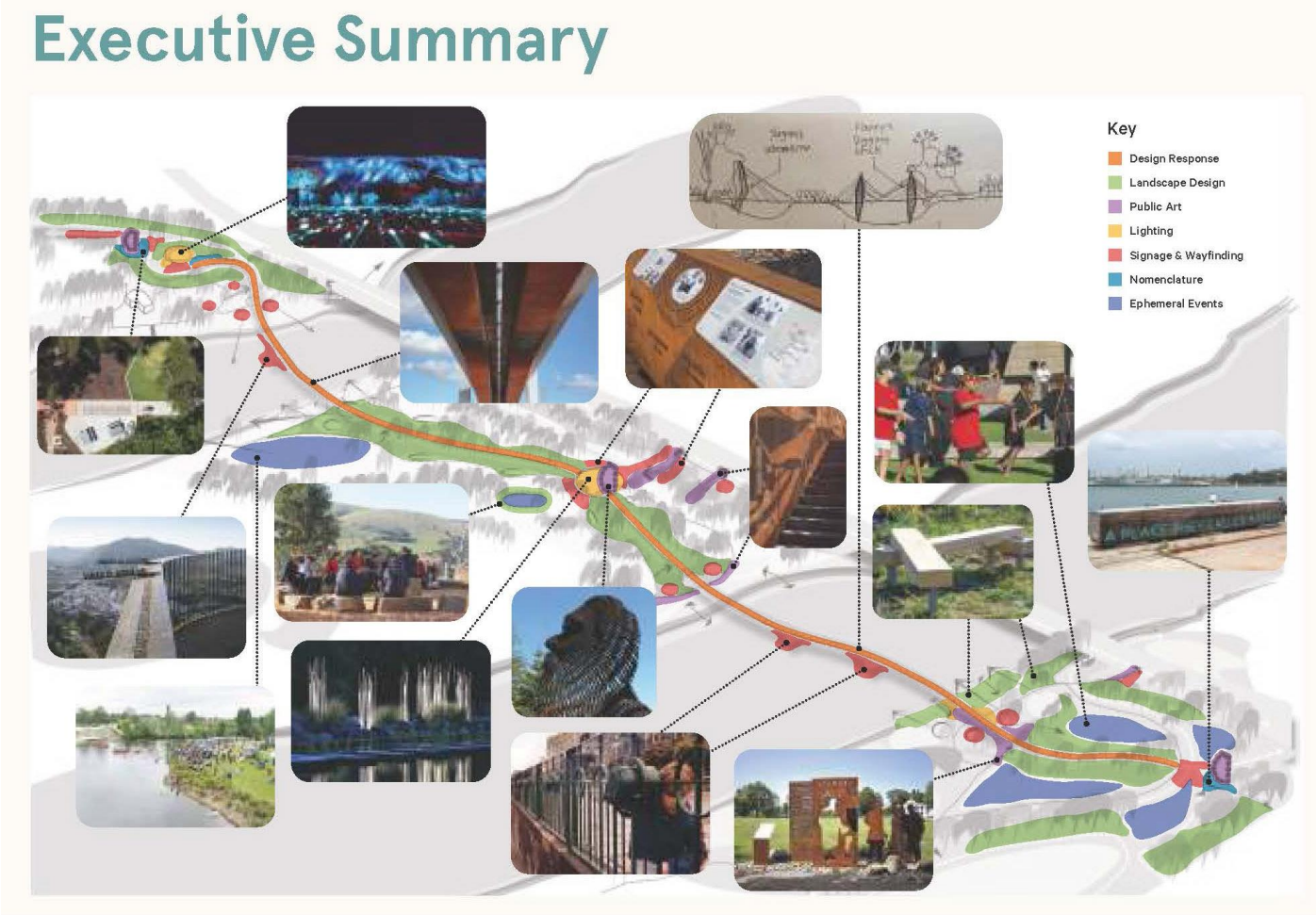
3 - PUBLIC ART

4 - LIGHTING

5 - SIGNAGE AND WAYFINDING

6 - NOMENCLATURE

7 - EPHEMERAL EVENTS



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ULDF – STRATEGIES

SPECIFIC PROJECTS HAVE BEEN IDENTIFIED THROUGHOUT THE LANDSCAPE AND INTEGRATED INTO THE BRIDGE DESIGN

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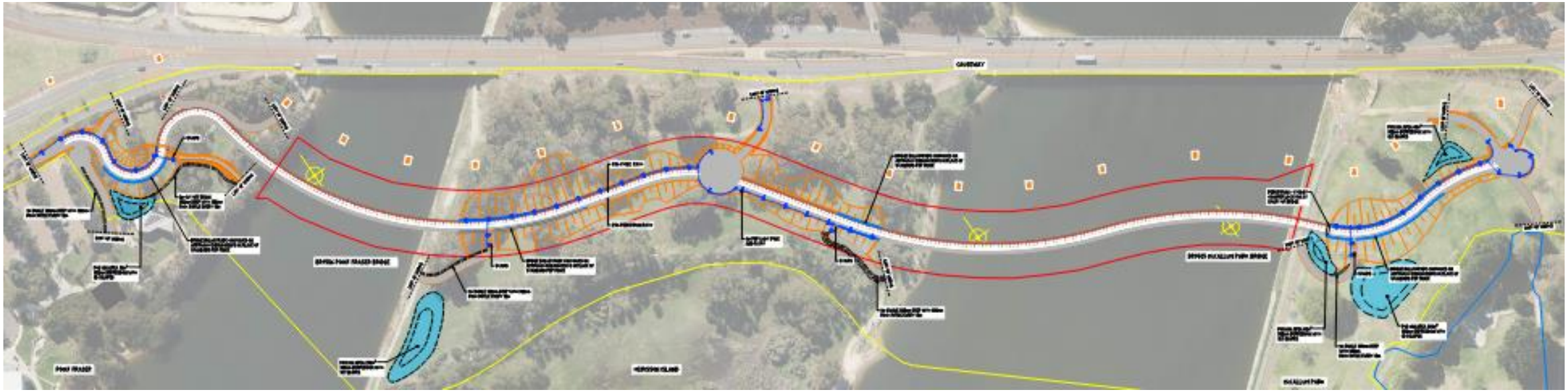
Causeway Bridges Alignment



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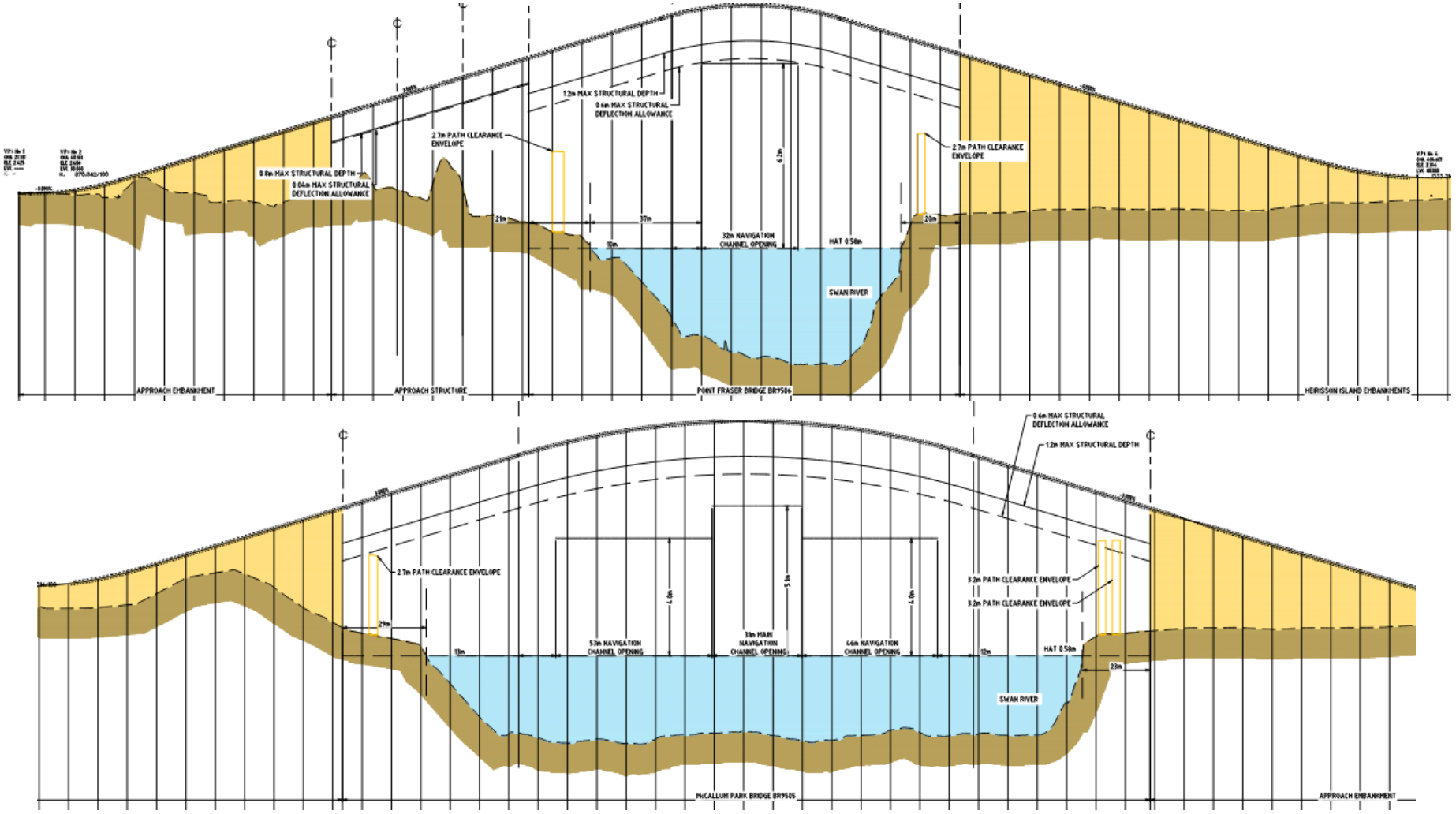
Vertical Alignment



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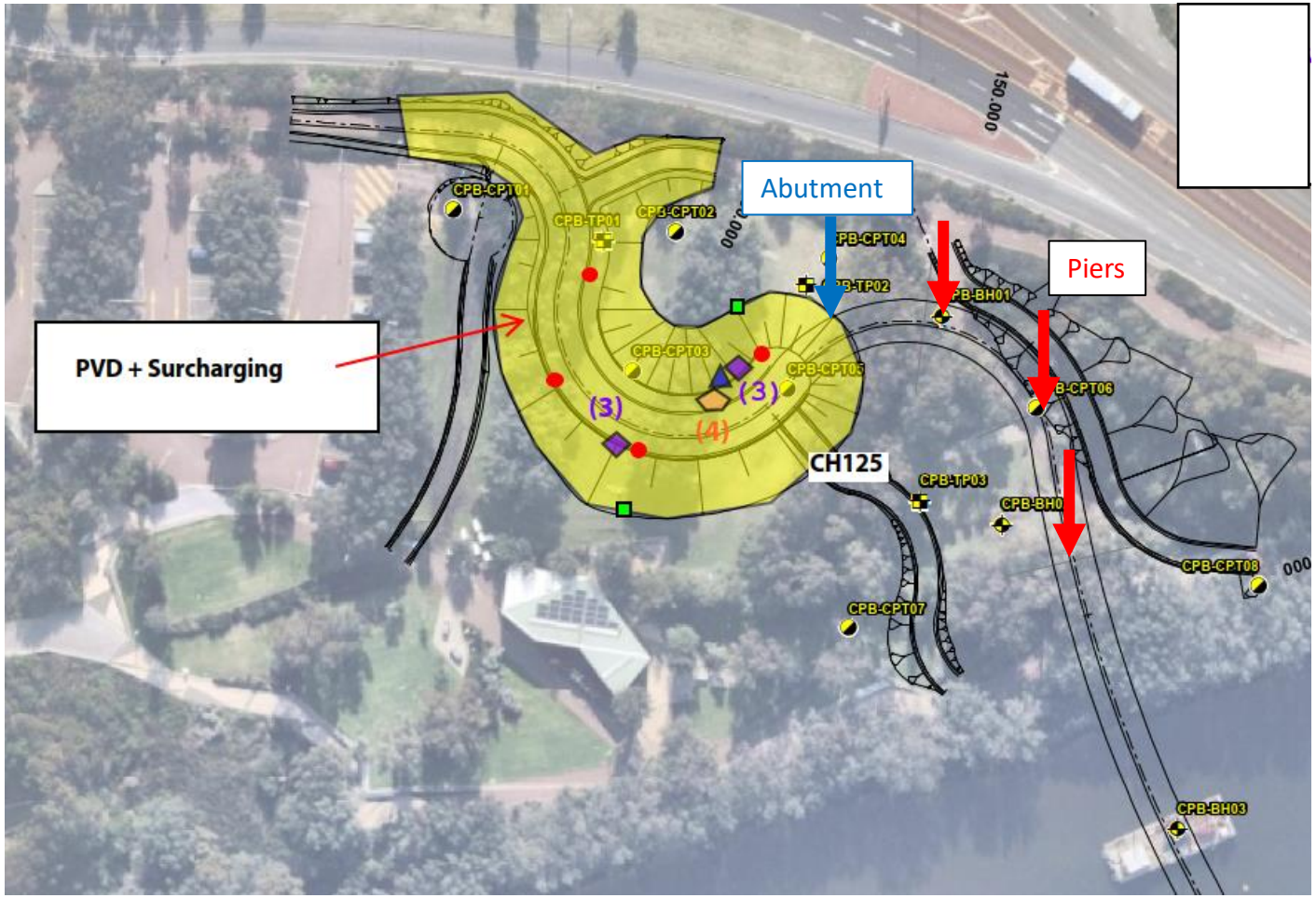
Point Fraser– Ground Improvement

- Total Ground Improvement area 1,700m2
- Approx. 4,000m3 of fill
- Approx. heights of the Embankment – 4.0m
- Perforated Vertical Drains (PVD) + Surcharge (Approx. 9-12 months)
- Expected Settlement over 12 months – 810mm
- 900mm Ø Bored Piles in Abutment and Piers



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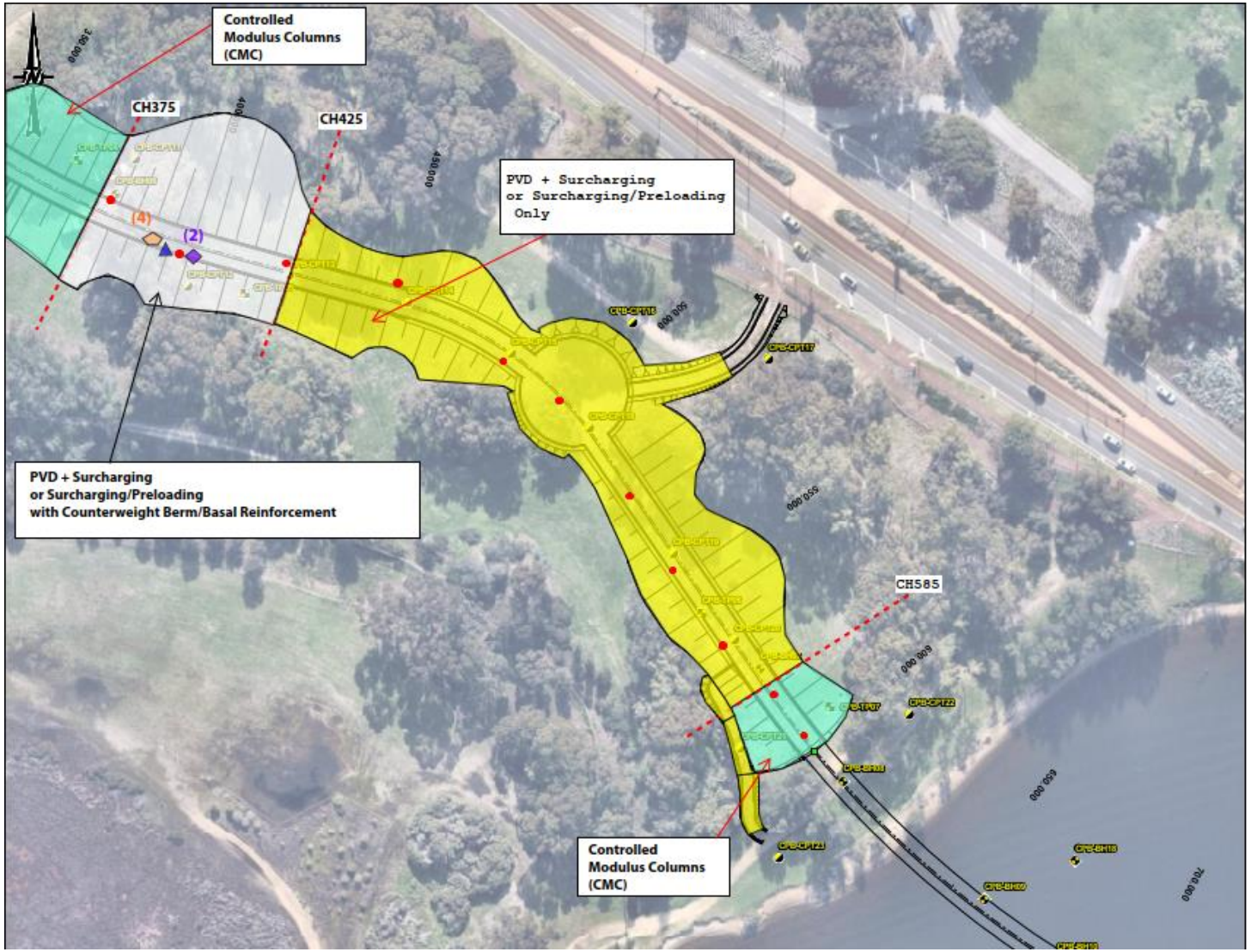
Heirisson Island – Ground Improvement

- Total ground improvement area 6,600 m2
- Fill volume 14,000m3
- CMC (Controlled Modulus Columns)
  - 450mm Ø with 2m grid
  - First 30m behind the abutments
- PVD + Surcharge (Approx. 9-12 months)
- Maximum fill height : 6m with surcharge
- 900mm Ø Bored Piles in Abutments



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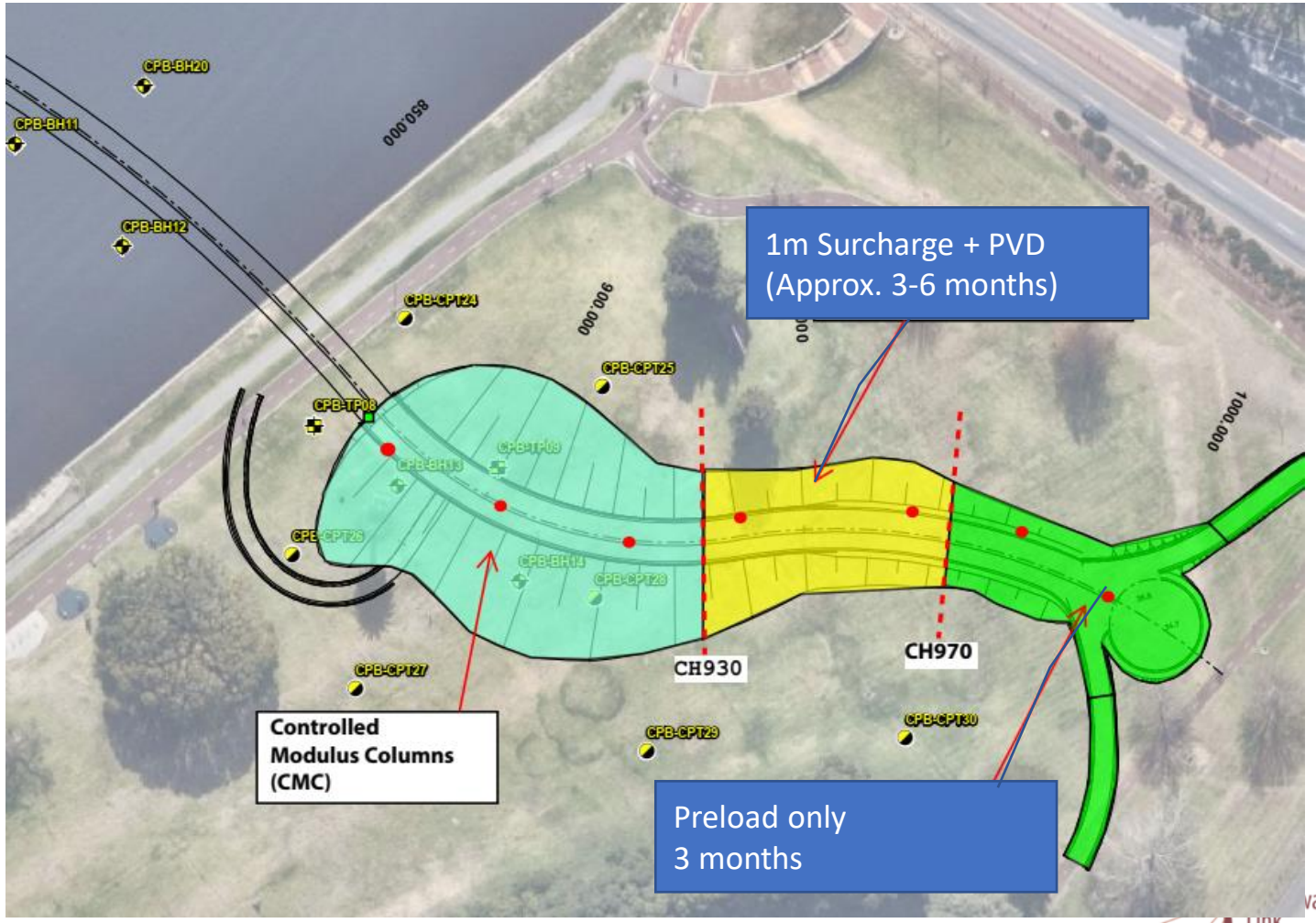
McCallum Park – Ground Improvement

- CMC
  - Treatment area 600m2
  - 450mm Ø with 2m grid
- PVD + Surcharge (Approx. 3-6 months)
- Total ground improvement area 1,600 m2
- Fill volume 3,600m3
- 900mm Ø Bored Piles in Abutment



Point Fraser - Clearing

Causeway Link Alliance

Heirisson Island - Clearing

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McCallum Park - Clearing

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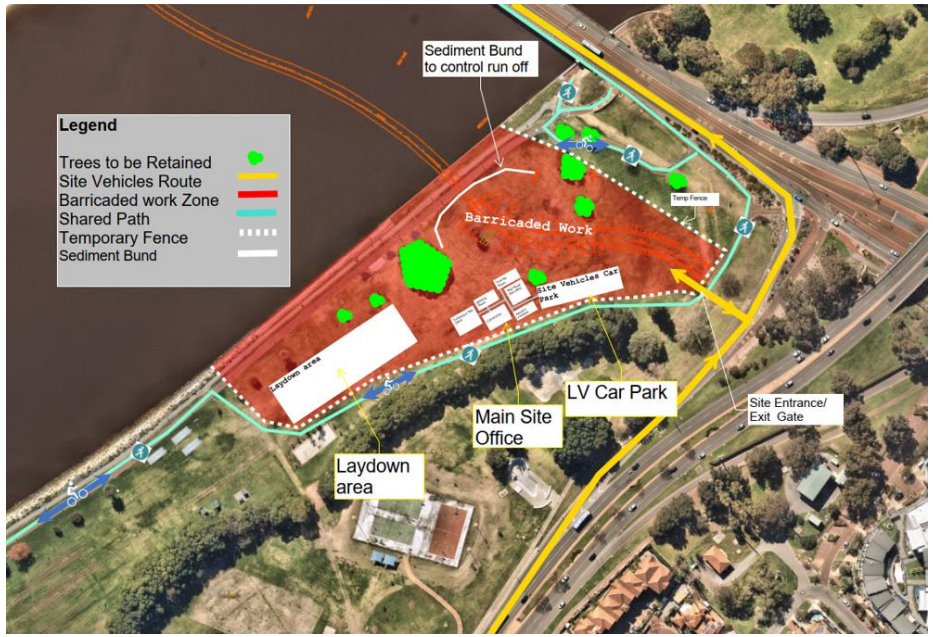
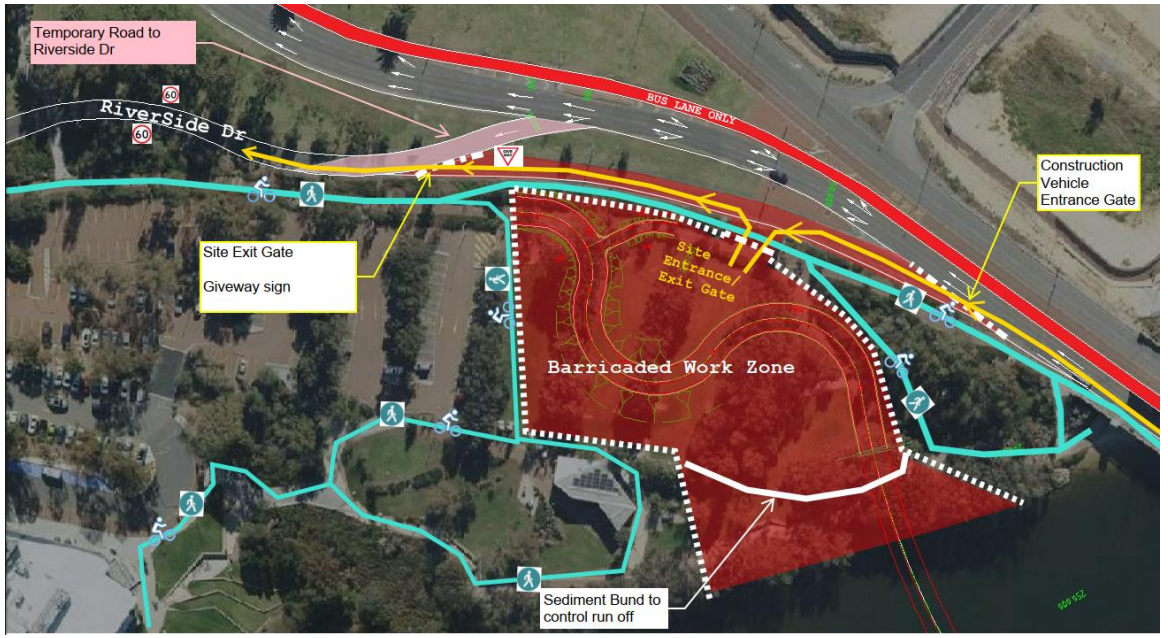
CONSTRUCTION OVERVIEW





