GREATER SHEPPARTON

VICTORIA
State Government

Shepparton South East

Development Contributions Plan

December 2024

Victorian Planning Authority

ACKNOWLEDGMENT OF COUNTRY

The Victorian Planning Authority proudly acknowledges Victoria's Aboriginal community and their rich culture and pays respect to their Elders past and present.

We **acknowledge** Aboriginal people as Australia's first peoples and as the Traditional Owners and custodians of the land and water on which we rely.

We **recognise and value** the ongoing contribution of Aboriginal people and communities to Victorian life and how this enriches us.

We **embrace** the spirit of reconciliation, working towards the equality of outcomes and ensuring an equal voice.

We acknowledge the Yorta Yorta Nation as the Traditional Owners of the land to which this development contributions plan applies.

ACCESSIBILITY

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CONTENTS

PLANS

TABLES

FIGURES

SUMMARY

Table 1 provides an overview of the project categories and charges included within this Development Contributions Plan (DCP). A more detailed explanation of apportionment, methods of calculation, and the description and costs of individual projects is included within the document.

TABLE 1 Summary of charges

SUMMARY: NET DEVELOPABLE AREA (NDA)		
Charge area	**Total Cost of Contribution**	**Contribution per Net Developable Hectare (NDHa)**
Residential (NDA-R)	$110,076,831	$442,737
Total	**$110,076,831**	**$442,737**

SUMMARY: DEVELOPMENT INFRASTRUCTURE LEVY		
Projects	**Total cost of project**	**Contribution per Net Developable Hectare (NDHa)**
Transport	$15,840,573	$63,712
Community	$36,376,293	$146,308
Drainage	$48,550,190	$195,272
Plan Preparation	$3,218,037	$12,943
Early Delivery Works	$6,091,738	$24,501
Total	**$110,076,831**	**$442,737**

SUMMARY: COMMUNITY INFRASTRUCTURE LEVY		
Projects	**Total cost of projects**	**Contribution per Dwelling**
Community	$4,037,765	$1,355
Total	**$4,037,765**	**$1,355**

Note: All costs are rounded to the nearest dollar.

Plan 1
Main Catchment Area
Shepparton South East Development Contributions Plan

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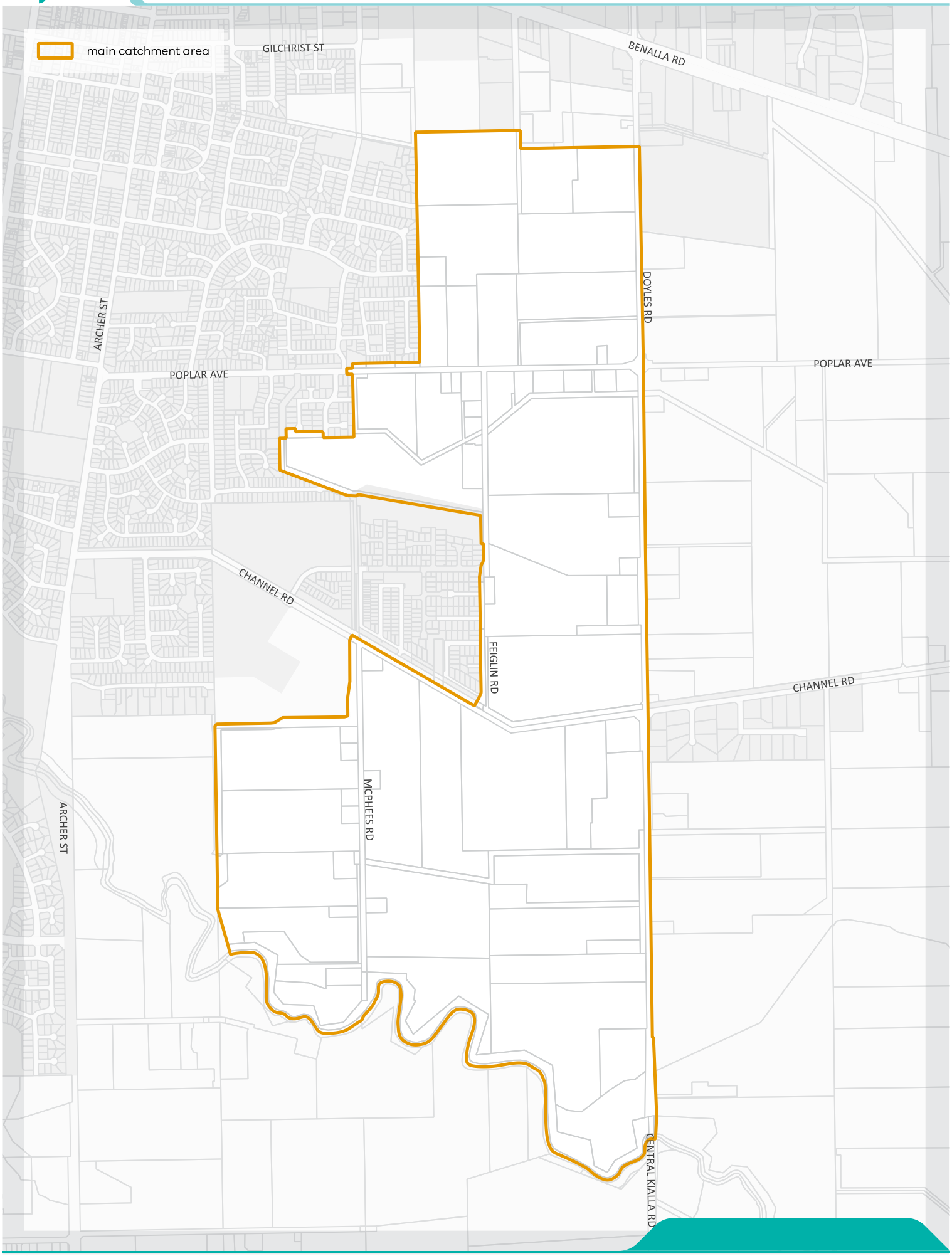

1.0 INTRODUCTION

The *Shepparton South East Development Contributions Plan* (DCP) has been prepared by the Victorian Planning Authority (VPA) in partnership with the Greater Shepparton City Council (Council) and with the assistance of government agencies, service authorities and major stakeholders.

The DCP:

- Outlines projects required to ensure that future residents, visitors and workers in the precinct can be provided with timely access to infrastructure and services necessary to support a quality and affordable lifestyle;
- Establishes a framework for development proponents to make a financial contribution towards the cost of identified infrastructure projects;
- Ensures the cost of providing new infrastructure and services is shared equitably between various development proponents and the wider community;
- Provides the details of the calculation of financial contributions that must be made by future developments towards the nominated projects;
- Provides developers, investors and the local community with certainty about development contribution requirements and how these will be administered.

The DCP document comprises five parts:

1 STRATEGIC BASIS

Summary and 1.0 INTRODUCTION Clearly explain the strategic basis for the DCP.

2 JUSTIFICATION

2.0 INFRASTRUCTURE PROJECT JUSTIFICATION Provides justification for the various infrastructure projects included in the DCP.

3 CALCULATION OF CONTRIBUTIONS

4.0 CALCULATION OF CONTRIBUTIONS Sets out how the development contributions are calculated and costs apportioned.

4 ADMINISTRATION

5.0 ADMINISTRATION Focuses on administration of the DCP.

5 IMPLEMENTATION

6.0 IMPLEMENTATION STRATEGY Focuses on implementation of the DCP.

The strategic basis for the DCP is informed by:

- State and Local Planning Policy Framework as set out in the *Greater Shepparton Planning Scheme*;
- *Precinct Structure Planning Guidelines* (Victorian Planning Authority, 2008 revised ,2021);
- *Infrastructure Design Manual* (Local Government Infrastructure Design Association);
- *Shepparton South East Precinct Structure Plan* and supporting documents.

These documents set out a broad, long term vision for the sustainable development of the precinct and its surrounds.

Plan 2
Place Based Plan
Shepparton South East Development Contributions Plan

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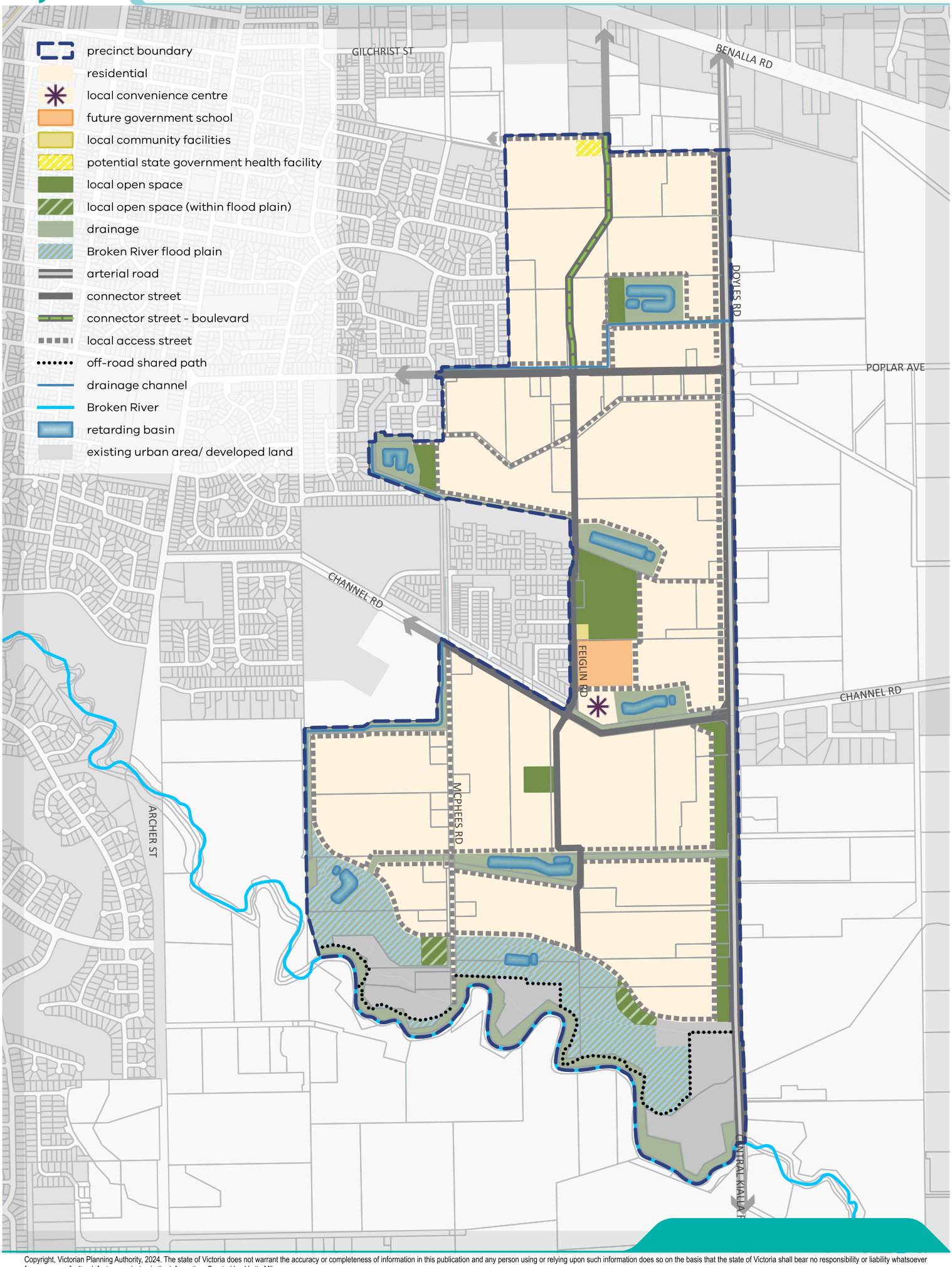

1.1 Planning and Environment Act 1987

The DCP has been prepared in accordance with Part 3B of the Planning and Environment Act 1987 (the Act) as well as other relevant legislation and has been developed in line with the State and Local Planning Policy Framework of the Greater Shepparton Planning Scheme. It is consistent with the Ministerial Direction On The Preparation And Content Of Development Contributions Plans under section 46M(1) of the Act and has regard to the Victorian Government's Development Contributions Plan Guidelines.

The DCP provides for the charging of a Development Infrastructure Levy (DIL) pursuant to section 46J(a) of the Act towards works, services and facilities. It also provides for the charging of a community infrastructure levy (CIL) pursuant to section 46J(b) of the Act as some items are classified as community infrastructure by reference to the Act, the Ministerial Direction on development contributions plans and the Development Contributions Plan Guidelines.

The DCP forms part of the Greater Shepparton Planning Scheme pursuant to section 46I of the Act and is an incorporated document under the Schedule to Clause 72.04 of the Greater Shepparton Planning Scheme. The DCP is implemented into the Greater Shepparton Planning Scheme through Schedule 5 to the Development Contributions Plan Overlay (DCPO5) that applies to the 'main catchment area' illustrated on Plan 2.

1.2 Shepparton South East Precinct Structure Plan

The Shepparton South East Precinct is located to the south east of the existing Shepparton urban area. The Shepparton South East Precinct Structure Plan (PSP) embraces the residential and natural characteristics, such as the Broken River, which will play an important role in creating a vibrant, sustainable, connected and well serviced community. The PSP will offer the Greater Shepparton community a new residential neighbourhood in proximity to Shepparton's existing services, with well-connected tree-lined streets and landscaped open spaces. The PSP will support a new community of approximately 2,980 new homes for a population of approximately 7,200 residents that seamlessly integrates with the surrounding urban framework of Shepparton. The PSP will capture the regional city character of Shepparton and acknowledge its surrounding rural landscapes. It will assist and strengthen the growth of the regional city, while maintaining its unique character and high standard of liveability.

The PSP identifies approximately 384.81 hectares of land for urban development as illustrated on Plan 2. The PSP sets out the vision for how land should be developed, describes the objectives to be achieved by the future development and outlines projects required to support the future community.

The need for the infrastructure set out in the DCP has been determined according to the anticipated development scenario as described in the PSP.

The DCP has a strong relationship to the PSP, as the PSP provides the rationale and justification for infrastructure items that have been included within the DCP. Accordingly, the DCP is an implementation-based planning tool, which identifies the infrastructure items required by the new community and apportions the cost of this infrastructure in an equitable manner across the plan area.

The PSP has been developed following a comprehensive planning process, which establishes the future direction of development within the precinct.

1.3 The area to which the Development Contributions Plan applies

In accordance with section 46K(1)(a) of the Act, the DCP applies to land illustrated on Plan 1; this area is known as the main catchment area (MCA). The area is identified as DCPO5 in the *Greater Shepparton Planning Scheme*.

In identifying infrastructure items for delivery, consideration has been given to ensure they are not already wholly funded through another contribution mechanism, such as a mandatory infrastructure construction requirement, an existing local DCP, an agreement under Section 173 of the Act, or as a condition on an existing planning permit.

1.4 Infrastructure items included in the Development Contributions Plan

The need for infrastructure included in the DCP has been determined on the basis of the development scenario as described in the PSP and its supporting documents.

Items can be included in a DCP if the proposed development of an area is likely to create the need for infrastructure by its future community. New development does not have to trigger the need for new

items in its own right. Furthermore, an item can be included in a DCP regardless of whether it is within or outside the DCP area.

Before inclusion in the DCP, all items have been assessed to ensure they have a relationship or nexus to proposed development in the PSP. The cost apportionment methodology adopted in the DCP relies on the nexus principle. A new development is deemed to have a nexus with an item if it is expected to make use of that item. Before inclusion in the DCP, all items have been assessed to ensure they have a relationship or nexus to proposed development in the PSP by considering a range of factors and impacts to the implementation of the PSP, including:

The cost apportionment methodology is adopted in the DCP relies on the nexus principle. The PSP is deemed to have a nexus with an item if it is expected to make use of that item to accommodate the demand; and

100% apportionment to the DCP is adopted if a project is critical to the implementation of the PSP but the availability and timing of an external fund is uncertain.

The items that have been included in the DCP all have the following characteristics:

- Are essential to the health, safety and wellbeing of the community;
- Will be used by a broad cross-section of the community;
- Reflect the vision and strategic aspirations expressed in the PSP;
- Are not recurrent items;
- Are the basis for the future development of an integrated network;
- Provide for infrastructure delivery due to heavy fragmentation of land.

1.5 Items not included in the Development Contributions Plan (developer works)

The following items are not included in the DCP. They must be provided by developers as a matter of course and/or pursuant to agreements with servicing agencies in implementing the PSP:

- Connector streets and local streets, except those included in the DCP;
- Intersection works and traffic management measures along arterial roads, connector streets and local streets (except those included in the DCP);
- Local bus stop infrastructure;
- Landscaping (including irrigation) of all existing and future connector roads, including central medians, and local streets;
- Local shared, pedestrian and bicycle paths along local streets, connector streets, utilities easements, waterways and within local parks including bridges, intersections, and barrier crossing points (except those included in the DCP);
- Bicycle parking;
- Appropriately scaled lighting along all roads, major shared and pedestrian paths, and traversing the open space network;
- Local street or path crossings of waterways, unless included in the DCP or outlined as the responsibility of an agency in the PSP;
- Local parks (not included in the DCP) masterplans and any agreed associated works required by the PSP;
- Any landscaping in local parks in addition to what is already provided for in the DCP;
- Infrastructure as required by utility services providers, including water, sewerage, electricity, gas and telecommunications;
- and conversion Interim works, such as fencing, unless included in the DCP or outlined as the responsibility of an agency in the PSP.

The items listed above are considered to be normal to the construction of a development and are not considered to warrant cost sharing arrangements beyond those set out in the DCP.

They may be further addressed and defined by an agreement under Section 173 of the Act and/or conditions in planning permits.

Upgrade of the existing adjoining road network to an urban standard will be implemented through subdivision permit conditions to the satisfaction of the responsible authority, except where specified as a DCP project.

1.6 Related infrastructure agreements

A number of additional infrastructure agreements may relate to the precinct area. These includes the Section 173 agreements of The Act that have been entered into and relevant capital works programs.

2.0 INFRASTRUCTURE PROJECT JUSTIFICATION

2.1 Project identification

The DCP uses a project identification system of project category and sequential number in its tables and plans.

The following types of projects are included in the DCP:

Transport projects

- **IN** – Intersection projects
- **PED** – Pedestrian operated signal projects

Community projects

- **CI** – Community Centre projects
- **SR** – Sports Reserve projects
- **LP** – Local Park projects
- **PCP** – Shared Pedestrian and Cycle Path projects

Drainage projects

- **RBWL** – Retarding basin projects
- **SC** – Stormwater Conveyance and floodplain storage

Plan Preparation

- **PP** - Plan Preparation Costs

Early Developer Works

- **EDW** – Financing for early delivery of DCP items

2.2 Project timing

Each item in the DCP has an assumed indicative provision trigger specified in Tables 2–7. The timing of the provision and the items in the DCP are consistent with information available at the time the DCP was prepared.

The Greater Shepparton City Council is the development agency as well as the collecting agency and will monitor and assess the required timing for individual items and have regard to its capital works program.

The collecting agency may consider alternatives to the priority delivery of works or land where:

- Infrastructure is to be constructed / provided by development proponents as works or land in kind, as agreed by the collecting agency;
- Network priorities require the delivery of works or land to facilitate broader road network connections;
- Lot cap trigger for the delivery of works under the relevant UGZ schedule;
- Community needs determine the delivery of works or land for community facilities, sports reserves and open space.

All items in the DCP will be provided as soon as is practicable and as soon as sufficient contributions are available, consistent with Section 6.1 and acknowledging the development agency's capacities to provide the balance of funds not recovered by the DCP.

Development Infrastructure Levies are to be paid by developers at the time of subdivision. If subdivision is not applicable, payments must be made prior to construction of buildings and works (refer to Section 6.1).

Community Infrastructure Levies are to paid prior to issuing a building permit. Payment of the levy is triggered by the approval of a building permit for the construction of new dwelling. The landowner is responsible for payment of the levies.

Plan 3
Transport Projects
Shepparton South East Development Contributions Plan

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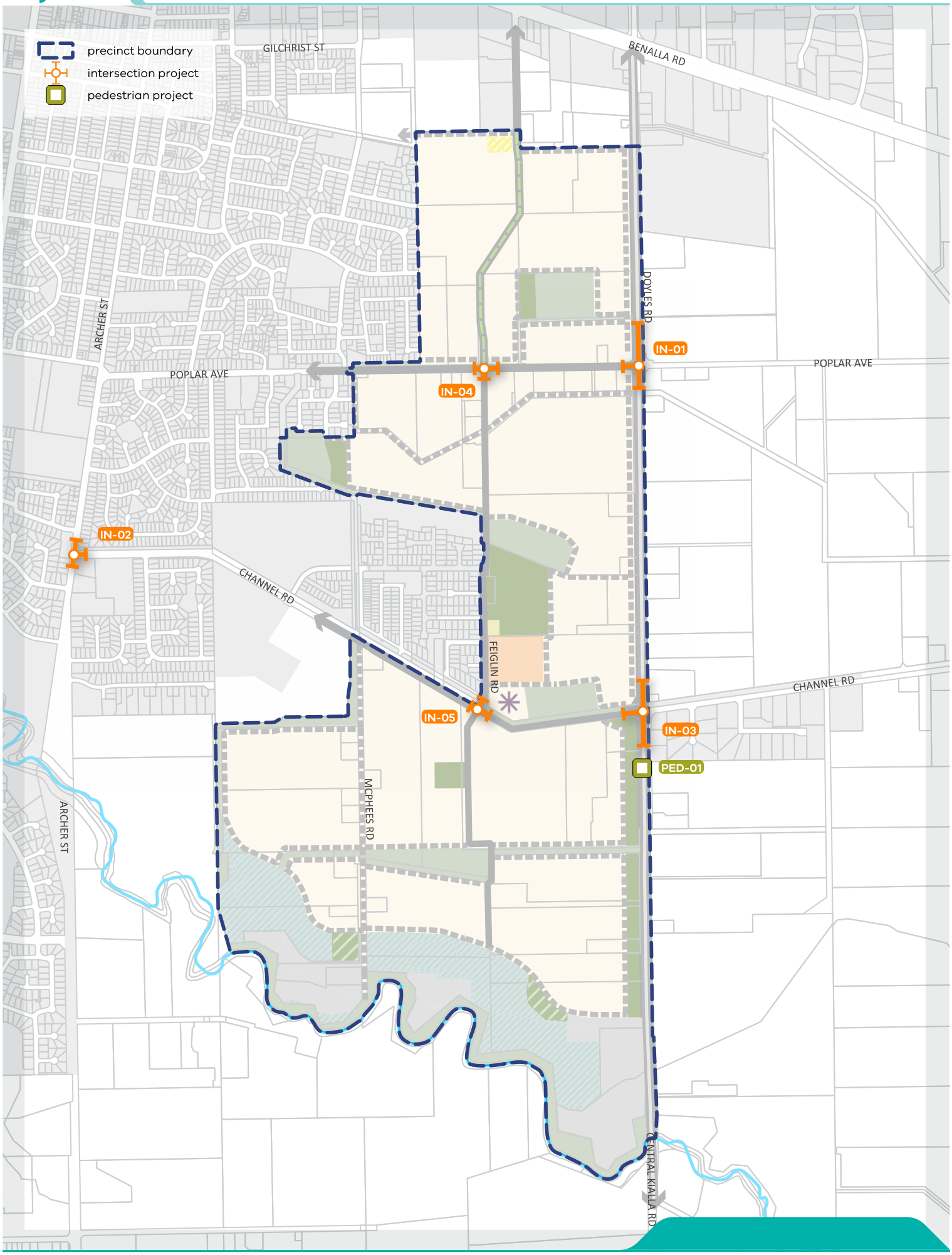

2.3 Transport projects

The PSP outlines an expanded urban structure intended to support the future residential growth of the precinct, including connector streets, and local streets adjusted to meet the existing constraints of the area. Where the precinct requires a new or upgraded intersection within the existing road network, the costs associated and apportionments with that intersection have been included in the DCP.

Construction costs associated with local road intersection has been included at the request of Council to assist in mitigating fragmented landowner arrangements which may inhibit their timely delivery.

Transport projects are based on the transport network illustrated in Plan 3 and include a combination of:

- Construction of controlled intersections with the existing road network and associated works;
- Signalised pedestrian crossing and,
- Land for the above.

The above projects are shown on Plan 3 and described in Table 1.

Shepparton Alternate Route / Principal Freight Network (Doyles Road)

The Shepparton Alternative Route (SAR) – Doyles Road is part of Victoria's Principal Freight Network (PFN). The SAR section of Doyles Road partially falls within the eastern portion of the precinct. Currently, Doyles Road is a two-lane carriageway (one lane in each direction) with localised widening at some intersections to provide for a right turn deceleration lane.

Land to facilitate the duplication of Doyles Road as part of PFN has been set aside at the request of Department of Transport and Planning (DTP). This land has been removed from the net developable area of the DCP calculations. The future acquisition and compensation for landowners impacted by this will be managed DTP into the future.

UGZ Lot Cap and Early Developer Works (EDW-01)

To ensure that the transport infrastructure is able to cope with the future demand from the precinct with no adverse impact on the SAR and PFN, Schedule 2 to the UGZ includes a lot cap to trigger for the modification and upgrade of the Poplar Avenue (IN-01) and Channel Road (IN-03) intersections with Doyles Road. This will ensure the timely delivery of the modification and upgrade of the intersections. The schedule outlines that a 800 dwelling lot cap will be enforced and that no dwellings will be approved until the upgrades to these intersections have been delivered.

To avoid any shortfalls, the DCP has included the Early Developer Works (EDW-01) to fund IN-01, IN-03 and IN-03c to ensure that the land purchase and upgrade works are funded appropriately before or when the lot cap is trigger or at any point, so as not to stall development within the precinct. This will be further discussed in Section 2.7 Early Developer Works.

PED-01c Pedestrian Operated Signals

Through consultation Council, DTP and Department of Education outlined the existing and interim need to ensure there is a safe crossing point across Doyles Road connecting the precinct residents west to the Orrvale Primary School. Though there will be a future primary school located within the precinct, there will be an interim need to service resident access to Orrvale Primary School until the time in which the new school is built.

The indicative location of the signals is to south of the Doyles Road/Channel Road and will need to be confirmed through detailed design and further consultation with DTP. The design and installation of PED-01 must be informed by a road safety audit and delivered prior to the IN-03 lot cap triggered, unless otherwise agreed by the road authority that the installation of PED-01 may coincide with the design and construction of IN-03.

External Apportionment

External apportionment has been applied the following intersection projects.

- **IN-02c** – Channel Road and Archer Road – 33% of total intersection costs will be apportioned to the DCP based upon the PSP traffic usage for this external intersection.
- **IN-04** and **IN-04c** - Zurcas Lane, Poplar Avenue/Feiglin Road – 98% of total intersection costs will be apportioned to the DCP based upon existing Section 173 Agreement funding contributions collected by Council for this intersection outside of the PSP process.
- **IN-05** and **IN-05c** - Channel Road/Feiglin Road - 98% of total intersection costs will be apportioned to the DCP based upon existing Section 173 Agreement funding contributions collected by Council outside of the PSP process.

TABLE 2 Transport projects

DCP project ID	Project title & works description	Indicative provision trigger
INTERSECTIONS		
IN-01c	**Doyles Road/Poplar Avenue** Design and construction of a left-in left-out (Interim)	Lot Cap (Approved subdivision of 800 residential lots)
IN-02c	**Channel Road/Archer Road** Design and construction of connector signalised T-intersection (ultimate)	S
IN-03	**Channel Road/Doyles Road** Purchase of land for intersection (Interim)	Lot Cap
IN-03c	**Channel Road/Doyles Road** Design and construction of connector to secondary arterial 4-way roundabout (Interim)	Lot Cap
IN-04	**Zurcas Lane, Poplar Avenue/Feiglin Road** Purchase of land for intersection of boulevard connector to connector 4-way roundabout (ultimate)	S
IN-04c	**Zurcas Lane, Poplar Avenue/Feiglin Road** Design and construction of boulevard connector to connector 4-way roundabout (ultimate)	S
IN-05	**Channel Road/Feiglin Road** Purchase of land for intersection of connector to connector 4-way roundabout (ultimate)	S
IN-05c	**Channel Road/Feiglin Road** Design and construction of connector to connector 4-way roundabout (ultimate)	S
PEDESTRIAN CROSSING		
PED-01c	**Signalised Pedestrian Crossing Doyles Road/Channel Road** Construction of a pedestrian operated signal across Doyles Road, south of the Channel Road intersection. (Ultimate)	S (0-2 Years)

Plan 4
Community & Recreation Projects
Shepparton South East Development Contributions Plan

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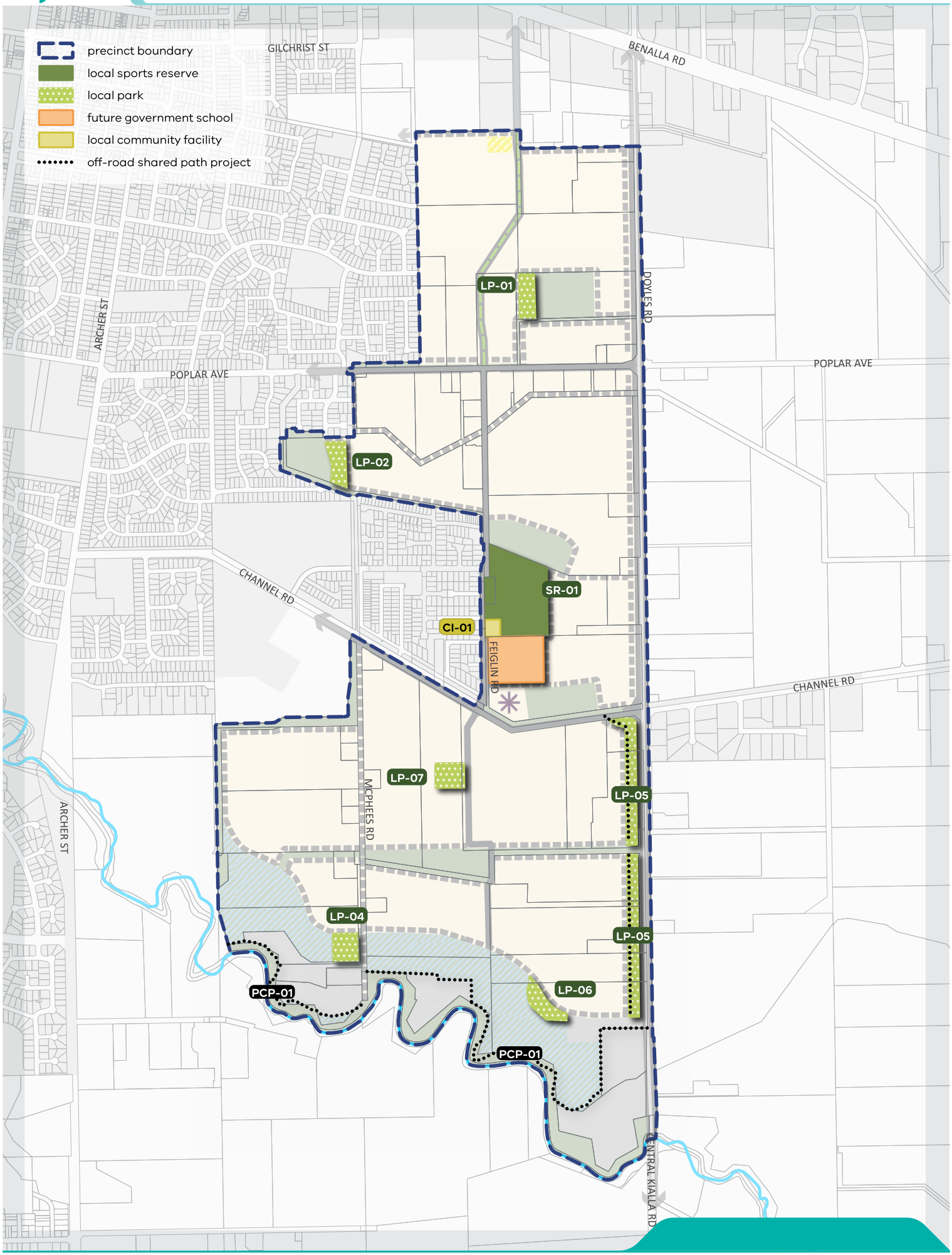

2.4 Community projects

Community projects include a contribution towards land required for and construction of community centres, active recreational reserves, local parks and shared paths. Under section 18A of the *Subdivision Act 1988* the incorporated *Shepparton South East Precinct Structure Plan* and *Shepparton South East Development Contributions Plan* provide the requirement for public open space that is specified in the Greater Shepparton City Council. Clause 53.01 of the Greater Shepparton City Council is not applied to main catchment area.