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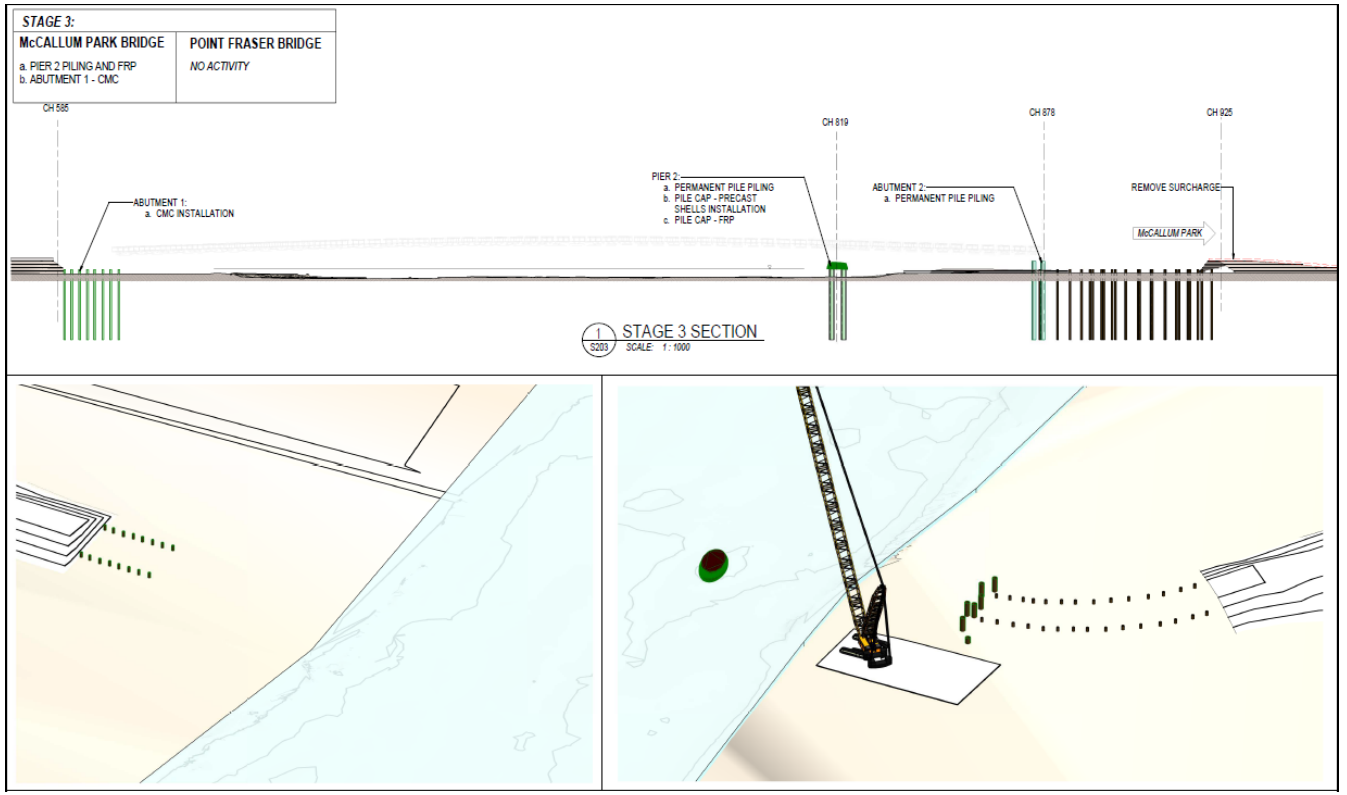
Construction Sequence



Causeway Link Alliance

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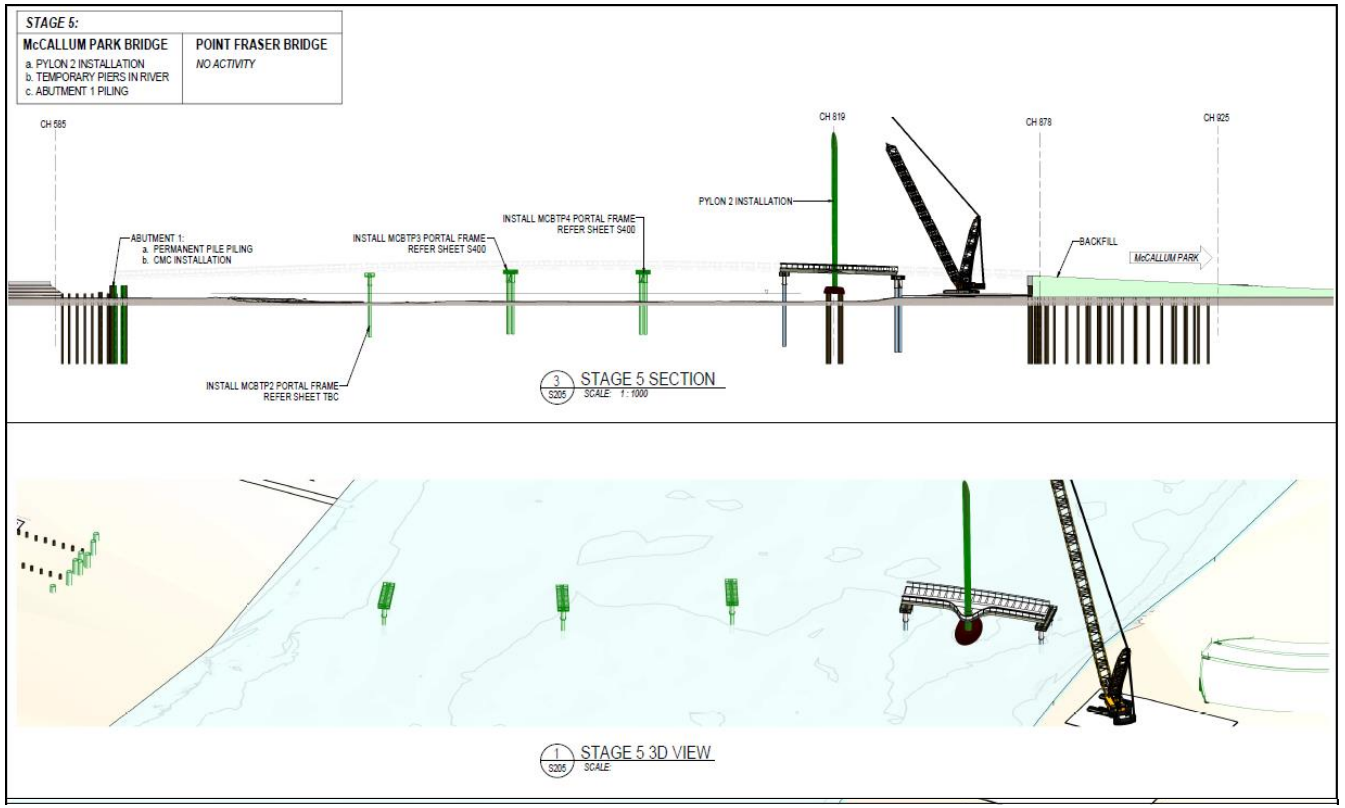
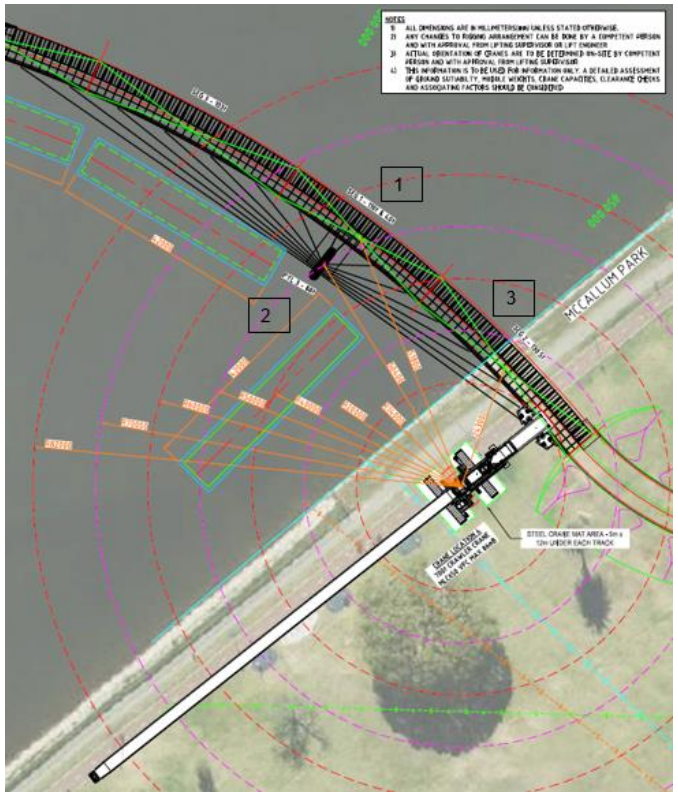
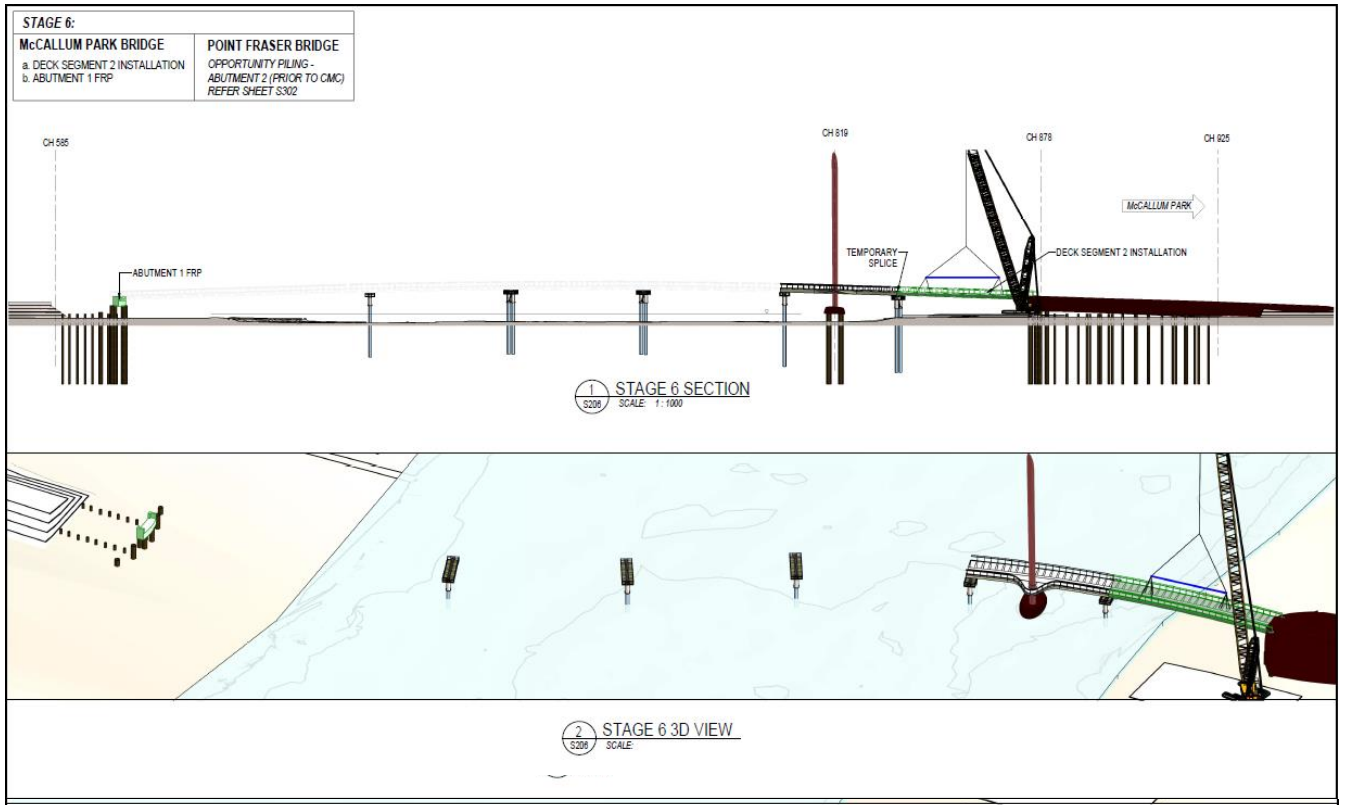




Causeway Link Alliance

Construction Sequence



Causeway Link Alliance

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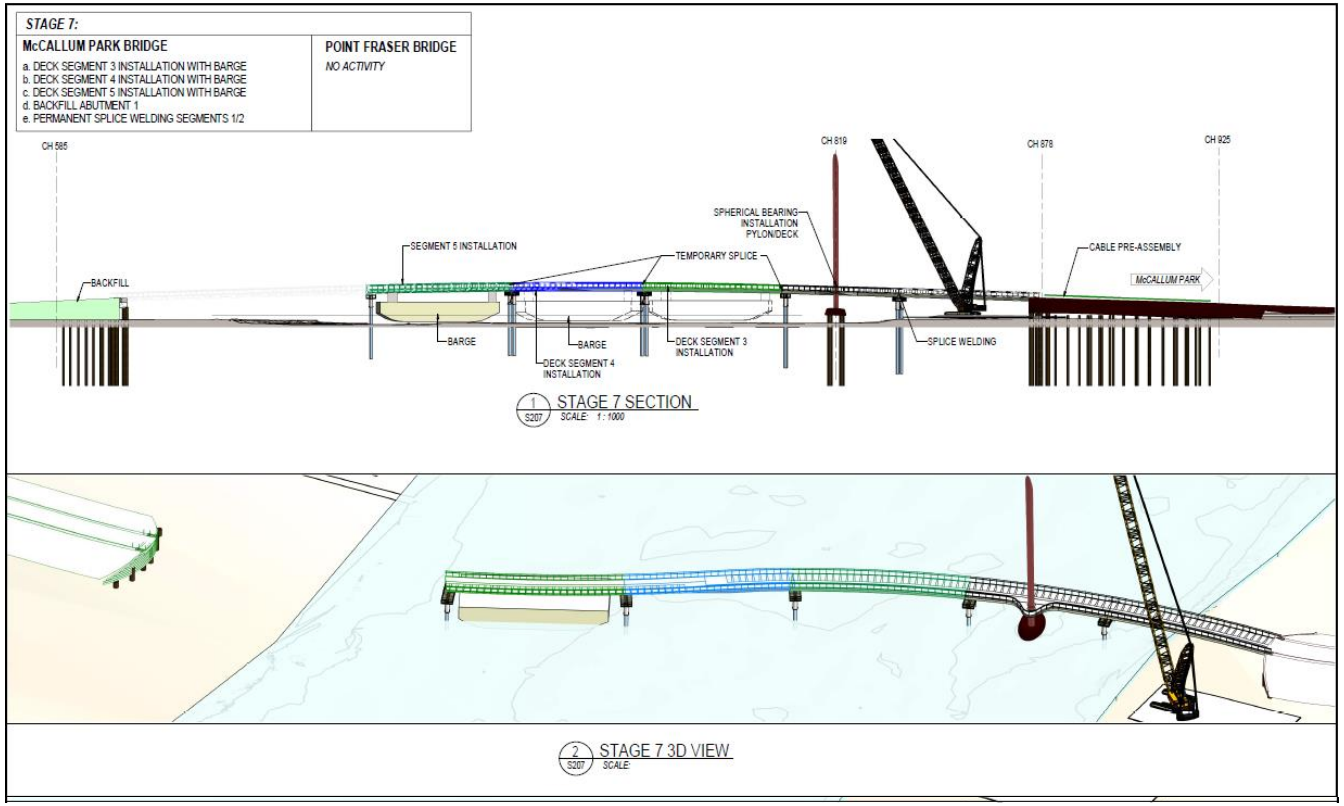
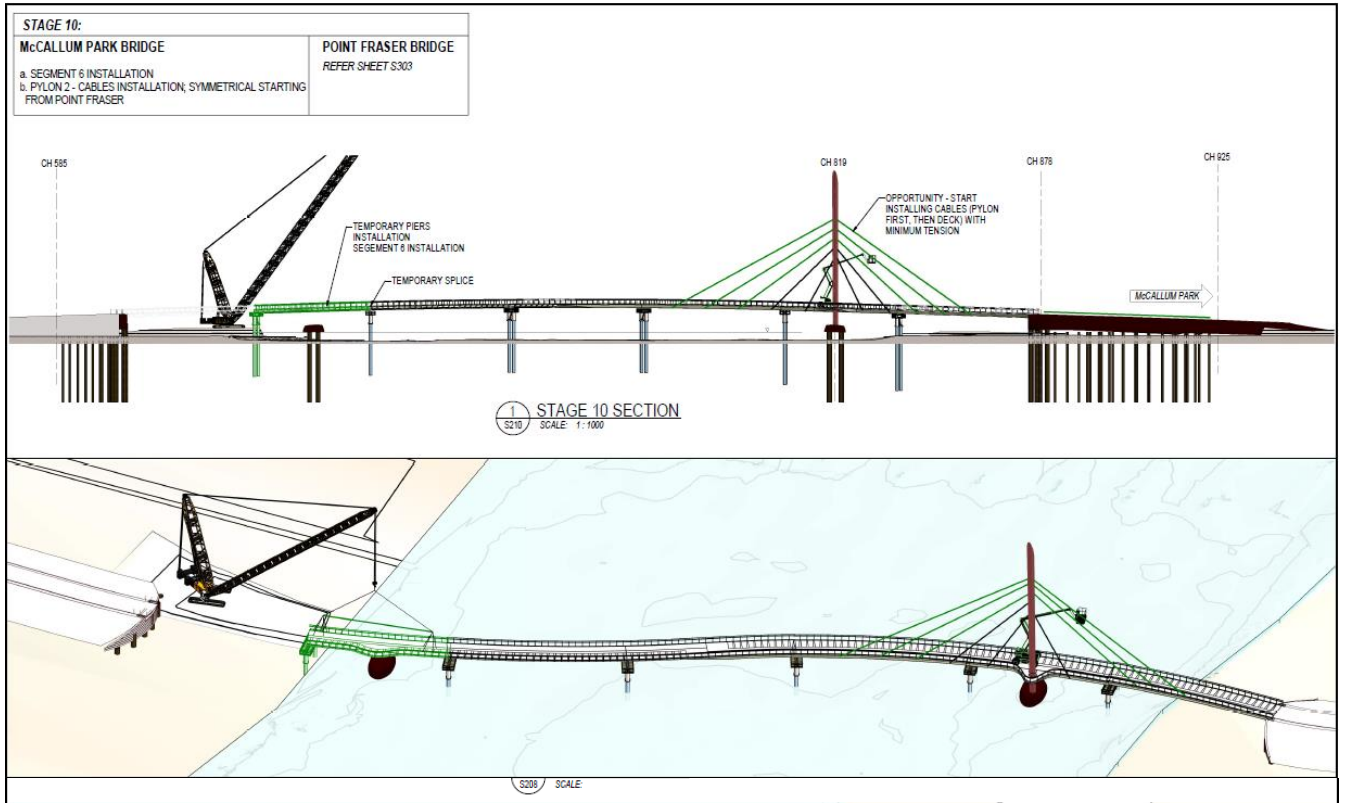
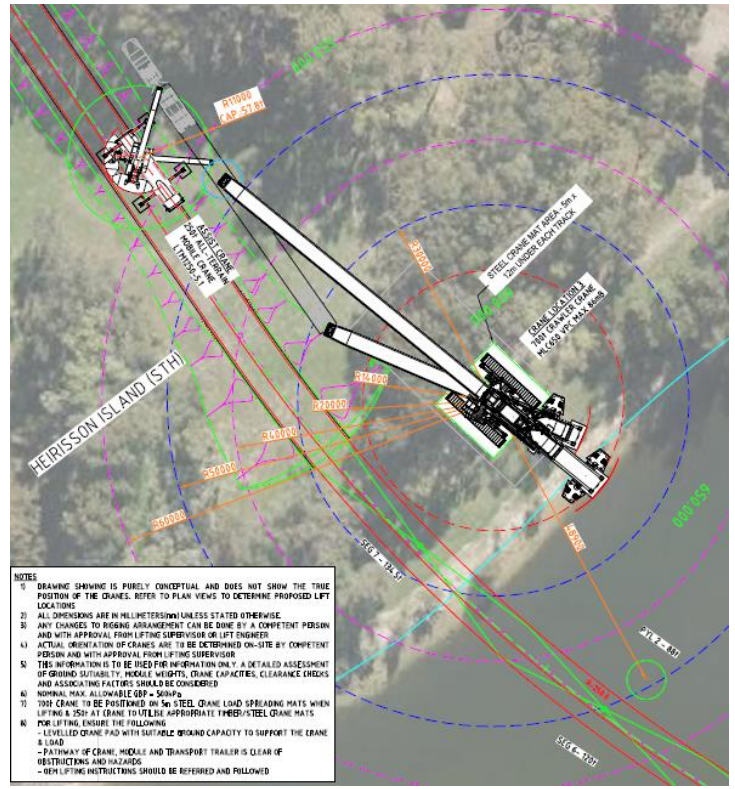


Causeway Link Alliance

Construction Sequence





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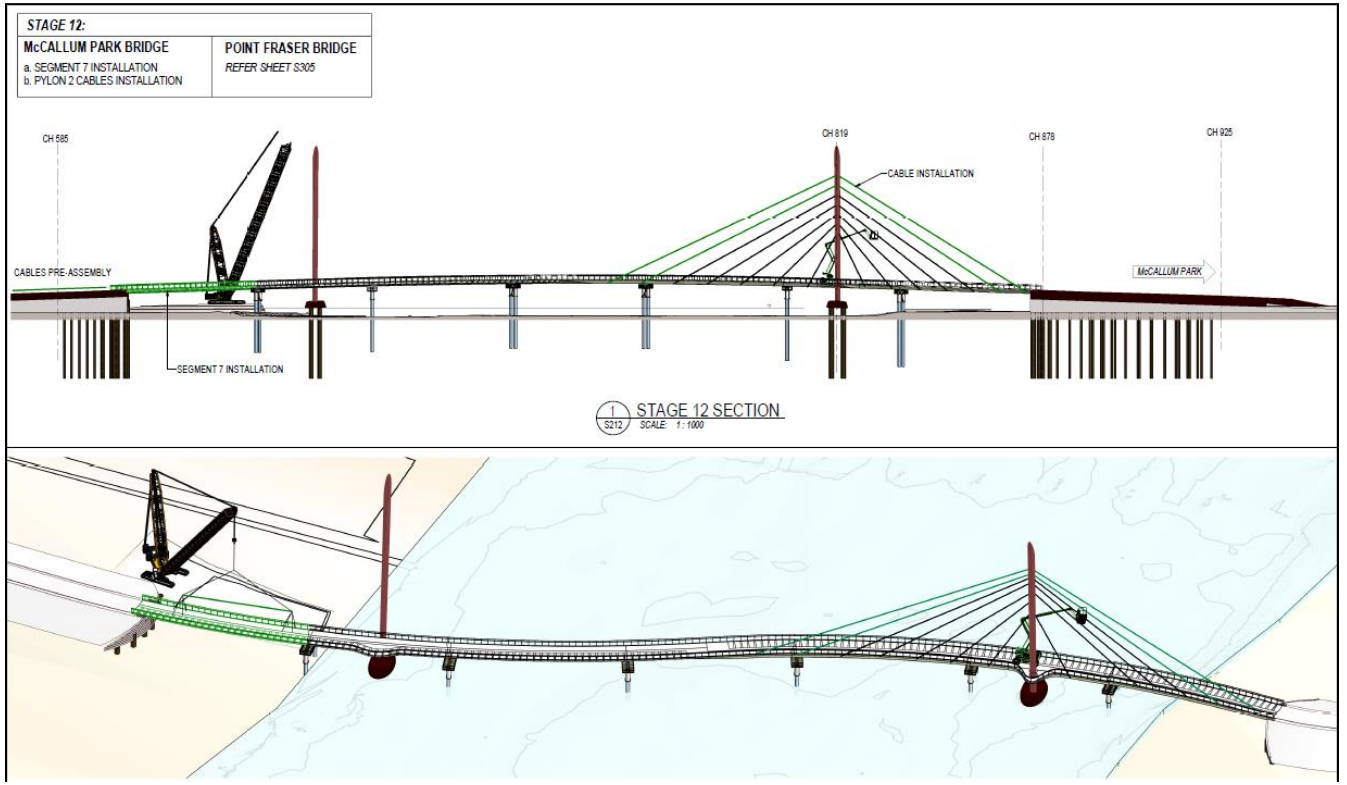