Community projects have been identified based upon recommendations of the *South Shepparton Community Infrastructure Needs Assessment* (ASR, March 2023).

Local Parks

The DCP, as an incorporated document of the *Greater Shepparton Planning Scheme*, specifies the requirement of public open space including six local parks.

Land for the local parks, except LP-05 and LP-07, will be collected via Public Acquisition Overlay due to the fragmented nature of the precinct which may inhibit their timely delivery. Land for LP-04c and LP-06c form part of the Broken River Floodplain.

Land for LP-05 is required for separating new development from the overtopping of Doyles Road and providing for floodwater conveyance during 1%AEP (climate change) events. The land will be funded by the DCP and delivered via new subdivision. Any alteration to LP-05 that may impact lands reserved for the future duplication of Doyles Road must be to the satisfaction of the road authority.

Broken River Shared Path

At the request of Council, PCP-01 has been included in the DCP as a shared path of 2.57 km within the Broken River Floodplain. The shared path will further the region's shared path network, align with local policy for riverine activation and better utilise the public land adjacent the Broken River. A Public Acquisition Overlay is applied to private lands to facilitate the construction of the shared path.

The construction cost of the shared path is calculated based on the Council rate $160/metre (2022/2023 dollars) for a concrete shared path of 2.5 metres in width and 125mm in depth.

Sports Reserve

CI-01 and SR-01 are co-located under a Public Acquisition Overlay. The carpark between the sporting facilities and community centre, will be shared allowing for a consolidated parking arrangement.

One of two soccer fields of the SR-01c is apportioned externally to cater for the regional demand.

Multipurpose Children's Centre

The Multipurpose Children's Centre CI-01 contains kindergarten facilities, maternal child health consulting rooms and community meeting rooms. The cost of CI-01 attributable to the DCP will be collected via DIL and CIL multipurpose community spaces CI-02c.

In determining the final scope of DCP funded recreation projects within each sporting reserve, Council in its capacity as Development Agency will have regard to matters such as changing provision standards and models, the immediate needs of the community, current regulations and best practice and may seek to adjust and refine the scope of the projects to respond to these matters. The community projects funded by the DCP are shown on Plan 4 and described in Table 2.

TABLE 3 Community projects

DCP project ID	Project title & works description	Indicative provision trigger
COMMUNITY CENTRES		
CI-01	**Multipurpose Children's Centre** Purchase of land for multipurpose children's centre inclusive of kindergarten facilities adjoining school site	M
CI-02c	**Multipurpose Children's Centre** Construction of community meeting space (191 sqm)	M
CI-01c	**Multipurpose Children's Centre** Design and construction of multipurpose children's centre inclusive of kindergarten facilities adjoining school site	M

DCP project ID	Project title & works description	Indicative provision trigger
SPORTING FACILITIES		
SR-01	**Multipurpose Sports Reserve** Purchase of land and construction for sporting reserve including one senior size football and two senior size soccer ovals adjoining school site with lights, pavilion, playground and ancillary facilities.	L
SR-01p	**Multipurpose Sports Reserve** Construction of pavilion	L
SR-01s	**Multipurpose Sports Reserve** Construction of two senior size soccer ovals including lighting	L
SR-01c	**Multipurpose Sports Reserve** Design and construction of sporting reserve including one senior size football and two senior size soccer ovals adjoining school site with irrigation, playground and ancillary facilities.	L
LOCAL PARKS		
LP-01	**Local Park** Purchase of land for a local park adjoining RBWL3	S
LP-01c	**Local Park** Construction of a local park adjoining RBWL3, including landscaping and embellishments.	S
LP-02	**Local Park** Purchase of land for a local park adjoining RBWL2	S
LP-02c	**Local Park** Construction of a local park adjoining RBWL2, including landscaping and embellishments.	S
LP-04c	**Local Park** Construction of a local park adjacent Broken River, including landscaping and embellishments. Included as part of land for SC-01.	M
LP-05	**Linear Park** Purchase of land for a linear park adjoining Doyles Road	M-L
LP-05c	**Linear Park** Construction of a linear park, including landscaping and 1.1km shared path adjoining Doyles Road and providing for floodwater conveyance at 1%AEP (climate change) events	M-L
LP-06c	**Local Park** Construction of a local park adjacent Broken River, including landscaping and embellishments. Included as part of land for SC-01.	M
LP-07	**Local Park** Purchase of land for a local park, including landscaping and embellishments.	S
LP-07c	**Local Park** Construction of a local park, including landscaping and embellishments.	S
PEDESTRIAN AND CYCLE PATH		
PCP-01	Land for construction of a shared path adjacent the Broken River.	L
PCP-01c	Construction of a 2.57km in length and 2.5m-wide shared path adjacent the Broken River.	L

Plan 5
Drainage Projects
Shepparton South East Development Contributions Plan

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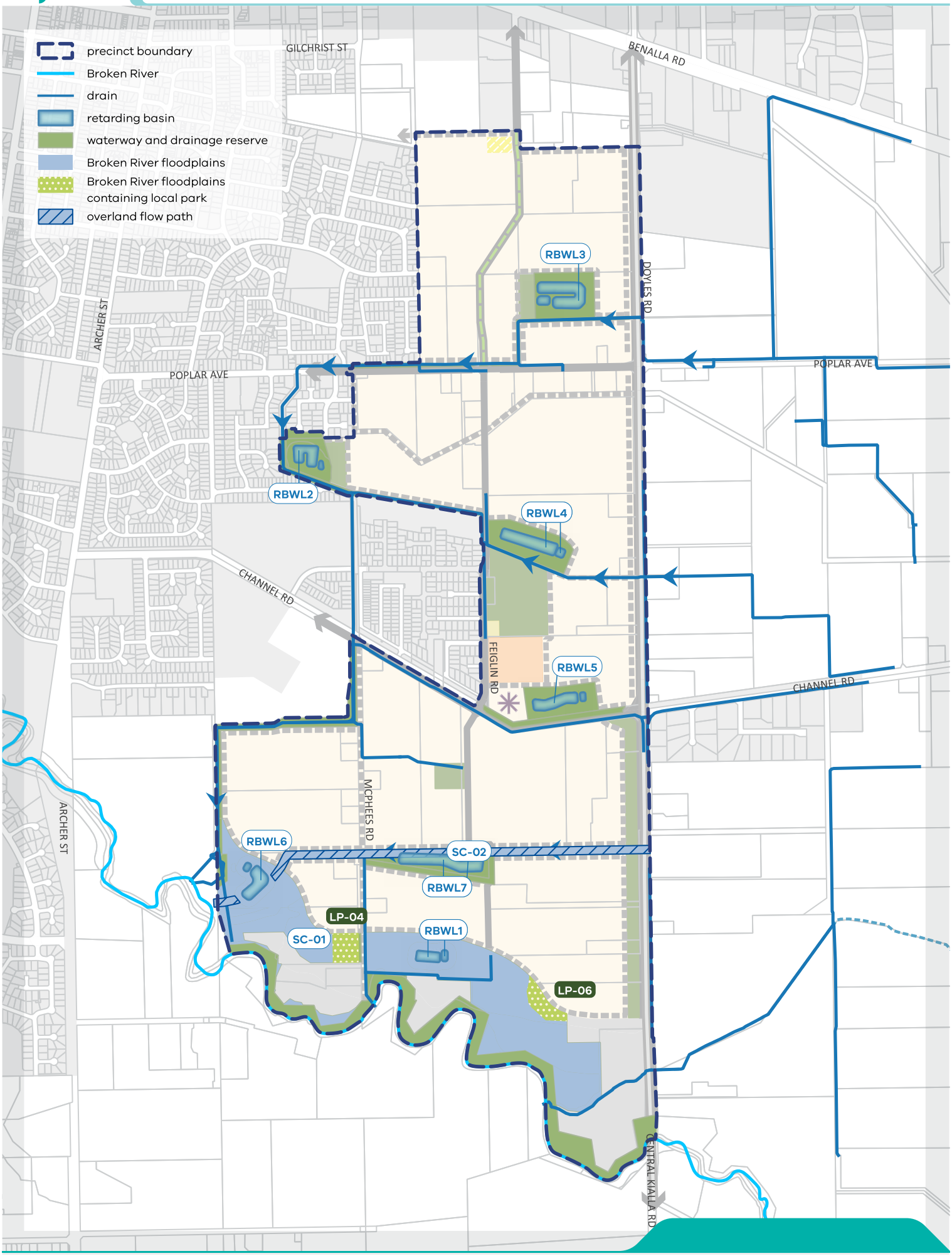

2.5 Drainage projects

The DCP makes funding available for the construction of all necessary drainage infrastructure. The DCP only makes an allowance for the acquisition of land for stormwater drainage infrastructure where the land required would be otherwise unencumbered. Waterway corridors and land required for flood mitigation identified in the DCP are encumbered land and represent the minimum width when a suitable frontage road is provided.

The drainage infrastructure has been identified through hydraulic modelling undertaken as part of the Functional Design Report: *Shepparton South East Precinct Structure Plan Stormwater Design* (Alluvium, 2024) and *Shepparton South East Precinct Structure Plan – Flood Modelling* (Water Tech, 2024).

The stormwater drainage infrastructure is required to appropriately retard and treat stormwater flows from new urban development, in accordance with best practice principles and prior to discharge into the designated drains and/or pipelines to the satisfaction of Goulburn Murray Water and Council.

Land for flood mitigation is required to protect new development from flood impacts during 1%AEP (climate change) flood events. The land includes the Broken River Floodplain and the overland flow path through the precinct.

The drainage projects include:

- Land and construction of a stormwater drainage projects
- Land for floodplain management and storage SC-01
- Land and construction of overland flow conveyance project SC-02 and SC-02c
- Decommissioning of Goulburn Murray Water Shepparton No. 16/10 Channel for the construction of overland flow path SC-02d

The drainage infrastructure projects funded by the DCP are shown on Plan 5 and described in Table 3.

Land for LP-05 parallel to Doyles Road is also designed for the purpose of conveying overland flows from Doyles Road to the overland flow path during 1%AEP (climate change) events. The land purchase is funded under the community project LP-05.

Temporary and interim drainage works are not infrastructure projects in the DCP.

TABLE 4 Drainage projects

DCP project ID	Project title & works description	Indicative provision trigger
STORMWATER DRAINAGE		
RBWL-01	**Southern (Broken River) Retarding Basin** Purchase of land for retarding basin, wetland and sediment basin.	S
RBWL-01c	**Southern (Broken River) Retarding Basin** Construction of retarding basin, wetland and sediment basin including landscaping.	S
RBWL-02	**North-Western Retarding Basin** Purchase of land for retarding basin, wetland and sediment basin.	S
RBWL-02c	**North-Western Retarding Basin** Construction of retarding basin, wetland and sediment basin including landscaping.	S
RBWL-03	**Northern Retarding Basin** Purchase of land for retarding basin, wetland and sediment basin.	S
RBWL-03c	**Northern Retarding Basin** Construction of retarding basin, wetland and sediment basin including landscaping.	S
RBWL-04	**Feiglin Road Retarding Basin** Purchase of land for retarding basin, wetland and sediment basin.	M
RBWL-04c	**Feiglin Road Retarding Basin** Construction of retarding basin, wetland and sediment basin including landscaping.	M

DCP project ID	Project title & works description	Indicative provision trigger
RBWL-05	**Channel Road Retarding Basin** Purchase of land for retarding basin, wetland and sediment basin.	M
RBWL-05c	**Channel Road Retarding Basin** Construction of retarding basin, wetland and sediment basin including landscaping.	M
RBWL-06	**South Western Retarding Basin** Purchase of land for retarding basin, wetland and sediment basin	M
RBWL-06c	**South Western Retarding Basin** Construction of retarding basin, wetland and sediment basin including landscaping.	M
RBWL-07	**Southern Retarding Basin** Purchase of land for retarding basin, wetland and sediment basin.	S
RBWL-07c	**Southern Retarding Basin** Construction of retarding basin, wetland and sediment basin including landscaping.	S
STORMWATER CONVEYANCE		
SC-01	**Broken River Floodplain** Purchase of land adjacent Broken River for the purposes of flood mitigation, including land for LP-04 and LP-06.	S-M
SC-02	**Overland Flow Path** Purchase of land for an overland flow path for flood mitigation purposes.	S
SC-02c	**Overland Flow Path** Construction of an overland flow path for flood mitigation purposes, including landscaping within the hydraulic channel, excluding land and construction of adjoining local road and their associated landscaping and embellishments.	S
SC-02d	**Overland Flow Path** Decommissioning and piping of Shepparton No. 16/10 Channel and within the overland flow path land.	S

2.6 Plan Preparation Costs

Table 4 describes the plan preparation costs that have been incurred by the VPA as the Planning Authority and Council in preparation of the Shepparton South East PSP and DCP. These costs include the procurement of technical work, project management and development of amendment material.

TABLE 5 Plan Preparation Costs

DCP project ID	Project title & works description	Indicative provision trigger
ROADS		
PP-01	VPA plan preparation costs	S-L*
PP-02	Council plan preparation costs	L

*Subject to the agreement between the collecting agency and the planning authority, reimbursement of plan preparation costs should occur as soon as practicable.

2.7 Early Developer Works

Table 5 describes the early developer works delivery cost inclusions within the DCP. Detail of these projects are included on Plan 3 and described in Table 6.

As discussed in Section 2.3, IN-01, IN-03 and IN-03c must be delivered upon 800 lots have been approved or earlier, to ensure the precinct transport related infrastructure can operate and function safely, without disturbances to the surrounding traffic network, and particularly the PFN.

Financing costs cover the interest payments for delivery of IN-01 and IN-03 (EDW-01) until the costs are reimbursed by the DCP contributions paid with the development of the land.

The calculation is based on the assumption below:

ASSUMPTIONS	
Loan Amount	$10,365,000
Interest Rate	5.0%
Duration	20 years
Repayment	80 quarterly repayments
Payment per period	$205,709
Sum of payments	$16,456,738
Interest Cost	**$6,091,738**

Delivery of IN-01 and IN-03 is required simultaneously and as such has been included as one financing cost identified as item EDW-01.

TABLE 6 Early Delivery of Works costs

DCP project ID	Project title & works description	Indicative provision trigger
ROADS		
EDW- 01	Financing delivery of Interim intersections at Poplar Avenue/ Doyles Road and Channel Road/Doyles Road (IN-01, IN-03 and IN-03c) in line with lot cap trigger.	Lot Cap (Approved subdivision of 800 residential lots)

The rate of each of the individual Transport intersections as set out in Table 2 relate to early works projects is subject to adjustment downwards by the Collecting Agency in the following circumstances:

- where the Collecting Agency does not borrow funds for the purpose of providing any or all of the projects identified as EDW-01 (IN -01, IN-03 and IN-03c), being those projects which are to be financed by early works funding; and
- The Development Agency enters into an agreement for the works in kind (WIK Agreement) provision of any or all of the EDW-01 (IN-01, IN-03 and IN-03c) projects which were intended to be financed by early works funding, and that agreement does not require the Development Agency or the Collecting Agency to procure a loan of funds for the purpose of satisfying its obligations to the person undertaking the works in kind under the WIK Agreement. Should any infrastructure item be agreed to be delivered via a WIK Agreement delivery will be to the satisfaction of responsible and relevant referral authorities.
- If the early developer works has not been expended or is not to proceed, the development agency must act on section 46QB(4), 46QB(5), 46QB(6) & 46QB(7) of the *Planning and Environment Act 1987*.

3.0 SUMMARY LAND USE BUDGET

The land use budget in Table 7 provides a summary of the land required for transport, community facilities, education facilities, and open space and identifies the total amount of land available for development in the PSP.

The Net Developable Area (NDA) is established by deducting the land requirements for transport, community facilities, public and private education facilities, open space (sports reserves and local parks), drainage corridors, conservation areas and other encumbered land from the Gross Developable Area (GDA).

The GDA for Shepparton South East PSP is 384.81 hectares while the NDA is 248.63. This equates to approximately 64.61% of the land within the Shepparton South East PSP area being available for development

Plan 6
Land Use Budget
Shepparton South East Development Contributions Plan

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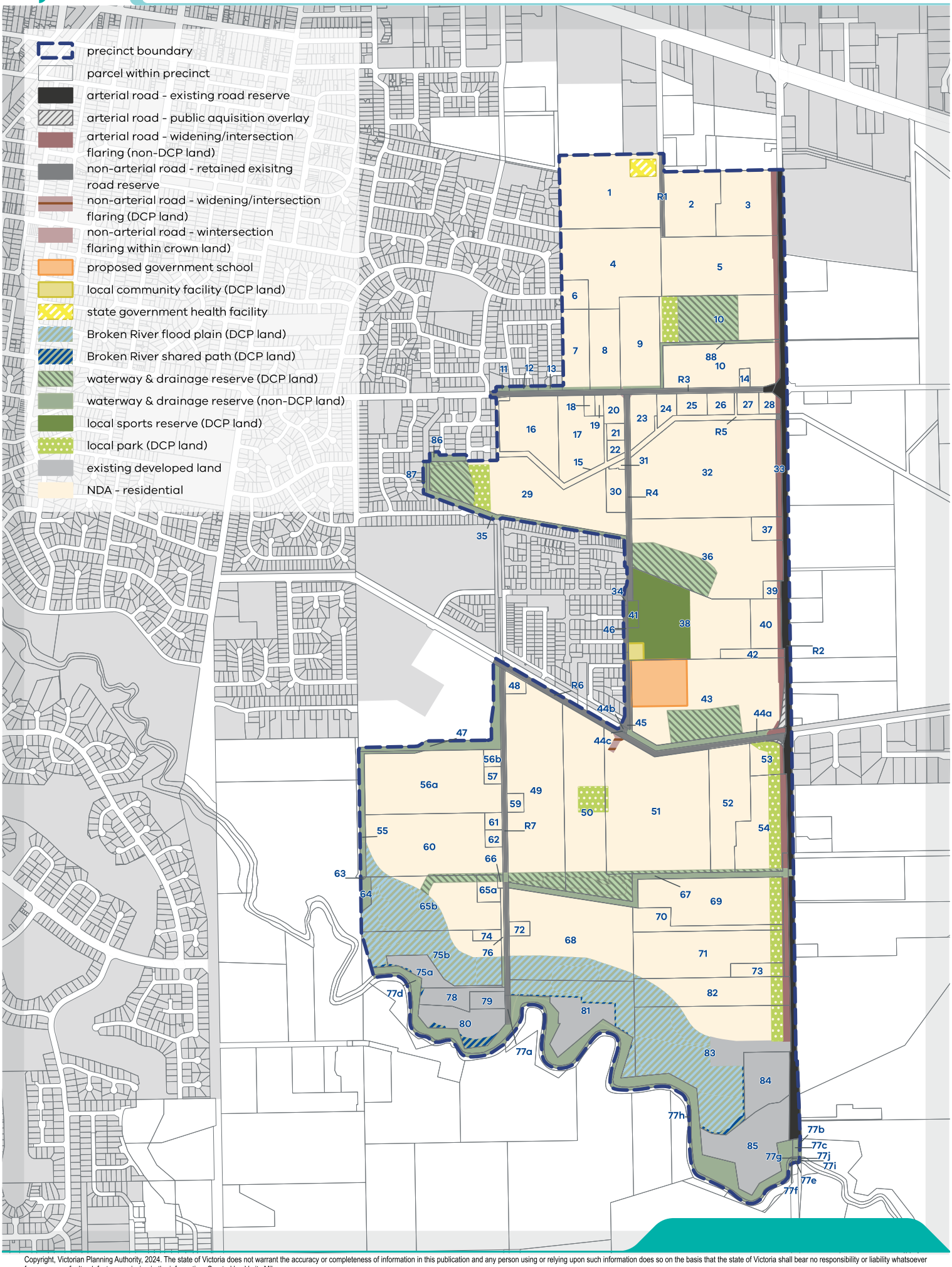

TABLE 7 Summary land use budget

DESCRIPTION	HECTARES	% OF TOTAL	% OF NDA
TOTAL PRECINCT AREA (Ha)	**384.81**		
TRANSPORT			
Arterial Road - Existing Road Reserve	8.25	2.14%	3.32%
Arterial Road - Public Acquisition Overlay	0.27	0.07%	0.11%
Arterial Road - New / Widening / Intersection Flaring (non-DCP land)	7.08	1.84%	2.85%
Non-Arterial Road - Retained Existing Road Reserve	10.25	2.66%	4.12%
Non-Arterial Road - Intersection Flaring within Crown Land	0.004	0.00%	0.00%
Non-Arterial Road - New / Widening / Intersection Flaring (DCP land)	0.21	0.06%	0.09%
SUB-TOTAL TRANSPORT	**26.07**	**6.8%**	**10.49%**
COMMUNITY & EDUCATION			
Proposed Government Primary School	3.50	0.91%	1.41%
Local Community Facility (DCP land)	0.35	0.09%	0.14%
Potential State Government Health Facility	0.60	0.16%	0.24%
Sub-total Community & Education	**4.45**	**1.2%**	**1.8%**
OPEN SPACE			
UNCREDITED OPEN SPACE			
Broken River Floodplain (DCP Land)	29.72	7.72%	11.95%
Broken River Shared Path (DCP Land)	1.35	0.35%	0.54%
Waterway and Drainage Reserve (DCP Land)	17.13	4.45%	6.89%
Waterway and Drainage Reserve (non-DCP Land)	22.65	5.88%	9.11%
SUB-TOTAL UNCREDITED OPEN SPACE	**70.85**	**18.41%**	**28.49%**
CREDITED OPEN SPACE			
Local Sports Reserve (DCP land)	6.44	1.7%	2.59%
Local Network Park (DCP land)	7.44	1.9%	2.99%
SUB-TOTAL CREDITED OPEN SPACE	**13.88**	**3.6%**	**5.58%**
TOTAL ALL OPEN SPACE	**84.72**	**22.0%**	**34.08%**
OTHER			
Existing developed land	20.94	5.44%	8.42%
TOTAL ALL OTHER	**20.94**	**5.44%**	**8.42%**
TOTAL NET DEVELOPABLE AREA (NDA)	**248.63**	**64.61%**	

TABLE NOTE:
The summary land budget included in this table clearly sets out the NDA for the PSP. The NDA will not be amended to respond to minor changes to land budgets that may result from the subdivision process for any other reason than those stated above, unless the variation is agreed to by the responsible authority.

The land budget has been prepared to reflect current advice from council regarding land required for drainage assets as part of the preparation of the drainage scheme for the PSP area. The land required for drainage assets may be subject to minor refinement through the subdivision process.

4.0 CALCULATION OF CONTRIBUTIONS

The following section sets out how the net developable area (NDA) is calculated and outlines the development projections anticipated in the precinct.

4.1 Net developable area

In the DCP, all development infrastructure contributions are payable on the net developable area of land on any given development site. Calculations of NDA for each individual property is outlined in the parcel-specific land budget included at Appendix A.

For the purposes of the DCP, the NDA is defined as the total amount of land within the precinct that is made available for development. It is the total precinct area minus community facilities, educational facilities, open space and encumbered land. NDA includes any land for lots, housing and employment buildings, all local streets (including some connector streets), and any small parks defined at subdivision stage that are in addition to those outlined in the PSP.

The NDA for the DCP is outlined in Table 7. The contributions 'per net developable hectare' must not and will not be amended to respond to minor changes to the land budget that may result from the subdivision process. In other words, the DCP is permanently linked to the calculation of the NDA set out in Appendix A.

The NDA may only change if the collecting agency agrees to a variation to the Table 7 Summary land use budget and the detailed parcel-specific land budget (Appendix A) and associated tables.

4.2 Land budget & demand units

The 'net developable hectare' (NDHa) is the demand unit for the DCP.

'Residential' development is defined broadly to include forms of development that support a residential land use, including residential subdivision and development within the local convenience centre.

'Residential' development also includes any non-residential uses within the residential area such as a place of worship, education centre, retirement village, nursing home, childcare centre, medical centre, convenience store or any other approved use.

The DCP contains a total of 248.63net developable hectares.

4.3 Calculation of contributions charges

4.3.1 Calculation of costs

Each infrastructure project has been assigned a land and/or construction cost, as listed in Table 8. The costs are expressed in 2023/2024 dollars and will be adjusted annually in accordance with the method specified in Section 4.3.

4.3.2 Temporary Works

Temporary works are not factored in as a cost in this DCP unless expressly listed in the DCP.

4.3.3 Estimate of land value

The area of land to be acquired for each DCP project on each property was identified from the parcel specific land budget prepared for the PSP. A description of the precinct land area was provided to a registered valuer who then prepared a valuation to determine a 'broad-hectare' value for the entire precinct for that use. To ensure a fair compensation for each affected land owner, this value has then been used to calculate the cost of the land component for all relevant projects included in the DCP.

Per property broad hectare estimate of value

The per property broad hectare estimate of value prepared for each individual property assumes the unencumbered, highest and-best use as indicated by the PSP.

The estimates of value are prepared on a 'Before and After' basis where:

- The 'Before' assessment is based on the total developable area of each property and ignores the land and infrastructure items to be provided by the DCP. Any development that occurs subsequent to the approval of the DCP is ignored for the purpose of the valuation.
- The 'After' assessment comprises the remaining portion of each property after all land required by the DCP has been provided. Severance or enhancement, disturbance, special value etc. are ignored for the purpose of the 'after' valuation.

4.3.4 Main catchment area

The main catchment area is the geographic area from which a given item of infrastructure will draw most of its use. The DCP includes one main catchment area, which is the same as the precinct boundary and illustrated in Plan 1. It is important to note that the number of net developable hectares (that is the demand units) in the main catchment area is based on the land budgets in Table 6 and Appendix A.

4.3.5 Non-government schools

The development of land for a non-government school is exempt from the requirement to pay a development infrastructure levy and a community infrastructure levy under the DCP.

4.3.6 Cost apportionment

The DCP apportions a charge in respect to each infrastructure project to new development according to its projected share of use of identified infrastructure items.

The cost apportionment is expressed as a percentage in Table 8. Projects that are 100% apportioned to the DCP area are considered to be wholly required for the future development of the DCP area. Projects that are less than 100% apportioned to the DCP area are shared with other areas outside the precinct and other funding sources.

4.3.7 Social and Affordable Housing

The Collecting Agency may on an individual basis consider any request for an exemption or discount for land developed for housing by or for the Department of Health (formerly known as Department of Health and Human Services), as defined in Ministerial Direction on the Preparation and Content of Development Contributions Plans. This applies to social housing development delivered by and for registered housing associations. This exemption does not apply to private dwellings developed by the Department of Health or registered housing associations. Any exemptions or discounts to the levy will be through negotiation with the Collecting Agency. Landowners seeking to undertake this must consider relevant policy (federal, state and local), Greater Shepparton City Council Planning Scheme and Government Direction.

4.3.8 Calculations of Costs

TABLE 8 Calculation of costs

DCP PROJECT ID	PROJECT & DESCRIPTION	PROJECT CATEGORY	PROJECT LENGTH (M)	LAND TAKE AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONMENT	TOTAL COST APPORTIONED TO DCP	RESIDENTIAL - CIL PER DWELLING	RESIDENTIAL- DIL PER NDHA
INTERSECTION PROJECTS										
IN-01C	**Doyles Road/Poplar Avenue** Design and construction of a left-in left-out	Development	-	0.00	$-	$280,362	100%	$280,362	-	$1,128
IN-02C	**Channel Road/Archer Street** Design and construction of connector signalised T-intersection	Development	-	0.00	$-	$1,709,379	33%	$564,095	-	$2,269
IN-03	**Channel Road/Doyles Road (Land)** Purchase of land for intersection	Development	-	0.27	$122,117	$-	100%	$122,117	-	$491
IN-03C	**Channel Road/Doyles Road** Design and construction of connector to secondary arterial 4 way roundabout	Development	-	0.00	$-	$10,365,000	100%	$10,365,000	-	$41,689
IN-04	**Zurcas Lane, Poplar Avenue/Feiglin Road (Land)** Purchase of land for intersection	Development	-	0.04	$22,496	$-	98%	$22,046	-	$89
IN-04C	**Zurcas Lane, Poplar Avenue/Feiglin Road** Design and construction of boulevard connector to connector 4-way roundabout	Development	-	0.00	$-	$2,501,437	98%	$2,451,408	-	$9,860
IN-05	**Feiglin Road/Channel Road (Land)** Purchase of land for intersection	Development	-	0.17	$44,590	$-	98%	$43,698	-	$176
IN-05C	**Feiglin Road/Channel Road** Design and construction of connector to connector 4-way roundabout	Development	-	0.00	$-	$1,649,867	98%	$1,616,869	-	$6,503
Sub-total Intersection projects				**0.48**	**$189,202**	**$16,506,043**		**$15,465,594**	**-**	**$62,204**
SIGNALISED PEDESTRIAN CROSSING										
PED-01C	**Doyles Road/Channel Road** Construction of a pedestrian operated signal across Doyles Road, north of the Channel Road intersection	Development	-	0.00	$-	$374,979	100%	$374,979	-	$1,508
Sub-total Pedestrian Crossing projects				**$-**	**$-**	**$374,979**		**$374,979**	**-**	**$1,508**
TOTAL TRANSPORT				**0.48**	**189,202.43**	**16,881,022.32**		**$15,840,573**	**-**	**63,711.92**

DCP PROJECT ID	PROJECT & DESCRIPTION	PROJECT CATEGORY	PROJECT LENGTH (M)	LAND TAKE AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONMENT	TOTAL COST APPORTIONED TO DCP	RESIDENTIAL - CIL PER DWELLING	RESIDENTIAL- DIL PER NDHA
COMMUNITY PROJECTS										
Community Centres										
CI-01	**Multipurpose Children's Centre (Land)** Purchase of land for a multipurpose community centre	Development	-	0.35	$132,983	$-	100%	$132,983	-	$535
CI-02C	**Multipurpose Children's Centre (Community Meeting Space)** Construction of community spaces	Community	-	0.00	$-	$587,894	100%	$587,894	$197	-
CI-01C	**Multipurpose Children's Centre** Design and construction of multipurpose children's centre inclusive of kindergarten facilities	Development	-	0.00	$-	$10,952,088	100%	$10,952,088	-	$44,050
Sub-total Community Centres				**0.35**	**$132,983**	**$11,539,982**		**$11,672,965**	**$197**	**$44,585**
ACTIVE RECREATION PROJECTS										
SR-01	**Multipurpose Sports Reserve (Land)** Purchase of land for sporting reserve	Development	-	6.44	$2,669,394	$-	100%	$2,669,394	-	$10,736
SR-01p	**Multipurpose Sports Reserve (Pavilion)** Construction of pavilion	Community	-	0.00	$-	$1,443,435	100%	$1,443,435	$484	
SR-01s	**Multipurpose Sports Reserve (Soccer Ovals)** Construction of two soccer ovals including lighting	Community	-	0.00	$-	$2,779,273	50%	$1,389,636	$466	
SR-01c	**Multipurpose Sports Reserve** Design and construction of sporting reserve including one senior size football oval adjoining school site with lights, playground and ancillary facilities.	Development	-	0.00	$-	$10,444,673	100%	$10,444,673	-	$42,009
Sub-total Active Recreation				**6.44**	**$2,669,394**	**$14,667,381**		**$15,947,139**	**$951**	**$52,746**
LOCAL PARKS										
LP-01	**Local Park (Land)** Purchase of land to construct a park adjoining RBWL3	Development	-	1.00	$401,702	$-	100%	$401,702	-	$1,616
LP-01c	**Local Park** Design and construction of a local park adjoining RBWL3, including landscaping and embellishments.	Development	-	0.00	$-	$1,166,417	100%	$1,166,417	-	$4,691
LP-02	**Local Park (Land)** Purchase of land to construct a park adjoining RBWL2	Development	-	1.00	$415,589	$-	100%	$415,589	-	$1,672
LP-02c	**Local Park** Design and construction of a local park adjoining RBWL2, including landscaping and embellishments.	Development	-	0.00	$-	$1,166,417	100%	$1,166,417	-	$4,691

DCP PROJECT ID	PROJECT & DESCRIPTION	PROJECT CATEGORY	PROJECT LENGTH (M)	LAND TAKE AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONMENT	TOTAL COST APPORTIONED TO DCP	RESIDENTIAL - CIL PER DWELLING	RESIDENTIAL- DIL PER NDHA
LP-04c	**Local Park** Design and construction of a local park adjacent the Broken River is included as part of purchase of land for SC-01 .	Development		0.00	$-	$1,166,417	100%	$1,166,417	-	$4,691
LP-05	**Linear Park (Land) with flood conveyance** Purchase of land to construct a linear park adjacent to Doyles Road, non-PAO	Development		4.44	$2,266,758	$-	100%	$2,266,758	-	$9,117
LP-05c	**Linear Park** Design and construction of a linear park adjacent to Doyles Road including landscaping and shared path	Development		0.00	$-	$1,932,359	100%	$1,932,359	-	$7,772
LP-06c	**Local Park** Design and construction of a local park adjacent the Broken River is included as part of purchase of land for SC-01.	Development		0.00	$-	$1,166,417	100%	$1,166,417	-	$4,691
LP-07	**Local Park (Land)** Purchase of land to construct a local park on Parcel 50 and 51.	Development		1.00	$423,219	$-	100%	$423,219	-	$1,702
LP-07c	**Local Park** Design and construction of a local park on Parcel 50 and 51, including landscaping and embellishments.	Development		0.00	$-	$1,166,417	100%	$1,166,417	-	$4,691
Sub-total Local Parks				**7.44**	**$3,507,269**	**$7,764,446**		**$11,271,715**		**$45,336**
PEDESTRIAN AND CYCLE PATH PROJECTS										
PCP-01	**Broken River Shared pedestrian and cycle path (Land)** Purchase of land for a 2.57km length and 2.5m wide shared path adjacent the Broken River.	Development		1.35	$905,440	$-	100%	$905,440	-	$3,642
PCP-01c	**Broken River Shared pedestrian and cycle path** Construction of a 2.57km length and 2.5m wide shared path adjacent the Broken River.	Community	2,570	0.00	$-	$616,800	100%	$616,800	$207	-
Sub-total Community and recreation projects				**1.35**	$905,440	$616,800		$1,522,240	$207	$3,642
Total Community and recreation projects				**15.58**	**$7,215,086**	**$34,588,609**		**$40,414,058**	**$1,355**	**$146,308.06**
STORMWATER DRAINAGE PROJECTS										
RBWL-01	**Southern (Broken River) Retarding Basin (Land)** Purchase of land for RBWL, inc wetland and sediment basin.	Development		1.67	$684,902	$-	100%	$684,902	-	$2,755
RBWL-01c	**Southern (Broken River) Retarding Basin** Design and construction of retarding basin, wetland and sediment basin including landscaping.	Development		0.00	$-	$2,769,650	100%	$2,769,650	-	$11,140
RBWL-02	**North-Western Retarding Basin (Land)** Purchase of land for RBWL, inc wetland and sediment basin.	Development		2.12	$879,820	$-	100%	$879,820	-	$3,539

DCP PROJECT ID	PROJECT & DESCRIPTION	PROJECT CATEGORY	PROJECT LENGTH (M)	LAND TAKE AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONMENT	TOTAL COST APPORTIONED TO DCP	RESIDENTIAL - CIL PER DWELLING	RESIDENTIAL- DIL PER NDHA
RBWL-02c	**North-Western Retarding Basin** Design and construction of retarding basin, wetland and sediment basin including landscaping.	Development	-	0.00	$-	$2,819,302	100%	$2,819,302	-	$11,339
RBWL-03	**Northern Retarding Basin (Land)** Purchase of land for RBWL, inc wetland and sediment basin.	Development	-	3.72	$1,495,002	$-	100%	$1,495,002	-	$6,013
RBWL-03c	**Northern Retarding Basin** Design and construction of retarding basin, wetland and sediment basin including landscaping.	Development	-	0.00	$-	$5,237,487	100%	$5,237,487	-	$21,066
RBWL-04	**Feiglin Road Retarding Basin (Land)** Purchase of land for RBWL, inc wetland and sediment basin.	Development	-	3.61	$1,475,859	$-	100%	$1,475,859	-	$5,936
RBWL-04c	**Feiglin Road Retarding Basin** Design and construction of retarding basin, wetland and sediment basin including landscaping.	Development	-	0.00	$-	$3,898,038	100%	$3,898,038	-	$15,678
RBWL-05	**Channel Road Retarding Basin (Land)** Purchase of land for RBWL, inc wetland and sediment basin.	Development	-	2.89	$1,132,901	$-	100%	$1,132,901	-	$4,557
RBWL-05c	**Channel Road Retarding Basin** Design and construction of retarding basin, wetland and sediment basin including landscaping.	Development	-	0.00	$-	$2,687,669	100%	$2,687,669	-	$10,810
RBWL-06	**South-Western Retarding Basin (Land)** Purchase of land for RBWL, inc wetland and sediment basin, as part of SC-02 land	Development	-	1.98	$799,325	$-	100%	$799,325	-	$3,215
RBWL-06c	**South-Western Retarding Basin** Design and construction of retarding basin, wetland and sediment basin including landscaping.	Development	-	0.00	$-	$2,679,964	100%	$2,679,964	-	$10,779
RBWL-07	**Southern Retarding Basin (Land)** Purchase of land for RBWL, inc wetland and sediment basin	Development	-	1.39	$558,203	$-	100%	$558,203	-	$2,245
RBWL-07c	**Southern Retarding Basin** Design and construction of retarding basin, wetland and sediment basin including landscaping.	Development	-	0.00	$-	$4,835,149	100%	$4,835,149	-	$19,447
Sub-total Drainage Projects				**17.38**	**$7,026,013**	**$24,927,259**		**$31,953,272**		**$128,518**

DCP PROJECT ID	PROJECT & DESCRIPTION	PROJECT CATEGORY	PROJECT LENGTH (M)	LAND TAKE AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONMENT	TOTAL COST APPORTIONED TO DCP	RESIDENTIAL - CIL PER DWELLING	RESIDENTIAL- DIL PER NDHA
STORMWATER CONVEYANCE										
SC-01	**Broken River Floodplain** Purchase of land adjacent Broken River for the purposes of flood mitigation, including land for LP-04 and LP-06.	Development	-	26.06	$9,713,737	$-	100%	$9,713,737	-	$39,069
SC-02	**Overland Flow Path (Land)** Purchase of land for overland flow path	Development	-	3.40	$1,382,839	$-	100%	$1,382,839	-	$5,562
SC-02c	**Overland Flow Path** Design and construction of an overland flow path for flood mitigation purposes, including landscaping within the hydraulic channel, excluding land and construction of adjoining local road and their associated landscaping and embellishments.	Development	-	0.00	$-	$3,788,316	100%	$3,788,316	-	$15,237
SC-02d	**Overland Flow Path** Shepparton No. 16/10 Channel Partial decommissioning and reconfiguration	Development	-	0.00	$-	$1,712,026	100%	$1,712,026	-	$6,886
Sub-total Stormwater Conveyance				**29.47**	**$11,096,576**	**$5,500,342**		**$16,596,918**	**-**	**$66,754**
TOTAL DRAINAGE AND FLOODING				**46.85**	**$18,122,589**	**$30,427,601**		**$48,550,190**		**$195,272**
Early Developer Works										
EDW-01 - IN 01 & IN-03	**Financing cost for delivery of IN-01, IN-03 and IN-03c in line with lot cap trigger.** Financing delivery of Interim intersections at Poplar Avenue/Doyles Road and Channel Road/Doyles Road in line with lot cap trigger.	Development		0.00	$-	$6,091,738	100%	$6,091,738	-	$24,501
Sub-total Early Delivery or works				**0.00**	**$-**	**$6,091,738**	**0%**	**$6,091,738**	**-**	**$24,501**
TOTAL EARLY DELIVERY OF WORKS				**0.00**		**$6,091,738**	**0%**	**$6,091,738**		**$24,501**
Strategic Planning										
PP-01	**VPA Plan Preparation Costs** VPA Strategic Planning Costs	Development		0.00	$-	$2,332,563	100%	$2,332,563	-	$9,382
PP-02	**Council Plan Preparation Costs** Council Strategic Planning Costs	Development		0.00	$-	$885,473	100%	$885,473	-	$3,561
Sub-total Planning Costs				0.00	$-	$3,218,037	0%	$3,218,037	-	$12,943
TOTAL PLANNING COST				**0.00**		**$3,218,037**	**0%**	**$3,218,037**		**$12,943**
TOTAL COST ALL PROJECTS				**62.91**	**$25,526,877**	**$91,207,007**		**$114,114,596**	**$1,355**	**$442,737**

5.0 ADMINISTRATION

This section sets out how the DCP will be administered and covers the timing of payment, provision of works and land in kind and how funds generated by the DCP will be managed in terms of reporting, indexation and review periods.

The development infrastructure levy applies to subdivision and/or development of land.

Greater Shepparton City Council will be both the collecting agency and the development agency for the purposes of the DCP.

5.1 Payment of contributions and payment timing

5.1.1 Development infrastructure levy (DIL)

For subdivision of land

A development infrastructure levy must be paid to the collecting agency for the land within the following specified time, namely after certification of the relevant plan of subdivision but not more than 21 days prior to the issue of a Statement of Compliance in respect of that plan or included in an implementation agreement under Section 173 of the Act.

Where the subdivision is to be developed in stages, the infrastructure levy for the stage to be developed only may be paid to the collecting agency within 21 days prior to the issue of a Statement of Compliance in respect of that stage provided that a Schedule of Development Contributions is submitted with each stage of the plan of subdivision. This schedule must show the amount of the development contributions payable for each stage and value of the contributions in respect of prior stages to the satisfaction of the collecting agency or included in an implementation agreement under section 173 of the Act.

If the collecting agency agrees to works and/or provision of land in lieu of the payment of the infrastructure levy, the landowner must enter into an agreement under Section 173 of the Act in respect of the proposed works and/or provision of land in kind to specific requirements.

For development of land where no subdivision is proposed

Provided an infrastructure levy has not already been paid on subject land, an infrastructure levy must be paid to the collecting agency in accordance with the provisions of the approved DCP for each demand unit (net developable hectare) proposed to be developed prior to the commencement of any development (i.e. development includes buildings, car park, access ways, landscaping and ancillary components). The collecting agency may require that development infrastructure levy contributions be made at either the planning permit or building permit stage.

If the collecting agency agrees to works and/or provision of land in lieu of the payment of the infrastructure levy, the landowner must enter into an agreement under Section 173 of the Act or other arrangement acceptable to the collecting agency proposed in respect of the proposed works and/or land to be provided in kind.

Where no planning permit is required

The following requirement applies where no planning permit is required. The land may only be used and developed subject to the following requirements being met:

- Unless some other arrangement has been agreed to by collecting agency in a Section 173 agreement, prior to the commencement of any development, a development infrastructure levy must be paid to the collecting agency in accordance with the provisions of the DCP for the land.

If the collecting agency agrees to works and/or provision of land in lieu of the payment of the infrastructure levy, the landowner must enter into an agreement under Section 173 of the Act in respect of the proposed works or provision of land, which is proposed to be provided in kind.

5.1.2 Community Infrastructure Levy

The community infrastructure levy must be paid by the person applying for a building permit prior to the issue of a building permit. Community infrastructure levies for 'residential buildings' will be calculated at the rate for a single dwelling. For all other forms of accommodation, a community infrastructure levy must be paid for each dwelling within the development. A community infrastructure levy is not payable for a dwelling on a lot which was created prior to the approval date of this DCP.

5.1.3 Works-in-kind

The collecting agency may permit development proponents to undertake works in lieu of cash payments, providing that:

- The works constitute projects funded by the DCP;
- The collecting agency agrees that the timing of the works would be consistent with priorities in the DCP;
- The development proponent complies with appropriate tendering, documentation, supervision and related provisions as required by the responsible authority;
- Works must be provided to a standard that generally accords with the DCP, unless an alternative is agreed by the collecting agency and the development agency;
- Detailed design must be approved by the collecting agency and the development agency and must generally accord with the layout and standards outlined in the PSP and DCP unless an alternative is agreed by the collecting agency and the development agency;
- The construction of works must be completed to the satisfaction of the collecting agency and the development agency;
- There should be no negative financial impact on the DCP to the satisfaction of the collecting agency.

In particular, the works will only be accepted in lieu of a financial contribution required by the DCP to the extent that they constitute part or all of the design of the infrastructure item and reduce the cost to complete that design, to the satisfaction of the collecting agency. Temporary works will not be accepted as works in kind.

Where the collecting agency agrees that works are to be provided by a development proponent in lieu of cash contribution (subject to the arrangements specified above):

- The credit for the works provided shall equal the total cost of the works as identified in the DCP, taking into account the impact of indexation;
- The value of works provided in accordance with the principle outlined above will be offset against the development contributions liable to be paid by the development proponent;
- No further DCP financial contributions will be required until the agreed value of any credits are used.

5.1.4 Credit for over-provision

Where the collecting agency agrees that a development proponent can deliver an infrastructure item (either works and/or land), the situation may arise where the developer makes a contribution with a value that exceeds that required by the DCP.

In such a case, the developer may be entitled to credits against other projects in the DCP to the extent of the excess contribution. Alternatively, a developer may seek an agreement with the collecting agency to provide cash reimbursement where an over-contribution has been made.

The details of credits and reimbursements for construction shall equal the final cost of the works identified in the DCP, taking into account the impact of indexation. The value of credits and reimbursements for the transfer of land will need to be at the values that are outlined in the DCP, subject to revaluation and indexation of the land as specified in Section 4.3.

5.1.5 Non-government schools

Where land is subdivided or developed for the purpose of a non-government school and the use of that land is subsequently for a purpose other than a non-government school, the owner of that land must pay to the collecting agency development contributions in accordance with the provision of the DCP. The development infrastructure levy must be paid within 28 days of the date of the commencement of the construction of any buildings or works for that alternative use.

5.1.6 Funds administration

The administration of the contributions made under the DCP will be transparent and development contributions charges will be held until required for provision of the items in that class. Details of funds received and expenditures will be held by the collecting agency in accordance with the provisions of the *Local Government Act 2020* and the Act.

The administration of contributions made under the DCP will be transparent and demonstrate the:

- Amount and timing of funds collected;
- Source of the funds collected;
- Amount and timing of expenditure on specific projects;
- Project on which the expenditure was made;
- Account balances for individual project classes;
- Details of works in kind arrangements for project provision;
- Pooling or quarantining of funds to deliver specific projects, where applicable.

The collecting agency will provide for regular monitoring, reporting and review of the monies received and expended in accordance with the DCP.

The collecting agency will establish interest bearing accounts and all monies held in these accounts will be used solely for the provision of infrastructure as itemised in the DCP, as required under section 46QA of the Act.

Should the collecting agency resolve to not proceed with any of the infrastructure projects listed in the DCP, the funds collected for these items will be used for the provision of alternative works in the same infrastructure class as specified in the DCP. Such funds may also be used for the provision of additional works, services or facilities where approved by the Minister responsible for the Act, or will be refunded to owners of land subject to these infrastructure charges.

5.2 Construction and land value costs indexation

Capital costs of all infrastructure items, including land, are in 2024 dollars and will be adjusted by the collecting agency annually for inflation.

In relation to the costs associated with infrastructure items other than land, the cost must be adjusted according to the following method:

- Intersection projects – indexed in line with the Australian Bureau of Statistics Producer Prices Indexes, Road and Bridge Construction Index, Victoria;
- All other infrastructure items – indexed in line with the Australian Bureau of Statistics Producer Price Indexes, Non-Residential Building Construction Index, Victoria.

Estimates of land value will be revised annually by a registered valuer based on a broad hectare methodology, this exercise may be required for each respective land use category within the DCP. Revisions may occur more frequently if market conditions warrant.

The collecting agency will publish the amended contributions on the collecting agency's website within 14 days of the adjustments being made.

5.3 Review period

The DCP commences on the date when it is first incorporated into the *Greater Shepparton Planning Scheme*.

The DCP adopts a long-term outlook for future development in Shepparton South East.

The DCP is expected to be revised and updated every five years (or more frequently if required). This will require an amendment to the *Greater Shepparton Planning Scheme* to replace this document with an alternative, revised document. Any review will need to have regard to any arrangements (e.g. section 173 agreements under the Act) for the implementation of the DCP.

5.4 Adjustment to the scope of projects

The infrastructure projects in the DCP have been costed to a sufficient level of detail; however, all of the projects will require a detailed design process prior to construction.

As part of detailed design, Council or a development proponent with the consent of Council may amend or modify some aspects of projects, so long as they are still generally in accordance with the PSP and any direction regarding the scope outlined in the DCP.

A development proponent may also propose material changes to the use and development of land from that contemplated in the PSP, leading to an increased requirement for infrastructure. In these cases, there should be no negative impact on the DCP by requirement for the developer to bear the additional costs associated with the provision of the infrastructure item over and above the standard required by the DCP.

Where Council or another agency seeks to change the scope of a DCP infrastructure item to meet changing standards imposed by adopted policy or a public regulatory agency, such changes of standards and the resulting cost changes should normally be made through a change to the DCP at the time of a regular review of the DCP. Any alteration to LP-05 that may impact lands reserved for the future duplication of Doyles Road must be to the satisfaction of the road authority.

Where, after the DCP has been approved, Council or other agency proposes changes to the scope of a DCP infrastructure item for reasons other than changes in standards imposed by policy or regulation the net cost increases resulting from the change should normally be met by the agency requesting the change.

5.5 Collecting agency (agency responsible for collecting infrastructure levy)

Council is the collecting agency pursuant to section 46K(1)(fa) of the Act which means that it is the public authority to which all levies are payable. As the collecting agency, Council is responsible for the administration of the DCP and also its enforcement pursuant to section 46QC of the Act.

5.6 Development agency (agency responsible for works)

Council is the development agency and is responsible for the provision of the designated infrastructure projects which are funded under the DCP and the timing of all works. In the future, the designated Development Agency for intersection projects associated with Doyles Road (a declared State freight arterial road) may change from Council to the relevant roads authority. However, any such transfer of responsibility would be dependent upon written agreement from the roads authority.

6.0 IMPLEMENTATION STRATEGY

This section provides further details regarding how the collecting agency intends to implement the DCP. In particular, this section clearly identifies the rationale for the implementation strategy and details the various measures that have been adopted to reduce the risk posed by the DCP to all parties.

6.1 Rationale for the implementation strategy

This implementation strategy has been included to provide certainty to both the collecting agency and development proponents. The implementation strategy recognises the complexities associated with infrastructure provision and funding and seeks to minimise risk to the collecting agency, development agency, development proponent and future community.

This implementation strategy has been formulated by:

- Assessing the PSP;
- Having regard to the development context;
- Assessing the need for finance requirements including upfront financing and pooling of funds;
- Agreeing the land value and indexing it appropriately (where possible);
- Identifying preferred implementation mechanisms to achieve the above outcomes and reducing the risk associated with the DCP to ensure that it will be delivered as intended.

6.2 Implementation mechanism

Under section 46P of the Act, the collecting agency may accept (with the consent of the development agency where the collecting agency is not also the development agency) the provision of land, works, services or facilities by the applicant in part or full satisfaction of the amount of levy payment. This can be by agreement with the collecting agency before or after the application for the permit is made or before the development is carried out.

To coordinate the provision of infrastructure, Schedule 2 to the Urban Growth Zone in the *Greater Shepparton Planning Scheme* for the PSP requires an application for subdivision to be accompanied by an infrastructure plan to the satisfaction of the responsible authority.

The Public Infrastructure Plan needs to show the location, type, staging and timing of infrastructure on the land as identified in the PSP or reasonably required as a result of the subdivision of the land and address the following:

- Stormwater drainage works;
- Road works internal or external to the land consistent with any relevant traffic report or assessment;
- The reserving or encumbrance of land for infrastructure, including for community facilities, sports reserves and open space;
- Any infrastructure works which an applicant proposes to provide in lieu of development contributions in accordance with the DCP;
- The effects of the provision of infrastructure on the land or any other land;
- Any other relevant matter related to the provision of infrastructure reasonably required by the responsible authority.

Through the approval of these agreements, Council (acting as the collecting agency) will consider if and what infrastructure should be provided as works in kind under the DCP in accordance with section 46P of the Act. The agreement must include a list of the DCP infrastructure projects that the collecting agency has agreed in writing to allow to be provided as works and/or land in lieu.

APPENDICES

7.0 APPENDIX A – PARCEL SPECIFIC LAND BUDGET

Detailed information on the developable area for each property is included in the parcel-specific land budget with each PSP.

TABLE 9 Parcel specific land budget

PARCEL ID	TOTAL AREA (HA)	TRANSPORT						COMMUNITY & EDUCATION		OPEN SPACE						OTHER	TOTAL NET DEVELOPABLE AREA (HA)	NET DEVELOPABLE AREA % OF PROPERTY
		ARTERIAL ROAD			OTHER TRANSPORT					UNCREDITED OPEN SPACE				CREDITED OPEN SPACE				
		ARTERIAL ROAD – EXISTING ROAD RESERVE	ARTERIAL ROAD - PUBLIC ACQUISITION OVERLAY	ARTERIAL ROAD – NEW/ WIDENING/ INTERSECTION FLARING (NON-DCP LAND)	NON-ARTERIAL ROAD – RETAINED EXISTING ROAD RESERVE	NON-ARTERIAL ROAD – INTERSECTION FLARING WITHIN CROWN LAND	NON-ARTERIAL ROAD – NEW / WIDENING / INTERSECTION FLARING (DCP LAND)	PROPOSED GOVERNMENT SCHOOL	POTENTIAL STATE GOVERNMENT HEALTH FACILITY	BROKEN RIVER FLOODPLAIN (DCP LAND)	BROKEN RIVER SHARED PATH (DCP LAND)	WATERWAY AND DRAINAGE RESERVE (DCP LAND)	WATERWAY AND DRAINAGE RESERVE (NON-DCP LAND)	LOCAL SPORTS RESERVE (DCP LAND)	LOCAL NETWORK PARK (DCP LAND)	EXISTING DEVELOPED LAND		
PARCELS																		
1	10.11	-	-	-	-	-	-	-	0.60	-	-	-	-	-	-	-	9.51	94.07%
2	4.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.81	100.00%
3	5.29	-	-	0.52	-	-	-	-	-	-	-	-	-	-	-	-	4.76	90.11%
4	9.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.28	100.00%
5	9.44	-	-	0.46	-	-	-	-	-	-	-	-	-	-	-	-	8.97	95.08%
6	1.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.11	100.00%
7	3.05	-	-	-	-	-	-	-	-	-	-	-	0.10	-	-	-	2.95	96.85%
8	3.36	-	-	-	-	-	0.003	-	-	-	-	-	0.10	-	-	-	3.26	96.97%
9	5.01	-	-	-	-	-	0.01	-	-	-	-	-	0.12	-	-	-	4.88	97.35%
10	14.08	-	-	0.65	-	-	-	-	-	-	-	3.72	-	-	1.00	-	8.71	61.85%
11	0.10	-	-	-	-	-	-	-	-	-	-	-	0.10	-	-	-	0.00	0.00%
12	0.19	-	-	-	-	-	-	-	-	-	-	-	0.19	-	-	-	0.00	0.00%
13	0.16	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	0.00	0.00%
14	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.27	100.00%
15	1.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.57	100.00%
16	4.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.93	100.00%
17	4.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.32	100.00%
18	0.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.31	100.00%
19	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.25	100.00%

PARCEL ID	TOTAL AREA (HA)	TRANSPORT						COMMUNITY & EDUCATION		OPEN SPACE						OTHER	TOTAL NET DEVELOPABLE AREA (HA)	NET DEVELOPABLE AREA % OF PROPERTY
		ARTERIAL ROAD			OTHER TRANSPORT					UNCREDITED OPEN SPACE				CREDITED OPEN SPACE				
		ARTERIAL ROAD – EXISTING ROAD RESERVE	ARTERIAL ROAD - PUBLIC ACQUISITION OVERLAY	ARTERIAL ROAD – NEW/ WIDENING/ INTERSECTION FLARING (NON-DCP LAND)	NON-ARTERIAL ROAD – RETAINED EXISTING ROAD RESERVE	NON-ARTERIAL ROAD – INTERSECTION FLARING WITHIN CROWN LAND	NON-ARTERIAL ROAD – NEW / WIDENING / INTERSECTION FLARING (DCP LAND)	PROPOSED GOVERNMENT SCHOOL	POTENTIAL STATE GOVERNMENT HEALTH FACILITY	BROKEN RIVER FLOODPLAIN (DCP LAND)	BROKEN RIVER SHARED PATH (DCP LAND)	WATERWAY AND DRAINAGE RESERVE (DCP LAND)	WATERWAY AND DRAINAGE RESERVE (NON-DCP LAND)	LOCAL SPORTS RESERVE (DCP LAND)	LOCAL NETWORK PARK (DCP LAND)	EXISTING DEVELOPED LAND		
20	0.81	-	-	-	-	-	0.01	-	-	-	-	-	-	-	-	-	0.80	98.68%
21	0.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.40	100.00%
22	0.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.40	100.00%
23	1.63	-	-	-	-	-	0.01	-	-	-	-	-	-	-	-	-	1.62	99.25%
24	0.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.72	100.00%
25	0.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.91	100.00%
26	0.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.81	100.00%
27	0.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.65	100.00%
28	0.61	-	-	0.14	-	-	-	-	-	-	-	-	-	-	-	-	0.47	77.26%
29	12.16	-	-	-	-	-	-	-	-	-	-	2.12	-	-	1.00	-	9.04	74.36%
30	1.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.16	100.00%
31	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	100.00%
32	18.20	-	-	0.11	-	-	-	-	-	-	-	-	-	-	-	-	18.09	99.41%
33	0.70	-	-	0.70	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00%
34	0.09	-	-	-	0.09	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00%
35	1.36	-	-	-	-	-	-	-	-	-	-	-	1.27	-	-	0.08	0.00	0.00%
36	13.47	-	-	0.35	-	-	-	-	-	-	-	3.61	-	-	-	-	9.51	70.58%
37	1.00	-	-	0.20	-	-	-	-	-	-	-	-	-	-	-	-	0.80	79.90%
38	10.98	-	-	-	-	-	-	-	-	-	-	-	-	6.04	-	-	4.59	41.80%
39	0.43	-	-	0.09	-	-	-	-	-	-	-	-	-	-	-	-	0.34	78.93%
40	2.10	-	-	0.26	-	-	-	-	-	-	-	-	-	-	-	-	1.84	87.54%
41	0.40	-	-	-	-	-	-	-	-	-	-	-	-	0.40	-	-	0.00	0.00%
42	0.83	-	-	0.09	-	-	-	-	-	-	-	-	-	-	-	-	0.74	89.61%
43	16.25	-	0.23	0.46	-	-	-	3.50	-	-	-	2.89	-	-	-	-	9.17	56.46%

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		ARTERIAL ROAD			OTHER TRANSPORT					UNCREDITED OPEN SPACE				CREDITED OPEN SPACE				
		ARTERIAL ROAD – EXISTING ROAD RESERVE	ARTERIAL ROAD - PUBLIC ACQUISITION OVERLAY	ARTERIAL ROAD – NEW/ WIDENING/ INTERSECTION FLARING (NON-DCP LAND)	NON-ARTERIAL ROAD – RETAINED EXISTING ROAD RESERVE	NON-ARTERIAL ROAD – INTERSECTION FLARING WITHIN CROWN LAND	NON-ARTERIAL ROAD – NEW / WIDENING / INTERSECTION FLARING (DCP LAND)	PROPOSED GOVERNMENT SCHOOL	POTENTIAL STATE GOVERNMENT HEALTH FACILITY	BROKEN RIVER FLOODPLAIN (DCP LAND)	BROKEN RIVER SHARED PATH (DCP LAND)	WATERWAY AND DRAINAGE RESERVE (DCP LAND)	WATERWAY AND DRAINAGE RESERVE (NON-DCP LAND)	LOCAL SPORTS RESERVE (DCP LAND)	LOCAL NETWORK PARK (DCP LAND)	EXISTING DEVELOPED LAND		
44a	1.46	-	-	0.14	0.26	0.004	-	-	-	-	-	-	1.06	-	-	-	0.00	0.00%
44b	0.06	-		-	0.06	-	-	-	-	-	-	-	-				0.00	0.00%
44c	0.01	-		-	0.01	-	-	-	-	-	-	-	-				0.00	0.00%
45	0.48	-	-	-	0.48	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00%
46	0.28	-	-	-	0.28	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00%
47	2.18	-	-	-	-	-	-	-	-	-	-	-	2.18	-	-	-	0.00	0.00%
48	0.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.49	100.00%
49	14.59	-	-	-	-	-	-	-	-	-	-	1.10	-	-	-	-	13.49	92.49%
50	10.92	-	-	-	-	-	-	-	-	-	-	2.15	-	-	0.91	-	7.86	71.98%
51	17.84	-	-	-	-	-	0.17	-	-	-	-	0.37	-	-	0.09	-	17.21	96.43%
52	5.94	-	-	-	-	-	-	-	-	-	-	0.08	-	-	-	-	5.86	98.58%
53	1.55	-	0.04	0.18	-	-	-	-	-	-	-	-	-	-	0.63	-	0.70	44.93%
54	5.77	-	-	0.83	-	-	-	-	-	-	-	0.16	-	-	1.39	-	3.38	58.62%
55	1.13	-	-	-	-	-	-	-	-	-	-	-	1.13	-	-	-	0.00	0.00%
56a	10.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.78	100.00%
56b	0.40	-		-	-	-	-	-	-	-	-	-	-	-	-	-	0.40	100.00%
57	0.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.40	100.00%
59	0.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.43	100.00%
60	10.78	-	-	-	-	-	-	-	-	0.44	-	0.15	-	-	-	-	10.19	94.52%
61	0.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.40	100.00%
62	0.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.40	100.00%
63	0.01	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	-	0.00	0.00%
64	0.43	-	-	-	-	-	-	-	-	-	-	-	0.43	-	-	-	0.00	0.00%
65a	0.82	-	-	-	-	-	-	-	-	-	-	0.19	-	-	-	-	0.63	77.25%