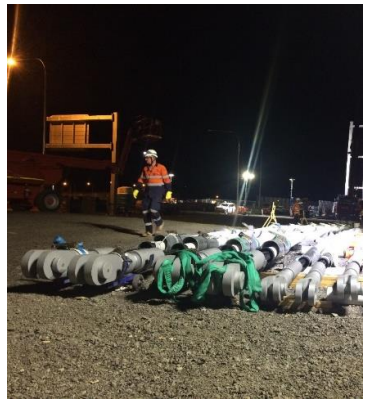

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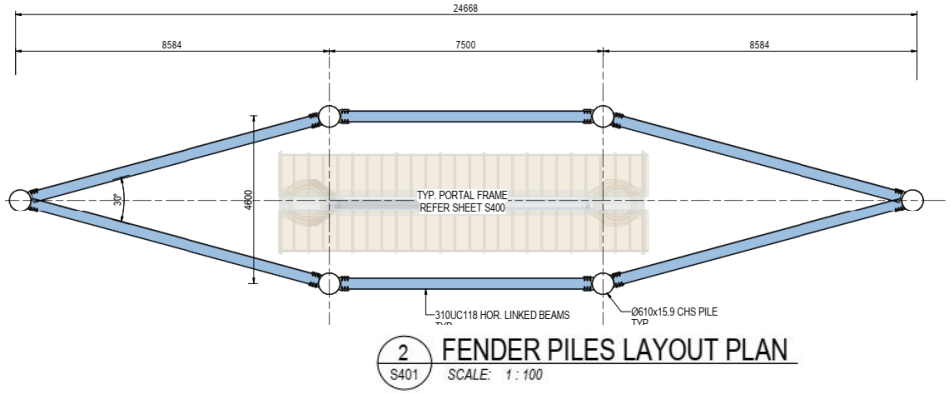
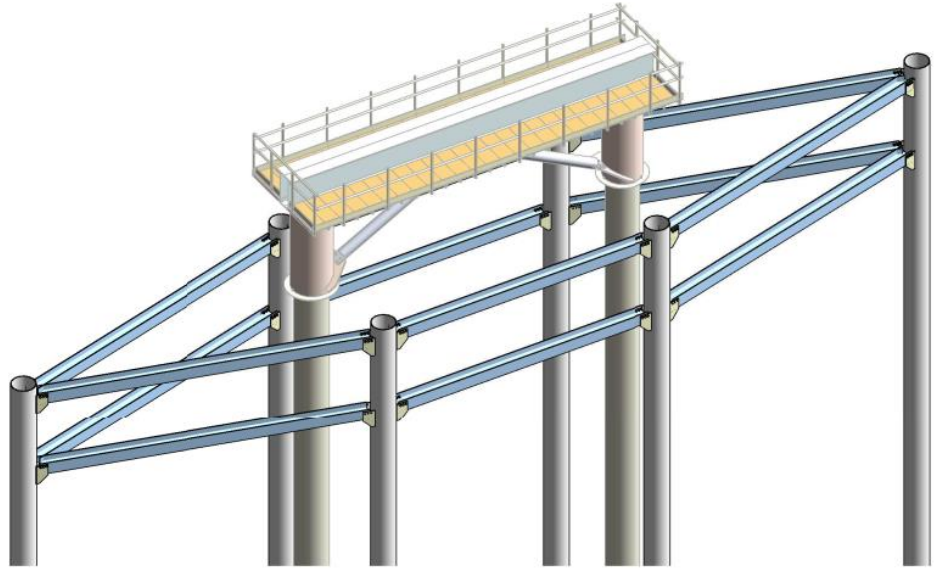
Construction Temporary Works - Protection

- Provision for full temporary fenders around navigation channels / access (Point Fraser and McCallum Park);
- Risk mitigation and protection of the bridge structure from vessel impact.





Construction Mitigation – Environmental

- Reduction in river works – most works by onshore cranes;
  - No cofferdam for pile caps
  - No sheet piling
  - No causeway / jetty
  - Driven piles
  - Temporary piles removed (where possible) or cut off 0.5m below river bed
- Baseline environmental controls considered and allowed for:
  - Detailed Construction Environmental Management Plan and technical appendices
  - Sediment traps and silt curtains
  - Bored piles (on land) to reduce noise
  - Monitoring / fauna observation

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Approvals

- No need for State EP Act or Federal EPBC formal approvals – impacts mitigated and avoidable.
- Development Approval (DA)
  - Main Roads submitted the DA to DPLH
- Section 18 of the Aboriginal Heritage Act 1972
  - Section 18 via Department of Planning, Lands and Heritage received on the 24/5/2022
- Native Vegetation Clearing Permit
  - Main Roads NVCP 818 NVCP in place
- Department of Biodiversity and Conservation Attractions (DBCA) Permit(s) under the Swan and Canning River Management Act 2006 (SCRM Act)
  - Form 7 (2021/0519 Permit P12811) extension request (30/6/2022 to 31/12/2022 for in-river surveys (required by Condition 3 of the permit), and the on-land geotechnical work (CEMP) submitted on 30/5/2022
- Department of Water and Environmental Regulation (DWER) RIWI Act
  - Bed and Banks Permit
  - Dewatering Permit TBC

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Questions & Discussion

Causeway Link Alliance


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2) DEPARTMENT OF TRANSPORT MEETING MINUTES

Minutes of Meetings

Department of Transport (Maritime) Meeting 1

Meeting Date	20 June 2022, 9:00 – 10:10	DoT Maritime Office: 5 Newman Ct, Fremantle
Meeting No.	**C301-PM-MOM-DOTR-0001_20220620**	
Minute Taker	Alex Widgery	
Attendees	**DoT:** Tayla Lewis (TL), Mark Briant (MB) **CLA:** Simon Pattenden (SPP), Alex Widgery (AW), Claire Paddison (CP), Fiona Bettesworth (FB), Niall O Lionaird (NOL)	
Apologies	**CLA:** Kurt Truong (KT)	

ITEM	DESCRIPTION	ACTION BY	DUE
1	**General**		
1.1	▪ Presentation provided by CLA to DoT as per Attachments A.	Noted	
2	**Alignment**		
2.1	▪ CLA have an alignment freeze (mid July) which is critical to design going forward and procurement of long lead items. Input is being sought from stakeholders which may impact on the alignment design. ▪ Bridge vertical clearances used are the same provided by Main Roads WA at tender and inclusive of tender Addendum 4 (and shown in the provided presentation, refer Attachment A). ▪ No changes to clearances proposed. ▪ It's noted the Pt Fraser Bridge is asymmetric over the Swan River towards the Herisson Island side. DoT advised this works in favour of vessels. ▪ DoT advised there's no showstoppers on alignment as shown. ▪ CLA to proceed with design using clearances as shown.	Noted	
3	**Construction**		
3.1	▪ MB – vessel traffic management during construction to be considered by CLA. Preference is to try to have open traffic at all times. Will need to work with commercial operators for any closures. ▪ NL – anticipate closing channel for a day each time a bridge piece is installed, to allow for CLA bridge construction and allowance for safety clearances. ▪ Traffic management plan with full details (e.g. showing locations of barge positions) and channel closures for construction is a key concern for DoT. ▪ DoT interested in CLA construction timeframes and when foreclosures expected. Sooner they receive this information the better they can plan around it. ▪ CLA anticipate McCallum Park bridge to be constructed first with temporary piles removed before moving to the Pt Fraser bridge.	Noted	

ITEM	DESCRIPTION	ACTION BY	DUE
	MB – DoT can put in a diversion whilst works underway with temporary navigational markers, speed limits etc. Need to be mindful of tide times		
4	**Lighting**		
4.1	▪ CLA flagged possible lighting of the bridge cables. ▪ DoT interested in seeing more on the lighting plan and advised that: o DBCA will have strict lighting conditions. o Lights shining up is ok, lights shining down on the water is an issue for water traffic. o No flashing, red, green, yellow, white lights or anything that may conflict with navigation lights. ▪ Bridge deck will need to have lighting suitable for pedestrians / cyclists as defined by Main Roads. ▪ CLA to determine lighting requirements cognisant of all stakeholder inputs (Main Roads / DBCA / DoT).	Noted	
5	**Stakeholders**		
5.1	▪ DoT can provide advice on additional stakeholders for CLA and put out alerts on DoT websites. DoT have a boating community newsletter with 70,000 subscribers. ▪ Signage relating to bridge construction to be provided by CLA. Main Roads style signage to be used. DoT can provide advice on locations for signs (e.g. boat ramps at Coode St, Belmont and Maylands). ▪ CLA to refer to Aquatic Calendar (DoT website) which shows upcoming events / groups using the Swan River. ▪ Summer weekends are the busiest time on the river. ▪ DoT recommend CLA engage with commercial vessels, Rowing WA, Boating WA, Marine Tourism WA, Marathon Club and high power boat users.	Noted	

ATTACHMENTS:

A) Causeway Pedestrian & Cyclist Bridges, Department of Transport (Maritime) – Concept Design, 20 June 2022 presentation (CLA doc. No. C301-CSE-PRS-DoT Maritime-20220620)

Minutes of Meetings

Department of Transport (Urban Mobility) Meeting 1

Meeting Date	23 June 2022, 15:00 – 16:20	DoT Office: 140 William St, Perth
Meeting No.	C301-PM-MOM-DOTR-0002_20220623 Rev 1	
Minute Taker	Alex Widgery	
Attendees	**DoT:** Andrew McClurg (AM), Justin McKirdy (JM) **CLA:** Simon Pattenden (SPP), Alex Widgery (AW), Claire Paddison (CP), Kurt Truong (KT),	
Apologies	**DoT:** Ben Mountcastle **CLA:** Niall O Lionaird, Mathieu Lemoine, Fiona Bettesworth	

ITEM	DESCRIPTION	ACTION BY	DUE
1	**General**		
1.1	▪ Presentation provided by CLA to DoT as per Attachments A. ▪ DA process - plan is for singular submission. ▪ Construction sequencing to have one bridge constructed at a time. There may be possible channel closures for a day as discussed at DoT Maritime meeting (21/06/22). ▪ Cycle path across the bridge will be classified as a Shared Path (not a Principal Shared Path). ▪ Key drivers for DoT: o Functionality of the areas, day / night use, safety, attractiveness, cycling connectivity	Noted	
2	**Lighting**		
2.1	▪ Lighting strategy to be determined. ▪ DoT raised question of whether design principle of the bridge pylon's digging sticks / boomerang will be diminished with the bridge lighting. To be considered by CLA. ▪ Consideration of colour coordination similar to other nearby bridges (e.g. Matagarup) should be considered by CLA.	Noted	
3	**Point Fraser**		
3.1	▪ Key items for DoT include: o Providing continuity of route. o Want to work with City of Perth to maintain separate path along the river front. o Second set of steps is preferable at Pt Fraser. ▪ Shared path grades to be limited to 3%. Design speed at Fraser Point in the order of 20-30km/h. ▪ Sight lines to shared path / path connection points are critical. ▪ CLA to explore alternative methods for traffic calming e.g. pavement marking, pavement materials, planting of vegetation outside of critical sight lines could assist in making cyclists instinctively slow down. Pavement markings provide opportunity to provide urban art as well as safety.	Noted	

ITEM	DESCRIPTION	ACTION BY	DUE
4	**Herisson Island**		
4.1	▪ Discussion around materials used for paths on Heirisson Island and whether an unpaved gravel surface would be considered. DoT tendency would be to treat the paths to cater for a larger more inclusive audience. ▪ CLA to consider surface characteristics for paths. Alternatives to typical pavement / asphalt colours to be considered by CLA. ▪ Vehicular access to Heirisson Island to be considered by CLA. Current design intent is to use the two existing gates and access points from the existing Causeway and vehicle movement along pathways. CLA to take into consideration possible events that may require larger vehicular access and accommodate for this e.g. set-up arrangement for the Skyworks annual event	Noted	
5	**McCallum Park**		
5.1	▪ Vehicle access over the bridge is required. ▪ CLA to assess option of bollards at perimeters as opposed to on the bridge. CLA to discuss this approach with stakeholders (City of Perth, Town of Victoria Park). ▪ DoT concern for possible conflict points off / onto the bridge and between new and old bridges. CLA to define conflict points and address pedestrian / cycling points. ▪ Slight separation between pedestrian and cyclist paths preferred. Management of the pedestrian / cycling interactions and conflicts to be addressed in design. ▪ Staircase width to be determined by CLA. Single file staircase width not preferred. Suggestion of a minimum width to accommodate 4x people across (2 up / 2 down). To allow for larger public events.	Noted	
6	**Alignment**		
6.1	▪ Maximum 3% grades for bridges to be used as per presentation slides. ▪ Pavement marking strategy is not decided upon but the bridge will not have a typically defined shared path linemarking arrangement (i.e. edgelines / centreline). Whilst the pavement marking will not be to a typical standard and will have its own unique approach, it's important from DoT perspective that the path is suitably delineated and legible for all users. ▪ DoT advised 20m offset at both bridge abutments was allowed for in earlier project phases to ensure enough space at the river front without creating an imposing space and to provide open visibility / permeability of the area. CLA is carrying through into detailed design. ▪ CLA seeking to lock in the alignment design to allow for other disciplines on the critical design path to progress and allow for	Noted	

ITEM	DESCRIPTION	ACTION BY	DUE
	procurement of long lead items. Stakeholder input being sought on the alignment for any showstoppers or changes to the alignment. No showstoppers or concerns raised.		
7	**ISC Requirements**		
7.1	▪ Separate session to be held between CLA and DoT for ISC requirements.	Noted	

ATTACHMENTS:

A) Causeway Pedestrian & Cyclist Bridges, Department of Transport (Maritime) – Concept Design, 20 June 2022 presentation (CLA doc. No. C301-CSE-PRS-DoT Maritime-20220620)

3) LOCAL GOVERNMENT AUTHORITIES MEETING MINUTES

Minutes of Meetings

City of Perth – Community Stakeholder Engagement (CSE)

17-05-2022	13:00	Microsoft Teams
Meeting No.	**C301-CR-COP-MOM-0001_20220517**	
Minute Taker	Clair Paddison	
Attendees	**Main Roads WA and Causeway Link Alliance** CP - Claire Paddison , Stakeholder and Community Manager CLA - Claire.Paddison@361degrees.com.au / 0437 205 218 SX - Sam Xanthis, Project Communications, MRWA – sam.xanthis@mainroads.wa.gov.au **City of Perth** KM - Kathlin Mayer; Stakeholder Engagement Lead – Cycling and Walking projects SA - Sandra Arnold; Customer Experience Manager RT - Renee Taiatini – Community Development MC - Mario Claudio – Program Manager, Perth City Deal DH - Daniel High – Economic Development YH - Yvonne Honmon – Economic Development CA - Clint Aitken – Economic Development	
Apologies	KA - Kelly Eadie, Communications	

ITEM	DESCRIPTION	ACTION BY	DUE
1	**Introductions and Project Overviews**		
1.1	**Introductions and Overview** Alliance team and City of Perth team introduced themselves CP provided an overview and status update for Causeway Pedestrian and Cyclist Bridges inc: ▪ Project Schedule • Design Concepts – inc landscaping (still being worked through and seeking additional funding for some elements) ▪ Proposed traffic detours and potential tree clearing on Point Fraser and Heirisson Island – identified as key social risks that will be mitigated through design and construction methodology and project communications activities. ▪ Stakeholder engagement and communications overview – inc discussion about extensive engagement undertaken by MRWA to date.	Note	
2	**Engagement and Communications**		
2.1	**Pert City Deal** ▪ CoP Co-ordinator Graham Mason for all Media/ Ministerial liaison ▪ Ensure familiarisation with branding requirements for all signage and Communications Plan	Note	

ITEM	DESCRIPTION	ACTION BY	DUE
2.2	**Businesses on The Point** ▪ Ongoing debate between City and Point Fraser businesses in regard to parking, access, use of additional bays outside of formal parking arrangements – need to be aware of impacts and mitigate them early through proactive engagement. ▪ Lessons Learnt - make it clear the lines of communications for construction enquiries, so they come through CLA rather than the CoP ▪ About Bike Hire Tenancy – key engagement will be required. ▪ CP has engaged with Paul Warren at the City to discuss further business engagement approach	Note CP	 W/C 30/05
2.3	**Other Stakeholders and Issues** ▪ Pedestrians and cyclists – consider how people move around the boundary of the site – inc the underpass at Point Fraser ▪ Will require a range of comms for pedestrians and cyclists different to Road Works notifications ▪ Connectivity for when people disembark from the Bridge – and consistency of signage. Tie ins and safety between pedestrians and cyclists also important. ▪ Impact on Trees – CLA advised significant input from stakeholders on design and tree retention ▪ CLA technical briefing with CoP will explore this more ▪ CLA exploring how impacts can be mitigated from the temp crane landings and other temporary works		

ITEM	DESCRIPTION	ACTION BY	DUE
2.4	**Customer Experience** ▪ CLA reiterated that 138 138 main point of call for the public and they will be directed to MRWA Customer Information line ▪ Contact Claire direct from CoP Engagement Team to resolve issues. ▪ City of Perth offered opportunities to share Project information via: o Engage Perth Platform (KM) o Content for social media content (KE) o Keeping key community groups informed inc:(RT) Disability Access and Inclusion Advisory Group o East Perth Community Group – walking Group o Elders Advisory Group. o CP to ask the Project's Matagarup Elders Group (MEG) about how best to keep CoP Elders Advisory Group informed of project information o CP advised CLA are hosting a kickoff meeting with the MEG at Heirisson Island with a coffee van on Monday 30 May. o RT to send through dates of meetings as an FYI ▪ CoP will share their major events calendar and also any data from Tourism / visitor research, that would be useful in informing design considerations ▪ CLA and CoP to Establish Engagement Meetings aligned with key project milestones ▪ CoP members on the MRWA Steering Committee will be key to providing advice in and out of the project	Note CP RT VH CP Note	 30/05 W/C 30/05 As required

Minutes of Meetings

City of Perth – Concept Design Technical Meeting

19-05-2022	13:00 – 14:00	Microsoft Teams
Meeting No.	**C301-PM-MOM-COP-0001_20220519**	
Minute Taker	Niall O Lionaird	
Attendees	**Main Roads WA and Causeway Link Alliance (CLA)** MK - Mike Kapitola, Project Director, Main Roads - mike.kapitola@mainroads.wa.gov.au AS - Alanna Stern, Project Manager, Main Roads - Alanna.Stern@mainroads.wa.gov.au NL -Niall O Lionaird, Construction Manager - niall.olionaird@civmec.com.au MR - Michelle Rhodes, Sustainability & Environment - michellerhodes@360environmental.com.au TC - Tim Cawley, Design Project manager – tim.cawley@wsp.com SX - Sam Xanthis, Project Communications - sam.xanthis@mainroads.wa.gov.au AB – Anthony Brookfield, Landscape Architect - abrookfield@hassellstudio.com ML – Mathieu Lemoine, Senior Project Engineer - mathieu.lemoine@seymourwhyte.com.au PR – Peter Ricciardello, Alliance Director - peter.ricciardello@civmec.com.au **City of Perth** AM – Amanda Mannolini, Amanda.Mannolini@cityofperth.wa.gov.au MC – Mario Claudio PW – Paul Warren BH - Blake Humble	
Apologies	Claire Paddison, Stakeholder and Community Manager claire.paddison@361degrees.com.au	

ITEM	DESCRIPTION	ACTION BY	DUE
1	**Introductions and Presentations**		
1.1	Alliance team presentation of preliminary design and construction details.	Note	
1.2	Copy of presentation to be sent to CoP.	NL	23/05
1.3	Project schedule requires alignment freeze by beginning of July.	All	30/06
1.4	Subsequent meetings to be arranged to discuss project in more detail so that formal design submissions at 15%, 85% and 100% are fully understood prior.	Note	
2	**Commentary on the Presentation**		
2.1	MC pointed out that Allan Mason (CoP General manager Infrastructure and Operations) needs to be consulted.	CP	02/06
2.2	PW questioned the blue area adjacent to About Bike Hire at Point Fraser. TC confirmed it was a drainage basin with landside drainage of path required to be treated for pollutants. The location can be reviewed during design development.	TC	02/06
2.3	CoP queried 3% grades on bridges/ramps and how cyclist speed would be controlled, also what treatment at tie in where separated path ties in to shared path. TC mentioned grade is fixed but other controls such as line marking, rumble strips etc. would be investigated.	TC	02/06
2.4	PR confirmed CLA very conscious during RFP of need to control cyclist speeds and consideration given in design.	NL	25/05
2.5	Lessons from Elizabeth Quay to be considered.	Note	
2.6	AM mentioned importance of linking pathways back into On the Point businesses. Meeting to review connectivity in detail to be arranged.	AM	02/06

ITEM	DESCRIPTION	ACTION BY	DUE
2.7	Traffic management from Point Fraser site will be for Main Roads to approve.	Note	
3	**Engagement of Workshops**		
3.1	AM to advise points of contact for future discussions with various disciplines	AM	25/05
3.2	NL to make contact regarding future meetings.	NL	25/05

Minutes of Meetings

City of Perth – Landscaping and Design Overview

9 June 2022	9:00 – 10:00	Teams
Meeting No.	**C301-DE-MOM-COP-0001_20220609**	
Minute Taker	Alanna Stern	
Attendees	**Causeway Link Alliance (CLA)** AS – Alanna Stern, Project Manager Alanna.Stern@mainroads.wa.gov.au AN – Anthony Brookfield, Landscape Architect - abrookfield@hassellstudio.com SP – Simon Pattenden, Designer Simon.Pattenden@wsp.com **City of Perth:** AM – Amanda Mannolini Amanda.Mannolini@cityofperth.wa.gov.au AT – Alasdair Thom GB – Gerson Bermudez CB – Craig Best SS – Sarik Salim BK – Blake Humble.	
Apologies	CLA: Niall O Lionaird	

ITEM	DESCRIPTION	ACTION BY	DUE
	Point Fraser		
	AB presented landscaping and alignment at Point Fraser ▪ Discussions on path connections, gathering places, passive surveillance, seating options along rivers edge, Optional Works. ▪ Mostly planting throughout Point Fraser. There is opportunity to integrate lawn, however that would require retic. COP confirmed landscaping/planting is preferred. ▪ SP confirmed headroom at abutment is 1.7m and clearance with path underneath is 2.5m		
	BK – Concerns regarding meeting new WHS laws when maintaining the high embankments. ▪ Safety in design workshops will be undertaken ▪ Consideration to be given to PPE required for maintenance of embankments – are harnesses required? ▪ SP to send cross sections to COP to show embankment slopes. ▪ BK indicated that there are no current COP standards or guidelines in regarding to maintaining high embankment. AS to review Main Roads guidelines.	SP AS	10/6/22 18/6/22
	AM – Location of drainage basin at Bike Hire to be reviewed. ▪ SP – basin was included as a placeholder, but the location hasn't been finalized – will be reviewed as part of design process.	SP	Ongoing
	AM – Interest Point 3 is located adjacent the access gate and alongside the road (noisy) – suggested to consider a more appropriate location and include more planting along roads edge to reduce noise. AB to investigate.	AB	Ongoing