PARCEL ID	TOTAL AREA (HA)	TRANSPORT						COMMUNITY & EDUCATION		OPEN SPACE						OTHER	TOTAL NET DEVELOPABLE AREA (HA)	NET DEVELOPABLE AREA % OF PROPERTY
		ARTERIAL ROAD			OTHER TRANSPORT					UNCREDITED OPEN SPACE				CREDITED OPEN SPACE				
		ARTERIAL ROAD – EXISTING ROAD RESERVE	ARTERIAL ROAD - PUBLIC ACQUISITION OVERLAY	ARTERIAL ROAD – NEW/ WIDENING/ INTERSECTION FLARING (NON-DCP LAND)	NON-ARTERIAL ROAD – RETAINED EXISTING ROAD RESERVE	NON-ARTERIAL ROAD – INTERSECTION FLARING WITHIN CROWN LAND	NON-ARTERIAL ROAD – NEW / WIDENING / INTERSECTION FLARING (DCP LAND)	PROPOSED GOVERNMENT SCHOOL	POTENTIAL STATE GOVERNMENT HEALTH FACILITY	BROKEN RIVER FLOODPLAIN (DCP LAND)	BROKEN RIVER SHARED PATH (DCP LAND)	WATERWAY AND DRAINAGE RESERVE (DCP LAND)	WATERWAY AND DRAINAGE RESERVE (NON-DCP LAND)	LOCAL SPORTS RESERVE (DCP LAND)	LOCAL NETWORK PARK (DCP LAND)	EXISTING DEVELOPED LAND		
65b	9.13	-	-	-	-	-	-	-	-	4.75	-	0.59	-	-	-	-	3.80	41.59%
66	0.10	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-	-	0.05	50.56%
67	3.21	-	-	0.86	-	-	-	-	-	-	-	-	2.35	-	-	-	0.00	0.00%
68	13.60	-	-	-	-	-	-	-	-	3.52	-	-	-	-	-	-	10.08	74.12%
69	8.56	-	-	0.14	-	-	-	-	-	-	-	-	-	-	0.70	-	7.72	90.16%
70	2.08	-	-	0.02	-	-	-	-	-	-	-	-	-	-	0.08	-	1.99	95.35%
71	8.56	-	-	0.10	-	-	-	-	-	0.03	-	-	-	-	0.49	-	7.94	92.73%
72	0.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.40	100.00%
73	1.00	-	-	0.04	-	-	-	-	-	-	-	-	-	-	0.20	-	0.75	75.47%
74	0.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.42	100.00%
75a	1.63	-	-	-	-	-	-	-	-	-	0.07	-	-	-	-	1.57	0.00	0.00%
75b	7.06	-	-	-	-	-	-	-	-	5.75	0.04	-	-	-	-	-	1.26	17.90%
76	0.37	-	-	-	-	-	-	-	-	0.00	-	-	0.11	-	-	0.01	0.26	69.50%
77a	0.21	-	-	-	0.21	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00%
77b	0.08	-	-	-	-	-	-	-	-	-	-	-	0.08	-	-	-	0.00	0.00%
77c	0.13	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-	-	0.00	0.00%
77d	9.22	-	-	-	-	-	-	-	-	-	-	-	9.22	-	-	-	0.00	0.00%
77e	0.02	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	0.00	0.00%
77f	0.02	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	0.00	0.00%
77g	0.02	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	0.00	0.00%
77h	2.59	-	-	-	-	-	-	-	-	-	-	-	2.59	-	-	-	0.00	0.00%
77i	0.011	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	-	0.00	0.00%
77j	0.011	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	-	0.00	0.00%
78	1.47	-	-	-	-	-	-	-	-	-	0.03	-	-	-	-	1.44	0.00	0.00%

PARCEL ID	TOTAL AREA (HA)	TRANSPORT						COMMUNITY & EDUCATION		OPEN SPACE						OTHER	TOTAL NET DEVELOPABLE AREA (HA)	NET DEVELOPABLE AREA % OF PROPERTY
		ARTERIAL ROAD			OTHER TRANSPORT					UNCREDITED OPEN SPACE				CREDITED OPEN SPACE				
		ARTERIAL ROAD – EXISTING ROAD RESERVE	ARTERIAL ROAD - PUBLIC ACQUISITION OVERLAY	ARTERIAL ROAD – NEW/ WIDENING/ INTERSECTION FLARING (NON-DCP LAND)	NON-ARTERIAL ROAD – RETAINED EXISTING ROAD RESERVE	NON-ARTERIAL ROAD – INTERSECTION FLARING WITHIN CROWN LAND	NON-ARTERIAL ROAD – NEW / WIDENING / INTERSECTION FLARING (DCP LAND)	PROPOSED GOVERNMENT SCHOOL	POTENTIAL STATE GOVERNMENT HEALTH FACILITY	BROKEN RIVER FLOODPLAIN (DCP LAND)	BROKEN RIVER SHARED PATH (DCP LAND)	WATERWAY AND DRAINAGE RESERVE (DCP LAND)	WATERWAY AND DRAINAGE RESERVE (NON-DCP LAND)	LOCAL SPORTS RESERVE (DCP LAND)	LOCAL NETWORK PARK (DCP LAND)	EXISTING DEVELOPED LAND		
79	0.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.83	0.00	0.00%
80	3.23	-	-	-	-	-	-	-	-	-	0.48	-	-	-	-	2.75	0.00	0.00%
81	7.34	-	-	-	-	-	-	-	-	4.12	0.34	-	-	-	-	2.88	0.00	0.00%
82	6.07	-	-	0.31	-	-	-	-	-	1.16	-	-	-	-	0.42	-	4.17	68.74%
83	16.88	-	-	0.40	-	-	-	-	-	9.95	0.39	-	-	-	0.52	1.88	3.74	22.15%
84	3.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.39	0.00	0.00%
85	6.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.10	0.00	0.00%
86	0.35	-	-	-	-	-	-	-	-	-	-	-	0.35	-	-	-	0.00	0.00%
87	0.14	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	0.00	0.00%
88	0.61	-	-	0.02	-	-	-	-	-	-	-	-	0.59	-	-	-	0.00	0.61%
SUB-TOTAL	**366.26**	**0.00**	**0.27**	**7.08**	**1.38**	**0.004**	**0.21**	**3.50**	**0.60**	**29.72**	**1.35**	**17.13**	**22.52**	**6.44**	**7.44**	**20.94**	**247.32**	**67.53%**
ROAD RESERVE																		
R1	0.47	-	-	-	0.47	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00%
R2	8.22	8.16	-	-	-	-	-	-	-	-	-	-	0.06	-	-	-	0.00	0.00%
R3	2.15	0.09	-	-	2.06	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00%
R4	1.55	-	-	-	1.55	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00%
R5	1.36	-	-	-	0.05	-	-	-	-	-	-	-	-	-	-	-	1.31	96.67%
R6	2.42	-	-	-	2.42	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00%
R7	2.38	-	-	-	2.32	-	-	-	-	-	-	-	0.06	-	-	-	0.00	0.00%
SUB-TOTAL	**18.55**	**8.25**	**0.00**	**0.00**	**8.86**	**0.000**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.12**	**0.00**	**0.00**	**0.00**	**1.31**	**7.07%**
TOTAL	**384.81**	**8.25**	**0.27**	**7.08**	**10.25**	**0.00**	**0.21**	**3.50**	**0.60**	**29.72**	**1.35**	**17.13**	**22.65**	**6.44**	**7.44**	**20.94**	**248.63**	**64.61%**

8.0 APPENDIX B – PROJECT COST ESTIMATES & CONCEPT DESIGNS

The following cost estimates and designs are provided for information purposes only to provide an indication of how the DCP project costs were calculated. All projects will be subject to detail design prior to delivery.

8.1 Transport Projects

Please note all costs have been indexed to 2024 dollars.

Transport items IN-02c, IN-04c and IN-05c have been reviewed by One Mile Grid and updated costs included in the DCP for these intersections are outlined in Section 8.1.1 below.

Pedestrian Operated Signals – Cost inclusions for the Pedestrian Operated Signals – PED-01 is a VPA Benchmark Cost indexed to 2024 dollars.

https://vpa.vic.gov.au/work_program/infrastructure-contributions-plans/benchmark-costings/

8.1.1 IN-02c, IN-04c and IN-05c

prepared by One Mile Grid

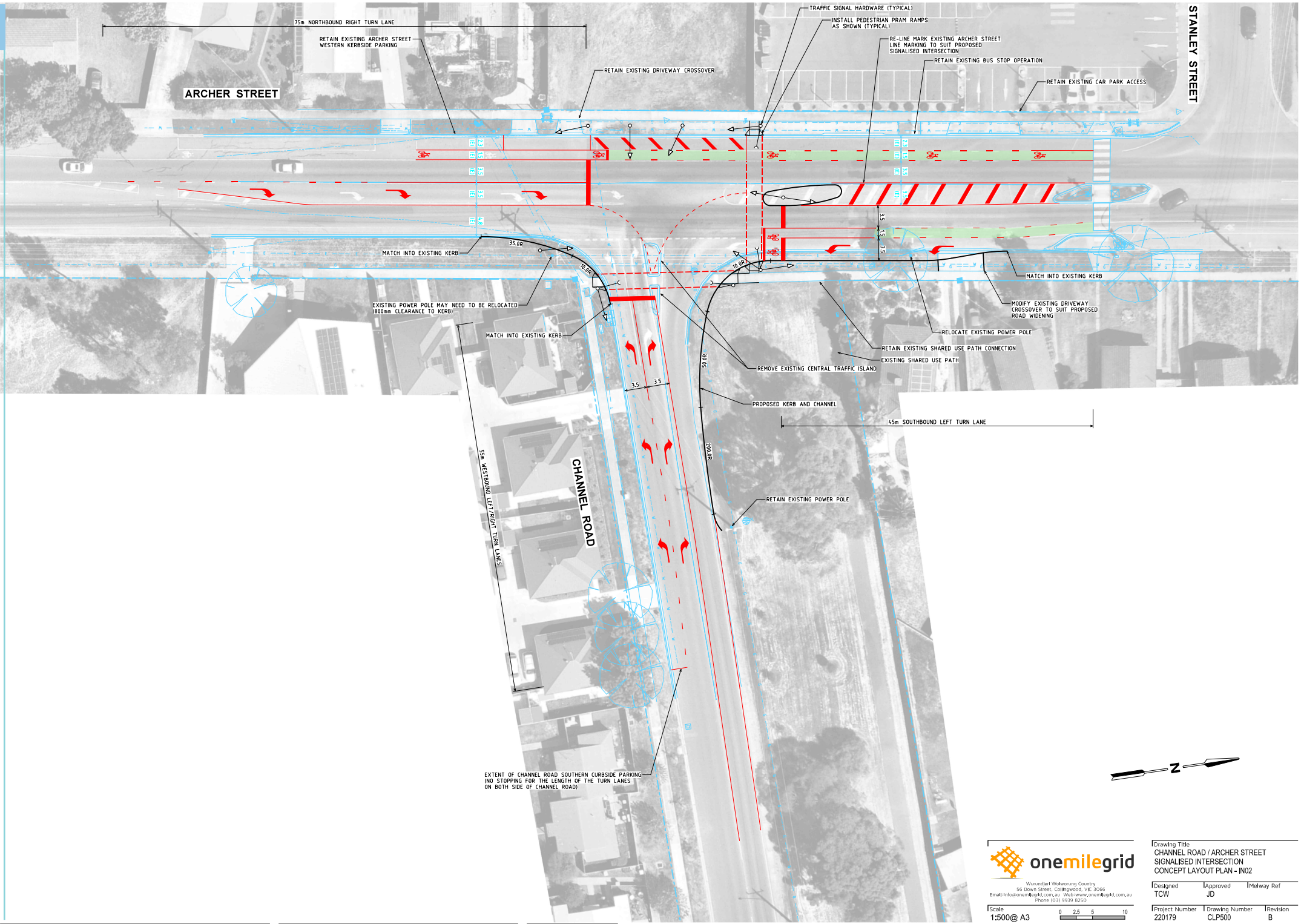
ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT
1	EARTHWORKS				
a)	Excavation, forming, trimming, compacting, filling and grading in roads, stockpiling and spreading topsoil on nature strips, fill areas and batters, clearing and grubbing of trees in road reserves and easements, demolition of existing structures, removal of excess spoil from site as specified. Approx, quantities:solid measurement				
	- Strip (150mm)	190	m^2	$ 10.00	$ 1,900.00
	- Cut	100	m^3	$ 80.00	$ 8,000.00
	- Fill	20	m^3	$ 80.00	$ 1,600.00
2	ASPHALT PAVEMENTS				
	(i) Supply, lay and compact				
	a) 30mm thick size 10mm asphalt.	210	m^2	$ 50.00	$ 10,500.00
	b) 40mm thick size 14mm asphalt.	210	m^2	$ 55.00	$ 11,550.00
	c) Primer seal	210	m^2	$ 16.00	$ 3,360.00
	b) 120mm thick Base Course - Class 2 20mm fine crushed rock	210	m^2	$ 40.00	$ 8,400.00
	c) 200mm thick subbase - Class 3 20mm crushed rock	320	m^2	$ 45.00	$ 14,400.00
	Resheet				
	(ii) Supply, lay and compact				
	a) 30mm thick size 10mm type H dense graded	2970	m^2	$ 50.00	$ 148,500.00
	b) Mill surface 30mm and prepare for resheet	2970	m^2	$ 50.00	$ 148,500.00
3	CONCRETE WORKS				
	Including F.C.R. bedding and reinforcing as specified as per Council Standard Drawings.				
	a) Kerb and channel including modified kerb for vehicular and pedestrian crossings	112	m	$ 120.00	$ 13,440.00
	b) Barrier kerb for median	27	m	$ 120.00	$ 3,240.00
	c) Concrete infill of median	29	m^2	$ 130.00	$ 3,770.00
	d) 125mm thick footpath	15	m^2	$ 120.00	$ 1,800.00
	e) 125mm thick driveway	16	m^2	$ 130.00	$ 2,080.00
4	AGRICULTURAL PIPE DRAINS				
	90mm dia. with screenings backfill as specified	109	m	$ 85.00	$ 9,265.00
5	TRAFFIC SIGNALS				
	Design and construction of traffic signals	1	Item	$ 360,000.00	$ 360,000.00
6	INCIDENTAL ROAD WORKS				
	a) Line markings (including RRPMs) as specified	1	Item	$ 15,000.00	$ 15,000.00
	b) Bike lane surfacing	165	m^2	$ 200.00	$ 33,000.00
	c) TGSI's to all pram crossings as per Council standard drawings	4	No.	$ 1,200.00	$ 4,800.00

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT
	d) Remove and dispose of existing kerb and channel/median	112	m	$ 60.00	$ 6,720.00
7	INCIDENTAL GENERAL WORKS				
	a) Site Management Plan (base plan to be provided by the consultant)	1	Item	$ 5,000.00	$ 5,000.00
	b) D-Spec	1	Item	$ 5,000.00	$ 5,000.00
	c) R-Spec	1	Item	$ 5,000.00	$ 5,000.00
	d) CCTV Inspection and Report	1	Item	$ 5,000.00	$ 5,000.00
	ROAD SUB-TOTAL				**$ 829,825.00**
	STORMWATER WORKS				
8	DRAINAGE PIPES				
	Supply of all pipes and materials,excavation, laying and jointing of drainage pipes including bedding and backfill as specified				
	- with F.C.R. backfill				
	a) Class 2 R.C.P.	16	m	$ 500.00	$ 8,000.00
9	DRAINAGE PITS				
	Including cover type as specified				
	a) Side Entry Pits	1	No.	$ 5,000.00	$ 5,000.00
	STORMWATER SUB-TOTAL				**$ 13,000.00**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT
	SERVICES				
10	ELECTRICAL WORKS				
	a) Relocation of power poles	2	No.	$ 50,000.00	$ 100,000.00
	b) Realign existing underground elec supply	1	Item	$ 30,000.00	$ 30,000.00
	c) Point of Supply works	1	Item	$ 10,000.00	$ 10,000.00
11	SERVICE ADJUSTMENT WORKS				
	a) Service proving	1	Item	$ 30,000.00	$ 30,000.00
	b) Relocate and replace existing 225 AC water pipe to avoid clash with kerb and new pavement	60	m	$ 1,500.00	$ 90,000.00
	SERVICES SUB-TOTAL				**$ 260,000.00**
	TOTAL				**$1,102,825.00**
	DELIVERY				
8	DELIVERY				
	a) Council Fees (GSCC adjustment)	1	Item	2.50%	$ 27,570.63
	b) VicRoads Fees (GSCC adjustment)	0	Item	0.00%	$ -
	c) Traffic Management	1	Item	15.00%	$ 165,423.75
	d) Environmental Management	1	Item	1.00%	$ 11,028.25
	e) Survey & Design	1	Item	5.00%	$ 55,141.25
	f) Supervision & Project Management	1	Item	9.00%	$ 99,254.25
	g) Site Establishment	1	Item	2.50%	$ 27,570.63
	h) Contingency	1	Item	20.00%	$ 220,565.00
					$ 606,553.75
				TOTAL	**$1,709,378.75**

NOTES:

1. **Refer to Drawing LC3033-Opinion of Cost Markup (dated 15/07/24) for plan of allowances. OPC based on One Mile Grid plan 220179-CLP500-B received 03/07/2024.**
2. **Allowed for resheet of road at 80m approaching intersection and 30m departing intersection, or until existing pedestrian crossing.**
3. **Allowed for full depth pavement design as per comparable recent job completed.**
4. **SEWER: Assumed existing pressure sewer under road will be unaffected by resurfacing works.**
5. **WATER: Assumed 300AC water main under road will be unaffected by resurfacing works. Allowed for replacement of 225AC water main where full depth pavement is required, or pipe is close to proposed kerb and likely to be damaged.**
6. **ELECTRICITY: Overhead electrical assumed not to be required to be undergrounded under intersection. Allowance to move cables and poles where clashing with new pavement. Existing public lighting assumed to cater for new works - No allowance.**
7. **GAS: No allowance for lowering gas main where it runs under the existing road and new road pavement. Assumed to be at sufficient depth.**
8. **TELSTRA: Assumed existing Telstra under road will be unaffected by resurfacing works. No allowance for relocation.**
9. **STORMWATER: Assumed 1 additional stormwater pit required due to road widening preventing runoff to nature strip. No allowance to upgrade/repair existing drainage infrastructure that is not within new pavement.**
10. **Opinion of Cost based upon intersection being a Council asset, not VicRoads.**
11. **The opinion assumes that trees within road and/or construction areas can be removed.**



onemilegrid
Wurundjeri Woiwurung Country
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Drawing Title
CHANNEL ROAD / ARCHER STREET
SIGNALISED INTERSECTION
CONCEPT LAYOUT PLAN - IN02

Designed	Approved	Melway Ref
TCW	JD	

Scale
1:500@ A3
0 2.5 5 10

Project Number	Drawing Number	Revision
220179	CLP500	B

Date Plotted: 02-07-2024 3:22:25 PM

CAD File: N:\Projects\2022\220179\Drawings\220179CLP500.dgn

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We pay our respects to leaders and Elders past, present and emerging for they hold the memories, the traditions, the culture, and the hopes of all Wurundjeri Peoples.

Aerial Photography
Aerial photography provided by Nearmap

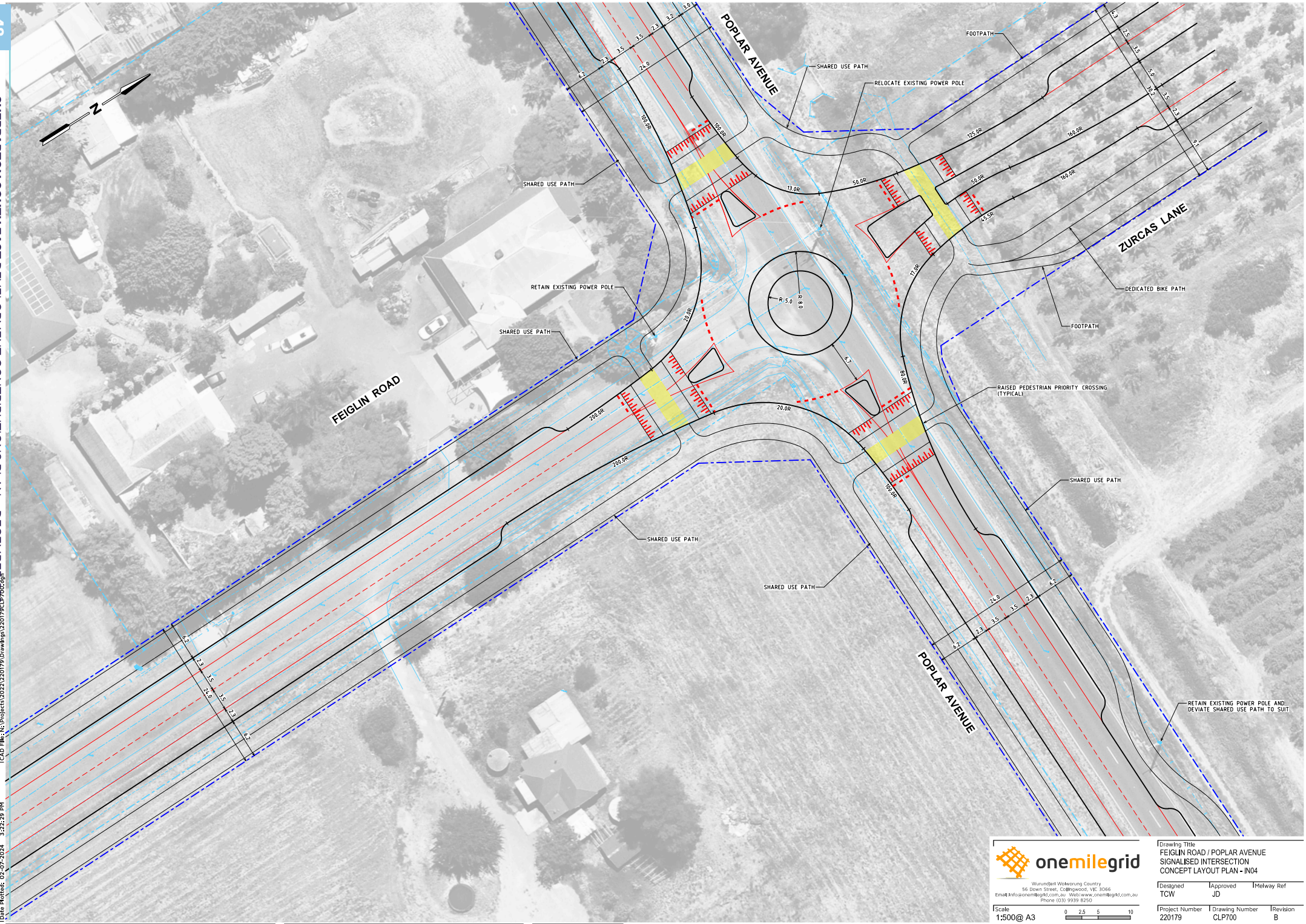
ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT
1	EARTHWORKS				
a)	Excavation, forming, trimming, compacting, filling and grading in roads and lots, clean out and backfilling of table, catch and open drains, stockpiling and spreading topsoil on nature strips, fill areas and batters, removal of existing fences, clearing and grubbing of trees in road reserves and easements, removal of excess spoil from site as specified. Approx, quantities:solid				
	- Strip (150mm)	2300	m^2	$ 10.00	$ 23,000.00
	- Cut	900	m^3	$ 80.00	$ 72,000.00
	- Fill	400	m^3	$ 80.00	$ 32,000.00
2	ASPHALT PAVEMENTS				
	(i) Supply, lay and compact				
	a) 30mm thick size 10mm asphalt.	2180	m^2	$ 50.00	$ 109,000.00
	b) 40mm thick size 14mm asphalt.	2180	m^2	$ 55.00	$ 119,900.00
	c) Primer seal	2180	m^2	$ 14.00	$ 30,520.00
	b) 120mm thick Base Course - Class 2 20mm fine crushed rock	2180	m^2	$ 40.00	$ 87,200.00
	c) 200mm thick subbase - Class 3 20mm crushed rock	2580	m^2	$ 45.00	$ 116,100.00
3	CONCRETE WORKS				
	Including F.C.R. bedding and reinforcing as specified as per Council Standard Drawings.				
	a) Kerb and channel including modified kerb for vehicular and pedestrian crossings	380	m	$ 120.00	$ 45,600.00
	b) Barrier kerb for median	182	m	$ 120.00	$ 21,840.00
	c) Concrete infill of median	44	m^2	$ 130.00	$ 5,720.00
	d) Concrete roundabout verge	125	m^2	$ 170.00	$ 21,250.00
	d) 125mm thick footpath	990	m^2	$ 120.00	$ 118,800.00
4	AGRICULTURAL PIPE DRAINS				
	90mm dia. with screenings backfill as specified	480	m	$ 85.00	$ 40,800.00
5	SIGNS				
	a) Street name sign	4	No.	$ 600.00	$ 2,400.00
	b) Traffic control sign	12	No.	$ 600.00	$ 7,200.00
6	INCIDENTAL ROAD WORKS				
	a) Line markings (including RRPMs) as specified	1	Item	$ 20,000.00	$ 20,000.00
	b) TGSI's to all pram crossings as per Council	8	No.	$ 1,200.00	$ 9,600.00
	c) Installation of raised pedestrian crossing	4	No.	$ 20,000.00	$ 80,000.00
7	INCIDENTAL GENERAL WORKS				
	a) Site Management Plan (base plan to be	1	Item	$ 5,000.00	$ 5,000.00
	b) D-Spec	1	Item	$ 10,000.00	$ 10,000.00
	c) R-Spec	1	Item	$ 10,000.00	$ 10,000.00
	d) CCTV Inspection and Report	1	Item	$ 15,000.00	$ 15,000.00

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT
	ROAD SUB-TOTAL				**$1,002,930.00**
	STORMWATER WORKS				
8	DRAINAGE PIPES				
	laying and jointing of drainage pipes including				
	- with F.C.R. backfill				
	a) Class 2 R.C.P.	345	m	$ 500.00	$ 172,500.00
9	DRAINAGE PITS				
	Including cover type as specified				
	a) Junction Pits	2	No.	$ 4,500.00	$ 9,000.00
	b) Side Entry Pits	18	No.	$ 5,000.00	$ 90,000.00
	c) VicRoads Driveable Endwalls	6	No.	$ 3,500.00	$ 21,000.00
10	DRAINAGE RELOCATION WORKS				
	a) Remove and dispose existing drainage pipes	17	m	$ 200.00	$ 3,400.00
	STORMWATER SUB-TOTAL				**$ 295,900.00**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT
	SERVICES				
11	ELECTRICAL WORKS				
	a) Relocation of power pole and adjacent cable works	1	No.	$ 90,000.00	$ 90,000.00
	a) New intersection lighting (7 new lights)	1	Item	$110,000.00	$ 110,000.00
12	SERVICE ADJUSTMENT WORKS				
	a) Service proving	1	Item	$ 35,000.00	$ 35,000.00
	b) Relocate approx 90m of telecom cables and pits from under new pavement	1	Item	$ 80,000.00	$ 80,000.00
	SERVICES SUB-TOTAL				**$ 315,000.00**
	TOTAL				**$1,613,830.00**
	DELIVERY				
13	DELIVERY				
	a) Council Fees (GSCC adjustment)	1	Item	2.50%	$ 40,345.75
	b) VicRoads Fees (GSCC adjustment)	1	Item	0.00%	$ -
	c) Traffic Management	1	Item	15.00%	$ 242,074.50
	d) Environmental Management	1	Item	1.00%	$ 16,138.30
	e) Survey & Design	1	Item	5.00%	$ 80,691.50
	f) Supervision & Project Management	1	Item	9.00%	$ 145,244.70
	g) Site Establishment	1	Item	2.50%	$ 40,345.75
	h) Contingency	1	Item	20.00%	$ 322,766.00
					$ 887,606.50
				TOTAL	**$2,501,436.50**

NOTES:

1. **Refer to Drawing LC3033-Opinion of Cost Markup (dated 15/07/24) for plan of allowances. OPC based on One Mile Grid plan 220179-CLP500-B received 03/07/2024.**
2. **Allowed for works to extend to where standard sections commence, as per costing markup**
3. **Allowed for full depth pavement design as per comparable recent job completed.**
4. **SEWER: No sewer in vicinity. No allowance.**
5. **WATER: No water in vicinity. No allowance.**
6. **ELECTRICITY: Overhead electrical assumed not to be required to be undergrounded under intersection. Allowance to move cables and poles where clashing with new pavement. New public lighting required for new works.**
7. **GAS: No gas in vicinity. No allowance.**
8. **TELSTRA: Assumed existing Telstra will need to be relocated to avoid intersection works. Allowance for 90m of relocation, including pits.**
9. **STORMWATER: Assumed stormwater pipes and pits required to replace existing roadside swales. Allowance shown as per costing markup provided.**
10. **Land Acquisition should be allowed for, but we have not attempted to price this item.**
11. **Opinion of Cost based upon intersection being a Council asset, not VicRoads.**
12. **The opinion assumes that trees within road and/or construction areas can be removed.**
13. **The opinion makes no allowance for:**
    a) Any net gain offsets. Should Council deem these necessary, costs will apply.