ITEM	DESCRIPTION	ACTION BY	DUE
	AM – A focus in the design is to funnel pedestrians into the tenancy at On The Point: ▪ AM – will 3D modelling be available to see what the views will be as pedestrians walk across the bridge – direct views of tenancy desirable. ▪ AS indicated that CLA need to balance tree retention and the views to the tenancy. ▪ AB/SP – location of pedestrian stairs off the bridge to be reviewed to funnel pedestrian toward the tenancy, as opposed to the river's edge. ▪ AM – wayfinding an important aspect of the design that COP are interested in. AM will send COP Wayfinding guidelines to CLA for consideration in landscaping and design.	AB/SP AM	Ongoing 10/6/22
	AM – Queried Main Roads / LGA responsibility areas for maintenance ▪ AS – Asset Maintenance Agreement to be established, but typically Main Roads responsibility extends 5m behind the abutment face to encompass the approach slab.	AS	Ongoing
	Heirisson Island		
	AB presents the landscaping and design on Heirisson Island		
	Best outcome of Heirisson is a low maintenance solution for the embankments.		
	Discussions regarding the treatment of the river wall ▪ AS – CLA will aim to minimize the impacts to the river wall and any damage will be reinstated ▪ AB – Interest point at the rivers edge is an enhanced option ▪ COP indicated that the wall on the city side is failing – AS confirmed that works on the wall is not within CLA's scope, however we need to consider tie-in with COP future plans.		
	Toilet block ▪ COP have plans to revamp the toilet block on the carpark side of the island – CLA to consider options to relocate and integrate the toilet block in the landscaping design. ▪ COP to investigate what services will be required. ▪ AS to book a separate discussion to discuss the toilet block (funding, scope, etc).	AS	24/06/22

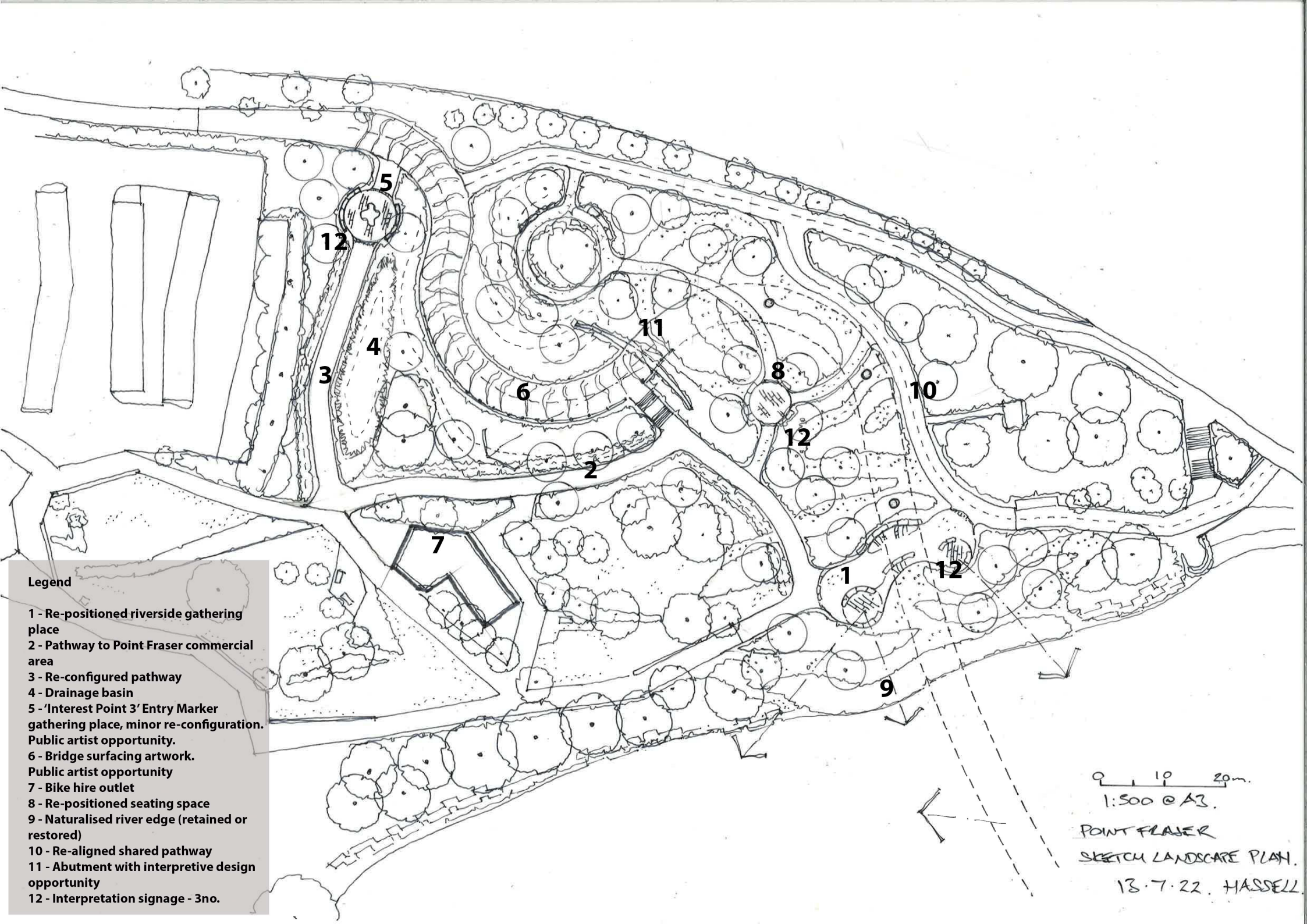
Minutes of Meetings

City of Perth – Concept Design Technical Meeting

18-07-2022	9:00 – 10:00	Microsoft Teams & COP
Meeting No.	**C301-PM-MOM-COP-0001_20220718**	
Minute Taker	Amandine Daniel	
Attendees	**Main Roads WA and Causeway Link Alliance (CLA)** AD – Amandine Daniel, Alliance Design Interface Manager amandine.daniel@seymourwhyte.com.au KT - Kurt Truong - Design Interface Coordinator Kurt.Truong@causewaylink.com.au AB – Anthony Brookfield, Landscape Architect - abrookfield@hassellstudio.com JT - Jill Turpin, Landscape Architect - jturpin@hassellstudio.com CP - Claire Paddison, Stakeholder and Community Manager - claire.paddison@361degrees.com.au **City of Perth** AM – Amanda Mannolini, Amanda.Mannolini@cityofperth.wa.gov.au MC – Mario Claudio PW – Paul Warren BH - Blake Humble SC – Steve Cummings GS - Gary Singh **DBCA** MN - Senior Environmental Officer (Special Projects) Rivers and Estuaries Branch metrorivercrossings@dbca.wa.gov.au	
Apologies	Claire Paddison, Stakeholder and Community Manager claire.paddison@361degrees.com.au MK - Mike Kapitola, Project Director, Main Roads - mike.kapitola@mainroads.wa.gov.au AS - Alanna Stern, Project Manager, Main Roads - Alanna.Stern@mainroads.wa.gov.au NL -Niall O Lionaird, Construction Manager - niall.olionaird@civmec.com.au MR - Michelle Rhodes, Sustainability & Environment - michellerhodes@360environmental.com.au SX - Sam Xanthis, Project Communications - sam.xanthis@mainroads.wa.gov.au ML – Mathieu Lemoine, Senior Project Engineer - mathieu.lemoine@seymourwhyte.com.au PR – Peter Ricciardello, Alliance Director - peter.ricciardello@civmec.com.au	

ITEM	DESCRIPTION	ACTION BY	DUE	STATUS
1	**Introductions and Presentations**			
1.1	Alliance team presentation of preliminary design and construction details.	Note		
1.3	Project schedule requires alignment freeze by beginning of July.	All	30/06	
1.4	AD mentioned DA submission is expected to be submitted on the 7/8/22.	All	7/8/22	
2	**Design – Point Fraser**			
2.1	AD presented mark up to COP following up on Steering committee meeting outlining base scope and options updated.			
2.2	AB – presented proposed updated sketch to COP to discuss alignment of the secondary path / layout at Point Fraser and drainage basin location.			

ITEM	DESCRIPTION	ACTION BY	DUE	STATUS
2.3	MC, BH, AM provided comments on layout sketch. - Stairs orientation - Cyclist / pedestrian interaction configuration			
2.4	ACTION – AD to circulate sketch to COP for comments	AD	20/7/22	
2.5	ACTION – MC to provide the collective COP feedback	MC	By 25/7/22	
2.6				
2.7				
3	**Design – Heirisson Island**			
3.1	AD presented mark up to COP following up on Steering committee meeting outlining base scope and options updated. - Path only on one side - Central node reconfiguration			
3.2	CP advised a walk with the MEG female group will be held on the 18/7/22 on Heirisson Island to look at Alignment and its impact	CP	18/7/22	
3.3	AB – presented proposed updated sketch to COP			
3.4	MC, BH, AM provided comments on layout sketch.			
3.5	ACTION – AD to circulate sketch to COP for comments	AD	20/7/22	
3.6	ACTION – MC to provide the collective COP feedback	MC	By 25/7/22	
4	**Design – CCTV**			
4.1	AD – mentioned RFI 01 with regards to CCTV requirement was sent to COP			
4.2	GS - Gary Singh requested the Alliance to provide a roll plot of the alignment to assist with providing comments ACTION – Kurt to provide Roll Plot to City of Perth	KT	20/7/22	
4.3	ACTION - GS – to provide response to the RFI01	GS / MC	By 25/7/22	



Legend

1 - Re-positioned riverside gathering place
2 - Pathway to Point Fraser commercial area
3 - Re-configured pathway
4 - Drainage basin
5 - 'Interest Point 3' Entry Marker gathering place, minor re-configuration. Public artist opportunity.
6 - Bridge surfacing artwork. Public artist opportunity
7 - Bike hire outlet
8 - Re-positioned seating space
9 - Naturalised river edge (retained or restored)
10 - Re-aligned shared pathway
11 - Abutment with interpretive design opportunity
12 - Interpretation signage - 3no.

* ARBORIST TO ADVISE ON TREE RETENTION/PRUNING REQUIREMENTS.

HEIRISSON ISLAND - SKETCH LANDSCAPE PLAN

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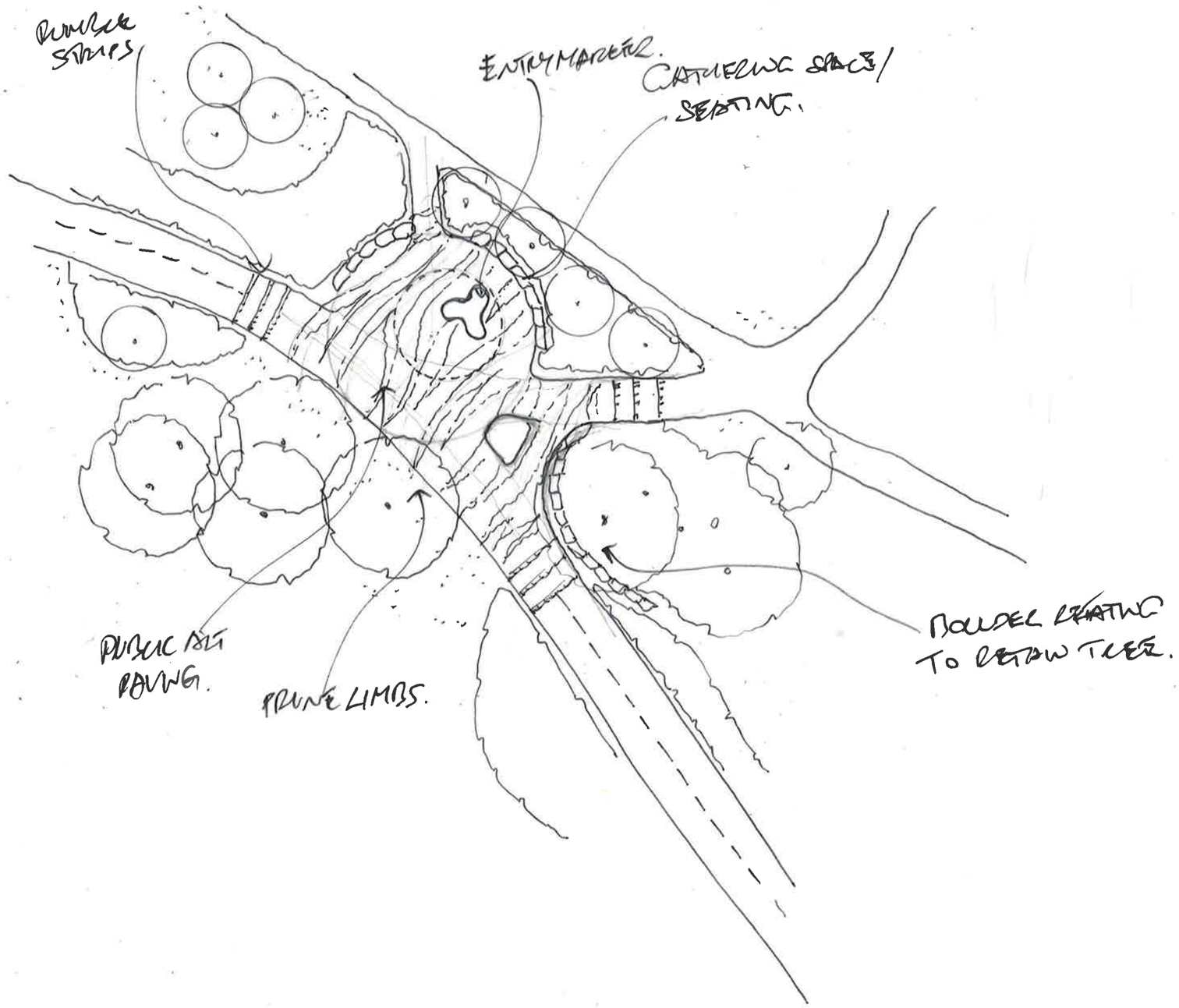

HEIRISSON ISLAND - CENTRAL NODE OPTION 3.
14.7.22 HASSELL 1:500@A3.

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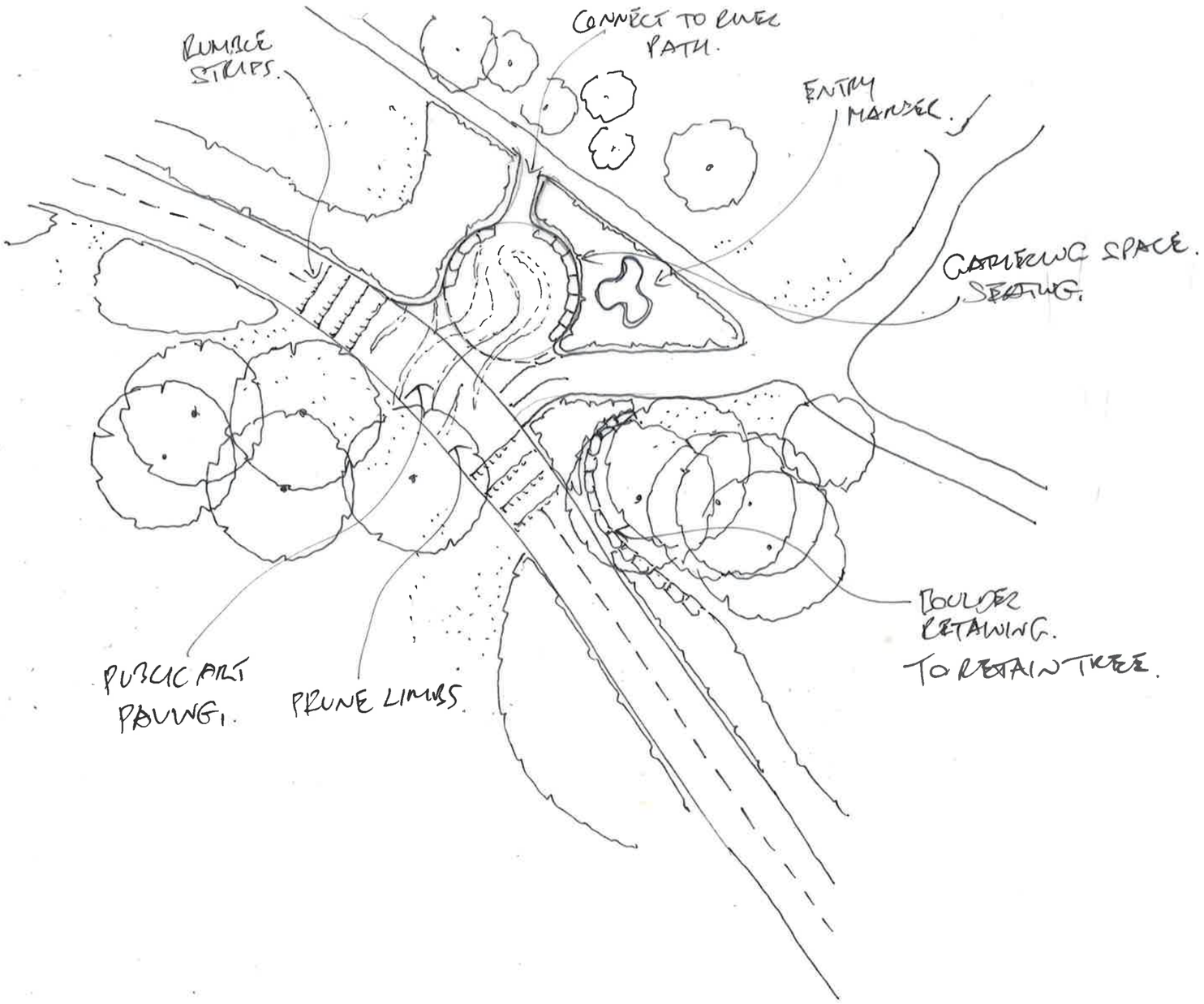

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Minutes of Meetings

Town of Victoria Park – Concept Design

24-05-2022	15:30-16:30	Microsoft Teams
Meeting No.	**C301-PM-MOM-TOVP-0001_20220524**	
Minute Taker	Niall O Lionaird	
Attendees	**Main Roads WA and Causeway Link Alliance (CLA)** MK - Mike Kapitola, Project Director, Main Roads - mike.kapitola@mainroads.wa.gov.au NL -Niall O Lionaird, Construction Manager - niall.olionaird@civmec.com.au MR - Michelle Rhodes, Sustainability & Environment - michellerhodes@360environmental.com.au TC - Tim Cawley, Design Project manager – tim.cawley@wsp.com SX - Sam Xanthis, Project Communications - sam.xanthis@mainroads.wa.gov.au AB – Anthony Brookfield, Landscape Architect - abrookfield@hassellstudio.com ML – Mathieu Lemoine, Senior Project Engineer - mathieu.lemoine@seymourwhyte.com.au PR – Peter Ricciardello, Alliance Director - peter.ricciardello@civmec.com.au CP - Claire Paddison, Stakeholder and Community Manager - claire.paddison@361degrees.com.au **Town of Victoria Park** NC - Nick Churchill, Strategic Projects Manager – NChurchill@vicpark.wa.gov.au DD - David Doy Donna Colum FS - Frank Squadrito Jaclyn Ward Lisa Robertson Nikki D'Agostino Paul Denholm Paul Gravett RP - Rachel Preston-Bidwell Rhiann Burns Robert Cruickshank	
Apologies	AS - Alanna Stern, Project Manager, Main Roads - Alanna.Stern@mainroads.wa.gov.au	

ITEM	DESCRIPTION	ACTION BY	DUE
1	**Introductions and Presentation**		
1.1	Alliance team presentation of preliminary design and construction details.	Note	
1.2	Copy of presentation to be sent to NC.		
1.3	Project schedule requires alignment freeze by beginning of July.	NL	26/05
1.4	Subsequent meetings to be arranged to discuss project in more detail so that formal design submissions at 15%, 85% and 100% are fully understood prior.	All	30/06
2	**Discussion on the Presentation**		
2.1	PD queried status of land consent. MK noted there had been correspondence with ToVP but discussion to be continued in more detail now that Alliance has been formed.	Note	
	MK briefed Council in late 2021 but now time to introduce Alliance.	SX/NC	07/06
2.2	FS confirmed 3.2m clearance over existing path level allowed for sea level rise and maintenance vehicle access.	Note	
2.3	List of McCallum Park and Taylor Reserve events has been provided to CLA for consideration in planning.	NL	07/06

ITEM	DESCRIPTION	ACTION BY	DUE
2.4	Main Roads have submitted the Development Application to DPLH. RC queried submission without ToVP signature. MK to follow up.		
2.5	The Application shows older version of laydown areas.	MK	07/06
2.6	Forecast of expected loss of income due to construction footprint has been provided to Main Roads. Main Roads are working through the detail.	AS	07/06
2.7	Communications messaging and key dates. CLA and ToVP to liaise on detail.		
2.8	CP seeking detail on local residents.	CP/RP/SX	07/06
2.9	NC has provided detail of irrigation underground pipework which may affect construction access. Information to be assessed by CLA.	ML	07/06
2.10	NC questioned the blue area adjacent to McCallum Park embankment. TC confirmed it was a drainage basin with landside drainage of path required to be treated for pollutants. The locations can be reviewed during design development.	TC	07/06
2.11	McCallum Park Master Plan displayed.	Note	
2.12	Further Geotech Investigations required in McCallum Park. NL to forward final scope document when complete to seek approval from ToVP.	NL	26/05
3	**Engagement and Workshops**		
3.1	NC to be main point of contact for time being.	Note	
3.2	NL/NC to liaise regarding future meetings.	NL/NC	26/05

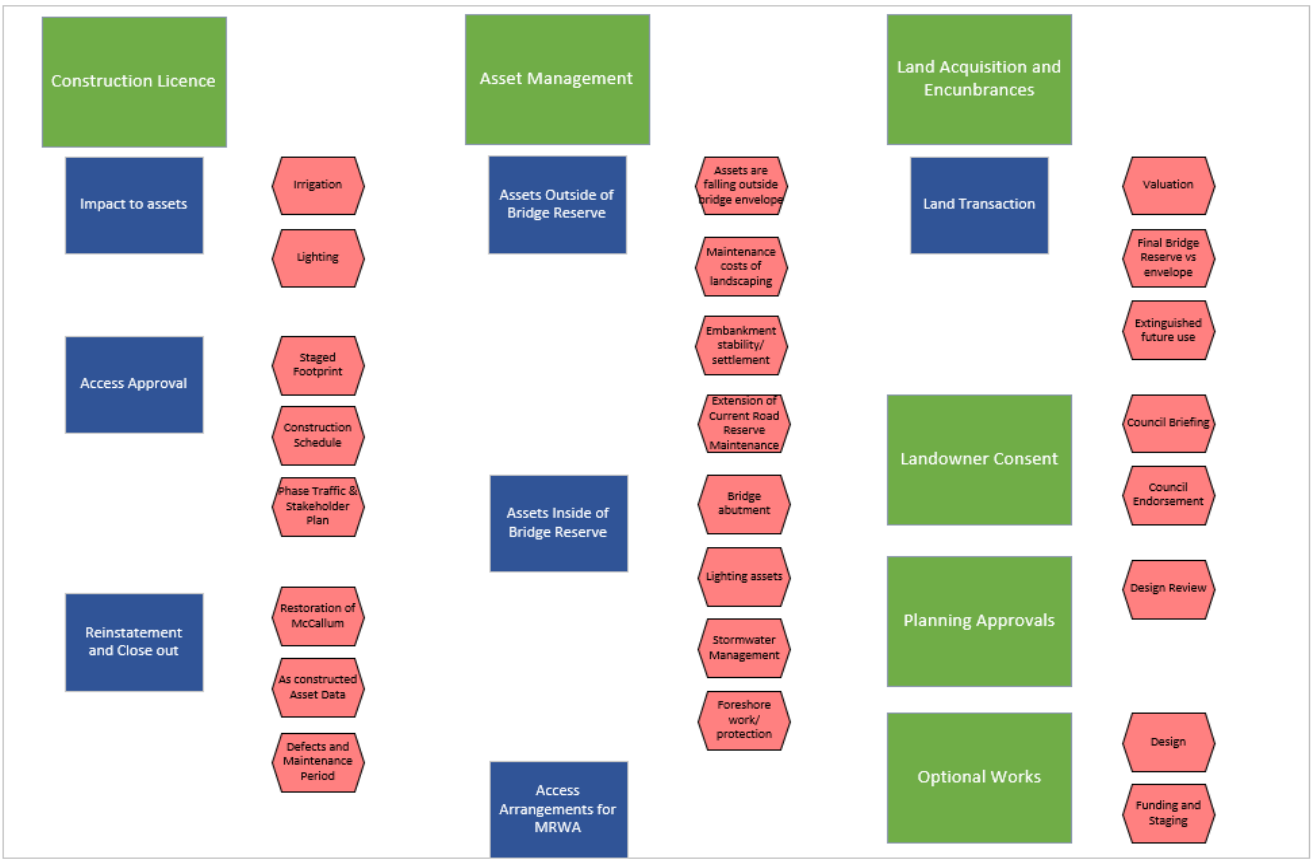
Minutes of Meetings

Town of Victoria Park – Progress Meeting 1

30-06-2022	13:00-14:30	WSP Office
Meeting No.	**C301-PM-MOM-TOVP-0002_20220630**	
Minute Taker	Alanna Stern	
Attendees	**Causeway Link Alliance (CLA)** NL -Niall O Lionaird, Construction Manager - niall.olionaird@civmec.com.au ML – Mathieu Lemoine, Senior Project Engineer - mathieu.lemoine@seymourwhyte.com.au AS - Alanna Stern, Project Manager - Alanna.Stern@mainroads.wa.gov.au KT – Kurt Truong, Design Interface Coordinator – kurt.truong@mainroads.wa.gov.au **Town of Victoria Park** NC - Nick Churchill, Strategic Projects Manager – NChurchill@vicpark.wa.gov.au Nikki D'Agostino Paul Denholm	
Apologies		

ITEM	DESCRIPTION	ACTION BY	DUE
1	**Development Application / State Design Review Panel**		
1.1	Bridge alignment: AS to provided CLA alignment.	AS	7/7/22
1.2	Temporary works footprint and alternative construction access presented by NOL. NC agreed in principle to the proposed access track through McCallum Park (TOVP Zone 5) and along the edge of Zone 7. Temporary works envelope to be updated on drawing and issued to TOVP.	NOL	7/7/22
1.3	SDRP tentatively booked for Tuesday 26th July. ToVP to be invited.		
1.4	DA targeting submission 9th August		
1.5	PD suggested the project be presented at the Council Forum (late July) before the DA is submitted. CLA need to consider: • Asset responsibility areas (lighting, CCTV, irrigation, anti-graffiti on abutment face, etc) • Asset maintenance agreement and incorporation of DLP • Land transaction • Earthwork's extents and project being an encumbrance to ToVP (based on Western Power precedence) • How CLA will be dealing with Stakeholder (residents) during construction.		
2	**Construction Access**		
2.1	**Irrigation system:** Impacts to be addressed as a priority. NOL to send NC proposed footprint of temporary access track / laydown area, and permanent landscaping design. NC to engage specialist to consider impacts and design of retic for temp and permanent works.	NOL NOL	7/7/22 14/7/22
2.2	**Temporary access**: NC suggested CLA keep away from squash courts and path connectivity to foreshore. NOL/NC book meeting with street and traffic team once TMP completed.		

ITEM	DESCRIPTION	ACTION BY	DUE
2.3	**Events – 4WD show**. Site office will be established in a temporary area to minimize impact on event space. NOL confirmed that cars can still exit from overflow car parking area as the site offices will be set back from tree line so exit road can go behind.		
2.4	**Events:** NC to send through list of events and zones impacted.	NC	14/7/22
2.5	NC has no objections to removing the palm tree shown by NOL for construction access, however indicated there may be an associated cost. NC to confirm.	NC	14/7/22
3	**Construction License / Asset Maintenance Agreement**		
3.1	PD: suggested that the Council could consider the earthwork extents are an encumbrance to ToVP. The bridge earthworks bisects McCallum Park which is freehold land. Council may want compensation for this land – need to present project at Council Forum. AS to prepare for Council forum briefing in consultation with NC.	AS	Late July
3.2	Maintenance costs – design to consider whole of life costs.		
3.3	**Construction License:** TOVP provided comments on draft license on 29/6/22. PD/NDA suggested that the license is for construction and use only. AS to review comments and engage SSO to amend license as required. Reinstatement of land to be covered off in the License.	AS	14/7/22
3.4	PD/NDA suggested a separate contract be drafted for the transfer of land and responsibilities which needs to include consideration for • DLP • asset handover (including relevant documentation) • bridge access during maintenance AS to engage SSO to commence drafting.	AS	14/7/22
3.5	Asset responsibility Areas to be determined and plans drafted in preparation for Council forum. AS/NC to book meeting with relevant people from ToVP/MRWA.	AS/NC	14/7/22
4	**Design Review Process**		
4.1	KT gave an overview of the design review process.		
4.2	ToVP will have the opportunity to provide comment at 15% and 85% design. KT will advise of design program and design review process.		
4.3	NC agreed that the design will be put through SDRP and therefore does not need to go through the LGA Design Review Panel.		
4.4	Lighting – KT to consider if there needs to be an upgrade to the lighting feed. Lighting is on a private network.	KT	Ongoing design
4.5	CCTV – KT to confirm if there any impacts to CCTV in McCallum Park.	KT	Ongoing design
5	**Optional Works**		
5.1	Optional Works scope to be confirmed following Steering Meeting on 5th July.		
5.2	NC suggested to allow for the ultimate scope of works in the design, and when funding is available, this can be delivered.		
6	**Other Business**		
6.1	AS to book fortnightly meeting going forward.	AS	1/7/22
6.2	NC to send AS list of members on ToVP Aboriginal Advisory Group (Mindeera Group). Group is interested in naming the bridge.	NC	1/7/22


Construction Licence
Impact to assets
Irrigation
Lighting
Access Approval
Staged Footprint
Construction Schedule
Phase Traffic & Stakeholder Plan
Reinstatement and Close out
Restoration of McCallum
As constructed Asset Data
Defects and Maintenance Period
Asset Management
Assets Outside of Bridge Reserve
Assets are falling outside bridge envelope
Maintenance costs of landscaping
Embankment stability/ settlement
Extension of Current Road Reserve Maintenance
Assets Inside of Bridge Reserve
Bridge abutment
Lighting assets
Stormwater Management
Foreshore work/ protection
Access Arrangements for MRWA
Land Acquisition and Encunbrances
Land Transaction
Valuation
Final Bridge Reserve vs envelope
Extinguished future use
Landowner Consent
Council Briefing
Council Endorsement
Planning Approvals
Design Review
Optional Works
Design
Funding and Staging

Minutes of Meeting

Town of Victoria Park – Progress Meeting 3

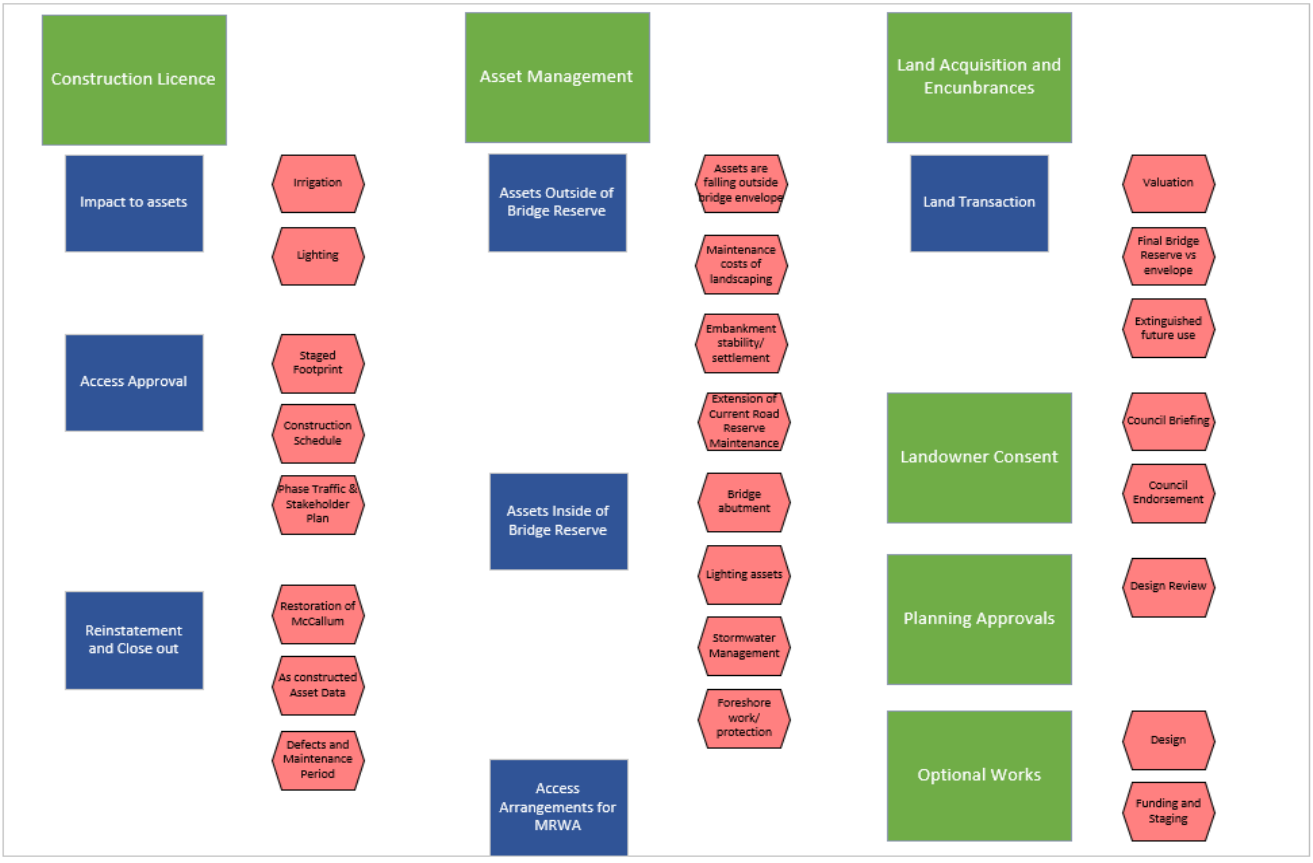
28-07-22	13:00-14:30	WSP Office / Microsoft Teams
Meeting No.	**C301-PM-MOM-TOVP-0003_20220630**	
Minute Taker	Alanna Stern	
Attendees	**Causeway Link Alliance (CLA)** NL - Niall O Lionaird, Construction Manager - niall.olionaird@causewaylink.com.au AS - Alanna Stern, Project Manager - Alanna.Stern@causewaylink.com.au KT – Kurt Truong, Design Interface Coordinator – kurt.truong@causewaylink.com.au EO - Ellen O'Day, Alliance Project Support Officer – ellen.oday@causewaylink.com.au JT - Jill Turpin, Alliance Landscape Architect – jturpin@hassellstudio.com AD - Amandine Daniel, Alliance Design Interface Manager – amandine.daniel@seymourwhyte.com.au AW - Alex Widgery, Alliance Principal Civil Engineer – alexander.widgery@wsp.com **Town of Victoria Park** NC - Nick Churchill, Strategic Projects Manager – NChurchill@vicpark.wa.gov.au Donna Colum, Project Manager – dcolum@vicpark.wa.gov.au	
Apologies		

ITEM	DESCRIPTION	ACTION	ACTION BY	DUE
1	**Development Application / State Design Review Panel**			
1.1	Bridge alignment: AS to provide CLA alignment. Secondary footpaths will need revision to include ToVP comments. AD to provide once landscaping has been finalised.	Provide CLA bridge alignment.	AS	Next Mtg
1.2	Access track through McCallum Park (TOVP Zone 5) and along the edge of Zone 7 to progress			
1.3	SDRP held 26th July 2022			
1.4	DA targeting submission 9th August TOVP council meeting 23/08/22 Discussion on Form 7	Note		

ITEM	DESCRIPTION	ACTION	ACTION BY	DUE
1.5	CLA to consider at council meeting: • Asset responsibility areas (lighting, CCTV, irrigation, anti-graffiti on abutment face, etc) • Asset maintenance agreement and incorporation of DLP • Land transaction • Earthwork's extents and project being an encumbrance to ToVP (based on Western Power precedence) • How CLA will be dealing with Stakeholder (residents) during construction. Asset management 15% Design being submitted today (28/07/22) KT to arrange asset management meeting with ToVP	Arrange asset management meeting with TOVP	KT	Next Mtg
2	**Construction Access**			
2.1	**Irrigation system:** NC will need agreement that CLA are paying for redesign before engaging specialist ToVP could relocate ring main to simplify design Irrigation staging plan will need to be considered before engaging consultant Grass near Shepperton road should be kept alive as it is entrance to ToVP. Temporary solution could be ring main just feeding areas near Shepperton road. Potholing found 150mm retic main instead of 100 main referenced on retic design drawings.	Provide irrigation staging plan Note		Ongoing
2.3	**Events – 4WD show**. Site office will be established in a temporary area to minimize impact on event space. NOL presented proposed area for site office, set back from tree line. Will not impact 2022 4WD show.			
2.4	Palm tree shown by NOL to be removed 5 mature trees shown by NOL will be retained JT showed changes to sketch after ToVP comments Sketch will be formally sent once it is ready sometime next week.	Provide landscaping sketch to ToVP	JT	Next Mtg
3	**Construction License / Asset Maintenance Agreement**			

ITEM	DESCRIPTION	ACTION	ACTION BY	DUE
3.1	Path should be easily maintainable NC: Secondary path will be part of cycling infrastructure, so asphalt might be considered Marc Beattie (Heritage) to be consulted about tram carriage sculpture Temporary works will impact on watercorp easement in McCallum Park. Warercorp Approval to be pursued by NOL and NC. Abandoned ATCO assets to be tested by ATCO to prove not a safety risk, preferably before DA approval . AS to prepare for Council forum briefing in consultation with NC. Council pre-reading will be 12/08/22, council meeting 23/08/22	Prepare for council forum	AS/NC	12/08/22
3.2	AS confirmed the MRWA manages CLA's defects correction period: • landscaping, revegetation and drainage – j3 years • Utility services works – 1 year • Remaining works – 5 years			
3.3	**Construction License:** AS to review comments and engage SSO to amend license as required. Reinstatement of land to existing condition be covered off in the License. PD/NDA suggested a separate contract be drafted for the transfer of land and responsibilities which needs to include consideration for • DLP • asset handover (including relevant documentation) • bridge access during maintenance AS has engaged SSO to commence drafting asset maintenance agreement. Expecting reply from SSO this afternoon (28/07/2022)	Follow up with SSO	AS	ASAP
3.5	NC will advise KT of ToVP relevant reviewers for Asset Management Design, KT will distribute AS/NC to book meeting with relevant people from ToVP/MRWA	Distribute 15% Asset Management Design to relevant parties Meet with ToVP	NC/KT AS/NC	Next Mtg Next Mtg
4	**Design Review Process**			
4.2	ToVP will have the opportunity to provide comment at 15% and 85% design. Discussion on wind tunnel testing KT shared design package list and added ToVP comment section for specified package			

ITEM	DESCRIPTION	ACTION	ACTION BY	DUE
4.4	Lighting – KT to consider if there needs to be an upgrade to the lighting feed. Lighting is on a private network. Awaiting RFI response from City of Perth NC to investigate ToVP electrical supply	Investigate upgrade to lighting feed Investigate electrical supply	KT NC	Ongoing Next Mtg
4.5	CCTV – KT to confirm if there any impacts to CCTV in McCallum Park. CLA to issue RFI to confirm CCTV information CCTV in McCallum Park not monitored NC: As the area surrounding the bridge will be an active area, consideration to be given to amenities like wifi, CCTV	Confirm CCTV impacts Issue RFI	KT CLA	Ongoing Next Mtg
5	**Optional Works**			
5.1	ToVP has an urban forest program that could be integrated into enhanced McCallum park landscaping plan			
6	**Sustainability**			
6.1	NC to share ToVP's sustainability teams contact details with CLA sustainability manager AD indicated that suppliers may be interested in providing electric charging points for vehicles (cost effective solution), however they would be brand specific. NC indicated that this would be considered by ToVP.	Share sustainability contacts	NC	Next Mtg
7.1	DC/NC to send AS list of members on ToVP Aboriginal Advisory Group (Mindeera Grou).		DC/NC	Next Mtg



C87.20 – CPCB – ToVP & CLA Asset Management Meeting

Date: Friday 5th August 2022 **Time: 8:00 am – 9:00 am** **Location: Alliance Office, Microsoft Teams**

Attendees				
	Kurt Truong - CLA	KT	Tom Ogilby - ToVP	TO
	Alex Widgery - CLA	AW	Tom Peacock - MRWA	TP
	Nick Churchill - ToVP	NC	Craig Peek - MRWA	CP
	Frank Squadrito - ToVP	FS	Anthony La Spada - MRWA	ALS
	John Wong - ToVP	JW	Jeff Oo - MRWA	JO
	Gregor Wilson - ToVP	GW		
Apologies	Alanna Stern – CLA, Kenny Wong - MRWA			

ITEM	DESCRIPTION	ACTION	ACTION BY	DUE
1. Asset Management – Structure, Verges and Landscaping				
1	• KT presented Asset Management Plan 15% Design Drawings • MRWA will maintain approach slab and bridge structure. • Removal of graffiti on abutment will be undertaken by LGA, removal of graffiti on bridge structure will be undertaken by MRWA • KT presented items raised by CoP which related to the ToVP section. Proposed inclusion of routine maintenance to CoP on the structure, inclusion of park furniture and riverwall in notes also. • Extent of handrails not determined but will be in line with pavement ownership. The ownership interface is located where the bridge transitions from the bridge structure's handrail (MRWA) to the bridge approach embankments balustrade/fence (ToVP). • KT stated current design has bollards at the entrances to McCallum Park. NC stated consideration needs to be made for smaller vehicles that can fit through post surrounding McCallum Park. KT to organise site visit to determine optimum position. • NC queried the need for an easement on the approach embankment to the bridge so ToVP do not inadvertently comprise the structure. JO stated ToVP will need to permission to work "near the bridge" from MRWA. NC extents need to be defined on a plan, this is for further discussion in the Asset Maintenance Agreement.	Site Visit to determine bollard locations.	KT	16/9/22
2. Asset Management – Electrical and Lighting, and CCTV				
2.1	• Lighting on bridge structures (e.g. Handrails) to be maintained by MRWA. Lighting off bridge structures to be maintained by ToVP. • TP CCTV will be maintained by CoP, drawing to be amended. CCTV discussed for ToVP, would only consider provision for conduits for future. • TP: appropriate lighting at stairs required. • NC noted DB4 at the top of the embankment and location needed to be considered. Queried location of switchboard. To be clearly detailed on the electrical design package. • CoP light poles to be adopted on the ToVP as per the lighting strategy meeting. KT to provide CoP light pole specifications.	Amend AMP drawing CoP responsible for CCTV on structure Provide CoP light pole specifications to ToVP	CLA KT	85% Design Package 12/8/22

ITEM	DESCRIPTION	ACTION	ACTION BY	DUE
3. Drainage				
3.1	• Run off from structures to be maintained by MRWA. Run off from ToVP section, as per Pavement and Verges (inclusive of bridge approach embankments) and any drainage structures to be maintained by ToVP. • Drainage depressions are 1:10 batter and 300mm in depth. • CP there is a low point for drainage at McCallum Park near Canning Highway. KT to follow up with KW for location.	KT to follow up location of drainage from KW	Noted Noted KT	Ongoing
4. General Discussion				
4.1	• JO requested off the bridge parking for maintenance vehicles. KT this will be captured in the Asset Maintenance Agreement with ToVP, this document will be circulated to Asset Managers for review before agreement. • Need for lightning protection by earthing. Currently consider in the structural design package.	Noted Noted		
Thank you for attending				

ACTION REGISTER					
MEETING DATE	ACTION NUMBER	ACTION	ACTION BY	DUE	STATUS
05/08/2022	1	Site Visit to determine bollard locations	KT	16/9/22	OPEN
05/08/2022	2	Amend AMP drawing CoP responsible for CCTV on structure	CLA	85% Design Package	OPEN
05/08/2022	3	Provide CoP light pole specifications to ToVP	KT	12/8/22	OPEN
05/08/2022	4	KT to follow up location of drainage from KW	KT	Ongoing	OPEN

Minutes of Meeting

Town of Victoria Park – Progress Meeting 4

11-08-22	13:00-14:30	WSP Office / Microsoft Teams
Meeting No.	**C301-PM-MOM-TOVP-0004**	
Minute Taker	Ellen O'Day	
Attendees	**Causeway Link Alliance (CLA)** NL - Niall O Lionaird, Construction Manager - niall.olionaird@causewaylink.com.au AS - Alanna Stern, Project Manager - Alanna.Stern@causewaylink.com.au KT – Kurt Truong, Design Interface Coordinator – kurt.truong@causewaylink.com.au EO - Ellen O'Day, Alliance Project Support Officer – ellen.oday@causewaylink.com.au AW - Alex Widgery, Alliance Principal Civil Engineer – alexander.widgery@wsp.com ML - Mathieu Lemoine, Senior Project Engineer – Mathieu.lemoine@causewaylink.com.au **Town of Victoria Park** NC - Nick Churchill, Strategic Projects Manager – NChurchill@vicpark.wa.gov.au	
Apologies	AD - Amandine Daniel, Alliance Design Interface Manager – amandine.daniel@seymourwhyte.com.au JT - Jill Turpin, Alliance Landscape Architect – jturpin@hassellstudio.com	

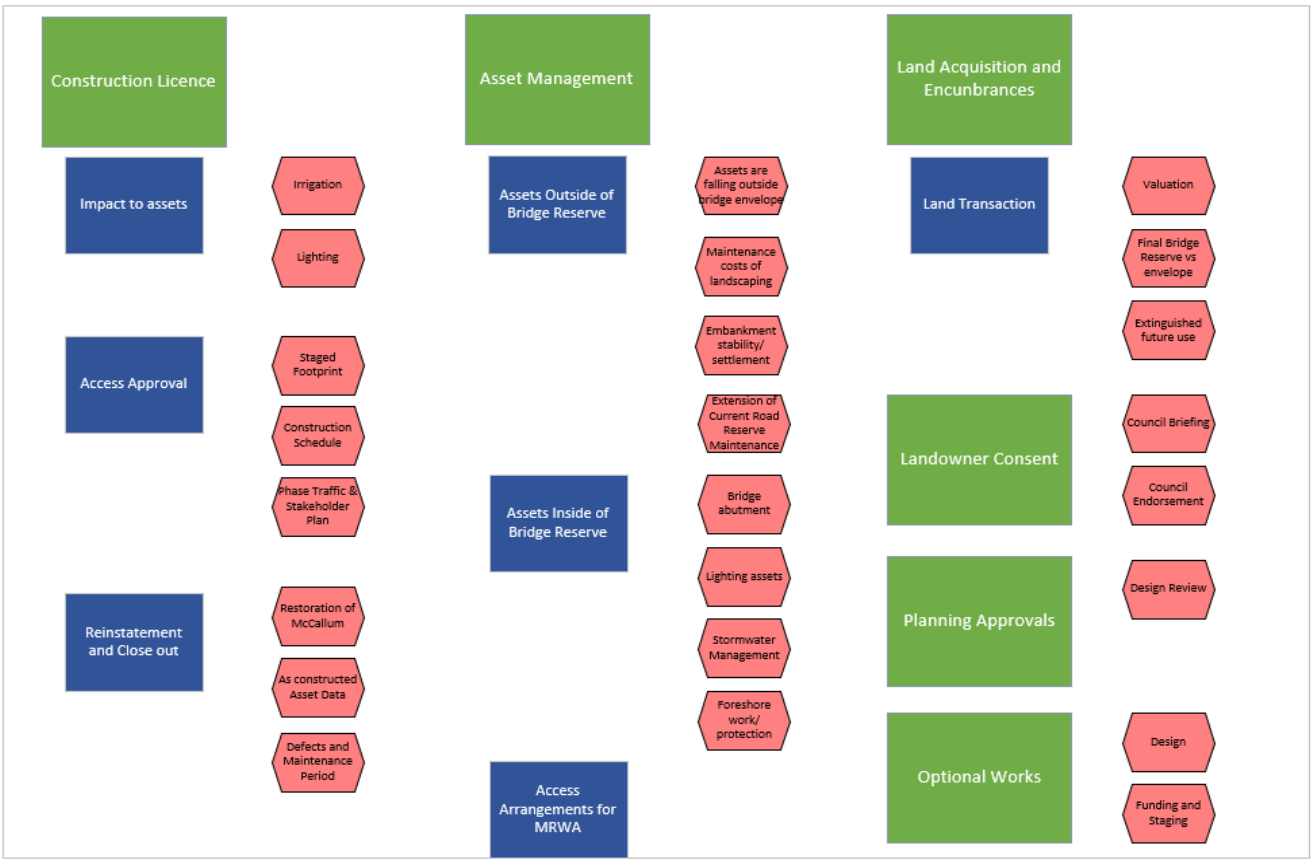
ITEM	DESCRIPTION	ACTION	ACTION BY	DUE
1	**Development Application / State Design Review Panel**			
1.1	Design packages to be provided as per design program	Provide design packages	KT	Ongoing
1.2	SDRP written feedback received Tues 09/08 Main points: Lighting strategy, heat of bridge			
1.3	DA targeting submission end of August TOVP council meeting 23/08/22 AS to send NC Form 1 for approval to submit DA	Note Send Form 1	 AS	 ASAP
1.4	AS to draft slides for ToVP council briefing (to be held 23/08/22) and issue to PR/NC for review. NC chasing up people for comments on asset management 15% Design	Draft slides for ToVP council briefing Follow up 15% design comments	AS NC	12/8/22 12/8/22
2	**Construction Access**			