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Date Plotted: 02-07-2024 3:22:29 PM

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Drawing Title
FEIGLIN ROAD / POPLAR AVENUE
SIGNALISED INTERSECTION
CONCEPT LAYOUT PLAN - IN04

Designed	Approved	Melway Ref
TCW	JD	

Scale 1:500@ A3 (0 2.5 5 10)

Project Number	Drawing Number	Revision
220179	CLP700	B

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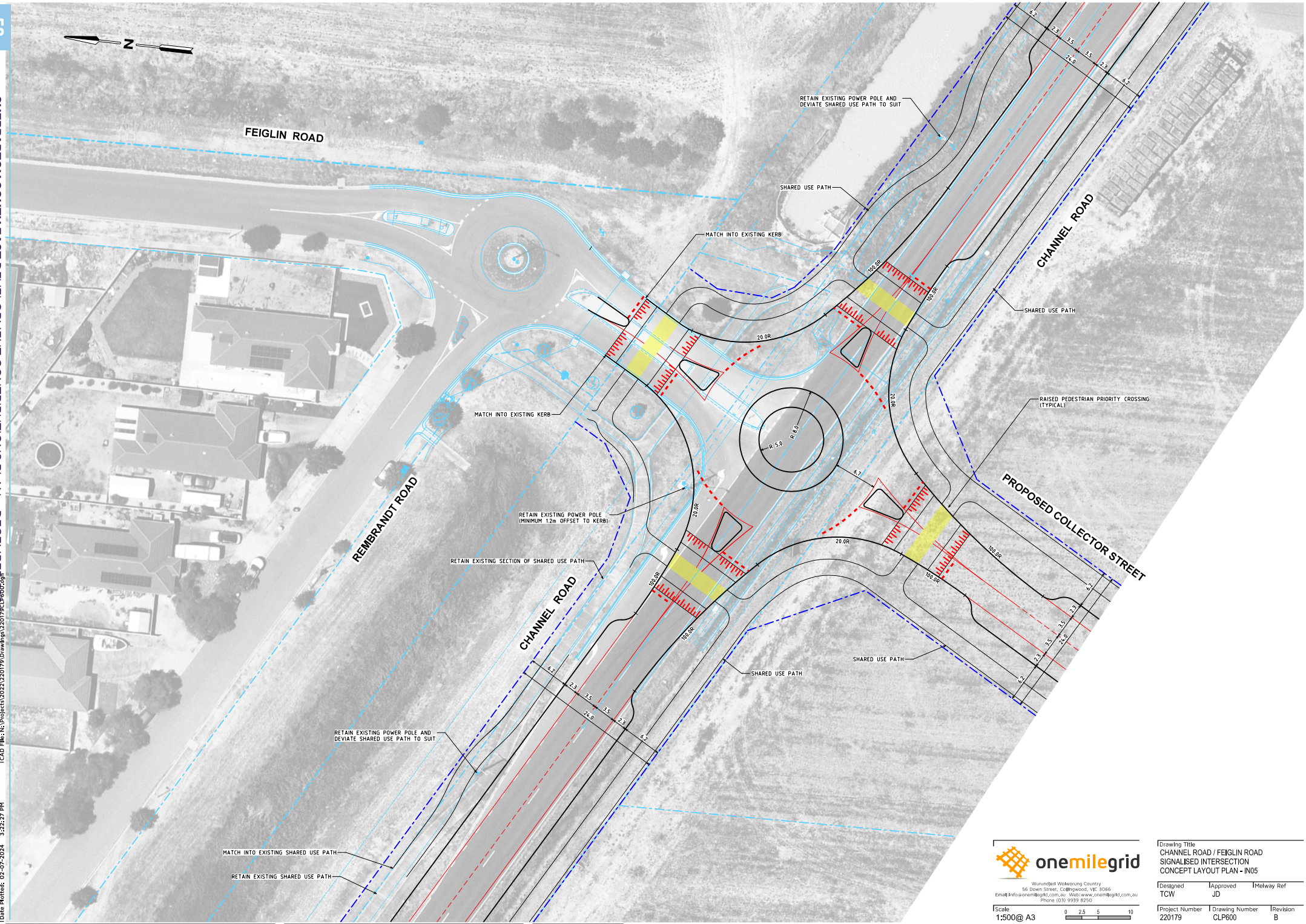
1	EARTHWORKS				
a)	Excavation, forming, trimming, compacting, filling and grading in roads and lots, clean out and backfilling of table, catch and open drains, stockpiling and spreading topsoil on nature strips, fill areas and batters, removal of existing fences, clearing and grubbing of trees in road reserves and easements, removal of excess spoil from site as specified. Approx, quantities:solid				
	- Strip (150mm)	845	m^2	$ 10.00	$ 8,450.00
	- Cut	380	m^3	$ 80.00	$ 30,400.00
	- Fill	300	m^3	$ 80.00	$ 24,000.00
2	ASPHALT PAVEMENTS				
	(i) Supply, lay and compact				
	a) 30mm thick size 10mm asphalt.	845	m^2	$ 50.00	$ 42,250.00
	b) 40mm thick size 14mm asphalt.	845	m^2	$ 55.00	$ 46,475.00
	c) Primer seal	845	m^2	$ 16.00	$ 13,520.00
	b) 120mm thick Base Course - Class 2 20mm fine crushed rock	845	m^2	$ 40.00	$ 33,800.00
	c) 200mm thick subbase - Class 3 20mm crushed rock	1090	m^2	$ 45.00	$ 49,050.00
	Resheet				
	(ii) Supply, lay and compact				
	a) 30mm thick size 10mm type H dense graded	940	m^2	$ 50.00	$ 47,000.00
	b) Mill surface 30mm and prepare for resheet	940	m^2	$ 50.00	$ 47,000.00
3	CONCRETE WORKS				
	Including F.C.R. bedding and reinforcing as specified as per Council Standard Drawings.				
	a) Kerb and channel including modified kerb for vehicular and pedestrian crossings	285	m	$ 120.00	$ 34,200.00
	b) Barrier kerb for median	108	m	$ 120.00	$ 12,960.00
	c) Concrete infill of median	71	m^2	$ 130.00	$ 9,230.00
	d) Concrete roundabout verge	125	m^2	$ 170.00	$ 21,250.00
	d) 125mm thick footpath	650	m^2	$ 120.00	$ 78,000.00
4	AGRICULTURAL PIPE DRAINS				
	90mm dia. with screenings backfill as specified	285	m	$ 85.00	$ 24,225.00
5	SIGNS				
	a) Street name sign	4	No.	$ 600.00	$ 2,400.00
	b) Traffic control sign	12	No.	$ 600.00	$ 7,200.00
6	INCIDENTAL ROAD WORKS				
	a) Line markings (including RRPMs) as specified	1	Item	$ 20,000.00	$ 20,000.00
	b) TGSI's to all pram crossings as per Council standard drawings	8	No.	$ 1,200.00	$ 9,600.00

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT
	c) Remove and dispose of existing kerb and chan	103	m	$ 60.00	$ 6,180.00
	c) Remove and dispose of existing footpath	114	m^2	$ 60.00	$ 6,840.00
	d) Installation of raised pedestrian crossing	4	No.	$ 20,000.00	$ 80,000.00
7	INCIDENTAL GENERAL WORKS				
	a) Site Management Plan (base plan to be provided by the consultant)	1	Item	$ 5,000.00	$ 5,000.00
	b) D-Spec	1	Item	$ 10,000.00	$ 10,000.00
	c) R-Spec	1	Item	$ 10,000.00	$ 10,000.00
	d) CCTV Inspection and Report	1	Item	$ 15,000.00	$ 15,000.00
	ROAD SUB-TOTAL				**$ 694,030.00**
	STORMWATER WORKS				
8	DRAINAGE PIPES				
	Supply of all pipes and materials,excavation, laying and jointing of drainage pipes including bedding and backfill as specified				
	- with F.C.R. backfill				
	a) Class 2 R.C.P.	195	m	$ 500.00	$ 97,500.00
9	DRAINAGE PITS				
	Including cover type as specified				
	a) Junction Pits	1	No.	$ 4,500.00	$ 4,500.00
	b) Side Entry Pits	11	No.	$ 5,000.00	$ 55,000.00
	c) VicRoads Driveable Endwalls	2	No.	$ 3,500.00	$ 7,000.00
10	DRAINAGE RELOCATION WORKS				
	a) Remove and dispose existing drainage pipes	27	m	$ 200.00	$ 5,400.00
	b) Remove and dispose existing drainage pits	2	No.	$ 500.00	$ 1,000.00
	STORMWATER SUB-TOTAL				**$ 170,400.00**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT
	SERVICES				
11	ELECTRICAL WORKS				
	a) New intersection lighting (7 new lights)	1	Item	$ 110,000.00	$ 110,000.00
	b) Realign existing underground lighting cable	1	Item	$ 25,000.00	$ 25,000.00
12	SERVICE ADJUSTMENT WORKS				
	a) Service proving	1	Item	$ 35,000.00	$ 35,000.00
	b) Extend gas to avoid clash with pavement	1	Item	$ 30,000.00	$ 30,000.00
	SERVICES SUB-TOTAL				**$ 200,000.00**
	TOTAL				**$1,064,430.00**
	DELIVERY				
13	DELIVERY				
	a) Council Fees (GSCC adjustment)	1	Item	2.50%	$ 26,610.75
	b) VicRoads Fees (GSCC adjustment)	0	Item	0.00%	$ -
	c) Traffic Management	1	Item	15.00%	$ 159,664.50
	d) Environmental Management	1	Item	1.00%	$ 10,644.30
	e) Survey & Design	1	Item	5.00%	$ 53,221.50
	f) Supervision & Project Management	1	Item	9.00%	$ 95,798.70
	g) Site Establishment	1	Item	2.50%	$ 26,610.75
	h) Contingency	1	Item	20.00%	$ 212,886.00
					$ 585,436.50
				TOTAL	**$1,649,866.50**

NOTES:

1. **Refer to Drawing LC3033-Opinion of Cost Markup (dated 15/07/24) for plan of allowances. OPC based on One Mile Grid plan 220179-CLP500-B received 03/07/2024.**
2. **Allowed for works to extend to where standard sections commence, as per costing markup**
3. **Allowed for full depth pavement design as per comparable recent job completed.**
4. **SEWER: No sewer in vicinity. No allowance.**
5. **WATER: No water in vicinity. No allowance.**
6. **ELECTRICITY: Overhead electrical assumed not to be required to be undergrounded under intersection. Allowance to move/lower cables where under new pavement. No allowance to move poles. New public lighting required for new works.**
7. **GAS: High pressure PE gas main in vicinity. Allow to extend blank end beyond pavement extent. No allowance to lower existing pipes.**
8. **TELSTRA: Assumed existing Telstra will remain unaffected by intersection works.**
9. **STORMWATER: Assumed stormwater pipes and pits required to replace existing roadside swales. Allowance shown as per costing markup provided.**
10. **Land Acquisition should be allowed for, but we have not attempted to price this item.**
11. **Opinion of Cost based upon intersection being a Council asset, not VicRoads.**
12. **The opinion assumes that trees within road and/or construction areas can be removed.**



[CAD File: N:\Projects\2022\220179\Drawings\220179CLP600.dgn]

Date Plotted: 02-07-2024 3:22:27 PM

onemilegrid operates from Wurundjeri Woiwurung Country of the Kulin nation. We acknowledge and extend our appreciation to the Wurundjeri People, the Traditional Owners of the land. We pay our respects to leaders and Elders past, present and emerging for they hold the memories, the traditions, the culture, and the hopes of all Wurundjeri Peoples.

Aerial Photography
Aerial photography provided by Nearmap

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Phone (03) 9939 8250

Scale
1:500@ A3
0 2.5 5 10

Drawing Title
CHANNEL ROAD / FEIGLIN ROAD
SIGNALISED INTERSECTION
CONCEPT LAYOUT PLAN - IN05

Designed	Approved	Melway Ref
TCW	JD	

Project Number	Drawing Number	Revision
220179	CLP600	B

8.1.2 Design and Costing of IN-03c

The transport project of IN-03c has been determined by One Mile Grid (design) and Department of Transport and Planning (costing).

Project:	Channel Road and Doyles Road Roundabout project
Location:	Channel Road and Doyles Road Roundabout project
Estimate Prepared By:	Andy Stefanovski
Business Area:	External Works LMH
Estimate Date:	9/12/24
Estimate Approved By:	
Business Area:	
Date:	

Item	Base	P50*	P90*
A Project & Program Management	$700,590	$712,000	$760,000
B Design and Investigation	$500,000	$508,000	$543,000
C Land Acquisition		$0	$0
D Preconstruction & Construction	$7,175,045	$7,288,000	$7,788,000
SUB-TOTAL (Inherent Risks)	**Base Cost Estimate = $8,375,635**	$8,508,000	$9,091,000
E Contingent Risks		$1,192,000	$1,274,000
TOTAL (No Escalation)		$9,700,000	$10,365,000
Escalation		$0	$0
TOTAL (Including Escalation)		**Project Cost Estimate = $9,700,000**	**Total Capital Cost = $10,365,000**
			Output on-cost = $
			Total Estimated Investment (TEI) = $10,365,000

Base Risk Allocation (Project Cost Estimate minus Base Cost Estimate) = $1,324,365

Contingency (Total Capital Cost minus Project Cost Estimate) = $665,000

	Base	P50*	P90*
A - PROJECT & PROGRAM MANAGEMENT			
A2 - Project Management - Development	$ 400,000	$ 406,515	$ 433,920
A5 - Program Administration	$ 300,590	$ 305,485	$ 326,080
SUB-TOTAL	**$ 700,590**	**$ 712,000**	**$ 760,000**
B - DESIGN AND INVESTIGATION			
B5 - Detailed Design	$ 500,000	$ 508,000	$ 543,000
SUB-TOTAL	**$ 500,000**	**$ 508,000**	**$ 543,000**
D - PRECONSTRUCTION & CONSTRUCTION WORKS			
D1 - Contractor Management	$ 695,000	$ 705,941	$ 754,373
D6 - Utility Service Relocations	$ 1,456,000	$ 1,478,921	$ 1,580,384
D7 - Traffic Management	$ 720,000	$ 731,335	$ 781,509
D10 - Environmental Offsets	$ 21,880	$ 22,224	$ 23,749
D11 - Earthworks	$ 742,460	$ 754,148	$ 805,887
D12 - Drainage	$ 316,370	$ 321,351	$ 343,397
D13 - Pavements	$ 1,960,000	$ 1,990,856	$ 2,127,440
D14 - Structures	$ 718,855	$ 730,172	$ 780,266
D17 - Traffic Signals & Lighting	$ 400,000	$ 406,297	$ 434,171
D23 - Signage, Linemarking, Road Furniture	$ 144,480	$ 146,755	$ 156,823
SUB-TOTAL	**$ 7,175,045**	**$ 7,288,000**	**$ 7,788,000**
E - CONTINGENT RISKS			
E1 - Project Risks	$ 1,173,870	$ 1,192,000	$ 1,274,000
SUB-TOTAL	**$ 1,173,870**	**$ 1,192,000**	**$ 1,274,000**

***Note: The P50 and P90 values in the tables above are proportioned to ensure they add to the total P50 and P90 total capital cost values.**
True P50 and P90 values are detailed in the Est_Confidence sheet.

Project Cost Estimate Input

Victorian Planning Authority VPA

Project:	Channel Road and Doyles Road Roundabout project
Location:	Channel Road and Doyles Road Roundabout project
Estimate Prepared By:	Andy Stefanovski
Business Area:	External Works LMH
Estimate Date:	09/12/2024
Estimate Approved By:	
Business Area:	
Date:	

Funding Source	State Only
Check Federal Cost Items?	No
Items to use in Time sheet:	Level 1 cost items
Correlate by:-	Level 1
No of Iterations	10000

ITEM	Description	Level 1 Category	Level 2 Category	UNIT	Prob of Occurrence	QUANTITY				RATE				BASE ESTIMATE COST	COMMENTS
						Risk Profile - Quantity	Likely Quantity	Lowest Quantity	Highest Quantity	Risk Profile -Rate	Likely Rate	Lowest Rate	Highest Rate		
A	PROJECT & PROGRAM MANAGEMENT														
A1	PROJECT PLANNING	A - PROJECT & PROGRAM MANAGEMENT	A1 - Project Management - Planning	Item	0%										
A1.1	Post completion Evaluation	A - PROJECT & PROGRAM MANAGEMENT	A1 - Project Management - Planning	Item	0%										
A2	PROJECT DEVELOPMENT														
A2.1	VicRoads - External Works Team	A - PROJECT & PROGRAM MANAGEMENT	A2 - Project Management - Development	Item	100%	Constant Value	1	1	1	-10% , +10%	400,000.00	360,000.00	440,000.00	400,000	This assumes Council are delivering the works
A2.2	Traffic Investigations	A - PROJECT & PROGRAM MANAGEMENT	A2 - Project Management - Development	item	0%										
A2.3	Concept design	A - PROJECT & PROGRAM MANAGEMENT	A2 - Project Management - Development	item	0%										
A2.4	Before and After Study	A - PROJECT & PROGRAM MANAGEMENT	A2 - Project Management - Development	item											
A2.5	Cultural Heritage Study	A - PROJECT & PROGRAM MANAGEMENT	A2 - Project Management - Development	item											
A2.6	Pavement Design & Internal Review	A - PROJECT & PROGRAM MANAGEMENT	A1 - Project Management - Planning	item	0%										
A3	PROJECT MANAGEMENT CONSTRUCTION														
A3.1	Contract administration / management	A - PROJECT & PROGRAM MANAGEMENT	A3 - Project Management - Construction	weeks	0%										This assumes council are delivering the works
A3.2	Network Operations Advice	A - PROJECT & PROGRAM MANAGEMENT	A3 - Project Management - Construction	item											
A3.3	Signal Operations Advice	A - PROJECT & PROGRAM MANAGEMENT	A3 - Project Management - Construction	item											
A3.4	TMP Review	A - PROJECT & PROGRAM MANAGEMENT	A3 - Project Management - Construction	item											
A4	STAKEHOLDER MANAGEMENT														
A4.1	Stakeholder Management	A - PROJECT & PROGRAM MANAGEMENT	A4 - Stakeholder Management	Item	0%										This assumes council are delivering the works
A4.2	Letter Drops	A - PROJECT & PROGRAM MANAGEMENT	A4 - Stakeholder Management												
A4.3	Consultants	A - PROJECT & PROGRAM MANAGEMENT	A4 - Stakeholder Management												
A5	PROGRAM ADMINISTRATION														
A5.1	Program Management (Safer Roads)	A - PROJECT & PROGRAM MANAGEMENT	A5 - Program Administration	%											Program requirement, do not remove
	Coucil fees	A - PROJECT & PROGRAM MANAGEMENT	A5 - Program Administration	%	100%	Constant Value	1	1	1	User defined	3.25	3.25	3.25	300,590	Based on VPA assessment
A5.2	Environmental Rehabilitation (Regional Projects)	A - PROJECT & PROGRAM MANAGEMENT	A5 - Program Administration	%	0%										This assumes council are delivering the works
A5.3	On costs - State (4%) [DO NOT INCLUDE HERE - Refer Cover Sheet]	A - PROJECT & PROGRAM MANAGEMENT	A5 - Program Administration												This item is not calculated accurately on this sheet, therefore this item has been included in the Final Summary Sheet
B	DESIGN AND INVESTIGATION														
B1	PLANNING ACTIVITIES		B1 - Planning Activities	Item	0%										
B1.1	Road Safety Audit/SSA - Concept	B - DESIGN AND INVESTIGATION	B1 - Planning Activities	Item	0%										
B1.2	Landscape designs	B - DESIGN AND INVESTIGATION	B1 - Planning Activities	Item	0%										
B1.3	Functional Design	B - DESIGN AND INVESTIGATION	A1 - Project Management - Planning	Item	0%										
B1.4	Road Safety Audit - Functional	B - DESIGN AND INVESTIGATION	B4 - Reference Design		0%										
B2	GROUND SURVEYS														
B2.1	Feature surveys	B - DESIGN AND INVESTIGATION	B2 - Ground Surveys	Item	0%										
B2.2	Service Proofing (detail)	B - DESIGN AND INVESTIGATION	B2 - Ground Surveys		0%										
B3	ENVIRONMENTAL STUDIES														
B3.1	Enviro & CH Due Diligence Assessments				0%										
B3.2	Detailed Cultural Heritage Studies	B - DESIGN AND INVESTIGATION	B3 - Environmental Studies	Item											
B3.3	Ecological Assessment, Arborist Assessment	B - DESIGN AND INVESTIGATION	B3 - Environmental Studies	Item	0%										
B3.4	Soil Contamination Investigations	B - DESIGN AND INVESTIGATION	B3 - Environmental Studies	Item	0%										
B3.5	Hydrology Modelling (FO)	B - DESIGN AND INVESTIGATION	B3 - Environmental Studies	Item	0%										
	Targeted Enviro Surveys	B - DESIGN AND INVESTIGATION	B3 - Environmental Studies	Item	0%										
B4	REFERENCE DESIGN		B4 - Reference Design												
B4.1	Reference Design														
B4.2	Reference Design 2														
B5	DETAILED DESIGN														
B5.1	Detailed road design (including final plans)	B - DESIGN AND INVESTIGATION	B5 - Detailed Design	Item	100%	Constant Value	1	1	1	-10% , +10%	500,000.00	450,000.00	550,000.00	500,000	This includes all site investigation, survey and pavement designs
B5.2	Road Safety Audit - Detailed Design	B - DESIGN AND INVESTIGATION	B5 - Detailed Design	Item											
C	LAND ACQUISITION														
C1	PROPERTY MANAGEMENT	C - LAND ACQUISITION	C1 - Property Management	Item											
C1.1	Property Services	C - LAND ACQUISITION	C1 - Property Management		0%										
C1.2	Title survey	C - LAND ACQUISITION	C1 - Property Management												
C1.3	Developing Plan of Subdivision	C - LAND ACQUISITION	C2 - Land Compensation												
C2	LAND COMPENSATION	C - LAND ACQUISITION	C2 - Land Compensation												
C2.1	Land acquisition costs (per VPA estimate)	C - LAND ACQUISITION	C2 - Land Compensation	Item	0%										This is from VPA
C2.1	Other property Acquisition	C - LAND ACQUISITION	C2 - Land Compensation	Item	0%										
C2.2	Stamp Duties	C - LAND ACQUISITION	C2 - Land Compensation												
D	PRECONSTRUCTION AND CONSTRUCTION WORKS	D - PRECONSTRUCTION & CONSTRUCTION WORKS													
D1	CONTRACTOR MANAGEMENT	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management												
D1.1	Site Establishment and Demobilisation	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	Item	100%	Constant Value	1	1	1	-10% , +10%	100,000.00	90,000.00	110,000.00	100,000	
D1.2	Site Management & Supervision	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	week	100%	-10% , +10%	30	27	33	-5% , +20%	18,000.00	17,100.00	21,600.00	540,000	
D1.3	Prepare & Maintain Quality System	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	week	100%	Constant Value	30	30	30	-10% , +10%	500.00	450.00	550.00	15,000	
D1.4	Service Relocation Management, programming, co-ordination of all service asset works including associated documentation	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	week	100%	User defined				User defined					
D1.5	As Constructed Plans	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	Item	100%	Constant Value	1	1	1	Constant Value	10,000.00	10,000.00	10,000.00	10,000	

Project Cost Estimate Input

Victorian Planning Authority vpa

Project:	Channel Road and Doyles Road Roundabout project
Location:	Channel Road and Doyles Road Roundabout project
Estimate Prepared By:	Andy Stefanovski
Business Area:	External Works LMH
Estimate Date:	09/12/2024
Estimate Approved By:	
Business Area:	
Date:	

Funding Source	State Only
Check Federal Cost Items?	No
Items to use in Time sheet:	Level 1 cost items
Correlate by:-	Level 1
No of Iterations	10000

ITEM	Description	Level 1 Category	Level 2 Category	UNIT	Prob of Occurence	QUANTITY				RATE				BASE ESTIMATE COST	COMMENTS
						Risk Profile - Quantity	Likely Quantity	Lowest Quantity	Highest Quantity	Risk Profile -Rate	Likely Rate	Lowest Rate	Highest Rate		
D1.6	Environment Management	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	weeks	100%	Constant Value	30	30	30	Constant Value	1,000.00	1,000.00	1,000.00	30,000	
D1.7	Environment Management Plan	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	Item											
D2	**CONTRACTOR'S OFFSITE OVERHEAD & MARGIN**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D2 - Contractor's Offsite Overhead & Margin												
D2.1	Contractors Off-site overhead and margins	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D2 - Contractor's Offsite Overhead & Margin	%	0%										
D3	**SPECIAL CONTRACTING COSTS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D3 - Special Contracting Costs												
D3.1	Special Contractors Cost	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D3 - Special Contracting Costs												
D4	**DETAILED DESIGN**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D4 - Detailed Design												
D4.1	Contractors Detail Designs	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D4 - Detailed Design												
D5	**SITE PREPARATION**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D5 - Site Preparation												
D5.1	Temporary Works	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D5 - Site Preparation	Item	0%										
D5.2	Dams, Access Tracks, etc	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D5 - Site Preparation												
D5.3	Fencing (establishing ROW)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D5 - Site Preparation												
D5.4	Fencing (establishing ROW) - Cyclone Fencing	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D5 - Site Preparation												
D5.5	Survey Set outs	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D5 - Site Preparation	Item											
D6	**UTILITY SERVICE RELOCATIONS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations												
D6.1	Powercor - Power Relocation Design	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations	Item	100%	Constant Value	1	1	1	-10% , +20%	400,000.00	360,000.00	480,000.00	400,000	Based on VPA estimate (split with street lighting item)
D6.2	Powercor - Power Relocation Construction	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations		100%	Constant Value									
D6.3	Powercor - Lighting Relocation Design	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations		0%										
D6.4	Powercor - Power Relocation Construction	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations		0%										
D6.5	Telstra - Relocation	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations	Item	100%	Constant Value	1	1	1	-20% , +20%	500,000.00	400,000.00	600,000.00	500,000	Based on VPA estimate +advice from Stantec
D6.6	Telstra - Relocation Construction				0%										
D6.7	Gas - APA Gas Design	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations												
D6.8	Goulburn Valley Water - Relocation	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations		100%	Constant Value	1	1	1	-20% , +20%	350,000.00	280,000.00	420,000.00	350,000	Based on VPA estimate +advice from Stantec
D6.9	Goulburn Valley Water - Relocation Construction	D - PRECONSTRUCTION & CONSTRUCTION WORKS													
D6.10	NBN & Optus Relocation Design	A - PROJECT & PROGRAM MANAGEMENT	D6 - Utility Service Relocations		0%										
D6.11	NBN & Optus Relocation Construction				0%										
D6.12	Relocate existing private sewer	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations	Item	100%	Constant Value	1	1	1	Constant Value	200,000.00	200,000.00	200,000.00	200,000	Based on VPA estimate +advice from Stantec
D6.13	R-Spec	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations	Item	100%	Constant Value	1	1	1	Constant Value	6,000.00	6,000.00	6,000.00	6,000	Based on VPA estimate
D7	**TRAFFIC MANAGEMENT**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D7 - Traffic Management												
D7.1	Provision for Traffic Control	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D7 - Traffic Management	week	100%	-10% , +10%	30	27	33	-10% , +20%	20,000.00	18,000.00	24,000.00	600,000	4 man crew for 6 days per week plus barrier hire
D7.2	Electronic Variable Message Sign	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D7 - Traffic Management	week	100%	User defined	30	27	33	-10% , +20%	1,500.00	1,350.00	1,800.00	45,000	assumed hire of 3 VMS boards at $100 per day
D7.3	Temporary Pavements (place and remove rate)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D7 - Traffic Management	m2	100%	-5% , +30%	300	285	390	-20% , +20%	250.00	200.00	300.00	75,000	
D8	**RAIL MANAGEMENT**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D8 - Rail Management												
D8.1	Rail Management	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D8 - Rail Management												
D9	**ENVIRONMENTAL MANAGEMENT**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D9 - Environmental Management												
D9.1	Silt Traps	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D9 - Environmental Management												
D9.2	Debris fencing	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D9 - Environmental Management												
D10	**ENVIRONMENTAL OFFSETS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D10 - Environmental Offsets												
D10.2	Large Tree Removal	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D10 - Environmental Offsets	trees	100%	User defined	3	2	5	-20% , +20%	1,500.00	1,200.00	1,800.00	4,500	
D10.3	General Habitat Units	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D10 - Environmental Offsets	ha	100%	-20% , +20%	0.158	0.1264	0.1896	-20% , +20%	110,000.00	88,000.00	132,000.00	17,380	
D11	**EARTHWORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks												
D11.1	Lump Sum Allowance for Formation Construction	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	Item											
D11.2	Clearing & Grubbing	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m2											
D11.3	Removal of Trees (significant), Includes grub up & cart away	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	item	0%										
D11.4	Stripping & Stockpiling of Topsoil	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m2	100%	-10% , +10%	6000	5400	6600	-10% , +30%	10.00	9.00	13.00	60,000	Based of land acquisition areas
D11.5	Treat Unsuitable Material - Excavate/Replace	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m3 solid											

Project Cost Estimate Input

Victorian Planning Authority

Project:	Channel Road and Doyles Road Roundabout project
Location:	Channel Road and Doyles Road Roundabout project
Estimate Prepared By:	Andy Stefanovski
Business Area:	External Works LMH
Estimate Date:	09/12/2024
Estimate Approved By:	
Business Area:	
Date:	

Funding Source	State Only
Check Federal Cost Items?	No
Items to use in Time sheet:	Level 1 cost items
Correlate by:-	Level 1
No of Iterations	10000

ITEM	Description	Level 1 Category	Level 2 Category	UNIT	Prob of Occurrence	QUANTITY				RATE				BASE ESTIMATE COST	COMMENTS
						Risk Profile - Quantity	Likely Quantity	Lowest Quantity	Highest Quantity	Risk Profile -Rate	Likely Rate	Lowest Rate	Highest Rate		
D11.6	Excavation in Rock	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m3 solid											
D11.7	Earthworks - Cut	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m3 solid	100%	-10% , +10%	4717	4245.3	5188.7	-5% , +20%	100.00	95.00	120.00	471,700	Assumed new road levels not changing as roundabout in flood area according to VicPlan. Qty based off OMG shoulder and traffic lane area of 5550m2 and 850mm deep pavement
D11.8	Earthworks - Cut to Waste (place "on-site")	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m3 solid											
D11.9	Earthworks - Cut to waste (place "off site")	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m3 solid											
D11.10	Earthworks - Import to Fill (type A material)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m3 solid	100%	-10% , +10%	1500	1350	1650	-10% , +10%	90.00	81.00	99.00	135,000	High level estimate only as no available fill qtys available
D11.11	Construct Table Drains & Verges & detailed earthworks	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m	100%	-10% , +10%	947	852.3	1041.7	-10% , +10%	20.00	18.00	22.00	18,940	Qty from OMG and assumed table drain along entire perimeter
D11.12	Construct Runoff Drains	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m											
D11.13	Remove & replacement of unsuitable subgrade material	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	Item											
D11.14	Topsoiling (include fertilising & seeding)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m2	100%	-10% , +10%	4735	4261.5	5208.5	-10% , +10%	12.00	10.80	13.20	56,820	Qty from OMG and assumed 5m wide verge
D11.15	Tree Planting	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	Item											
D12	**DRAINAGE WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage												
D12.1	Lump Sum Allowance for drainage works	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	Item											
D12.2	Supply & Install 450x300 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m											
D12.3	Supply & Install 600x300 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m											
D12.4	Supply & Install 600x450 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m											
D12.5	Supply & Install 750x300 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m											
D12.6	Supply & Install 900x450 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m											
D12.7	Supply & Install 900x600 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m											
D12.8	Supply & Install 2x2400x1200 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	0%										
D12.9	Extend 900mm dia drainage Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	100%	Constant Value	72	72	72	-10% , +20%	1,400.00	1,260.00	1,680.00	100,800	Qty of 72m from OMG and assumed all of new pipe will be under road pavement which is a conservative assumption (ie. rate includes backfill)
D12.10	Supply & Install 300mm drainage Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	0%										
D12.11	Supply & Install 450mm drainage Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	0%										
D12.12	Supply & Install 1800x900 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m											
D12.13	Supply & Install Class 2 300mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m											
D12.14	Supply & Install Class 2 375mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m											
D12.15	Supply & Install Class 3 375mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m											
D12.16	Supply & Install Class 2 <450mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	0%										
D12.17	Supply & Install Class 2 >450mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	0%										
D12.18	Supply & Install Class 2 750mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m											
D12.19	Supply & Install Class 2 900mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m											
D12.20	Supply & Install 900dia pipe headwalls	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.	100%	User defined	2	2	2	-30% , +30%	15,000.00	10,500.00	19,500.00	30,000	Headwalls may need to be cast insitu and includes beaching
D12.21	Supply & Install 450 pipe headdwalls	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.	0%										
D12.22	Supply & Install 300 pipe headdwalls	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.	0%										
D12.23	Supply & Install Wingwalls	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.											
D12.24	Supply & Install Subsurface Drains (Fabric around trench) Type 2	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m											
D12.25	Supply & Install Subsurface Drains agricultural pipes (100mm sock fitted) Type 3	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	100%	Constant Value	1687	1687	1687	Constant Value	110.00	110.00	110.00	185,570	Qty from OMG, assumed SSD behind BOK kerb only
D12.26	Supply & Install Subsurface Drain Risers	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.											
D12.27	Supply & Install Subsurface Drain Pit	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.	0%										
D12.28	Supply & Install Subsurface Drain Outlets	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.											
D12.29	Supply & Install Junction Pits	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.	0%										
D12.30	Supply & Install SEP's (1.5m x 600 x 450)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.	0%										
D12.31	Supply & Install End Entry Pits	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.											
D12.32	Supply & Install Inlet Catch Pits	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.											
D12.33	Supply & Install Grated Pits	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.											
D12.34	Supply & Install Side Entry Grated Pits	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.											
D12.35	Supply & Install Gatic Lid	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.											
D12.36	Supply & Place Rock Beaching	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m2											
D12.37	Supply & Install Drainage Blankets	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m2											
D12.38	Supply & Install Erosion Matting	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m2											
D13	**PAVEMENT CONSTRUCTION**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements												
D13.1	Lump Sum Item for Pavement construction	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Item											
D13.2	Construct deep strength pavement, including wearing course (350mm depth)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											

Project Cost Estimate Input

Victorian Planning Authority

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Estimate Prepared By:	Andy Stefanovski
Business Area:	External Works LMH
Estimate Date:	09/12/2024
Estimate Approved By:	
Business Area:	
Date:	

Funding Source	State Only
Check Federal Cost Items?	No
Items to use in Time sheet:	Level 1 cost items
Correlate by:-	Level 1
No of Iterations	10000

ITEM	Description	Level 1 Category	Level 2 Category	UNIT	Prob of Occurence	QUANTITY				RATE				BASE ESTIMATE COST	COMMENTS
						Risk Profile - Quantity	Likely Quantity	Lowest Quantity	Highest Quantity	Risk Profile -Rate	Likely Rate	Lowest Rate	Highest Rate		
D13.3	Construct deep strength pavement, including wearing course (40mm), intermediate asphalt course (155mm), asphalt base course (75mm), lower subbase of 20m class 4 FCR (150mm) and caping layer of Type A (445mm)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	100%	-10% , +10%	5550	4995	6105	-10% , +20%	350.00	315.00	420.00	1,942,500	Pavement assumed similar to River rd roundabout and Qty from OMG
D13.4	Construct granular pavement, including double application seal (460mm depth)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.5		D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
	Individual Pavement Components														
D13.6	Rip, Mix & Compact Existing Pavement to 250mm	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.7	Removal of existing Asphalt	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	0%										
D13.8	Cold Planning	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.9	Insitu Subgrade Stabilisation 150mm depth	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.10	Insitu Pavement Stabilisation up to 200mm	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.11	SAMI Seal	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.12	Asphalt - Supply & Place 30mm thick Size 10mm Asphalt	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	0%										
D13.13	Asphalt - Supply & Place 40mm thick Size 14mm Asphalt	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	0%										
D13.14	Asphalt - Supply & Place Intermediate Asphalt Layer	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne											
D13.15	Asphalt - Supply & Place Base Asphalt Layer	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne											
D13.16	Regulation - GG7 (Gap Graded 7)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne											
D13.17	Regulation - Type SI	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne											
D13.18	Patching - Remove & Replace 0-100mm Type SI Size 14	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne											
D13.19	Patching - Remove & Replace 100-200mm Type SI Size 20	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne											
D13.20	Supply & Place CTCR	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne											
D13.21	Supply and Place Class 1 Crushed rock	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne											
D13.22	Supply and Place 120mm thick Base Course Class 2 20mm fine Crushed rock	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	0%										
D13.23	Supply and Place 200mm thick subbase - Class 3 20mm Crushed rock	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	0%										
D13.24	Supply and Place Class 4 Crushed rock	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne											
D13.25	Supply and Place Type A Fill	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne											
D13.26	Supply and Place Type B Fill	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne											
D13.27	Crack Sealing existing pavement	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m											
D13.28	Saw cutting of existing pavement	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m											
D13.29	Construct Private Entrances (concrete pavement)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	100%	-10% , +10%	70	63	77	-20% , +30%	250.00	200.00	325.00	17,500	
D13.30	Construct Private Entrances (sealed bell mouth)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	No.											
	Pavement Surfacing														
D13.31	Lump Sum Allowance	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Item											
D13.32	Primer seal - 10mm	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.33	Final Seal - 7mm	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.34	Final Seal - 14mm	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.35	Reseal existing	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	0%										
D13.36	Geofabric/Geotextile Seal - Size 10mm	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.37	Asphalt - Supply & Place Wearing Course - Standard (H/HG)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne											
D13.38	Asphalt - Supply & Place Wearing Course (SMA)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne											
D13.39	Shoulder Sealing - Existing / New	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.40	Water Blasting <1000m2	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.41	Water Blasting >1000m2	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.42	Coloured Surfacing Treatments (e.g. Bus Bays & Bicycle Lanes)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D13.43	Calcine Bauxite Skid Resistant Overlay	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2											
D14	**STRUCTURES & CONCRETE WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures												
D14.1	Lump Sum Allowance for structural works	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	Item											
D14.2	Precast RC Piles - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m											
D14.3	Concrete Cast Insitu Piles - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	Item											
D14.4	Pier Crosshead, Abutment Widening & Wingwalls	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m3											
D14.5	Deck Overlay	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m3											
D14.6	Bored Piles Supporting Railing Ends	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m3											
D14.7	Removal & Disposal of Redundant Items (pits, pipes, endwalls and other drainage)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	Item	100%	-10% , +10%	150	135	165	-20% , +20%	200.00	160.00	240.00	30,000	

Project Cost Estimate Input

Victorian Planning Authority

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Estimate Date:	09/12/2024
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Funding Source	State Only
Check Federal Cost Items?	No
Items to use in Time sheet:	Level 1 cost items
Correlate by:-	Level 1
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ITEM	Description	Level 1 Category	Level 2 Category	UNIT	Prob of Occurence	QUANTITY				RATE				BASE ESTIMATE COST	COMMENTS
						Risk Profile - Quantity	Likely Quantity	Lowest Quantity	Highest Quantity	Risk Profile -Rate	Likely Rate	Lowest Rate	Highest Rate		
D14.8	Drilling & Epoxying in of Steel Dowels Through Deck	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	No.											
D14.9	Bridge Railing on Deck - Supply & Erect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m											
D14.10	Supply and Install Gantry	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	Item											
D14.11	Cattle, Pedestrian or Animal Underpass	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	Item											
D14.12	Remove Kerb and Channel & Pavement	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2	100%	-5% , +10%	1500	1425	1650	-10% , +10%	20.00	18.00	22.00	30,000	
D14.13	Remove Concrete Paving	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2											
D14.14	Supply & Cast Edge Strip	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m											
D14.15	Supply & Cast Kerb & Channel SM2	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m	100%	-10% , +10%	1687	1518.3	1855.7	-10% , +10%	115.00	103.50	126.50	194,005	Qty from OMG
D14.16	Supply & Cast Kerb & Channel SM3	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m	0%										
D14.17	Concrete paving (75mm depth) with bedding	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2	0%										
D14.18	Concrete paving (150mm depth) with bedding	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2	100%	-10% , +10%	3099	2789.1	3408.9	-10% , +10%	150.00	135.00	165.00	464,850	Assumed concrete for roundabout and island infills. Qty from OMG
D14.19	Concrete paving (200mm depth) with bedding	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2											
D14.20	Roundabout Concrete verge	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2	0%										
D14.21	Construct Bicycle/Pedestrian Path	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2											
D14.22	Grass median Infill	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2	0%										
D14.23	Relocate Bus Shelter	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	No											
D14.24	Bus Bays (reinforced concrete)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	No.											
D14.25	3 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m											
D14.26	4 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m											
D14.27	5 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m											
D14.28	6 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m											
D14.29	7 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m											
D14.30	8 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m											
D14.31	9 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m											
D14.32	Absorptive Barriers	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2											
D14.33	Acylic Panelling	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2											
D14.34	Retaining wall	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m											
D15	**BUILDING CONSTRUCTION WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D15 - Buildings												
D15.1	Buildings	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D15 - Buildings	Item											
D16	**NOISE ATTENUATION WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D16 - Noise Attenuation												
D16.1	Noise Attenuation Works	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D16 - Noise Attenuation												
D17	**TRAFFIC SIGNALS & LIGHTING**	D - PRECONSTRUCTION & CONSTRUCTION WORKS													
	Signal Installation														
D17.1	POS - standard undivided	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site											
D17.2	POS - standard divided	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site											
D17.3	POS - puffin undivided	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site											
D17.4	POS - puffin divided	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site											
D17.5	POS - pelican undivided	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site											
D17.6	POS - pelican divided	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site											
D17.7	Intersection Signals - cross	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site											
D17.8	Intersection Signals - T	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site											
D17.9	Intersection Signals - divided cross	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site											
D17.10	Intersection Signals - divided T	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site											
D17.11	Ramp Metering Signals	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site											
D17.12	CCTV Camera System	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site											
D17.13	Internally Illuminated Multi Message Signs for Ramp Metering	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site											
D17.14	New Signal Pedestal - 2B	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.15	New Signal Pedestal Mastarm or JUP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.16	New Signal Pedestal - JUMA	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.17	New Signal Pedestal - Type 3	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.18	Relocate Signal Pedestal - 2A	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											

Project Cost Estimate Input

Victorian Planning Authority VPA

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Location:	Channel Road and Doyles Road Roundabout project
Estimate Prepared By:	Andy Stefanovski
Business Area:	External Works LMH
Estimate Date:	09/12/2024
Estimate Approved By:	
Business Area:	
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Funding Source	State Only
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						Risk Profile - Quantity	Likely Quantity	Lowest Quantity	Highest Quantity	Risk Profile -Rate	Likely Rate	Lowest Rate	Highest Rate		
D17.19	Relocate Signal Pedestal - 2B	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.20	Relocate Signal Pedestal - 2C	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.21	Relocate Signal Pedestal - JUP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.22	Relocate Signal Pedestal - JUMA	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.23	New Pedestal Foundation - 3.0m base	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.24	New Pedestal Foundation - 0.7m base	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.25	Lanterns - 1 aspect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.26	Lanterns - 2 aspect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.27	Lanterns - 3 aspect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.28	Lanterns - 4 aspect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.29	Lanterns - 5 aspect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.30	Lanterns - 6 aspect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.31	Lanterns - 2 aspect (LED)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.32	Lanterns - 3 aspect (LED)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.33	Lanterns - 4 aspect (LED)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.34	Lanterns - 5 aspect (LED)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.35	Lanterns - 6 aspect (LED)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.36	Lanterns - Pedestrian	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.37	Lanterns - Pedestrian (LED)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.38	Give Way to Pedestrian Lantern	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.39	Audio Tactiles - Variable	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.40	Audio Tactiles - Constant	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.41	Detector Loops - Standard (vehicle)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.42	Detectors - PUFFIN / Wheelchair	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.43	PUFFIN unit only	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.44	Supply & Install Detector Pit	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.45	Conduit Pit (standard)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.46	Conduit Pit (heavy duty)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.47	Relocate Conduit Cable Pit	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.48	Conduit - Bore under road, supply& Install 1/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.49	Conduit - Open trench through footpath/paved area, supply & Install 1/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.50	Conduit - Open trench through grassed/unpaved area, supply & Install 1/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.51	Conduit - Open trench through footpath/paved area, supply & Install 1/50mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.52	Conduit - Open trench through grassed/unpaved area, supply & Install 1/50mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.53	Conduit - Open trench through footpath/paved area, supply & Install 1/32mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.54	Conduit - Open trench through grassed/unpaved area, supply & Install 2/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.55	Conduit - Bore under road, supply & Install 2/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.56	2 Core Cable	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	L.m											
D17.57	13 Core Cable	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	L.m											
D17.58	29&3 Core Cable	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	L.m											
D17.59	51 Core Cable	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	L.m											
D17.60	Pillar Mounted Point of Supply	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	item											
D17.61	Point of Supply on Pole	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	item											
D17.62	New Controller - POS	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.63	New Controller - Signals	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.64	New Controller Base	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.65	Reprogramming - Simple	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	Item											
D17.66	Reprogramming - Standard	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	Item											
D17.67	Reprogramming - Complex	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	Item											
D17.68	Red Light Camera	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
	Street Lighting														
D17.70	Retirement of Existing Poles	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.											
D17.71	New Lighting Pole (all inclusive)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.	100%	Constant Value	1	1	1	Constant Value	400,000.00	**400,000.00**	**400,000.00**	400,000	Based on split item from VPA price
D17.72	Brackets - Single	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.											

Project Cost Estimate Input

Victorian Planning Authority vpa

Project:	Channel Road and Doyles Road Roundabout project
Location:	Channel Road and Doyles Road Roundabout project
Estimate Prepared By:	Andy Stefanovski
Business Area:	External Works LMH
Estimate Date:	09/12/2024
Estimate Approved By:	
Business Area:	
Date:	

Funding Source	State Only
Check Federal Cost Items?	No
Items to use in Time sheet:	Level 1 cost items
Correlate by:-	Level 1
No of Iterations	10000

ITEM	Description	Level 1 Category	Level 2 Category	UNIT	Prob of Occurence	QUANTITY				RATE				BASE ESTIMATE COST	COMMENTS
						Risk Profile - Quantity	Likely Quantity	Lowest Quantity	Highest Quantity	Risk Profile -Rate	Likely Rate	Lowest Rate	Highest Rate		
D17.73	Brackets - Double	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.											
D17.74	Lamps (globes) - 150W	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.											
D17.75	Lamps (globes) - 250W	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.											
D17.76	Pole (supply & install) - SB (8.5m with footing)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.											
D17.77	Pole (supply & install) - SB (11m with footing)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.											
D17.78	Pole (supply & install) - IA (8.5m with footing)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.											
D17.79	Pole (supply & install) - IA (11m with footing)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.											
D17.80	Meter Cabinets - Supply and Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.											
D17.81	Cable (supply and install)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.82	Conduit - Bore under road, supply& Install 1/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.83	Conduit - Open trench through footpath/paved area, supply & Install 1/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.84	Conduit - Open trench through grassed/unpaved area, supply & Install 1/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.85	Conduit - Open trench through footpath/paved area, supply & Install 1/50mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.86	Conduit - Open trench through grassed/unpaved area, supply & Install 1/50mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.87	Conduit - Open trench through footpath/paved area, supply & Install 1/32mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.88	Conduit - Open trench through grassed/unpaved area, supply & Install 2/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.89	Conduit - Bore under road, supply & Install 2/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m											
D17.90	Conduit Pit (standard)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.91	Conduit Pit (heavy duty)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.92	Relocate Conduit Cable Pit	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D17.93	Transformer	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	Item											
D17.94	Solar Panel	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each											
D18	**INTELLIGENT TRANSPORT SYSTEMS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D18 - Intelligent Transport Systems												
D18.1	Intelligent Transport System	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D18 - Intelligent Transport Systems	Item											
D19	**RAIL TRACK WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D19 - Rail Track												
D19.1	Rail Track Works	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D19 - Rail Track	Item											
D20	**RAIL POWER WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D20 - Rail Power												
D20.1	Rail Power Works	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D20 - Rail Power	Item											
D21	**RAIL SIGNALLING WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D21 - Rail Signalling												
D21.1	Rail Signalling Works	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D21 - Rail Signalling	Item											
D22	**RAIL COMMUNICATIONS WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D22 - Rail Communications												
D22.1	Rail Communications Works	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D22 - Rail Communications	Item											
D23	**SIGNAGE, LINEMARKING, ROAD FURNITURE**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture												
D23.1	Lump Sum Allowance for Linemarking (including RRPMs)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item	100%	**Constant Value**	**1**	**1**	**1**	**-10% , +20%**	**50,000.00**	**45,000.00**	**60,000.00**	50,000	
D23.2	Guideposts - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.	0%										
D23.3	RRPM's - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each	0%										
	Guard fence & Wire Rope Safety Barrier														
D23.4	Guardrail - Supply & Erect (Armco) (<1km length)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m	100%	**-20% , +20%**	**184**	**147.2**	**220.8**	**-10% , +20%**	**170.00**	**153.00**	**204.00**	31,280	Qty from Omg
D23.5	Guard fence - Supply & Erect (Armco) (>1km length)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.6	Guard fence - Supply & Erect (New Jersey)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.7	Breakaway Cable End Terminal (BCTA/BCTB) (<10 terminals)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.											
D23.8	Breakaway Cable Terminal (BCTA/BCTB) (>10 terminals)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.											
D23.9	GREAT Guard Fence Terminal - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.	100%	**Constant Value**	**8**	**8**	**8**	**-10% , +10%**	**7,000.00**	**6,300.00**	**7,700.00**	56,000	
D23.10	X-Tension Terminal - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.											
D23.11	Trailing Terminal - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.											
D23.12	Wire Rope Safety Barrier (<200m length)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.13	Wire Rope Safety Barrier (>200m length)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.14	Wire Rope Safety Barrier - End Terminals (<10 terminals)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.											

Project Cost Estimate Input

Victorian Planning Authority

Project:	Channel Road and Doyles Road Roundabout project
Location:	Channel Road and Doyles Road Roundabout project
Estimate Prepared By:	Andy Stefanovski
Business Area:	External Works LMH
Estimate Date:	09/12/2024
Estimate Approved By:	
Business Area:	
Date:	

Funding Source	State Only
Check Federal Cost Items?	No
Items to use in Time sheet:	Level 1 cost items
Correlate by:-	Level 1
No of Iterations	10000

ITEM	Description	Level 1 Category	Level 2 Category	UNIT	Prob of Occurence	QUANTITY				RATE				BASE ESTIMATE COST	COMMENTS
						Risk Profile - Quantity	Likely Quantity	Lowest Quantity	Highest Quantity	Risk Profile -Rate	Likely Rate	Lowest Rate	Highest Rate		
D23.15	Wire Rope Safety Barrier - End Terminals (>10 terminals)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.											
D23.16	Install stac cushions	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
	Signage														
D23.17	Manufacture & Erect New Signing	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Each	100%	Constant Value	16	16	16	-10% , +20%	450.00	405.00	540.00	7,200	
D23.18	Remove & dispose Existing Signing Allowance	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Each	0%										
D23.19	Supply and Install Single Metal Sign Posts	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.20	Supply and Install Parking/No standing signs	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	unit											
D23.21	Supply and Install Double Sign Posts	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.22	Supply and install medium signs	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	unit											
D23.23	Supply and install double frangible posts	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.24	Supply and install large sign (i.e. direction sign)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	unit											
	Extruded Thermoplastic Linemarking														
D23.25	Linemarking - Select Road Standard...	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item											
D23.26	Slatcon holding bar blocks	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	block											
D23.27	Slatcon stop lines 300mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.28	Slatcon giveway blocks	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	block											
D23.29	Slatcon roundabout blocks	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	block											
D23.30	Slatcon centreline 100mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.31	Standard stripe	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.32	Semi-barrier	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.33	Double-barrier	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.34	Edgeline 100mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.35	Single Solid Centreline 100mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.36	Continuity Stripes 100mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.37	Edgeline 150mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.38	Single Solid Centreline 150mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.39	Continuity Stripes 150mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.40	Turn Lines	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.41	Lane Lines	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.42	Profiled Edgline (<20km)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.43	Profiled Edgline (>20km)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
	Cold Applied Plastic Roadmarking														
D23.44	Chevron bars 600mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.45	Straight ahead arrows	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.46	Turn arrows	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.47	Combination turn / straight ahead arrows	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.48	Combination straight / double turn arrows	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.49	Double turn arrows	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.50	U-turn arrows	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.51	Pedestrian Lines 150mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.52	Stop Bars 600mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.53	Keep Clear	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.54	Small Bicycle Symbol	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.55	Large Bicycle Symbol	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.56	Rail Crossing	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.57	Transit Lane / Bus Lane	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
	Linemarking Removal														
D23.58	Blacking out - with paint	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m2											
D23.59	Blacking out - with grit blasting	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m2											
D23.60	Blacking out - with painted grit	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m2											
D23.61	Water blasting	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item											
D23.62	Grinding	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m2											
	DDA														
D23.63	Lump Sum Allowance	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item	0%										
D23.64	Supply and Install stick down TGSI	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m²											
D23.65	Supply and install ceramic TGSI	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m²											

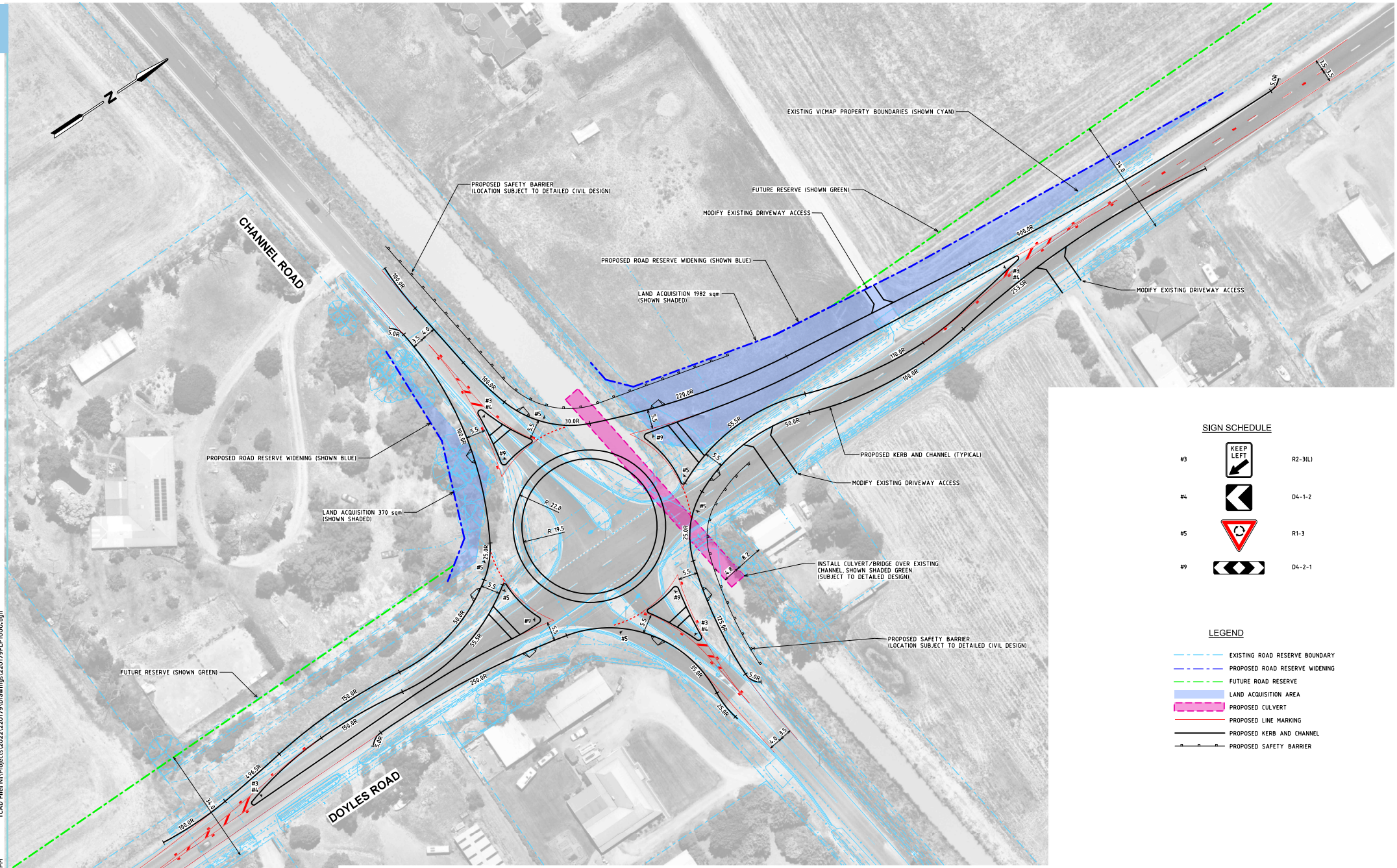
Project Cost Estimate Input

Victorian Planning Authority

Project:	Channel Road and Doyles Road Roundabout project
Location:	Channel Road and Doyles Road Roundabout project
Estimate Prepared By:	Andy Stefanovski
Business Area:	External Works LMH
Estimate Date:	09/12/2024
Estimate Approved By:	
Business Area:	
Date:	

Funding Source	State Only
Check Federal Cost Items?	No
Items to use in Time sheet:	Level 1 cost items
Correlate by:-	Level 1
No of Iterations	10000

ITEM	Description	Level 1 Category	Level 2 Category	UNIT	Prob of Occurrence	QUANTITY				RATE				BASE ESTIMATE COST	COMMENTS
						Risk Profile - Quantity	Likely Quantity	Lowest Quantity	Highest Quantity	Risk Profile -Rate	Likely Rate	Lowest Rate	Highest Rate		
D23.66	Reconstruct Kerb Ramp & Install TGSI	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.											
D23.67	Reconstruct Kerb Ramp & Install TGSI (corner with LT slip lane)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.											
D23.68	Reconstruct Kerb Ramp & Install TGSI (corner no LT slip lane)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.											
D23.69	Reconstruct Median (1.5m wide with TGSI)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m											
D23.70	Flush Crosswalk Through Median	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.71	Relocate side entry pits	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.72	Zebra Crossing	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each											
D23.73	Tram Stop	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item											
D23.74	Bus stop	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item											
D23.75	Flashing lights	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item											
D24	**LANDSCAPING WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS													
D24.1	Fencing - Pedestrian	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D24 - Landscaping	m											
D24.2	Landscaping	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D24 - Landscaping	Item	0%										
D25	**MAINTENANCE**	D - PRECONSTRUCTION & CONSTRUCTION WORKS													
D25.1	Works Maintenance to Practical Completion	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D25 - Maintenance	weeks	0%										
D25.2	Defects Management	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D25 - Maintenance	Item											
E	**CONTINGENT RISKS**	E - CONTINGENT RISKS													
E1	POS	E - CONTINGENT RISKS	E1 - Project Risks	item	99%	**Constant Value**	1	1	1	**-20% , +20%**	**250,000.00**	**200,000.00**	**300,000.00**	247,500	Includes pavement reconstruction
E1.1	Subgrade Improvement	E - CONTINGENT RISKS	E1 - Project Risks	m3	99%	**-20% , +20%**	**1200**	**960**	**1440**	**-20% , +20%**	**180.00**	**144.00**	**216.00**	213,840	
E1.2	Footpath	E - CONTINGENT RISKS	E1 - Project Risks	m2	90%	**-20% , +20%**	**2367**	**1893.6**	**2840.4**	**-20% , +20%**	**100.00**	**80.00**	**120.00**	213,030	Based of 947m (from OMG) and 2.5m wide
E1.3	Drains and pits	E - CONTINGENT RISKS	E1 - Project Risks	item	90%	**Constant Value**	1	1	1	**-10% , +10%**	**500,000.00**	**450,000.00**	**550,000.00**	450,000	
E1.4	Dewatering	E - CONTINGENT RISKS	E1 - Project Risks	Item	99%	**Constant Value**	1	1	1	**-10% , +20%**	**50,000.00**	**45,000.00**	**60,000.00**	49,500	
														Total = $9,549,505	



SIGN SCHEDULE

#3	KEEP LEFT	R2-3(L)
#4		D4-1-2
#5		R1-3
#9		D4-2-1

LEGEND

- EXISTING ROAD RESERVE BOUNDARY
- PROPOSED ROAD RESERVE WIDENING
- FUTURE ROAD RESERVE
- LAND ACQUISITION AREA
- PROPOSED CULVERT
- PROPOSED LINE MARKING
- PROPOSED KERB AND CHANNEL
- PROPOSED SAFETY BARRIER

FUNCTIONAL DESIGN GENERAL NOTES

1. BASE INFORMATION SUPPLIED BY ONLEYS, REF No. ACAD-5635 PoplarRdInt FS01_send.dwg.
2. ALL DIMENSIONS TO FACE OF KERB AND CHANNEL UNLESS NOTED.
3. DECLARED ROAD - DOYLES ROAD (SPEED ZONE 80KM/H).
   LOCAL ROAD - CHANNEL ROAD (SPEED ZONE 50KM/H).
4. SIGNS AND LINE MARKING TO BE INSTALLED IN ACCORDANCE WITH VICROADS SUPPLEMENT TO AS1742.2.
5. ADOPT VICROADS SUPPLEMENT TO AUSTRALIAN STANDARDS AS REQUIRED.
6. REMOVE ALL REDUNDANT SIGNS AND LINE MARKING.
7. PUBLIC LIGHTING SUBJECT TO DETAIL DESIGN STAGE.

onemilegrid
Wurundjeri Woiwurung Country
56 Down Street, Collingwood, VIC 3066
Email:info@onemilegrid.com.au Web:www.onemilegrid.com.au
Phone (03) 9939 8250

Drawing Title	SHEPPARTON PSP DOYLES ROAD / CHANNEL ROAD FUNCTIONAL LAYOUT PLAN
Designed	TCW
Approved	JD
Melway Ref	X921 J7
Scale	1:1000 @ A3 (0 5 10 20)
Project Number	220179
Drawing Number	FLP1000
Revision	C

onemilegrid operates from Wurundjeri Woiwurung Country of the Kulin nation.
We acknowledge and extend our appreciation to the Wurundjeri People, the Traditional Owners of the land.
We pay our respects to leaders and Elders past, present and emerging for they hold the memories,
the traditions, the culture, and the hopes of all Wurundjeri Peoples.

Aerial Photography
Aerial photography provided by Nearmap

CAD File: N:\Projects\2022\220179\Drawings\220179FLP1000.dgn
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8.1.3 Design and Costing of IN-01c

prepared by One Mile Grid

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT
1	EARTHWORKS				
	Excavation, forming, trimming, compacting, filling and grading in roads, forming of table, catch and open drains, stockpiling and spreading topsoil on nature strips, demolition of existing structures, removal of excess spoil from site as specified. Approx, quantities:solid measurement				
	- Strip (150mm)	80	m^2	$ 20.00	$ 1,600.00
	- Cut	50	m^3	$ 100.00	$ 5,000.00
	- Fill	0	m^3		
	- Removal of existing asphalt.	325	m^2	$ 40.00	$ 13,000.00
2	ASPHALT PAVEMENTS				
	(i) Supply, lay and compact				
	a) 30mm thick size 10mm asphalt.	105	m^2	$ 40.00	$ 4,200.00
	b) 40mm thick size 14mm asphalt.	105	m^2	$ 50.00	$ 5,250.00
	b) 120mm thick Base Course - Class 2 20mm fine crushed rock	105	m^2	$ 30.00	$ 3,150.00
	c) 200mm thick subbase - Class 3 20mm crushed rock	120	m^2	$ 30.00	$ 3,600.00
3	CONCRETE WORKS				
	Including F.C.R. bedding and reinforcing as specified as per Council Standard Drawings.				
	a) SM2 kerb and channel	29	m	$ 95.00	$ 2,755.00
	a) SM3 kerb and channel	165	m	$ 90.00	$ 14,850.00
	b) concrete island infill	193	m^2	$ 120.00	$ 23,160.00
4	AGRICULTURAL PIPE DRAINS				
	a) 90mm dia. with screenings backfill	29	m	$ 60.00	$ 1,740.00
5	INCIDENTAL ROAD WORKS				
	a) Line markings (including RRPMs) as specified	1	Item	$ 10,000.00	$ 10,000.00
	b) Street signs	6	No.	$ 600.00	$ 3,600.00
6	INCIDENTAL GENERAL WORKS				
	a) Site Management Plan	1	Item	$ 1,500.00	$ 1,500.00
	b) R-Spec	1	Item	$ 4,000.00	$ 4,000.00
	c) Upgrade existing lighting to current standards	1	Item	$ 60,000.00	$ 60,000.00
				TOTAL	**$ 157,405.00**
7	DELIVERY				
	a) Council Fees	1	Item	3.25%	$ 5,115.66
	b) VicRoads Fees	1	Item	1.00%	$ 1,574.05
	c) Traffic Management	1	Item	15.00%	$ 23,610.75
	d) Environmental Management	1	Item	1.00%	$ 1,574.05
	e) Survey & Design	1	Item	5.00%	$ 7,870.25
	f) Supervision & Project Management	1	Item	9.00%	$ 14,166.45
	g) Site Establishment	1	Item	2.50%	$ 3,935.13
	h) Contingency	1	Item	20.00%	$ 31,481.00
				SUB-TOTAL	**$ 89,327.34**

TOTAL $ 246,732.34

NOTES:

NOTES THAT FORM PART OF THIS OPINION:

1. This opinion is based upon "One Mile Grid Functional Layout Plan 220179 FLP100-A".
2. The opinion assumes that trees within road and/or construction areas can be removed.
3. The opinion makes no allowance for:

a) Any net gain offsets. Should Council deem these necessary, costs will apply.

b) Any assessment, treatment, remediatiion or removal of contaminated material from site.