ITEM	DESCRIPTION	ACTION	ACTION BY	DUE
2.1	Irrigation system: Jill (Hassell) to provide future landscape irrigation needs NC will need agreement that CLA are paying for redesign before engaging specialist. ToVP could relocate ring main to simplify design and expediate the works prior to CLA DA approved, if agreement with CLA to pay for the works. Irrigation staging plan will need to be considered before engaging consultant. NC and ML to liaise to decide scope	Irrigation 15% design Irrigation staging plan and quote	ML NC/ML	 Ongoing
2.2	Events – 4WD show. Will not impact 2022 4WD show, but will need to work on plan for future events. NC to continue discussion with ToVP	Note		
3	**Construction License / Asset Maintenance Agreement**			
3.1	Path should be easily maintainable NC: Secondary path will be part of cycling infrastructure, so asphalt might be considered Marc Beattie (Heritage) to be consulted about tram carriage sculpture Temporary works will impact on watercorp easement in McCallum Park. NC continuing to liaise with Watercorp (easement for Active area project), NC will provide feedback to CLA	Watercorp Approval to be pursued by NOL and NC. Abandoned ATCO assets to be tested by ATCO to prove not a safety risk, preferably before DA approval . NC to provide water corp feedback from meeting Marc Beattie to be consulted on tram heritage sculpture	NC/NOL CLA	 Ongoing
3.2	Construction License: NC to review Construction License. PD/NDA suggested a separate contract be drafted for the transfer of land and responsibilities which needs to include consideration for • DLP • asset handover (including relevant documentation) • bridge access during maintenance SSO to update construction license based on comments from ToVP	Review construction licence and provide comments Follow up with SSO	NC AS	12/8/22 Next Mtg
3.3	AS/NC to book meeting with relevant people from ToVP/MRWA to discuss land tenure	Meet with ToVP	AS/KT	Next Mtg
4	**Design Review Process**			

ITEM	DESCRIPTION	ACTION	ACTION BY	DUE
4.1	Lighting – KT to send MRWA electrical RFI response to NC Awaiting RFI response from City of Perth ToVP electrical supply – ToVP electrical supply limited, may not have capacity for some lights. CP, KT meeting next week with western power.	Forward RFI response to NC Note	KT	Next Mtg
4.5	CCTV – No CCTV impacts in McCallum Park. Discussion on provision for future CCTV in area Comment on conduits to be added and considered in electrical design package ToVP active area could also impact irrigation plan CCTV to be worked through during design process	. Comment on conduits to be added and considered in 15% electrical design package	NC	Ongoing
5	**Optional Works**			
5.1	ToVP has an urban forest program that could be integrated into enhanced McCallum park landscaping plan	Note	JT/NC	
6	**Sustainability**			
6.1	NC to share ToVP's sustainability teams contact details with CLA sustainability manager	Share sustainability contacts – Michelle Rhodes (CLA), Brendan Nock (ToVp)	NC	Next Mtg
7	Aboriginal Engagement			
7.1	Members from Mindeera group do not overlap with Matagarup Elders Group NC to keep CLA up to date on aboriginal engagement NC meeting with Mindeera Group 11/8/22.	Note		
8	General Discussion			
8.1	Discussion on dilapidation and vibration monitoring : NC suggesting to inspect Garland and Taylor St + visual inspection recording of sprinklers / irrig system / river wall Discussion on water and power supply, water points on bridge			

ACTION REGISTER					
MEETING DATE	ACTION NUMBER	ACTION	ACTION BY	DUE	STATUS
11/08/22	1	Provide design packages to ToVP throughout design	KT	Ongoing	OPEN

11/08/22	2	Send form 1 to NC	AS	ASAP	OPEN
11/08/22	3	Draft slides for ToVP council briefing	AS	12/8/22	OPEN
11/08/22	3	Follow up 15% design comments	NC	12/8/22	OPEN
11/08/22	4	Irrigation 15% design	ML	Ongoing	OPEN
11/08/22	5	Irrigation staging plan and quote	NC/ML	Ongoing	OPEN
11/08/22	6	Watercorp approval to be pursued	NOL/NC	Ongoing	OPEN
11/08/22	7	Abandoned ATCO assets to be tested by ATCO to prove not a safety risk, preferably before DA approval .	NOL	Before DA approval	OPEN
11/08/22	8	NC to provide water corp feedback	NC	Ongoing	OPEN
11/08/22	9	Marc Beattie to be consulted about tram heritage sculpture	CLA	Ongoing	OPEN
11/08/22	10	Review construction licence and provide comments	NC	12/8/22	OPEN
11/08/22	11	Follow up with SSO	AS	Next Mtg	OPEN
11/08/22	12	Meet with ToVP to discuss land tenure	NC/KT	Next Mtg	OPEN
11/08/22	13	Forward RFI response to NC	KT	Next Mtg	OPEN
11/08/22	14	Comment on conduits to be added and considered in 15% electrical design package	NC	Ongoing	OPEN
11/08/22	15	Share sustainability contacts – Michelle Rhodes (CLA), Brendan Nock (ToVp)	NC	Next Mtg	OPEN


Construction Licence
Impact to assets
Irrigation
Lighting
Access Approval
Staged Footprint
Construction Schedule
Phase Traffic & Stakeholder Plan
Reinstatement and Close out
Restoration of McCallum
As constructed Asset Data
Defects and Maintenance Period
Asset Management
Assets Outside of Bridge Reserve
Assets are falling outside bridge envelope
Maintenance costs of landscaping
Embankment stability/ settlement
Extension of Current Road Reserve Maintenance
Assets Inside of Bridge Reserve
Bridge abutment
Lighting assets
Stormwater Management
Foreshore work/ protection
Access Arrangements for MRWA
Land Acquisition and Encunbrances
Land Transaction
Valuation
Final Bridge Reserve vs envelope
Extinguished future use
Landowner Consent
Council Briefing
Council Endorsement
Planning Approvals
Design Review
Optional Works
Design
Funding and Staging

4) MAIN ROADS WA PAG MEETING MINUTES

Minutes of Meetings

Civils PAG Meeting 1

Meeting Date	Wed 08/06/2022, 10:00am	Teams Meeting
Meeting No.	C301-DE-MOM-MRW-0001_20220608	
Minute Taker	Simon Pattenden (SP)	
Attendees	Con Magriplis (CM), Simon Pattenden (SP)	
Apologies	Kurt Truong (KT), Alex Widgery (AW)	

ITEM	DESCRIPTION	ACTION BY	DUE
1	**Design Speed**		
1.1	Determination of appropriate design speed and speed environment for the main PSP (segregated into 3.5m cycle path and 2.5m pedestrian path) required. The design at Tender generally provides for 40 km/h as a design speed with the exception of the tight horizontal geometry at Point Fraser where the design speed is reduced to between 20 & 30 km/h (approx. 26 km/h). Safety concerns over a 40km/h design speed for cyclists and interaction with pedestrians without physical separation. There's the possibility of pedestrians crossing from one side of the bridge to the other without looking and getting hit by a fast moving cyclist resulting in a poor outcome for both pedestrian and cyclist. Advisory speed signage as well as implementing other measures to control the speeds over the new link to be considered.	Noted	
1.2	Design speed items: 1. Design Speed - confirmation of assumptions made at Tender are acceptable to MRWA RTE a. Based on gradient where unconstrained horizontally i.e. 40 km/h from -3% vertical grade b. R15, R18, R21 contiguous curves at Pt Fraser approach equivalent to a design speed between 20 & 30 km/h. Linear distribution = 26 km/h c. McCallum Park R60, R90 back to back curves provide an unconstrained speed environment and speeds could exceed 40 km/h d. Heirisson Island has 3% grades on fairly straight horizontal alignment leading to possible speeds up to or greater than 40 km/h	Noted	
1.3	2. Landings could be used to limit the design speed to 30 km/h at McCallum Park / Heirisson Island. It was noted this is not a preferred project outcome for the Alliance or MRWA RTE. 3. Alternative would be to introduce tight Horizontal Radii e.g. R25 4. Transverse raised line markings acting as tactile "bump's" to control the speeds on the downhill sections to generate a 30 or less km/h speed environment. (Increased chance of survival if speeds are below 30 km/h ie		

ITEM	DESCRIPTION	ACTION BY	DUE
	human limit) not a lot of guidance available on use of transverse raised line marking to control speeds for cyclist 5. CM suggested at the path intersection on Heirisson Island (IP-7) consider a raised intersection treatment to slow the cyclists down through the junction area. This could also be considered at the McCallum Park end of the path where 4 paths converge to access the new infrastructure.		
1.4	**CM** to discuss the design speed / speed environment for the new cycle path component internally with Ed Rose and Adrian B and provide feedback to the CLA.	CM	
2	**Stopping Sight Distance (SSD)**		
2.1	At Pt Fraser there is limited space and tight horizontal geometry defining the speed environment and subsequent design speed is critical to develop a safe design. At Tender the Alliance documented the limitations of a 40 km/h SSD designing for 20 km/h SSD. Removal of the nearside fence / balustrade opens the sightlines back up but does expose the embankment to the users. The SSD figure in Attachments 1 was supplied for reference.	Noted	
3	**Safe Intersection Sight Distance (SISD)**		
3.1	At Pt Fraser there are three intersections with the PSP which require SISD. The design as proposed at Tender can only accommodate SISD to 20 km/h and the jump in SISD is almost double when moving from 20 to 30 km/h. Heirisson Island has only one major junction at the circular area IP-7. McCallum Park main PSP terminates at a 4/5 way junction in a fairly flat area of path. The SISD figures in Attachments 2 were supplied for reference.	Noted	
4	**Tactile Ground Surface Indicators (TGSI) and Visually Impaired Path User (VIPU) Requirements**		
4.1	Discussions around how the design will incorporate TGSI's for visually impaired path users and specifically at the 4 stair access points. Can we provide some sort of segregation between the cycle path and pedestrian path which VIPU's can use to stay out of the high speed cycle path?	Noted	
4.2	CM to discuss the TGSI requirements at the 4 staircase locations internally with Ed Rose / Adrian B i.e., should the TGSI's extend transversely across the full width (6m) or just across the pedestrian path width (2.5m)	CM	24/06/22
4.3	CLA to discuss with MRWA PM and Stakeholder Engagement team to identify any stakeholders who represent visually impaired people to enable discussions on how to provide segregation of the cyclists and pedestrians throughout the new link.	AW / TC	24/06/22
5	**Bollards**		
5.1	Requirements for Demountable Bollards to prevent unauthorized vehicular access to the bridge discussed.	Noted	

ITEM	DESCRIPTION	ACTION BY	DUE
5.2	CLA MRWA PM to discuss internally with MRWA on the requirements and provision of demountable bollards or equivalent to prevent unauthorized vehicle access to the bridges at Point Fraser, Heirisson Island and McCallum Park	AW / TC	24/06/22

Attachments:

1. SSD

Figure 22 MRWA Supplement to ARGRD Part 6a Extract 5.5.3, Figure 5.10

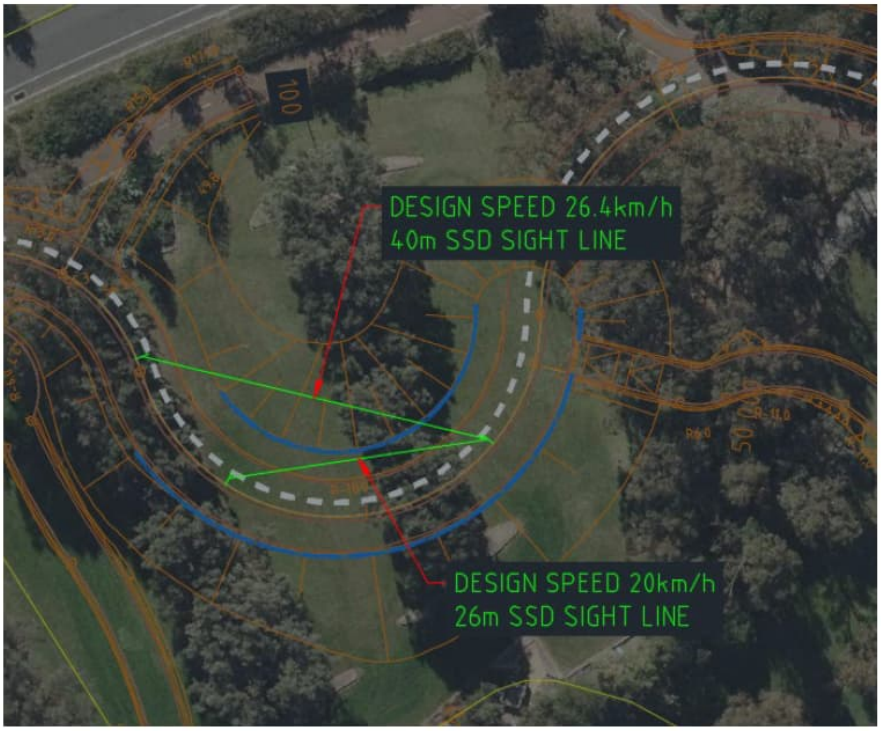


Figure 23 Plan of Line of Sight Constraints at Point Fraser for cyclists

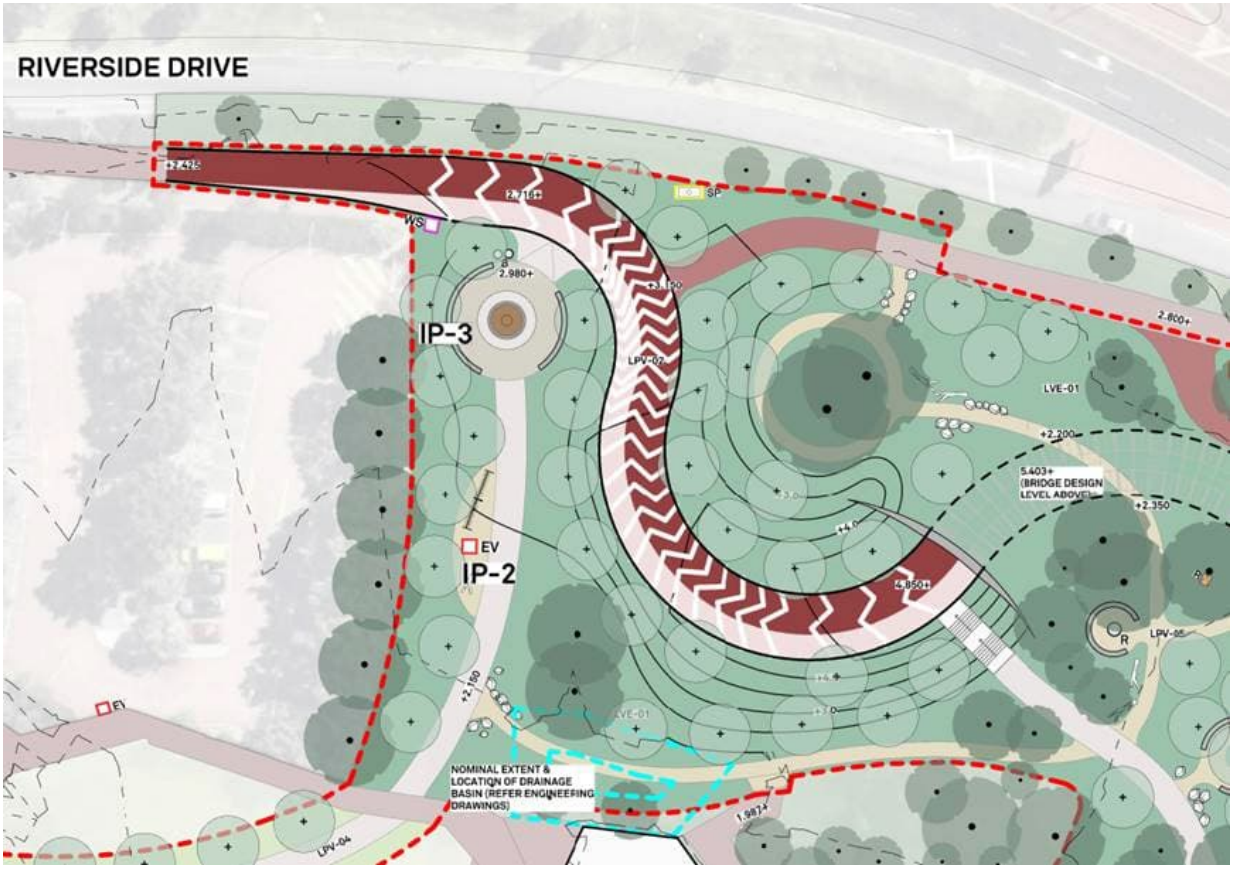
2. SISD

SISD is measured as shown in the above figure. SISD requirements are shown in the Table 14 below.

Table 14: SISD requirements

DESIGN SPEED \ SISD & SSD	UPHILL +3% GRADE	DOWNHILL -3% GRADE	LEVEL GRADE 0%
20 km/h	23 m	26 m	24 m
30 km/h	40 m	49 m	44 m

The standard is applied to intersections of cycle paths, but as all paths in Perth can be used for cycling this standard must be applied to all intersections, excluding the intersections with stairs.



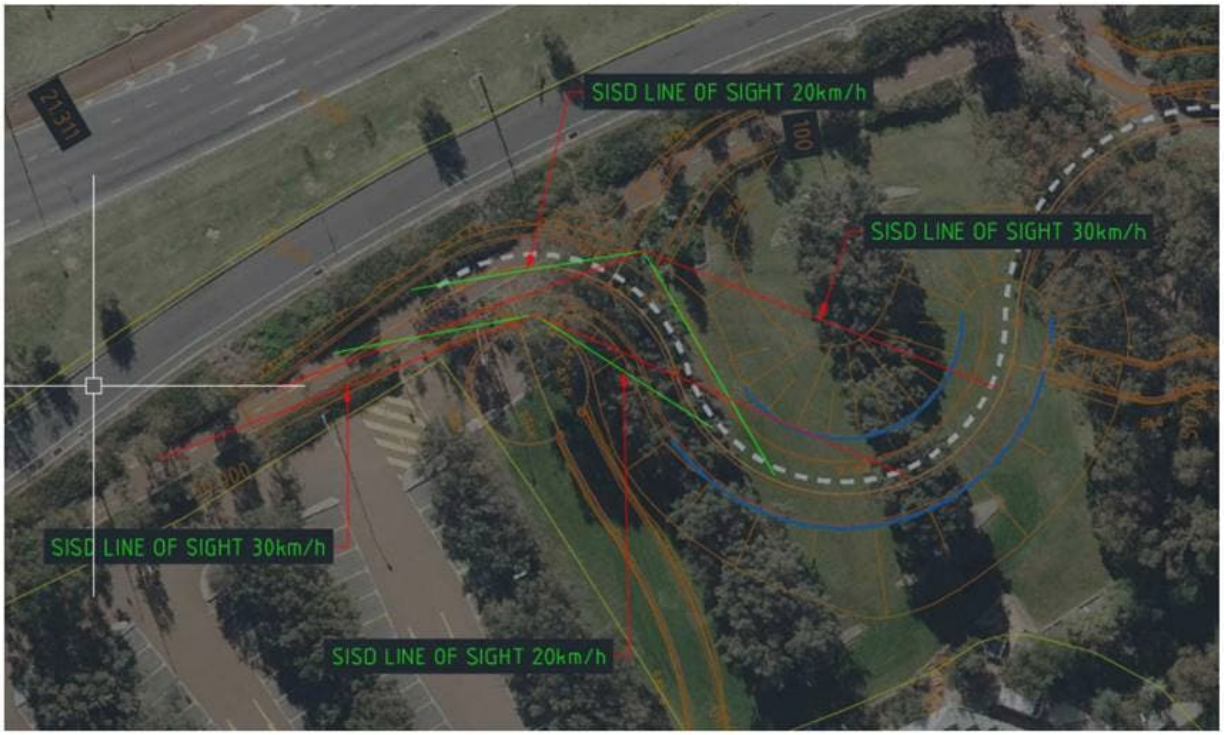
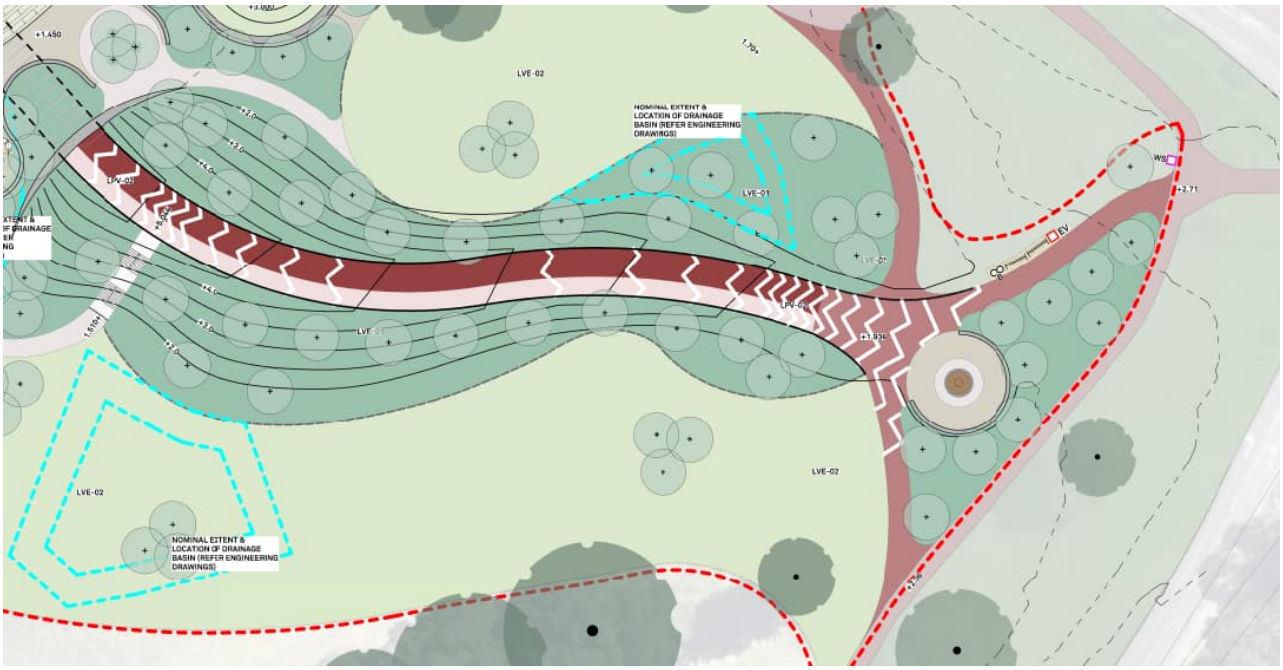


Figure 25: Point Fraser SISD Assessment

SISD is achieved for a 20km/h design speed.


CAUSEWAY
IP-8
IP-7
IP-6
IP-9
LVE-01
LVE-02
LPV-02
LPV-04
LPV-05
WS
EV
RETAIN
EXISTING GATE
CORROBOREE
SEATING AREA
KANGAROO
ERVE


LVE-02
LVE-01
NOMINAL EXTENT &
LOCATION OF DRAINAGE
BASIN (REFER ENGINEERING
DRAWINGS)
WS
EV
LPV-02
LPV-04

Minutes of Meetings

Civils PAG Meeting 2

Meeting Date	16 June 2022, 10:00 – 11:00	Teams & Face to Face at DAC
Meeting No.	C301-DE-MOM-MRW-0002_20220616	
Minute Taker	Simon Pattenden	
Attendees	**CLA:** Simon Pattenden (SPP), Alex Widgery (AW), Kurt Truong (KT) **MRWA:** Ed Rose (ER)	
Apologies	**MRWA**: Con Magriplis (CM)	

ITEM	DESCRIPTION	ACTION BY	DUE
1	**OVERVIEW**		
1.1	SPP presented the tender design civil design geometrics and basis of design (BoD) adopted during the Tender process. Also, a general overview of the project critical path regarding achieving a design freeze for the structures in the next two weeks or so.	Noted	
2	**DESIGN SPEED DISCUSSION POINTS**		
2.1	1. Design Speed - confirmation of assumptions made at Tender are acceptable to MRWA RTE a. Based on gradient where unconstrained horizontally i.e. 40 km/h from -3% vertical grade b. R15, R18, R21 contiguous curves at Pt Fraser approach equivalent to a design speed between 20 & 30 km/h. Linear distribution = 26 km/h c. McCallum Park R60, R90 back to back curves provide an unconstrained speed environment and speeds could exceed 40 km/h d. Heirisson Island has 3% grades on fairly straight horizontal alignment leading to possible speeds up to or greater than 40 km/h. Noted landings not required at 3% and are not a preferred outcome.	Noted	
2.2	ER – generally a 30km/h or less design speed is desirable throughout. Pt Fraser looks as if it will be self-policing through the horizontal alignment. Suggested stronger delineation on the Pt Fraser curves leading up to / from the bridge ER - At Heirisson Island the use of transverse line marking and alternative colour and texture surfacing for IP-7 should generate a suitable change in speed environment. Block paving has been used successfully by MRWA to reduce cycle speeds. ER – At McCallum Park, similar treatment as at IP-7 should be used to ensure the cyclist recognise a change in environment and priority. ER – SISD and SSD sightlines should be clear and achievable for the design speed environment.	Noted	

ITEM	DESCRIPTION	ACTION BY	DUE
	ER – will provide CLA with links to MRWA std drawings to emphasise a change in environment or a hazard. (POST MEETING NOTE – drawings have been provided by ER)	ER	20/06/22
3	**SSD & SISD DISCUSSION POINTS**		
3.1	At Pt Fraser we have limited space and tight horizontal geometry defining the speed environment and subsequent design speed is critical to develop a safe design. At Tender the Alliance documented the limitations of a 40 km/h SSD designing for 20 km/h SSD. Removal of the nearside fence / balustrade opens the sightlines back up but does expose the embankment to the users. Again at Pt Fraser there are three intersections with the PSP which require SISD. The design as proposed at Tender can only accommodate SISD to 20 km/h and the jump in SISD is almost double when moving from 20 to 30 km/h. Heirisson Island has only one major junction at the circular area IP-7. McCallum Park main PSP terminates at a 4/5 way junction in a fairly flat area of path.	Noted	
4	**TGSI LOCATION, INSTALLATION PREFERENCE & OTHER DELINEATION TYPES**		
4.1	TGSI's and Visually impaired path user requirements need to be clear. ER - MRWA does not normally run the wayfinding TGSI's transversely across the PSP at the stair locations. Normal practise would be to provide the warning set at the top and bottom of the staircase. ER - Noted that other stakeholder groups may have differing requirements which will need to be assessed. ER - Longitudinal segregation of the peds and cyclists should be through the use of differing colours & textures (e.g. block paving) to provide visual queues rather than clear "road like" line marking. In MRWA's experience defined line markings tend to increase the average speed of the PSP link. ER - would like to see the CLA utilise the ULD to develop segregation and speed control measures.	Noted	
5	**DEMOUNTABLE BOLLARDS**		
5.1	ER – MRWA preference is to control vehicular access at the roadside access points, away from the new PSP. These can be located at suitable locations in ToVP and CoP to achieve a high level of control for unauthorised vehicles accessing the new bridge. ER – raised transverse road markings are not considered a good outcome by MRWA in ped areas due to the risks to mobility impaired stakeholders tripping on the raised line markings. ER – at IP-7 Heirisson Island it is important the CLA provides visual clues to segregate the peds from the cyclists in the though manoeuvre.	Noted	

Minutes of Meetings

Drainage PAG Meeting 1

Meeting Date	28 June 2022, 10:00 – 11:00	Teams & Face to Face at CLA
Meeting No.	C301-DE-MOM-MRW-0003_20220628_Rev1	
Minute Taker	Teddy Wang (TW)	
Attendees	**CLA:** Alex Widgery (AW), Kurt Truong (KT), Teddy Wang (TW) **MRWA:** Dylan Macri (DM)	
Apologies	-	

ITEM	DESCRIPTION	ACTION BY	DUE
1	**OVERVIEW**		
1.1	AW presented the tender design for drainage and basis of design (BoD) adopted during the Tender process. Also, a general overview of the project schedule for drainage - which should not be impacted by the alignment freeze by civils and vice versa.	Noted	
2	**STORMWATER MANAGEMENT STRATEGY**		
2.1	TW provided general overview of stormwater management strategy which has been designed to comply with Swan Canning Planning and Development Policies 42, 45 and 49. • Bridge drainage - Runoff from paths on the bridge may discharge directly into the Swan River via scuppers. Discharge points are not to adversely impact on the performance of weathering steel bridge elements, create erosion or scour. • Runoff from paths other than paths on the bridge are captured through a pit and pipe network (including use of strip drains) for treatment to remove litter and other pollutants prior to discharge into Swan River via pipe and headwall. DM queried the use of scuppers on the bridge which discharged directly into the Swan River. KT noted that there had been in-principal support given by DBCA at tender stage on the use of scuppers discharging directly into Swan River. KT to provide written correspondence. CLA to design according to this approval from the DBCA, including any conditions/recommendations contained within.	Noted KT	
2.2	DM mentioned preference for reinforced concrete pipes (RCP min DN300) to be used for drainage where possible for maintenance reasons instead of PVC pipes which may cause issues with blockage. Slotted PCV min DN150 for subsoil drainage. CLA to confirm whether there are any quantitative pollutant reduction targets that must be complied with (eg. suspended solids, nitrogen, phosphorous etc.).	TW, AW	

<table>
<tr><th>ITEM</th><th>DESCRIPTION</th><th>ACTION BY</th><th>DUE</th></tr>
<tr><td>2.3</td><td>Drainage design parameters – discussion on confirmation of assumptions made at Tender are acceptable to MRWA RTE as per below:

Design Storms
<table><tr><th>Design Item</th><th>Intensity Requirement</th></tr><tr><td>Gutter flow spread for bridge deck (for disposal into river)</td><td>1 year ARI</td></tr><tr><td>Gutter flow spread for paths adjacent to kerbs, walls or barriers</td><td>1 year ARI</td></tr><tr><td>Spread Width at all other gutter locations</td><td>50mm/hr</td></tr><tr><td>Drainage Network Design Capacity</td><td>10 year ARI</td></tr><tr><td>Major Drain</td><td>100 year ARI</td></tr></table>
Spread width
Spread widths are to be limited to the following widths at the below typical profiles where adjacent to kerbs, walls or barriers.
<table><tr><th>Typical Road Profile</th><th>Allowable Spread Widths</th></tr><tr><td>3m Shared Path</td><td>1.25m</td></tr><tr><td>4m Shared Path</td><td>1.50m</td></tr><tr><td>6m Separated Path (Bridge Deck)</td><td>1.25m</td></tr></table>
There is currently no kerb proposed, the surface runoff is to sheet directly onto soft landscaping / proposed verge swale.

a. Pit and pipe network to be sized for the 1 year (63% AEP), 1 hour ARI design storm (~15mm rainfall depth)
b. Path to be designed for serviceability/trafficability in the 10% AEP storm event. Drainage to be sized such that the allowable spread widths above are not exceeded.
c. Scour assessment for 10% AEP storm event to be undertaken for each location and protection to be provided where necessary.

CLA to provide presentation to DM. DM to confirm acceptance of parameters.
POST MEETING NOTES:
- “Drainage Network Design Capacity” and “Major Drain” parameters above to be clarified.
- DM noted the following: “Difficult to comment on spread width design criteria at this stage, given that the pavement markings probably won’t be a conventional design and is TBC. MRWA standard is that gutter spread should be limited to half the width of the trafficable lane for a 50 mm/hr event.”</td><td>DM</td><td></td></tr>
<tr><td>3</td><td>GEOTECHNICAL ISSUES</td><td></td><td></td></tr>
<tr><td>3.1</td><td>Groundwater Level - TW noted that there was a discrepancy between observed groundwater levels between the Golder 2013 Geotechnical Factual Report (0.4m – 0.65m AHD) and 188 RFP CPCB Geotechnical Investigation – Interpretive Report (0m – 3m AHD). If groundwater levels are exceeding 0.8m AHD there is risk of having to provide subsoil drains to protect the pavement. DM suggested potentially looking at conducting additional groundwater monitoring over a winter-spring period (representative of higher groundwater level period) for confirmation, project schedule permitting. CLA to consult with the Alliance geotechnical engineer to seek further advice.</td><td>TW, AW</td><td></td></tr>
</table>

ITEM	DESCRIPTION	ACTION BY	DUE
3.2	Infiltration rates – KT advised further geotechnical investigation may be required to confirm the on-site infiltration rates and hydraulic conductivity available for the basins.	TW, AW	
3.3	Acid Sulphate Soils – possibility of acid sulphate soils being encountered in the project site. Generally bioretention basins should be located in areas to avoid acid sulphate soils. CLA to consult Alliance geotechnical engineer for further advice regarding this issue, including whether an impermeable liner is required for basins. POST MEETING NOTES: - DM noted the following: "I would have thought bioretention basins would need to be located away from contaminated sites. bioretention basins would need to be located away from contaminated sites. Those sites would need to be treated appropriately if disturbed. If acid sulphate soils are found to be widespread, gross pollutant traps could be considered in lieu of detention basins."	TW, AW	
4	**BASIN DESIGN**		
4.1	Basin locations and depth are to be located generally in accordance with the tender design plans, subject to drainage analysis, adequate fall being achievable and 3D clash detection check with existing services. CLA to liaise with Alliance landscape architect, City of Perth and Town of Victoria Park to ensure basins are consistent with the overall landscaping scheme.	TW, AW	
5	**GENERAL HOUSEKEEPING**		
5.1	Regular communication between WSP and MRWA preferred to scheduled meetings. TW to attend CLA office on Tuesdays and will be available for regular project updates.	Noted	

Minutes of Meetings

ULD PAG Meeting 1

Meeting Date	7 July 2022, 12:00 – 13:00	MRWA DAC
Meeting No.	**C301-DE-MOM-MRW-0004_20220707**	
Minute Taker	Kurt Truong (KT)	
Attendees	CLA: Kurt Truong (KT) MRWA: Ania Wantuch (AW), Joseph Filia (JF), Tracey Ovington (TO)	
Apologies		

ITEM	DESCRIPTION	ACTION BY	DUE
1	**OVERVIEW**		
1.1	Presentation provided by CLA to Main Roads ULD (attached).	Noted	
1.2	KT presented the design (including optional works), summary of optional works that will be implemented or considered further and a high level project schedule.	Noted	
1.3	KT presented draft asset responsibility plan for discussion, with general notes.	Noted	
2	**COMMENTS**		
2.1	JF made a comment on how the structural aesthetics would be integrated with the overall design early in the design. KT to clarify.	KT	
2.2	AW commented the handrailing needed to be yellow. KT to follow up which standard requires this.	KT	
2.3	TO raised potential benefits of shade at the pause points on the bridge. KT to follow up in the design stage.	KT	
2.4	AW commented Mount Street handrail lighting had issues with glare for path users. KT noted MRWA Electrical PAG member has raised this previously and the design team is aware of the issue.	Noted	
2.5	AW raised potential issue at Point Fraser with local path adjacent to the Bridge path having clearance issues for cyclist. Will be considered in the design.	Noted	
2.6	TO noted at Interest Point 10 the McCallum Park foreshore under the Causeway Pedestrian Bridge design needs to consider user behaviour. i.e. Cyclist will take the shortest path, not necessarily what designed. Will be considered in the design.	Noted	
2.7	Consideration for tie-in points at McCallum Park	Noted	
2.8	JF Public Art ownership and maintenance needs to be defined. KT noted this will be covered in the Asset Maintenance Agreement.	Noted	
2.9	Responsibility of Anti-Graffiti raised by KT. TO suggested to discuss with Anthony La Spada who can direct to previous agreements.	Noted	

Minutes of Meetings

Asset Management PAG Meeting 1

Meeting Date	11 July 2022, 12:00 – 13:00	Teams & MRWA DAC
Meeting No.	**C301-DE-MOM-MRW-0005_20220711**	
Minute Taker	Kurt Truong (KT)	
Attendees	CLA: Alanna Stern (AS), Kurt Truong (KT) MRWA: Craig Peek (CP), Tom Peacock (TP), Anthony La Spada (ALS), Jemma Driscoll (JD)	
Apologies	Jeff Oo (JO)	

ITEM	DESCRIPTION	ACTION BY	DUE
1	**OVERVIEW**		
1.1	Presentation provided by CLA to Main Roads Asset Management (attached).	Noted	
1.2	KT presented the design (including optional works) and a high level project schedule.	Noted	
1.3	KT presented draft asset responsibility plan for discussion, with general notes.	Noted	
2	**DRAINAGE**		
2.1	CP noted that drainage asset responsibility would be defined where the run-off originated from. E.g. Assets with run-off from the structure but constructed in the LGA reserve would be Main Roads Assets. For further discussion with LGAs.	Noted	
3	**STRUCTURE**		
3.1	JD noted structural maintenance of abutments would be Main Roads responsibility.	Noted	
3.2	ALS referenced Operational Procedure 112 for responsibility of graffiti removal. For the project the graffiti removal for the abutments would be the respective LGA's responsibility.	Noted	
4	**LIGHTING & CCTV**		
4.1	TP to provide TQ example for lighting at Kid's bridge.	TP	
4.2	KT believes the CCTV responsibility will be CoP's as it will be connected to CoP's network and will be monitored by CoP.	Noted	
4.3	TP queried the power & comms to the CCTV on the structure. Space will be allowed for the conduits in the design.	Noted	
4.4	TP noted the power on the footbridges would need to be from one supply point, so it is very clear that the bridge assets are isolated when conducting maintenance.	Noted	
4.5	Optional cable lighting will need to consider access for maintenance in the decision making.	Noted	
5	**GENERAL**		
5.1	Access agreements to the structure (via LGA reserve) will be detailed in the Asset Maintenance Agreement	Noted	

5) OFFICE OF THE GOVERNMENT ARCHITECT

Minutes of Meetings

OGA – Kick Off Meeting

21 June 2022	9:00 – 10:00	DPLH – 140 William St, Perth / Teams
Meeting No.	**C301-PM-MOM-OGA-0001_20220621**	
Minute Taker	Alanna Stern	
Attendees	**Main Roads WA** MK – Mike Kapitola, Project Director **Causeway Link Alliance (CLA)** PR – Peter Ricciardello, Alliance Director AS – Alanna Stern, Project Manager AN – Anthony Brookfield, Landscape Architect WS – Wolfram Schwarz, Design Manager KT – Kurt Truong, Design Interface Coordinator AD – Amandine Daniel, Design Interface Manager **OGA:** RM – Rebecca Moore, Government Architect MP – Melinda Payne, Associate to the Government Architect BG – Barbara Gdowski, Manager State Design Review Panel	
Apologies		

ITEM	DESCRIPTION	ACTION BY	DUE
	Introductions and Project Overview		
1.1	CLA and OGA members introduced themselves and AS presented project overview, CLA's concept design and summarized Stakeholder engagement to date. • RM suggested CLA get everyone together to discuss the project (OGA, LGA's, etc) so that experts can advise LGA of what can/can't be included.		
1.2	AS indicated that the Development Application • was to be submitted this week, however RM suggested that concept design is usually not enough detail for approval of the DA. • Is currently being managed by a Planner within OMTID		
	Landscaping and Urban Design		
2.1	AB presented the landscape design framework and concept plans • PR showed bridge cross section • RM concerned about Optional Works and reminded the Project team that the base scope needs to be clear to others not involved in the Project •		
	Bridge Design		

ITEM	DESCRIPTION	ACTION BY	DUE
	• RM questioned whether the bridge design incorporated the comments from key stakeholder • Lighting strategy required • Bridge Designers (WSP) and Bridge Architect (D&W) are using the same design software		
	State Design Review Panel and Development Application		
	Discussions regarding the SDRP process and the Development Application: • BG/MP to agree on process internally and will set up a meeting with AS to confirm and initiate the process. • BG suggested SDRP session prior to submission of the DA. This will get all relevant parties together and in agreeance of the contents of the DA before it is finalised and submitted, making it a smoother process. • AS raised concerns regarding timing of the DA submission – CLA targeting to start on site mid-September (only 3 months away). • BG indicated that a DAMP will assist with progressing early works prior to approval of the DA • BG suggested CLA consider engaging a Planner to assist with the relevant approvals.	AS	24/06/22

6) INTEREST GROUPS - WESTCYCLE

Intro Meeting with Westcycle

Notes **02/08/2022** **11am – 12noon** **Alliance office, Murray Street**

Note taker	Fiona Bettesworth
Westcycle	Wayne Bradshaw, Georgia Scott
CLA	Fiona Bettesworth, Sam Xanthis, Alexander Widgery

Feedback

- We are entering a new phase of e-mobility with huge increase in update of e-scooters – need to consider this and compounding factors generating more bridge users (increase active transport (not cars), increase urban infill / density)
- The bike path should be wider relative to the pedestrian path – 4m for bike and 2m for pedestrian
- They would like to be involved in future discussions around mobility (including e-mobility) and safety
- It's a good idea by the Alliance to have a bicycle ramp on the side of stairs - **CLA to consider within design**
- Concerned about 'pointy corners' of existing paths on Point Fraser and blind corners – may be due to drawings
- Biggest concern is the connection from Vic Park to the bridge for cyclists
- Interested in connection from Perth / CBD onto the bridge
- Suggestion to have a counting mechanism on the bridge showing how many people have crossed the bridge today
- Would like design features (e.g. information about Heirisson Island) available to be seen while on a bike, not just a plaque on the ground
- The current design standards/ best practice for paths are likely to be outdated soon with the new phase of e-mobility and their future predicted volumes.

Safety concerns / ideas

- Market the bridge as community bridge / slow zone
    - State that if cyclists are in big groups and/or go over 25kms the bridge is not suitable for them
    - Tell a story around it, link to Aboriginal heritage
    - Westcycle could assist with this
- CLA raised the idea of cyclists receiving notifications via Strava app about upcoming shared / slow zone on bridge – **Westcycle to investigate**
- Is the railing high enough in case there are collisions on bikes would they fall into the river?
    - Higher railing may make it less likely to have teenagers jump off the bridge into the river

Questions

- Will there be lighting on Heirisson Island (not on the path)?
  (Post meeting note – lighting strategy strategy is being developed by CLA. Lighting strategy currently allows for lighting along the new pedestrian / cycle path and the connection to the existing Causeway Bridge path. Broader lighting strategy outside of these areas to be considered in lighting strategy

cognisant of various stakeholder requirements (e.g. Department of Transport; Department of Biodiversity, Conservation and Attractions; City of Perth; Town of Victoria Park)
- Will there be CCTV coverage? (Post meeting note – CCTV coverage strategy is being developed by CLA)
- Who is this space for? Recreational or commuter?

To note

- There is a huge surge in e-mobility and they will become more dominant than bikes
- Currently there is no representative body for e-ridables, Westcycle may take on that role.
- The uptake of “lycra riders” on the bridge will depend on the ease of connection at either end
- Part of Westcycle’s role is to increase active transport to work
- They are interested in / focused on facilitating east west travel along / parallel to the river – this would help commuters
- They view future bridge users being commuters on weekdays and recreational users on weekends

APPENDIX 5 VALUE ENGINEERING REGISTER

APPENDIX 6 SAFETY IN DESIGN REGISTER

Risk Matrix Analysis

Risk Analysis Matrix

Type	Code	Determine the Consequence (C)				
Consequence	Rank	Insignificant	Minor	Moderate	Major	Severe
Financial AUS$	FIN	<$100k	$100k to $1m	$1m to $2m	$2m to $5m	>5m
Health and Safety	H&S	Local treatment with short recovery - minor short term health effects.	Medical treatment required or short term acute health effects.	Lost Time Injury (off work recovery required) or short / medium term health issues.	Extensive injuries or chronic health issues.	Single fatality or permanent disability.
Environment	ENV	Onsite release, containable with minimal damage. Localised impact on energy usage.	Major onsite release with some damage, no offsite damage. Numerous and/or widespread but small scale impacts on energy and waste. Remediation in terms of days.	Offsite release, no significant environmental damage. Remediation in terms of weeks.	Major offsite release, short to medium term environmental damage. Remediation in terms of months.	Major offsite release, long term environmental damage. Remediation in terms of years.
Schedule	SCH	1 week delay	2 week delay	1 month delay	2 month delay	3 month delay

	Likelihood	Project Frequency	Semi-Quantitative Frequency	Environmental Frequency	Rank	5	4	3	2	1
Determine the Likelihood	Almost certain	The event will occur on the project	A few times per project.	Common occurrence, high volume/ use.	A	High	High	Extreme	Extreme	Extreme
	Probable	The event has occurred on most projects	Once every project.	Common occurrence, low volume/ use.	B	Medium	Medium	High	Extreme	Extreme
	Possible	Not expected to occur on the project	Once every three projects.	Occasional occurrence, high volume/ use.	C	Low	Medium	High	Extreme	Extreme
	Unlikely	The event occurs on some other projects occassionally	Once every few projects	Occasional occurrence, low volume/ use.	D	Low	Low	Medium	High	Extreme
	Very Unlikely	Heard of something like this occurring elesewhere on a project.	Once every 100 years	Rare occurrence.	E	Low	Low	Medium	High	High

Risk Level	Required Actions
Very High	Very High risks are intolerable for EH&S. Do not commence or continue at this risk level for EH&S risks. Implement control measures to ensure the risk level is reduced. Communicate and consult thoroughly on non-EH&S risks to ensure the positive benefits out-weigh the negative impacts. CEO approval is required to accept the financial risk. Refer to the Red contract review and CEO Review processes where LLE is exposed to this risk level on projects.
High	High risk is undesirable and represents a band where the failure of any likelihood or consequence controls will place the risk into the “very high” category. Verify, and where possible quantify, the accuracy and certainty for the existing risk level. Implement control measures to ensure the risk level is reduced or is confirmed to be ALARP. Operation at this level requires Operations Centre Management approval.
Medium	Medium risks are only tolerable if examination proves them to be ALARP. Implement management plans to prevent the occurrence and monitor for changes. Reduce to Low Risk if the benefits outweigh the cost of the additional control. The Project Manager for a LLE project or the section manager for operational risks is responsible for monitoring these risks.
Low	Low risks are acceptable. Review at next review interval.

Causeway Link Alliance

Project No:	Client:
Update Date:	**Project Name:**
29/07/2022	Causeway Pedestrian and Cycle Bridge

SID Register

Ref. No:	Phase	Category	Hazard	Status	Causes	Consequences	Inherent Risk (no controls) Type	C	L	Risk Level	Action (Design)	Owner (Design)	Status	Response/Resolution (Design)	Control Effectiveness	Residual Risk/Actions	Owner	Due Date	Status
1.0 CONSTRUCTION STAGE																			
43	Construction	Environment	Damage to fauna and flora during construction		construction practices, poor planning, lack of approvals and review	damage to flora and fauna, negative public image, impact on project objectives	ENV	3	B	High									
44	Construction	Environment	Poor water quality - Swan River		spills in river	impact to project objectives, impact on flora and fauna, potential health and safety risks	ENV	3	B	High									
31	Construction	Fire	Fire risk with large source of mulch.		Storage of mulch prior to distribution	Fire to surrounding area	H&S	2	E	High									
21	Construction	Air Pollution	dust from high embankment due to high wind		weather conditions, construction		H&S	4	C	Medium									
14	Construction	Electrical	Electrocution from electrcial underground services / clash		poor planning and communication	death or injury, reputation damage	H&S	2	D	High									
16	Construction	Services	Hitting underground services		poor planning and communication	death or injury, reputation damage	H&S	2	D	High									
46	Construction	Services	Hitting services - live or abandoned		Unidentified services or historic abandoned services	Personnel injury, loss of critical services	H&S	2	D	High									
3	Construction	Pedestrians	Unauthorised access to constrcuction site		illegal access - criminal activity, theft, purposeful damage to equipment, angry stakeholders Access has not been properly restricted or monitored (CCTV, security patrols, fencing...etc)	injury, damage to precinct, dangerous environment, reputation damage, damage to structure	H&S	3	C	High									
6	Construction	Pedestrians	Injury or property damage in worksite		People wishing to pass through the site or get from one side to another	injury, damage to precinct, dangerous environment, reputation damage, damage to structure	H&S	3	C	High									
51	Construction	Lighting	Lighting and emergency systems power outage.		weather conditions, fault, fault with provider, maintenance work	injury, damage to precinct, dangerous environment, reputation damage	H&S	3	C	High									
2.0 DESIGN STAGE																			
60	Design	Access	lack of access to the bridge and precinct for those with dissabilities		lack of wayfinding and poor design	injury, impact on project objectives, reputation damage by not providing a safe and inclusive environment for all.	H&S	4	A	High									
37	Design	Access	Access to top of pylon (aircraft lights)		Maintenace access requirements not taken into account.	Infrastructure failure due to lack of maintenance / creation of maintenance risks	H&S	1	D	Extreme									
53	Design	Structures	Bridge becomes unstable		Cables vibration under wind / rain condition	injury, damage to precinct, dangerous environment, reputation damage	REP	2	C	Extreme									
33	Design	Access	Access for bearing maintenance		Maintenace access requirements not taken into account.	Infrastructure failure due to lack of maintenance / creation of maintenance risks	H&S	3	B	High									
4	Design	Pedestrians	People jump off bridge		Suicide attempts, adrenaline - jumpng to swim, unsupervised children	injury, damage to precinct, dangerous environment, reputation damage	H&S	3	B	High									
48	Design	Environment	Flood		weather conditions, environmental factors, construction impact	impacting temporary piers; permanent piers with potential debris floatting at high velocity	H&S	2	C	Extreme									
7	Design	Traffic Control	Pedestrians hit by vehicles accessing the site		Limited site access	injury, damage to precinct, dangerous environment, reputation damage	H&S	3	A	Extreme									
12	Design	Structures	High wind loads on structure without cables		Pylon installed without cables tying it down	Impact on project objectives, reputation damage	H&S	1	C	Extreme									
11	Design	Structures	Surrounding structures (utilities, Causeway bridge, etc) affected by settlement		Settlement more than anticipated and affecting surrounding structures (utilities, Causeway bridge, etc)	damage to the structure or surrounding utilities	H&S	3	A	Extreme									
41	Design	Environment	erosion and runoff to swan river		weather conditions, extensive clearing	polution, environmental damage	ENV	1	C	Extreme									
18	Design	Structures	Bridge maximum load exceeded		event and no crowd control, lack of cctv monitoring of people on bridge	damage to structure, injury of crowd, possible structure collapse?	H&S	5	E	Low									
40	Design	Structures	Non-compliant bridge height for water traffic clearance		Excessive deflection of the bridge impacting the required navigation clearance	River traffic blockage or damage to boats	LEGAL	5	E	Low									
35	Design	Traffic Control	Lack of traffic control at Point Fraser		Changes to traffic management and flow around Point Fraser	Impact to access of Causeway Bridge	H&S	5	D	Low									
1	Design	Pedestrians	Unlawful public access to laydown area		Illegal access - criminal activity, theft, purposeful damage to equipment, angry stakeholders Access has not been properly restricted or monitored (CCTV, security patrols, fencing...etc)	injury, damage to precinct, dangerous environment, reputation damage, damage to structure	H&S	5	C	Low									
34	Design	Access	Replacement of critical elements : bearing / cable etc		Maintenace access requirements not taken into account.	Infrastructure failure due to lack of maintenance / creation of maintenance risks	H&S	4	D	Low									
27	Design	Safety	Inaccessible call point on bridge to summon help		poor design, not enough access points		H&S	4	D	Low									
9	Design	Structures	Damage or impact to pad requirements		Change of crane requirements	injury, damage to precinct, dangerous environment, reputation damage	H&S	4	C	Medium									
13	Design	Working at Heights	fall from high embankment areas and securing batters		easy access	potential injury and envirnmental damage	H&S	4	C	Medium									
56	Design	Lighting	lack of CCTV clarity or signage recognition		insufficient lighting	injury, damage to precinct, dangerous environment, reputation damage	H&S	3	D	Medium									
36	Design	Access	Access to water conduit inside box girder ?		Maintenace access requirements not taken into account.	Infrastructure failure due to lack of maintenance / creation of maintenance risks	H&S	3	D	Medium									
58	Design	Pedestrians	Pedestrian Safety risk - attack or injury between bridges		Not enough lighting on Heirisson Island between bridges	attack or injury between bridges	H&S	4	C	Medium									
47	Design	Pedestrians	Injury from thrown objects		People throwing objects off the bridge	injury to people	H&S	3	D	Medium									
39	Design	Access	access to maintain water for taps on bridge		poor planning and design	no access to water taps for maintenance	LEGAL	4	C	Medium									
54	Design	Structures	environment causes reduced life of the asset		UV / Heat deteriorating structural components over time	reduced life of the asset, impact on project objectives	H&S	3	D	Medium									
19	Design	Slips, Trips and Falls	risk of the slipping off the slope		wet weather, incorect surface treatment, incorrect incline	Impact on project objectives, reputation damage, injury	H&S	4	C	Medium									
30	Design	Access	event occurs that requires injured people to be evalnjured people need to be evacuation from the structure		accident / medical	if not able to exit in time or safely more harm may be done to injured person. May result in litigation.	H&S	1	E	High									
2	Design	Traffic Control	Car accesses and drives across bridge		bridge access not restricted enough - poor design, malfunctioning bollards	injury, damage to precinct, dangerous environment, reputation damage, damage to structure	H&S	1	E	High									
17	Design	Structures	People creating excessive vibrations on purpose on the bridge (crowd)		poor design	unenjoyable experience, avoidance of the bridge, injury	H&S	1	E	High									
24	Design	Access	Access to lighting, handrail and feature		Maintenace access requirements not taken into account.	Infrastructure failure due to lack of maintenance / creation of maintenance risks	H&S	4	B	Medium									
29	Design	Access	Emergency access to bridge restricted		poor design, not enough access points	emergency situations may have have a lag in response times - results in injury, death, reputation or structural damage	H&S	2	D	High									
42	Design	Access	Limited or no access for landscaping and maintenance vehicles		poor design, not enough access points	limited maintenance activities can be performed - may damage precinct over time	H&S	4	B	Medium									
49	Design	Structures	shared path clearance under the bridge decks when the sea level rises by 0.9m?		climate change / rising water levels	low clearance height would not meet standards - may impact safety or call for re-design and project modification - $$$	ENC	3	C	High									
57	Design	Pedestrians	injury / harrassment of visitors to the preceinct		lack of adequate lighting	impact on project objectives, loss of visitors to the precinct, reputation damage	H&S	3	C	High									