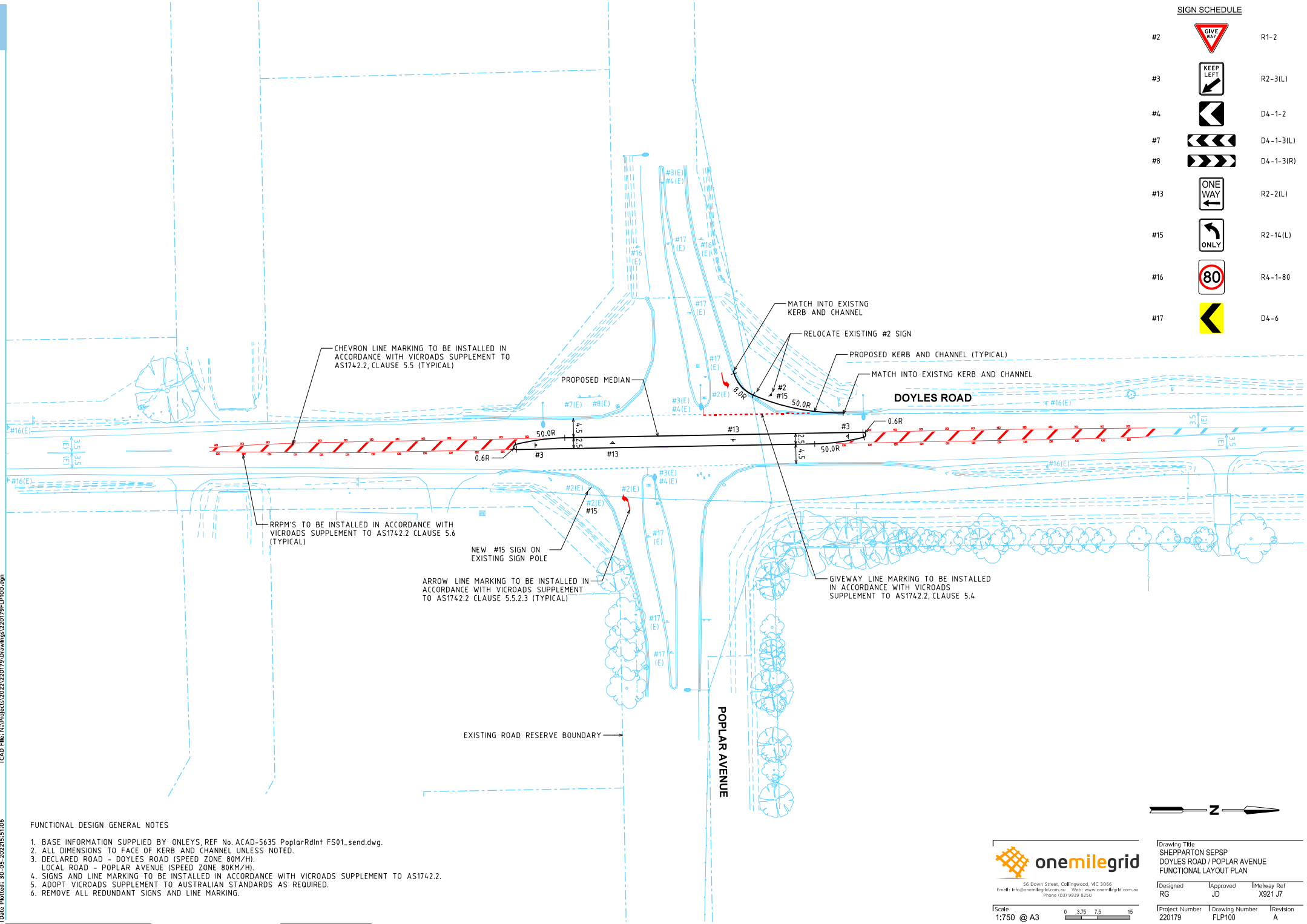
c) Rectification of existing filling

d) Excavation in rock or removal of existing buildings or structures from site.

e) Escalation of costs past the date of this opinion.

4. Costs for relevant Authority charges are an opinion only and must be confirmed by Authorities.
5. Costs are preliminary only based upon recent unit rates for tenders received for similar type projects and not based upon detailed design.
6. Whilst every effort has been made to ensure the accuracy of this opinion, Patama Pty. Ltd. Trading as Lanigan Civil cannot accept any liability arising from the use of this opinion of costs.

[CAD File: N:\Projects\2022\220179\Drawings\220179FLP100.dgn
Date Plotted: 30-05-202215:51:06



FUNCTIONAL DESIGN GENERAL NOTES

1. BASE INFORMATION SUPPLIED BY ONLEYS, REF No. ACAD-5635 PoplarRdInt FS01_send.dwg.
2. ALL DIMENSIONS TO FACE OF KERB AND CHANNEL UNLESS NOTED.
3. DECLARED ROAD - DOYLES ROAD (SPEED ZONE 80M/H).
   LOCAL ROAD - POPLAR AVENUE (SPEED ZONE 80KM/H).
4. SIGNS AND LINE MARKING TO BE INSTALLED IN ACCORDANCE WITH VICROADS SUPPLEMENT TO AS1742.2.
5. ADOPT VICROADS SUPPLEMENT TO AUSTRALIAN STANDARDS AS REQUIRED.
6. REMOVE ALL REDUNDANT SIGNS AND LINE MARKING.

Aerial Photography
Aerial photography provided by Nearmap

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Phone (03) 9939 9250

Scale
1:750 @ A3
0 3.75 7.5 15

Drawing Title
SHEPPARTON SEPSP
DOYLES ROAD / POPLAR AVENUE
FUNCTIONAL LAYOUT PLAN

Designed	Approved	Melway Ref
RG	JD	X921 J7

Project Number	Drawing Number	Revision
220179	FLP100	A

8.1.4 Community Project

Community project costs have been determined by VPA benchmark costings, Council recent projects and Cohen Leigh Pty Ltd.

8.1.5 CI-01 – Multipurpose Children's Centre

prepared by Cohen Leigh Architects

Note: the carpark cost of $697,609 is not included in the cost of CI-01c given the children's centre will share the carpark of the sports reserve SR-01c.

WORKS

1	**PRE-CONSTRUCTION**					
1.1	Site Preparation	m2	6958	$ 6	$	41,748
2	**BUILDING**					
	Kindergarten	m2	850	$ 2,860	$	2,431,000
	Kitchens	m2	69	$ 3,389	$	233,841
	Maternal & Child Health Consulting	m2	66	$ 2,799	$	184,734
	Multipurpose Community Spaces	m2	191	$ 2,661	$	508,251
	Disabled Toilet / Parent's Change Room	m2	14	$ 3,774	$	52,836
	Toilets / Change Rooms	m2	118	$ 3,389	$	399,902
	Administration	m2	104	$ 2,496	$	259,584
	Cleaners	m2	3	$ 2,534	$	7,602
	Total Indoor Floor Area	m2	1415			
3	**CANOPIES & VERANDAS**					
3.1	Main Covered Entry	m2	70	$ 1,416	$	99,120
3.2	Secondary Covered Entry	m2	24	$ 1,416	$	33,984
3.3	Staff Entry	m2	7	$ 1,416	$	9,912
3.4	External Play Covered Outdoor Areas	m2	235	$ 1,416	$	332,760
4	**CAR PARK**					
4.1	Asphalt Pavement	m2	1734	$ 116	$	201,144
4.2	Kerb & Channel	m	380	$ 68	$	25,840
4.3	Drainage pipes / pits	m2	1734	$ 30	$	52,020
4.4	Linemarking / Signage	m2	1734	$ 5	$	8,670
4.6	Car Park Lighting	m2	1734	$ 20	$	34,680
5	**OUTDOOR PLAY**					
5.1	Kindergarten Outdoor Playspaces	m2	540	$ 665	$	359,100
5.2	Playground	m2	634	$ 1,233	$	781,722

6	**SITE WORKS**					
6.1	Concrete Paths	m2	442	$ 89	$	39,338
6.4	Landscaping	m2	1928	$ 33	$	63,624
6.7	Fencing & Gates	m	465	$ 126	$	58,590
6.8	Other (Piling)	m2	1415	$ 132	$	186,780
	SUB-TOTAL				$	6,406,782
7	**SERVICES**					
7.1	Stormwater	Item	3.30%		$	211,424
7.1	Sewer	Item	2.03%		$	130,058
7.2	Water	Item	1.98%		$	126,854
7.2	Gas	Item	0.88%		$	56,380
7.3	Fire Protection	Item	0.66%		$	42,285
7.4	Light & Power	Item	2.38%		$	152,481
7.5	Communication	No	0.50%		$	32,034
8	**MISCELLANEOUS**					
8.1	Building Maintenance - 1 year	Item	1	$ 60,000	$	60,000
8.2	Landscape Maintenance - 1 year / 2 Summers	Item	1	$ 30,000	$	30,000
	SUB-TOTAL WORKS				**$**	**7,248,298**

No.	Description	Date
A	Client Design Issue	221104

CohenLeigh Architects

Suite 1 Level 1, 5 Melrose Street
Sandringham, Victoria 3191

(03) 9521 6888
www.cohenleigh.com
info@cohenleigh.com

PROJECT
Shepparton SE Precinct Structure Plan
Kindergarten

CLIENT
Greater Shepparton City Council

PROJECT 220903

SCALE 1 : 200

DRAWING TITLE
Floor Plan - Proposed

DRAWING SK-02

REV A

8.1.6 SR-01 – Multipurpose Sports Reserve

Shepparton South East - SR-01

Benchmark Cost - 6ha Reserve

Appendix C	
Description:	Item 42 - Sporting and Recreational Facilities (5-6)Ha
Civil Component Number:	Item 42

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Playing Fields	Football Field	1	No	$805,074.24	$805,074.24	$860,162.38	$860,162.38
	Cricket Pitch	1	No	$24,049.94	$24,049.94	$28,173.45	$28,173.45
	Cricket Nets	1	No	$49,791.30	$49,791.30	$57,497.73	$57,497.73
	Soccer Field	1	No	$526,667.50	$526,667.50	$597,198.85	$597,198.85
	Netball Court	2	No	$83,143.13	$166,286.26	$98,076.30	$196,152.60
	Tennis Court	0	No	$65,422.94	$-	$72,602.00	$-
Lighting	Lighting Netball Court	2	No	$22,802.95	$45,605.90	$24,396.01	$48,792.02
	Lighting Tennis	0	No	$21,415.84	$-	$24,493.23	$-
	Lighting Soccer	1	No	$73,003.05	$73,003.05	$97,409.90	$97,409.90
	Lighting Football	1	No	$163,494.28	$163,494.28	$201,714.52	$201,714.52
Landscaping	Landscaping Construction	28000	m2	$20.28	$567,840.00	$26.19	$733,320.00
	Landscaping Establishment (12wk)	28000	m2	$1.12	$31,360.00	$1.29	$36,120.00
	Landscape maintenance-1 year/2 summers	28000	m2	$2.90	$81,200.00	$2.94	$82,320.00
Car Parking	Pavement	2740	m2	$94.73	$259,560.20	$109.24	$299,317.60
	Kerb and Channel	440	m	$55.04	$24,217.60	$60.11	$26,448.40
	Drainage Pipes	500	m	$177.49	$88,745.00	$192.51	$96,255.00
	Drainage Pits	22	No	$2,611.95	$57,462.90	$2,802.77	$61,660.94
	Car Park Lighting	2572	m2	$15.13	$38,914.36	$17.31	$44,521.32
	Linemarking/ Signage	2740	m2/pavement	$3.26	$8,932.40	$4.07	$11,151.80
Site Works	Site Preperation	60000	m2	$3.68	$220,800.00	$4.71	$282,600.00
	Footpaths and paved areas	750	m2	$63.65	$47,737.50	$71.96	$53,970.00
Services	Stormwater Drainage	1	Item	$251,068.39	$251,068.39	$285,507.93	$285,507.93
	Sewer	1	Item	$52,065.67	$52,065.67	$62,444.50	$62,444.50
	Water	1	Item	$75,629.58	$75,629.58	$88,426.00	$88,426.00
	Gas	1	Item	$16,727.49	$16,727.49	$20,125.23	$20,125.23
	Light & power	1	Item	$231,657.53	$231,657.53	$286,561.25	$286,561.25
	Communications	1	Item	$46,504.09	$46,504.09	$65,834.30	$65,834.30
	Fire	1	Item	$25,236.69	$25,236.69	$27,694.32	$27,694.32
Miscellaneous	Gates	1	Item	$689.27	$689.27	$740.17	$740.17
	Interchange shelter	10	Item	$8,443.47	$84,434.70	$9,944.59	$99,445.90
	Fencing	1000	m	$91.87	$91,870.00	$106.27	$106,270.00
	Signage	10	No	$-	$-	$-	$-
Irrigation	Irrigation Soccer	1	Item	$40,441.04	$40,441.04	$43,757.35	$43,757.35
	Irrigation Football	1	Item	$72,462.96	$72,462.96	$82,052.35	$82,052.35
Other	Access Road	1350	m2	$217.50	$293,625.00	$225.71	$304,708.50
	Playground	1	No	$415,857.14	$415,857.14	$464,304.86	$464,304.86
	Tree Planting	30	No	$200.00	$6,000.00	$230.00	$6,900.00
Delivery	Council Fees	1	%	3.25	$162,012.89	3.25	$187,185.67
	Authority Fees	1	%	0.00	$-	0.00	$-
	Traffic Management	1	%	2.00	$99,700.24	2.00	$115,191.18
	Environmental Management	1	%	0.50	$24,925.06	0.50	$28,797.80
	Survey/Design	1	%	5.00	$249,250.60	5.00	$287,977.96
	Supervision & Project Management	1	%	9.00	$448,651.08	9.00	$518,360.33
	Site Establishment	1	%	2.50	$124,625.30	2.50	$143,988.98
	Environmentally sustainable design	1	%	2.00	$86,839.01	2.00	$115,191.18
	Contingency	1	%	15.00	$747,751.80	15.00	$863,933.88
Total	Excluding Delivery				$4,985,012.00		$5,759,559.00
	Including Delivery				$6,941,629.00		$8,020,186.00

1 July 2024 Index Rate	*1.26*
Index Amount	*$ 10,105,434.36*

SR-01c - ADJUSTED COST ESTIMATE ISP

Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Football Field	1	No	$805,074.24	$805,074.24	$860,162.38	$860,162.38
Cricket Pitch	1	No	$24,049.94	$24,049.94	$28,173.45	$28,173.45
Cricket Nets	1	No	$49,791.30	$49,791.30	$57,497.73	$57,497.73
Soccer Field	1	No	$526,667.50	$526,667.50	$597,198.85	$597,198.85
Netball Court	0	No	$-	$-	$-	$-
Tennis Court	0	No	$65,422.94	$-	$72,602.00	$-
Lighting Netball Court	0	No	$-	$-	$-	$-
Lighting Tennis	0	No	$21,415.84	$-	$24,493.23	$-
Lighting Soccer	2	No	$146,006.10	$146,006.10	$194,819.80	$194,819.80
Lighting Football	1	No	$163,494.28	$163,494.28	$201,714.52	$201,714.52
Landscaping Construction	28000	m2	$20.28	$567,840.00	$26.19	$733,320.00
Landscaping Establishment (12wk)	28000	m2	$1.12	$31,360.00	$1.29	$36,120.00
Landscape maintenance-1 year/2 summers	28000	m2	$2.90	$81,200.00	$2.94	$82,320.00
Pavement	2740	m2	$94.73	$259,560.20	$109.24	$299,317.60
Kerb and Channel	440	m	$55.04	$24,217.60	$60.11	$26,448.40
Drainage Pipes	500	m	$177.49	$88,745.00	$192.51	$96,255.00
Drainage Pits	22	No	$2,611.95	$57,462.90	$2,802.77	$61,660.94
Car Park Lighting	2572	m2	$15.13	$38,914.36	$17.31	$44,521.32
Linemarking/ Signage	2740	m2/pavement	$3.26	$8,932.40	$4.07	$11,151.80
Site Preperation	60000	m2	$3.68	$220,800.00	$4.71	$282,600.00
Footpaths and paved areas	750	m2	$63.65	$47,737.50	$71.96	$53,970.00
Stormwater Drainage	1	Item	$251,068.39	$251,068.39	$285,507.93	$285,507.93
Sewer	1	Item	$52,065.67	$52,065.67	$62,444.50	$62,444.50
Water	1	Item	$75,629.58	$75,629.58	$88,426.00	$88,426.00
Gas	1	Item	$16,727.49	$16,727.49	$20,125.23	$20,125.23
Light & power	1	Item	$231,657.53	$231,657.53	$286,561.25	$286,561.25
Communications	1	Item	$46,504.09	$46,504.09	$65,834.30	$65,834.30
Fire	1	Item	$25,236.69	$25,236.69	$27,694.32	$27,694.32
Gates	0	Item	$-	$-	$-	$-
Interchange shelter	10	Item	$8,443.47	$84,434.70	$9,944.59	$99,445.90
Fencing	0	m	$-	$-	$-	$-
Signage	10	No	$-	$-	$-	$-
Irrigation Soccer	1	Item	$-	$-	$-	$700,000.00
Irrigation Football	1	Item	$-	$-	$-	$300,000.00
Access Road	1350	m2	$217.50	$293,625.00	$225.71	$304,708.50
Playground	1	No	$415,857.14	$415,857.14	$464,304.86	$464,304.86
Tree Planting	30	No	$200.00	$6,000.00	$230.00	$6,900.00
Council Fees	1	%	3.25	$150,821.44	3.25	$207,324.15
Authority Fees	1	%	0.00	$-	0.00	$-
Traffic Management	1	%	2.00	$92,813.19	2.00	$127,584.09
Environmental Management	1	%	0.50	$23,203.30	0.50	$31,896.02
Survey/Design	1	%	5.00	$232,032.98	5.00	$318,960.23
Supervision & Project Management	1	%	9.00	$417,659.36	9.00	$574,128.41
Site Establishment	1	%	2.50	$116,016.49	2.50	$159,480.11
Environmentally sustainable design	1	%	2.00	$92,813.19	2.00	$127,584.09
Contingency	1	%	15.00	$696,098.94	15.00	$956,880.69
Excluding Delivery				$4,640,659.60		$6,379,204.58
Including Delivery				$6,462,118.49		$8,883,042.38

1 July 2024 Index Rate	1.26
Index Amount	$ 11,192,633.40
Index Cost Per ha	*$ 1,865,438.90*
Adjusted Cost for 6.437 ha site	$ 12,007,830.19

Legend

- Precinct boundary
- Two way bike path
- Footpath
- Proposed school site
- Car park
- Drainage
- Playground
- Hardstand areas
- Garden beds
- Tree planting
- Sports centre
- Shelter & BBQ facilities
- Off-road shared paths
- Community garden
- Maintinence access gate
- Extent of PAO
- Drainage line
- Constructed wetland (by others)
- Buffer planting
- Wetland planting
- Grassed area
- Maintinence tracks

Project Ref: 22.068
Dwg No.: LCD-006
Scale 1:2500 @ A3
Date: 03.07.2024
Revision: -

0 50 100
25 75 125m

8.1.7 LP-01 – LP-07 Local Park/Linear Park

SOUTH EAST GROWTH CORRIDOR - PRECINCT STRUCTURE PLAN (PSP) OPINION OF PROBABLE CONSTRUCTION COST REVIEW
TOTAL INCLUDING FEES
Spiire Review March 2023

Spiire 2023 Review	Cardno Original Budget	Spiire 2023 Review is Under Cardno Original Budget

Open Space (Typical Park)- Total	Ref	Plan Cost Ref		Spiire 2023 Review Total
Local Park (7000sqm)		Sept 2018	$	790,775
Local Park (10000sqm) - % Increase from 7000sqm to 10000sqm on Area Rates		Mar-23	$	1,040,390
Local Park (10000sqm) - SGC Park Equivalent Minimial		Mar-23	$	1,083,125

Key Summary Notes:
1. OPCC is based on updating line item figures in Quantity Spreadsheet Supplied, no checking of quantities.
2. OPPC Line Items based on recent Spiire Project Rates as of Dec 2022.
3. Spiire assume proposed internal intersections are to IDM Standard not DOT (as per Cardno).
4. Producer Price Index (PPI) Index from Reserve Bank Calculator
5. Local Park (10000sqm) is reduction applied by area items only. Care to be taken utlising these figures.
6. Local Park 10,000sqm (1 Ha) derived from North East Growth Corridor typical park
7. Due to current volitile market conditions, the rates are highly subjected to rise and fall based on contractor and supply availability

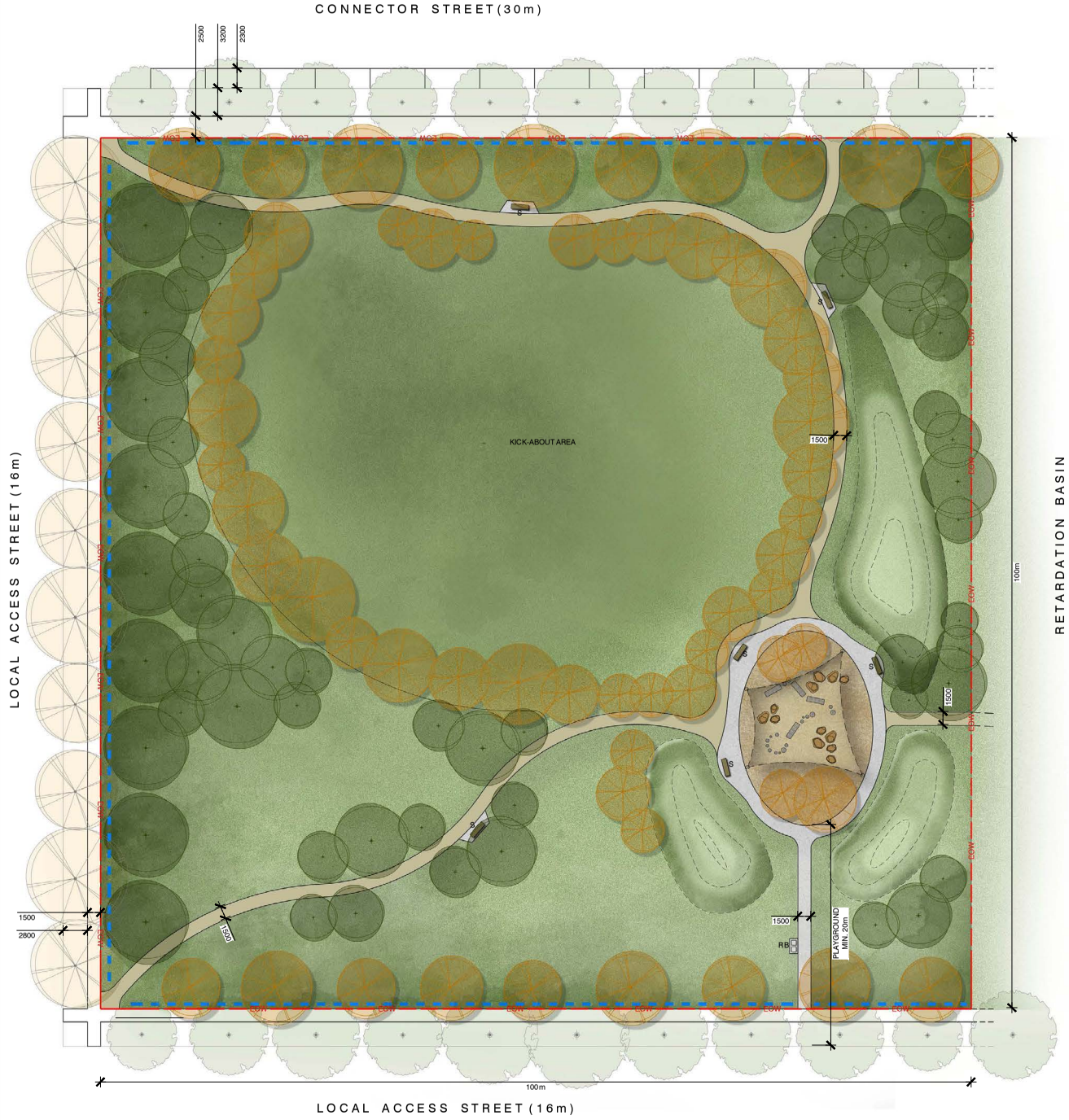
Shepparton North East DCP - Local Park Reference Design

Prepared 14 March 2023

Quantities Based on Local Park Reference Design Rev B Dated 14 March 2023

QUANTITIES - FOR INFORMATION ONLY

Items	Unit	Qty
1. Landscape Surfaces		
1.1 Proposed Pedestrian Grade Plain Concrete Pavement with Light Broom Finish	m2	135
1.2 Proposed 50mm Cement Stabilised Granitic Sand/ Toppings with steel edging over 50mm compacted crushed rock sub-base	m2	394
1.3 Proposed Organic Softfall Mulch	m2	269
2. Landscape Furniture & Features		
2.1 Proposed Council Standard Seat on min. 3m x 1.5m concrete slab	no.	6
2.2 Proposed Council Standard 80L Rubbish & Recycle Bins on concrete slab	no.	1
2.3 Proposed Nature Play Items including timber logs, timber steppers & mudstone boulders	item	1
2.4 Proposed Shade Sail Over Play Area 12m x 10m	no.	1
2.5 Proposed Steel edge (For Granitic Sand Pavement Item 1.2)	lm.	476
3. Soft Landscape Works		
3.1 Proposed Evergreen Trees in 45L pot	no.	57
3.2 Proposed Deciduous Trees in 45L pot	no.	61
3.3 Proposed Hydromulched Grass with 100mm depth of topsoil. (Allow for drip irrigation to kick-about area only 3590m2).	m2	9172
3.5 Proposed Hydromulched Grassed Mound	m2	686
3.4 Grass Swale	lm.	281



NOTES:

REFERENCE DOCUMENTS

This drawing shows the minimum acceptable level of landscaping required by the Greater Shepparton Shire Council

Refer to Infrastructure Design Manual Version 5.10 for specifications

Refer to Landscape Plan Guide for developments in Campaspe Shire Council, City of Greater Shepparton and Moira Shire Council

PLAY

Concrete borders are to be installed around playgrounds

Locate a minimum 20m from street or road

Drainage lines are to be installed inside the playground area with an external discharge point outside of concrete border

IRRIGATION

Provide pop-up irrigation to grass kick-about area

MAINTENANCE

Landscape to be provided by developer following practical completion, including all watering requirements

104 week maintenance

LEGEND

EOW — Extent of Works

SOFT LANDSCAPE

- Proposed Evergreen Trees in 45L pot
- Proposed Deciduous Trees in 45L pot
- Proposed Hydromulched Grass with 100mm depth of topsoil. Allow for drip irrigation to kick-about area only.
- Proposed Hydromulched Grassed Mound
- Grass Swale

LANDSCAPE SURFACES

- Proposed Pedestrian Grade Plain Concrete Pavement with Light Broom Finish
- Proposed 50mm Cement Stabilised Granitic Sand/ Toppings with steel edging over 50mm compacted crushed rock sub-base
- Proposed Organic Softfall Mulch

FURNITURE & FIXTURES

S — Proposed Council Standard Seat on min. 3m x 1.5m concrete slab

RB — Proposed Council Standard 80L Rubbish & Recycle Bins on concrete slab

Proposed Shade Sail Over Play Area

Proposed Nature Play Items including timber logs, timber steppers & mudstone boulders

DATE	PURPOSE	REVISION STATUS
14.03.23	Modified For 1Ha Park	B

Drawing Title:	Local Park Reference Design
Project Name:	Shepparton North East DCP
Drawn By:	TB
Drawn Date:	14.03.23
Rev:	B

0 2.5 5 7.5 10 12.5m

Scale: 1:250 @ A1 / 1:500 @ A3

N

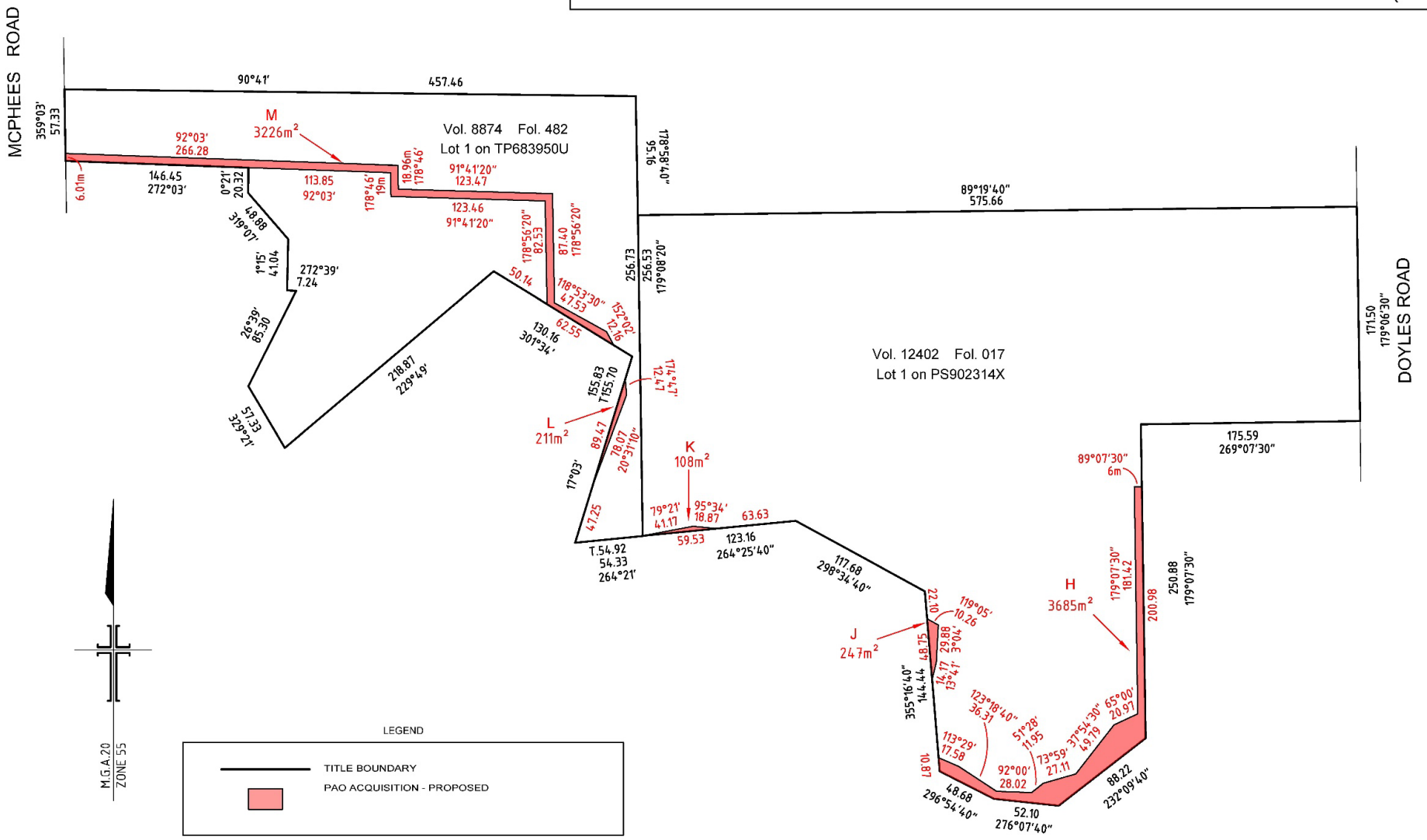
vpa | GREATER SHEPPARTON | OUT LINES

8.1.8 PCP-01 Broken River Shared Path Survey Plans

A survey plan for the Broken River Shared Path has been prepared by Head and Humphreys for the east and western side of McPhees Road. The survey outlines a concept plan for the shared path alignment. Council will prepare the detailed design to confirm the final shared path alignment.