23	Design	Access	Access to CCTV / Electrical infrastructure	Maintenace access requirements not taken into account. Sufficient widening not provided on embankments to allow for maintenance personnel.	Infrastructure failure due to lack of maintenance / creation of maintenance risks	H&S	3	C	High
38	Design	Traffic Control	Boating incidents (crashes and near misses)	poor communiaction with local authorities and lack of wardens or signage	collisions and injury	H&S	3	C	High
22	Design	Access	Access to in bridge services is restricted	poor design, not enough access points	limited maintenance activities can be performed - may damage precinct and structure over time	H&S	3	C	High
8	Design	Pedestrians	Cyclist travelling at high speed collide with pedestrians	Poor design, lack of signage, poor wayfinding, public behaviour (not following rules, overtaking), delineation of paths not clear.	death or injury, reputation damage	H&S	2	B	Extreme
10	Design	Environment	Damage or impact to crane or bridge during and after construction	Extreme weather - wind	injury, damage to precinct, dangerous environment, reputation damage	H&S	1	B	Extreme
61	Design	Pedestrians	Poorly marked bike paths	poor design and incorect wayfinding/signage	injury (bike collision), impact on project objectives, reputation damage	H&S	2	A	Extreme
55	Design	Slips, Trips and Falls	Pedestrians slip on pathways	rain or weather conditions, incorrect material selection	injury to pedestrians	H&S	2	A	Extreme
28	Design	Environment	Lightning hitting pylon, deck or cables -> Risk of fire / damage to structure	weather conditions, design of structure, materials	Risk of fire / damage to structure	OPS	2	A	Extreme
	Design	Pedestrians / cyclists/e-mobility interface	Collision of peds and cyclists/e-mobility (Pt Fraser)	Pt Fraser Tie in point from segregated path to existing shared path not clarea or safety resulting in collisions	injury to pedestrians / cyclists	H&S	2	A	Extreme
	Design	Pedestrians / cyclists/e-mobility interface	Collision of peds and cyclists/e-mobility (Pt Fraser)	Pedestrians on the bridge are all directed to the west side of the bridge with cyclists on the east side. Pedestrians travelling southbound (on left side of the path) from the existing Riverside Dr Shared Path need to cross to the other right hand side of the Bridges Shared Path (not intuitive to be using opposite side of path).	injury to pedestrians / cyclists	H&S	2	A	Extreme
	Design	Pedestrians / cyclists/e-mobility interface	Collision of peds and cyclists/e-mobility (Heirisson Island)	Heirisson Island central meeting area as shown on civils layout is a primary conflict point for conflict between pedestrians and cyclists crossing	injury to pedestrians / cyclists	H&S	2	A	Extreme
	Design	Pedestrians / cyclists/e-mobility interface	Collision of peds and cyclists/e-mobility (Heirisson Island)	Heirisson Island central meeting area as shown on civils layout is a primary conflict point between pedestrians and cyclists crossing over. Located at the sag point of the approach embankments either side (3% downgrade) so has higher potential for higher cyclist speeds.	injury to pedestrians / cyclists	H&S	2	A	Extreme
	Design	Pedestrians / cyclists/e-mobility interface	Collision of peds and cyclists/e-mobility (McCallum Park)	McCallum Park Proposed shared path network includes intersection with 6x paths. Not clear or safe resulting in collisions. 15% design is reflective of the ULD and not designed as a safe shared path intersection.	injury to pedestrians / cyclists	H&S	2	A	Extreme
3.0 OPERATIONS STAGE									
32	Operations	Structures	Failure of 1 cable	manufacturing defect	quality issue	OPS	5	E	Low
15	Operations	Fire	Risk of fire - on bridge	Having a fire for a BBQ at the pause points	percieved poor planning, percieved lack of security and safety	H&S	3	E	Medium
45	Operations	Pedestrians	throwing rocks from landscaping on to tourist boats or shared path below	poor security / too much access	injury and litigation	LEGAL	2	E	High
20	Operations	Terrorism	Terrorism, blowing a cable or bearing or support etc	opportunity, access, unhappy stakeholders	potential injury, sturctural damage, environmental damage, lowered community confidence	REP	1	E	High
25	Operations	Fire	Risk of fire - bushfire near embankments	natural casues or arson	impact on safety of environment and community	H&S	2	D	High
	Operations	Pedestrians	Incident occuring from colllission or disruption of pedestrian activities by electric quad bikes wrongly accessing the bridge	Quad bikes can be hired from local hire shop	injury, damage to precinct, dangerous environment, reputation damage	H&S	3	C	High

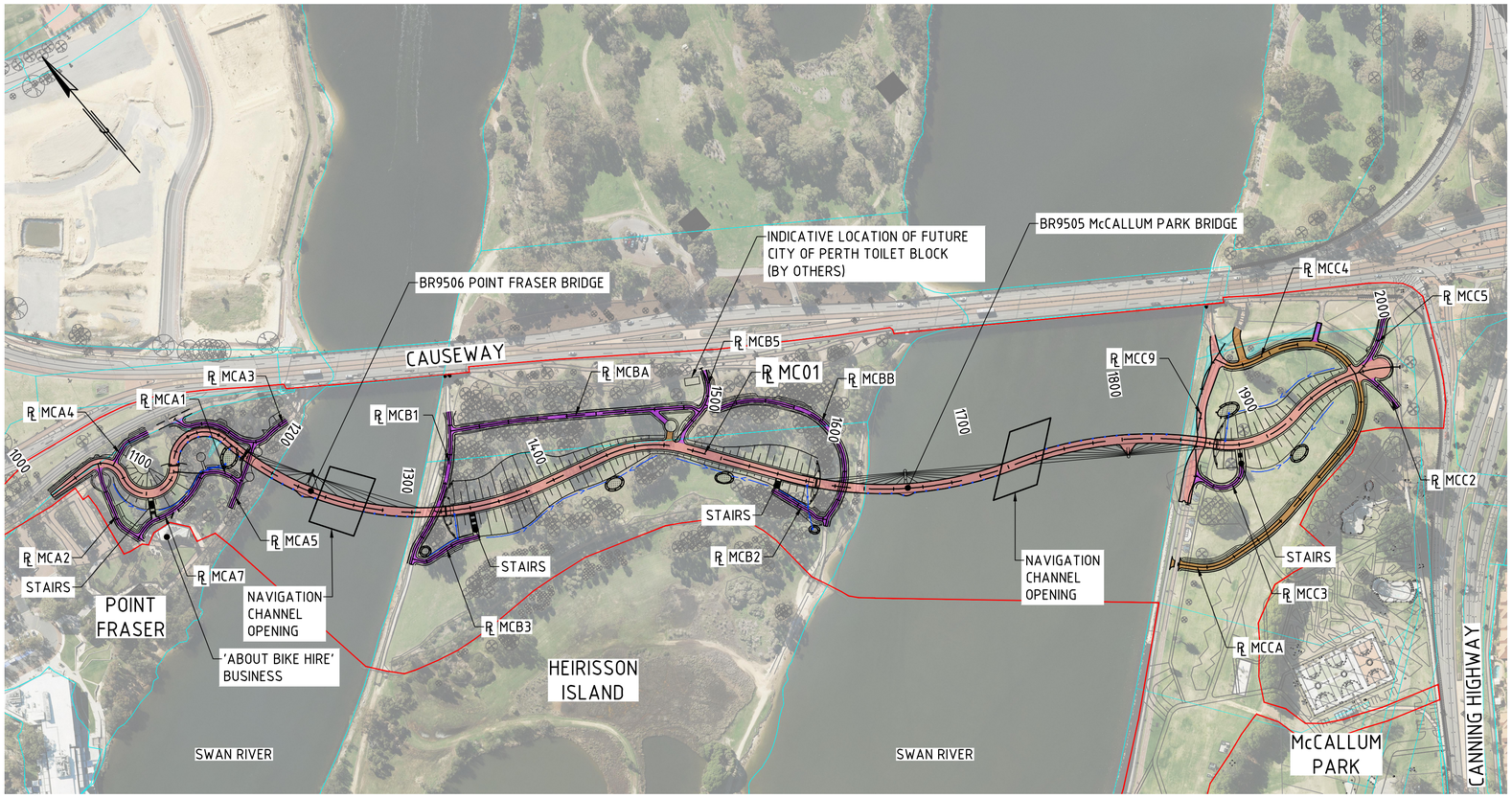
APPENDIX 7 DESIGN REVIEW, INDEPENDENT VERIFICATION AND ROAD SAFETY AUDIT

NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- 100 — REFERENCE LINE
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- OPEN DRAINS
- DRAINAGE PIPE AND FLOW DIRECTION
- SCUPPER
- GULLY PIT
- HEADWALL
- ROCK PROTECTION
- DRAINAGE DEPRESSION
- 1.4m BALUSTRADE
- FIXED BOLLARD
- RETRACTABLE BOLLARD
- 6m PEDESTRIAN / CYCLE PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED



PLAN
1:2000

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1:2000

FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 12.09.22
	AMENDMENTS	

METADATA	
GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

wsp
Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

DRAWN	M.BOCESKI	12.09.22
DESIGNED	S.PATTENDEN	12.09.22
CHECKED	A.WIDGERY	12.09.22
APPROVED	T.CAWLEY	12.09.22
DRAWING PATH		

VERIFIER
VERIFIED DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY	CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES SCHEME PLAN
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00010
REV	A

NOTES

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LEGEND

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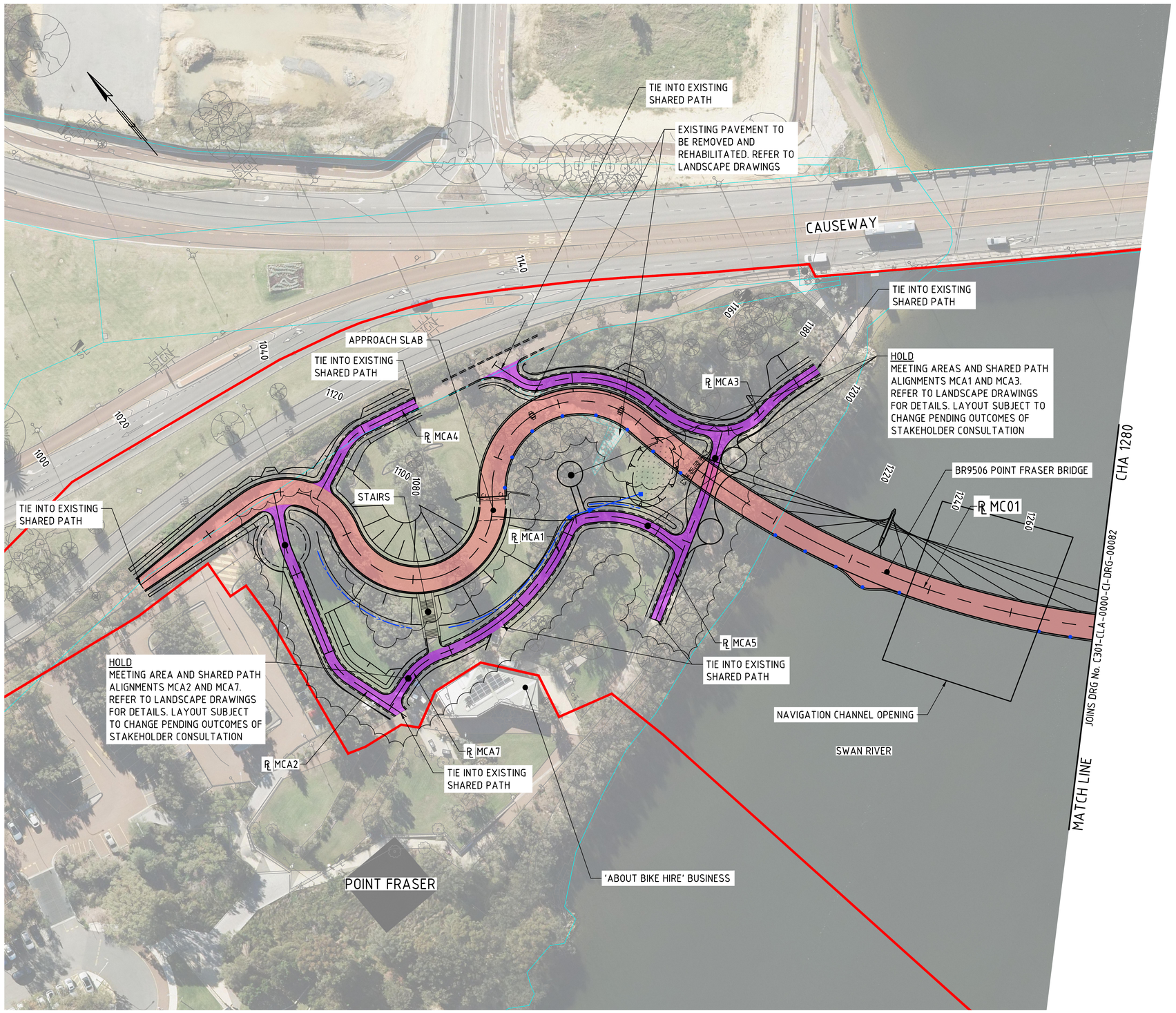

PLAN
1:500

1:500

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FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
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DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED DATE

Causeway Link Alliance

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA
mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY	CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES GENERAL ARRANGEMENT PLAN CHA 1000 TO CHA 1280
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00081
REV	A

Plotted By: Boceski, Mya Plot Date: 13/09/2022 3:29 PM Cad File: C:\pw_working\wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00081.dwg

NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- REFERENCE LINE
- SEAL EDGE
- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- OPEN DRAINS
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- 6m PEDESTRIAN / CYCLE PATH
- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED

CAUSEWAY

TIE INTO EXISTING SHARED PATH

INDICATIVE LOCATION OF FUTURE CITY OF PERTH TOILET BLOCK (BY OTHERS)

HOLD
MEETING AREA, DRAINAGE DEPRESSION AND SHARED PATH ALIGNMENT MCB5. REFER TO LANDSCAPE DRAWINGS FOR DETAILS. LAYOUT SUBJECT TO CHANGE PENDING OUTCOMES OF STAKEHOLDER CONSULTATION

TIE INTO EXISTING ACCESS TRACK

HOLD
MEETING AREA, DRAINAGE DEPRESSION AND SHARED PATH ALIGNMENT MCB1. REFER TO LANDSCAPE DRAWINGS FOR DETAILS. LAYOUT SUBJECT TO CHANGE PENDING OUTCOMES OF STAKEHOLDER CONSULTATION

CHA 1280

JOINS DRG No. C301-CLA-0000-CI-DRG-00081

MATCH LINE

MCB5

MCBB

MC01

MCBA

MCB1

1.4m HIGH BALUSTRADE

BR9506 POINT FRASER BRIDGE

HOLD
MEETING AREA. REFER TO LANDSCAPE DRAWINGS FOR DETAILS. LAYOUT SUBJECT TO CHANGE PENDING OUTCOMES OF STAKEHOLDER CONSULTATION

STAIRS

APPROACH SLAB

MCB2

CHA 1620

JOINS DRG No. C301-CLA-0000-CI-DRG-00083

MATCH LINE

1.4m HIGH BALUSTRADE

STAIRS

APPROACH SLAB

MCB3

TIE INTO EXISTING ACCESS TRACK

TIE INTO EXISTING ACCESS TRACK

HEIRISSON ISLAND

1280 1300 1320 1340 1360 1380 1400 1420 1440 1460 1480 1500 1520 1540 1560 1580 1600

PLAN
1:500

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FOR INFORMATION ONLY

No.	DESCRIPTION	APPROVED & DATE
A	ISSUED FOR 15% DESIGN REVIEW	T.C 09.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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Level 5
503 Murray Street
Perth WA 6000
Telephone +61 8 9489 9700 Facsimile +61 8 9489 9777 Email: perth@wsp.com

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DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22

DRAWING PATH

VERIFIER

VERIFIED DATE

Causeway Link Alliance

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA

mainroads WESTERN AUSTRALIA

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY	CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES GENERAL ARRANGEMENT PLAN CHA 1280 TO CHA 1620
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00082
REV	A

Plotted By: Boceski, Mya Plot Date: 13/09/2022 3:30 PM Cad File: C:\pwworking\wsp-aus-pw.bentley.com_wsp-aus-pw-19\d0222996\C301-CLA-0000-CI-DRG-00082.dwg

NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- REFERENCE LINE
- SEAL EDGE
- CADASTRAL BOUNDARY
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- OPEN DRAINS
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- 4m SHARED PATH
- 3m SHARED PATH
- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED

CAUSEWAY

TIE INTO EXISTING SHARED PATH

PROVIDE FIXED BOLLARD

EXISTING PAVEMENT TO BE REMOVED AND BE REHABILITATED. REFER TO LANDSCAPE DRAWINGS

TIE INTO EXISTING SHARED PATH

TIE INTO EXISTING STAIRS

HOLD
MEETING AREA. REFER TO LANDSCAPE DRAWINGS FOR DETAILS. LAYOUT SUBJECT TO CHANGE PENDING OUTCOMES OF STAKEHOLDER CONSULTATION

RL MCC5

RL MCC9

HOLD
MEETING AREA. REFER TO LANDSCAPE DRAWINGS FOR DETAILS. LAYOUT SUBJECT TO CHANGE PENDING OUTCOMES OF STAKEHOLDER CONSULTATION

EXISTING PAVEMENT TO BE REMOVED AND BE REHABILITATED. REFER TO LANDSCAPE DRAWINGS

NAVIGATION CHANNEL OPENING

BR9505 McCALLUM PARK BRIDGE

RL MC01

RL MCC4

1.4m HIGH BALUSTRADE

RL MCC2

TIE INTO EXISTING SHARED PATH

CHA 1710

JOINS BELOW

EXISTING PAVEMENT TO BE REMOVED AND BE REHABILITATED. REFER TO LANDSCAPE DRAWINGS

SWAN RIVER

STAIRS

RL MCC3

APPROACH SLAB

TIE INTO EXISTING PEDESTRIAN PATH

TIE INTO EXISTING CYCLE PATH

MATCH LINE

MATCH LINE

CHA 1620

CHA 1740

JOINS DRG No. C301-CLA-0000-CI-DRG-00082

JOINS ABOVE

NAVIGATION CHANNEL OPENING

BR9505 McCALLUM PARK BRIDGE

RL MC01

McCALLUM PARK

RL MCCA

PROVIDE SHARED PATH CONNECTION BETWEEN EXISTING PEDESTRIAN AND CYCLE PATHS

CANNING HIGHWAY

PLAN 1:500

PLAN 1:500

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1:500

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	AMENDMENTS	

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

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DESIGNED	S.PATTENDEN	09.09.22
CHECKED	A.WIDGERY	09.09.22
APPROVED	T.CAWLEY	09.09.22
DRAWING PATH		

VERIFIER

VERIFIED DATE

Causeway Link Alliance

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

THE GOVERNMENT OF WESTERN AUSTRALIA

mainroads WESTERN AUSTRALIA

INFRASTRUCTURE DELIVERY DIRECTORATE

CONTRACT MANAGER DATE

PROJECT DIRECTOR DATE

LOCAL AUTHORITY	CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA	METROPOLITAN REGION
MRWA DRAWING NUMBER	
PROJECT TITLE	CAUSEWAY LINK ALLIANCE
DRAWING TITLE	CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES GENERAL ARRANGEMENT PLAN CHA 1620 TO CHA 2005.334
SHEET	A1
DRAWING STATUS	15%
DRAWING No.	C301-CLA-0000-CI-DRG-00083
REV	A

PLAN
1:1000

PROFILE - (MC01)
1:1000H, 1:100V

NOTES

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- REFERENCE LINE
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- CADASTRAL BOUNDARY
- PROJECT BOUNDARY
- 6m SHARED PATH
- 4m SHARED PATH
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- 2.5m FOOTPATH
- EXISTING PAVEMENT TO BE REMOVED

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A	ISSUED FOR 15% DESIGN REVIEW	T.C 12.09.22

AMENDMENTS

METADATA

GROUND SURVEY STANDARD:	67-08-43
DATE OF CAPTURE:	JUN 2022
MAPPING SURVEY STANDARD:	67-08-44
DATE OF CAPTURE:	-
MAIN ROADS PROJECT ZONE:	PCG94
HEIGHT DATUM:	AHD71

WSP
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DRAWING PATH

VERIFIER
VERIFIED
DATE

Causeway Link Alliance
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

mainroads WESTERN AUSTRALIA
INFRASTRUCTURE DELIVERY DIRECTORATE
CONTRACT MANAGER DATE
PROJECT DIRECTOR DATE

LOCAL AUTHORITY: CITY OF PERTH (124), TOWN OF VICTORIA PARK (129)
MAIN ROADS RESPONSIBILITY AREA: METROPOLITAN REGION
MRWA DRAWING NUMBER
PROJECT TITLE: CAUSEWAY LINK ALLIANCE
DRAWING TITLE: CAUSEWAY PEDESTRIAN AND CYCLIST BRIDGES PLAN AND PROFILE - PSP MC01 - CHA 1000 TO CHA 2005.334
SHEET: A1
DRAWING STATUS: 15%
DRAWING No.: C301-CLA-0000-CI-SKT-00001
REV: A