PAO ACQUISITION PLAN

MCPHEES ROAD SHEPPARTON (EAST)



HEAD & HUMPHREYS
LAND CONSULTANTS
Suite 3, 47 Railway Road, Blackburn 3130
P.O. Box 1210, Blackburn North 3130
Tel: 9875 8777
e-mail: contact@hhsurvey.com.au
ABN 80 006 516 169

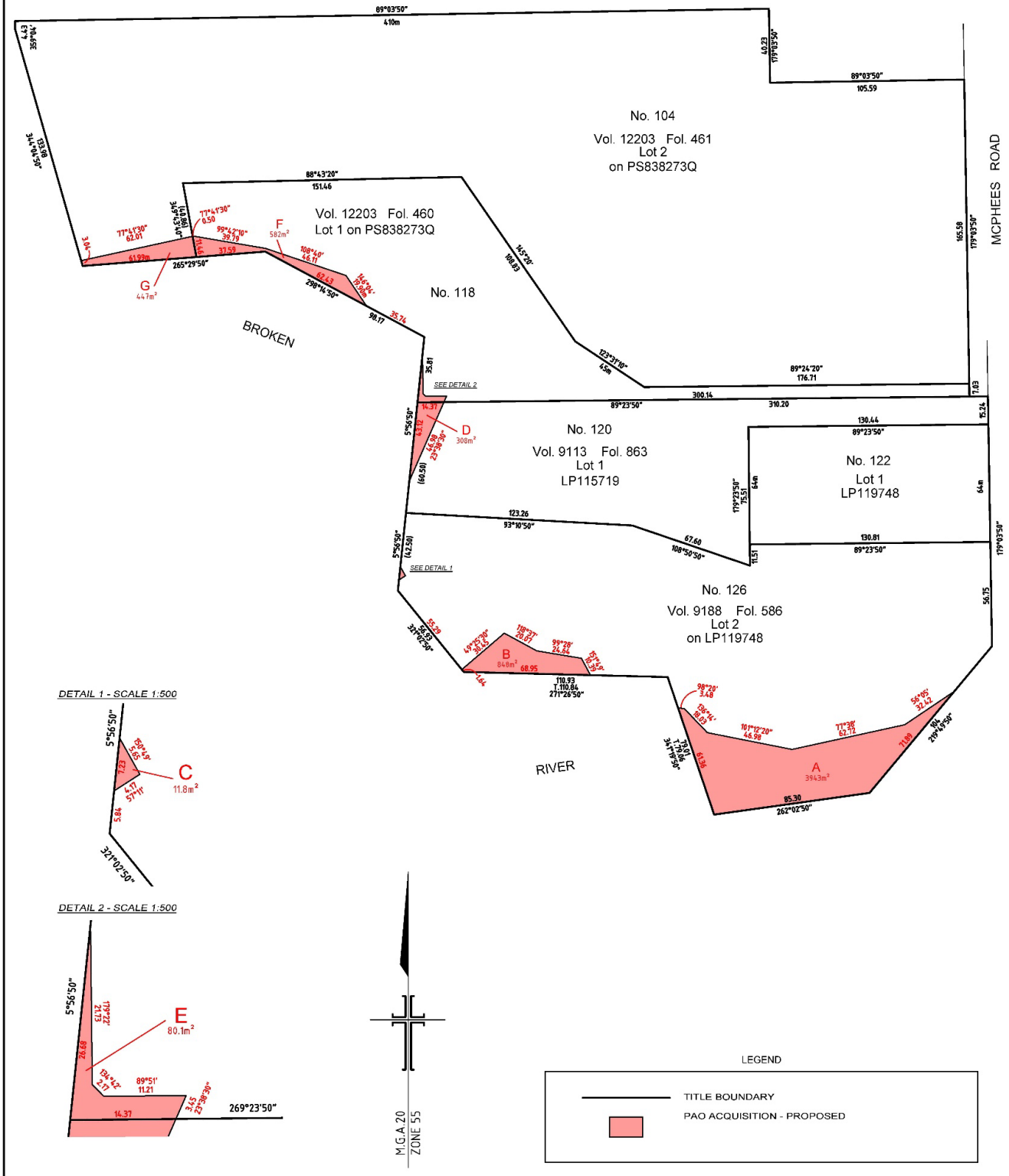
ORIGINAL SHEET SIZE	SCALE
A3	1:3000

30 0 30 60 90 120
LENGTHS ARE IN METRES

REF **8552** 8552-00-DEV-0402.DWG 04-12-2024 **02**

PAO ACQUISITION PLAN

MCPHEES ROAD SHEPPARTON (WEST)



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P.O. Box 1210, Blackburn North 3130
Tel: 9875 8777
e-mail: contact@hhsurvey.com.au
ABN 80 006 516 169

ORIGINAL SHEET SIZE	SCALE
A3	1:2000

20 0 20 40 60 80
LENGTHS ARE IN METRES

REF **8552** 8552-00-DEV-0301.DWG 24-05-2024 **01**

8.2 Drainage Projects

Drainage project costs have been determined by Alluvium Pty Ltd and Goulburn Murray Water.

RBWL-1, RBWL-7 and RBWL-4 have been redesigned due to the alternative arrangement of Catchment 1 and the relocation of asset.

The costs of the assets prepared by Alluvium Pty Ltd are based the concept level costing. The functional design of RBWL-2, RBWL-3, RBWL-5 and RBWL-6 are provided in the drawing set titled "Shepparton South East Precinct Structure Plan Stormwater Management Infrastructure – Functional Design" prepared by Alluvium Pty Ltd.

Note: RBWL-7 and RBWL-1 are labelled 'RBWL-1a' and 'RBWL-1b' in the costing and design materials of Appendix 8.3.0.

8.2.1 Costing of RBWLs and SC-02c

prepared by Alluvium Pty Ltd

Table 12. Cost estimate summary for the proposed works

Item	Description	RBWL1a	RBWL1b	RBWL2	RBWL3	RBWL4	RBWL5	RBWL6	Overland Flow Path	ALL ASSETS
1	SITEWORKS AND EARTHWORKS	$353,624.5	$1,033,783	$629,499.7	$1,234,262.1	$852,944.5	$658,533.2	$636,414.4	$605,375	$6,004,436
2	DRAINAGE	$866,962.5	$1,253,783	$629,222.5	$1,380,705.0	$696,392.5	$436,825.0	$681,807.5	$676,693	$6,622,390
3	ROCK WORKS	$15,660.0	$26,140	$14,287.0	$33,038.0	$18,368.0	$16,255.0	$15,597.0	$15,000	$154,345
4	CLAY LINER	$39,820.8	$132,989	$67,276.8	$145,478.4	$96,316.8	$79,449.6	$74,140.8	$-	$635,472
5	TOPSOIL	$56,337.6	$76,223	$44,705.1	$76,662.3	$62,277.6	$49,001.7	$45,764.4	$194,634	$605,606
6	AQUATIC PLANTING	$269,557.1	$387,412	$164,340.0	$267,275.0	$329,231.5	$178,150.0	$167,070.0	$1,038,600	$2,801,635
7	PUMPING	$-	$-	$179,500.0	$205,500.0	$183,500.0	$196,700.0	$-	$-	$765,200
8	LANDSCAPE	$99,168.0	$102,072	$120,060.0	$156,195.0	$171,276.0	$143,424.0	$132,600.0	$-	$924,795
9	MISCELLANEOUS	$71,445.5	$82,094	$78,836.5	$82,072.0	$84,437.5	$79,384.0	$79,060.0	$60,000	$617,330
10	OTHER	$-	$-	$-	$-	$-	$-	$-	$-	$-
	SUB-TOTAL WORKS	$1,772,576.0	$3,094,496	$1,927,727.6	$3,581,187.8	$2,494,744.4	$1,837,722.5	$1,832,454.1	$2,590,302	$19,131,210
11	DELIVERY	$997,074.0	$1,740,654	$891,574.0	$1,656,299.4	$1,403,293.7	$849,946.6	$847,510.0	$1,198,015	$9,584,366
12	**TOTAL ESTIMATED COST**	**$2,769,650.0**	$4,835,149	**$2,819,301.6**	**$5,237,487.2**	**$3,898,038.1**	**$2,687,669.1**	**$2,679,964.1**	$3,788,316	$28,715,576

Concept level costing, updated July 2024

Culvert costs added, excavation volumes updated, July 2024

Wetland RB2 - Cost Estimate

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	**SITEWORKS AND EARTHWORKS**				**$629,499.69**	
1.1	Site preparation	1	Item	$ 10,000.00	$ 10,000.00	
1.2	Earthworks		m3		$ -	
1.3	Diversion works		Item		$ -	
1.4	Waterway re-shaping		Item		$ -	
1.5	Stripping of topsoil and stockpiling	16356	m2	$1.50	$24,533.69	Assumed average depth of 200mm
1.6	Excavation: Bulk excavation of soil to specified levels including cut, haulage, stockpiling.	39664	m3	$ 15.00	$ 594,966.00	Excavated material assumed to be re-used in development/transported within Shepparton. Includes over-excavation to allow for clay liner (topsoil layer already removed).
1.7	Formation of batters	0	m3	$ 15.00	$ -	Filling and compaction to design levels and compaction in designated areas using selected materials from the excavation.
1.8	Other *(Description)*		Item		$ -	
2	**DRAINAGE**				**$ 629,222.50**	
2.1	**BOX CULVERTS**					
2.1.1	Box culvert units *(Description)*		No.		$ -	
2.1.2	Link slabs		No.		$ -	
2.1.3	Foundation slab		m2		$ -	
2.1.4	Other (Description)		Item		$ -	
2.2	**DRAINAGE PIPES**					
2.2.1	Drainage - pipes: Supply and install catchment stormwater main incl. excavation, crushed rock bedding and back fill.	670	LM	$ 800.00	$ 536,000.00	Note this has not been designed throughout the catchment yet. A nominal average pipe size has been selected based on the peak 20% AEP flows and preliminary pipe sizing calculations. Assumed average of 1050mm pipe.
2.2.2	Drainage - pipes: Supply and install 825mm dia RC transfer pipe (SB to WL) incl excavation, crushed rock bedding and back fill	10	LM	$ 500.00	$ 5,000.00	
2.2.3	Drainage - pipes: Supply and install 300mm dia RC balance pipes incl excavation, crushed rock bedding and back fill	19	LM	$ 220.00	$ 4,180.00	
2.2.4	Drainage - pipes: Supply and install 525mm diam RC pipe (submerged offtake to EDD control pit) incl excavation, crushed rock bedding and back fill	11	LM	$ 310.00	$ 3,410.00	
2.2.5	Drainage - pits: Supply and install concrete headwall to suit 1500mm dia. pipe	1	No.	$ 10,000.00	$ 10,000.00	
2.2.6	Drainage - pits: Supply and install sediment basin to wetland transfer pit including step irons and pipe grill lid arrangement (1200mm x 1200mm x 1200mm)	1	No.	$ 7,500.00	$ 7,500.00	
2.2.7	Drainage - pits: Supply and install headwall to suit 825 mm dia. pipe	1	No.	$ 6,000.00	$ 6,000.00	
2.2.8	Drainage - pits: Supply and install submerged offtake pits (600mm x 600mm x 600mm) for balance pipes	2	No.	$ 3,000.00	$ 6,000.00	
2.2.9	Drainage - pits: Supply and install submerged offtake pit (900mm x 900mm x 900mm) for wetland outlet	1	No.	$ 5,000.00	$ 5,000.00	
2.2.10	Drainage - pits: Supply and install twin chamber EDD control outlet pit/retarding basin outlet with side-winder penstock, step irons and pipe grill lid	1	No.	$ 15,000.00	$ 15,000.00	
2.2.11	Drainage - pits: Supply and install water level gauge wetland outlet submerged pit	1	No.	$ 1,000.00	$ 1,000.00	
2.2.12	Drainage - pits: Allowance for pits located every 80m along stormwater main	8	No.	$ 2,400.00	$ 20,100.00	
2.2.3	Drainage – Sub-soil drainage		LM		$ -	
2.2.4	Drainage – Miscellaneous *(Description)*		Item		$ -	
2.3	**CONCRETE WORKS**					
2.3.1	Apron slab		m2		$ -	
2.3.2	Wing wall		m2		$ -	
2.3.3	Headwall above culverts		m2		$ -	

2.3.4	Supply and install reinforced N32 grade concrete, 150 mm deep, extending 300mm vertically up batter, to form sediment basin base	23	m3	$ 350.00	$ 8,032.50	
2.3.5	Concrete weir/sill: Supply and install reinforced N32 grade concrete to form sediment basin to wetland spillway weir/sill to Melbourne Water standard specification 7251/8/108 (300mm thick, 1100mm deep, 5.5m long)	1	Item	$ 2,000.00	$ 2,000.00	
2.4	**ON-STRUCTURE WORKS**					
2.4.1	Backfill above drainage structure		m3		$ -	Included in pipe rates
2.4.2	Other (Description)		Item		$ -	
2.5	**OUTLET STRUCTURE**					
2.5.1	Major Outlet pit structure		Item		$ -	
3	**ROCK WORKS**				**$ 14,287.00**	
3.1	Sediment Pond: Supply and install 4m wide sediment basin maintenance access ramp, including sub base preparation. 200mm depth - bottom layer is 100mm depth of 0-100mm FCR, top layer is 100mm of 0-40 NDCR (6% cement stabilised below NWL).	24	m3	$ 200.00	$ 4,800.00	
3.2	Supply and install well graded D50=400mm rock to form sediment basin to wetland spillway	39	m3	$ 200.00	$ 7,840.00	
3.3	Geofabric: Supply and install geofabric (Bidim A44 or equivalent) for all rockwork	15	lin.m	$ 10.00	$ 147.00	4m wide roll, includes allowance for overlap
3.4	Supply and install rockwork to RB outfall (into G-MW drain)	1	Item	$ 1,500.00	$ 1,500.00	
4	**CLAY LINER**				**$ 67,276.80**	
4.1	Sediment Basin: Placement of 300 mm compacted clay liners for sediment basin (allow to source off site)	213	m3	$ 32.00	$ 6,806.40	Up to TED
4.2	Wetland: Placement of 300 mm compacted clay liners for wetland (allow to source off site)	1,890	m3	$ 32.00	$ 60,470.40	Up to TED
5	**TOPSOIL**				**$44,705.10**	
5.1	Sediment basin: Re spread 200 mm topsoil for planting areas	287	m2	$3.30	$947.10	Assumed site topsoil is used, with 20% allowance for imported topsoil
5.2	Wetland: Re spread 200 mm topsoil for planting areas	7,459	m2	$3.30	$24,614.70	Assumed site topsoil is used, with 20% allowance for imported topsoil. Includes ephemeral area for wetland/SB as these are connected
5.3	Retarding basin	5,801	m2	$3.30	$19,143.30	Assumed site topsoil is used, with 20% allowance for imported topsoil
6	**AQUATIC PLANTING**				**$ 164,340.00**	
6.1	Supply and install submerged marsh planting (600cm3 tube, 1/m2).	242	No.	$ 5.00	$ 1,210.00	For both sediment basin and wetland
6.2	Supply and install deep marsh planting (600cm3 tube, 2/m2).	3,468	No.	$ 5.00	$ 17,340.00	For both sediment basin and wetland
6.3	Supply and install shallow marsh planting (600cm3 tube, 2/m2).	5,748	No.	$ 5.00	$ 28,740.00	For both sediment basin and wetland
6.4	Supply and install ephemeral planting (90cm3 tube, 4/m2).	11,588	No.	$ 2.50	$ 28,970.00	For both sediment basin and wetland. Planting rate can be 6/m2. 4/m2 has been adopted for some of our other jobs recently.
6.5	Supply and install terrestrial planting (90cm3 tube, 4/m2).	23,204	No.	$ 2.50	$ 58,010.00	RB planting (above path in RB)
6.6	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically)	1,007	m2	$ 10.00	$ 10,070.00	NWL to TED area for wetland and SB.
6.7	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	$ 20,000.00	$ 20,000.00	
7	**PUMPING**				**$ 179,500.00**	
7.1	Supply and installation of rising main	35	LM	$ 200.00	$ 7,000.00	

7.2	Supply and installation of pumping station	1	Item	$ 170,000.00	$ 170,000.00	
7.3	Provision of electricity supply to pump station switchboard from nominated point of supply, supply and installation of electrical switchboard, connection of power and associated fees.	1	Item	$ 2,500.00	$ 2,500.00	
8	**LANDSCAPE**				**$ 120,060.00**	
8.1	Trees: Supply and install trees (tubestock)	100	No.	$ 6.00	$ 600.00	Nominal allowance for trees
8.2	Landscaping: Supply and install 4m wide RB perimeter gravel access path (thickness 150mm)	2019	m2	$ 33.00	$ 66,627.00	
8.3	Landscaping: Supply and install 4m wide wetland/SB perimeter gravel access path within RB (thickness 150mm)	1601	m2	$ 33.00	$ 52,833.00	
9	**MISCELLANEOUS**				**$78,836.50**	
9.1	Civil Works Defects Maintenance incl pits, pipes and rockwork – 1 year	12	Month	$ 2,500.00	$ 30,000.00	
9.2	3 months Plant Establishment maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas.	3	Month	$ 2,000.00	$ 6,000.00	
9.3	24 month Plant Maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas as per specification.	24	Month	$ 750.00	$ 18,000.00	
9.4	Allowance for timber bollards	2	No	$ 200.00	$ 400.00	
9.5	Allowance for seats	2	No	$ 2,500.00	$ 5,000.00	
9.6	WL/SB: Install habitat logs approx. 4.0m long (no securing required) to wetland area.	2	No.	$ 5,000.00	$ 10,000.00	
9.7	Allowance for hydroseeding the batters of the basin	6291	m2	$1.50	$9,436.50	allowance for hydro seeding the batters of the basins and 1m back from the top of batter. RB planting area (above path in RB) + 1m buffer.
10	**OTHER**				**$ -**	
10.1			Item		$ -	
	SUB-TOTAL WORKS				**$1,927,727.59**	
11	**DELIVERY**					
11.1	Council Fees	3.25	%		$62,651.15	
11.2	VicRoads Fees	1	%		$19,277.28	
11.3	Traffic Management	5	%		$96,386.38	
11.4	Environmental Management	0.5	%		$9,638.64	
11.5	Survey/Design	5	%		$96,386.38	
11.6	Supervision & Project Management	9	%		$173,495.48	
11.7	Site Establishment	2.5	%		$48,193.19	
11.8	Contingency	20	%		$385,545.52	
	SUB-TOTAL DELIVERY				**$891,574.01**	
12	**TOTAL ESTIMATED COST**				**$2,819,301.59**	

Wetland RB3 - Cost Estimate						
Item	**Description**	**Quantity**	**Unit**	**Rate $**	**Amount $**	**Comments**
	WORKS					
1	**SITEWORKS AND EARTHWORKS**				**$1,234,262.14**	
1.1	Site preparation	1	Item	$10,000.00	$10,000.00	
1.2	Earthworks		m3		$-	
1.3	Diversion works		Item		$-	
1.4	Waterway re-shaping		Item		$-	
1.5	Stripping of topsoil and stockpiling	28583	m2	$1.50	$42,874.50	Assumed average depth of 200mm
1.6	Excavation: Bulk excavation of soil to specified levels including cut, haulage, stockpiling.	78759	m3	$15.00	$1,181,387.64	Excavated material assumed to be re-used in development/transported within Shepparton. Includes over-excavation to allow for clay liner (topsoil layer already removed).
1.7	Formation of batters	0	m3	$15.00	$-	Filling and compaction to design levels and compaction in designated areas using selected materials from the excavation.
1.8	Other *(Description)*		Item		$-	
2	**DRAINAGE**				**$1,380,705.00**	
2.1	**BOX CULVERTS**					
2.1.1	Box culvert units *(Description)*		No.		$-	
2.1.2	Link slabs		No.		$-	
2.1.3	Foundation slab		m2		$-	
2.1.4	Other (Description)		Item		$-	
2.2	**DRAINAGE PIPES**					
2.2.1	Drainage - pipes: Supply and install catchment stormwater main incl. excavation, crushed rock bedding and back fill.	1460	LM	$800.00	$1,168,000.00	Note this has not been designed throughout the catchment yet. A nominal average pipe size has been selected based on the peak 20% AEP flows and preliminary pipe sizing calculations. Assume there will be at least two mains coming into WL3 given size of 20% AEP flows. Assumed average of 1050mm pipe.
2.2.2	Drainage - pipes: Supply and install 2 x 1050mm dia RC transfer pipes (SB to WL inlet pools) incl excavation, crushed rock bedding and back fill	22	LM	$800.00	$17,600.00	
2.2.3	Drainage - pipes: Supply and install 300mm dia RC balance pipes incl excavation, crushed rock bedding and back fill	72	LM	$220.00	$15,840.00	
2.2.4	Drainage - pipes: Supply and install 525mm diam RC pipe (submerged offtake to EDD control pit) incl excavation, crushed rock bedding and back fill	12	LM	$310.00	$3,565.00	
2.2.5	Drainage - pits: Supply and install 2 x concrete headwall to suit 1500mm dia. pipe	2	No.	$10,000.00	$20,000.00	
2.2.6	Drainage - pits: Supply and install sediment basin to wetland transfer pit including step irons and pipe grill lid arrangement (1500mm x 1500mm x 1500mm)	2	No.	$8,500.00	$17,000.00	
2.2.7	Drainage - pits: Supply and install concrete headwall to suit 1050mm dia. pipe	2	No.	$8,000.00	$16,000.00	
2.2.8	Drainage - pits: Supply and install submerged offtake pits (600mm x 600mm x 600mm) for balance pipes	4	No.	$3,000.00	$12,000.00	
2.2.9	Drainage - pits: Supply and install submerged offtake pit (900mm x 900mm x 900mm) for wetland outlet	1	No.	$5,000.00	$5,000.00	
2.2.10	Drainage - pits: Supply and install twin chamber EDD control outlet pit/retarding basin outlet with side-winder penstock, step irons and pipe grill lid	1	No.	$15,000.00	$15,000.00	

2.2.11	Drainage - pits: Supply and install water level gauge wetland outlet submerged pit	1	No.	$1,000.00	$1,000.00	
2.2.13	Drainage - pits: Allowance for pits located every 80m along stormwater main	18	No.	$2,400.00	$43,800.00	
2.2.3	Drainage – Sub-soil drainage		LM		$-	
2.2.4	Drainage – Miscellaneous *(Description)*		Item		$-	
2.3	**CONCRETE WORKS**					
2.3.1	Apron slab		m2		$-	
2.3.2	Wing wall		m2		$-	
2.3.3	Headwall above culverts		m2		$-	
2.3.4	Supply and install reinforced N32 grade concrete, 150 mm deep, extending 300mm vertically up batter, to form sediment basin base	114	m3	$350.00	$39,900.00	
2.3.5	Concrete weir/sill: Supply and install reinforced N32 grade concrete to form sediment basin to wetland spillway weir/sill to Melbourne Water standard specification 7251/8/108 (300mm thick, 1100mm deep, 7.5m long)	2	Item	$3,000.00	$6,000.00	
2.4	**ON-STRUCTURE WORKS**					
2.4.1	Backfill above drainage structure		m3		$-	Included in pipe rates
2.4.2	Other (Description)		Item		$-	
2.5	**OUTLET STRUCTURE**					
2.5.1	Major Outlet pit structure		Item		$-	
3	**ROCK WORKS**				**$33,038.00**	
3.1	Sediment Pond: Supply and install 4m wide sediment basin maintenance access ramp, including sub base preparation. 200mm depth - bottom layer is 100mm depth of 0-100mm FCR, top layer is 100mm of 0-40 NDCR (6% cement stabilised below NWL).	22	m3	$200.00	$4,480.00	
3.2	Supply and install well graded D50=400mm rock to form sediment basin to wetland spillway	133	m3	$200.00	$26,560.00	
3.3	Geofabric: Supply and install geofabric (Bidim A44 or equivalent) for all rockwork	50	lin.m	$10.00	$498.00	4m wide roll, includes allowance for overlap
3.4	Supply and install rockwork to RB outfall (into G-MW drain)	1	Item	$1,500.00	$1,500.00	
4	**CLAY LINER**				**$145,478.40**	
4.1	Sediment Basin: Placement of 300 mm compacted clay liners for sediment basin (allow to source off site)	518	m3	$32.00	$16,560.00	Up to TED
4.2	Wetland: Placement of 300 mm compacted clay liners for wetland (allow to source off site)	4029	m3	$32.00	$128,918.40	Up to TED
5	**TOPSOIL**				**$76,662.30**	
5.1	Sediment basin: Re spread 200 mm topsoil for planting areas	475	m2	$3.30	$1,567.50	Assumed site topsoil is used, with 20% allowance for imported topsoil
5.2	Wetland: Re spread 200 mm topsoil for planting areas	14951	m2	$3.30	$49,338.30	Assumed site topsoil is used, with 20% allowance for imported topsoil. Includes ephemeral area for wetland/SB as these are connected
5.3	Retarding basin	7805	m2	$3.30	$25,756.50	Assumed site topsoil is used, with 20% allowance for imported topsoil
6	**AQUATIC PLANTING**				**$267,275.00**	
6.1	Supply and install submerged marsh planting (600cm3 tube, 1/m2).	443	No.	$5.00	$2,215.00	For both sediment basin and wetland
6.2	Supply and install deep marsh planting (600cm3 tube, 2/m2).	9528	No.	$5.00	$47,640.00	For both sediment basin and wetland
6.3	Supply and install shallow marsh planting (600cm3 tube, 2/m2).	10394	No.	$5.00	$51,970.00	For both sediment basin and wetland
6.4	Supply and install ephemeral planting (90cm3 tube, 4/m2).	20088	No.	$2.50	$50,220.00	For both sediment basin and wetland. Planting rate can be 6/m2. 4/m2 has been adopted for some of our other jobs recently.
6.5	Supply and install terrestrial planting (90cm3 tube, 4/m2).	31220	No.	$2.50	$78,050.00	RB planting (above path in RB)

6.6	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically)	1718	m2	$10.00	$17,180.00	NWL to TED area for wetland and SB.
6.7	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	$20,000.00	$20,000.00	
7	**PUMPING**				**$205,500.00**	
7.1	Supply and installation of rising main	165	LM	$200.00	$33,000.00	
7.2	Supply and installation of pumping station	1	Item	$170,000.00	$170,000.00	
7.3	Provision of electricity supply to pump station switchboard from nominated point of supply, supply and installation of electrical switchboard, connection of power and associated fees.	1	Item	$2,500.00	$2,500.00	
8	**LANDSCAPE**				**$156,195.00**	
8.1	Trees: Supply and install trees (tubestock)	100	No.	$6.00	$600.00	Nominal allowance for trees
8.2	Landscaping: Supply and install 4m wide RB perimeter gravel access path (thickness 150mm)	2571	m2	$33.00	$84,843.00	
8.3	Landscaping: Supply and install 4m wide wetland/SB perimeter gravel access path within RB (thickness 150mm)	2144	m2	$33.00	$70,752.00	
9	**MISCELLANEOUS**				**$82,072.00**	
9.1	Civil Works Defects Maintenance incl pits, pipes and rockwork – 1 year	12	Month	$2,500.00	$30,000.00	
9.2	3 months Plant Establishment maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas.	3	Month	$2,000.00	$6,000.00	
9.3	24 month Plant Maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas as per specification.	24	Month	$750.00	$18,000.00	
9.4	Allowance for timber bollards	2	No	$200.00	$400.00	
9.5	Allowance for seats	2	No	$2,500.00	$5,000.00	
9.6	WL/SB: Install habitat logs approx. 4.0m long (no securing required) to wetland area.	2	No.	$5,000.00	$10,000.00	
9.7	Allowance for hydroseeding the batters of the basin	8448	m2	$1.50	$12,672.00	allowance for hydro seeding the batters of the basins and 1m back from the top of batter. RB planting area (above path in RB) + 1m buffer.
10	**OTHER**				**$-**	
10.1			Item		$-	
	SUB-TOTAL WORKS				**$3,581,187.84**	
11	**DELIVERY**					
11.1	Council Fees	3	%		$116,388.60	
11.2	VicRoads Fees	1	%		$35,811.88	
11.3	Traffic Management	5	%		$179,059.39	
11.4	Environmental Management	1	%		$17,905.94	
11.5	Survey/Design	5	%		$179,059.39	
11.6	Supervision & Project Management	9	%		$322,306.91	
11.7	Site Establishment	3	%		$89,529.70	
11.8	Contingency	20	%		$716,237.57	
	SUB-TOTAL DELIVERY				**$1,656,299.38**	
12	**TOTAL ESTIMATED COST**				**$5,237,487.22**	

Wetland RB5 - Cost Estimate

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	**SITEWORKS AND EARTHWORKS**				**$658,533.18**	
1.1	Site preparation	1	Item	$10,000.00	$10,000.00	
1.2	Earthworks		m3		$-	
1.3	Diversion works		Item		$-	
1.4	Waterway re-shaping		Item		$-	
1.5	Stripping of topsoil and stockpiling	18414	m2	$1.50	$27,621.00	Assumed average depth of 200mm
1.6	Excavation: Bulk excavation of soil to specified levels including cut, haulage, stockpiling.	41394	m3	$15.00	$620,912.18	Excavated material assumed to be re-used in development/transported within Shepparton. Includes over-excavation to allow for clay liner (topsoil layer already removed).
1.7	Formation of batters	0	m3	$15.00	$-	Filling and compaction to design levels and compaction in designated areas using selected materials from the excavation.
1.8	Other *(Description)*		Item		$-	
2	**DRAINAGE**				**$436,825.00**	
2.1	**BOX CULVERTS**					
2.1.1	Box culvert units *(Description)*		No.		$-	
2.1.2	Link slabs		No.		$-	
2.1.3	Foundation slab		m2		$-	
2.1.4	Other (Description)		Item		$-	
2.2	**DRAINAGE PIPES**					
2.2.1	Drainage - pipes: Supply and install catchment stormwater main incl. excavation, crushed rock bedding and back fill.	397	LM	$800.00	$317,600.00	Note this has not been designed throughout the catchment yet. A nominal average pipe size has been selected based on the peak 20% AEP flows and preliminary pipe sizing calculations. Assumed average of 1050mm pipe.
2.2.2	Drainage - pipes: Supply and install 1050mm dia RC transfer pipe (SB to WL) incl excavation, crushed rock bedding and back fill	10	LM	$800.00	$8,000.00	
2.2.3	Drainage - pipes: Supply and install 300mm dia RC balance pipes incl excavation, crushed rock bedding and back fill	129	LM	$220.00	$28,380.00	
2.2.4	Drainage - pipes: Supply and install 525mm diam RC pipe (submerged offtake to EDD control pit) incl excavation, crushed rock bedding and back fill	11	LM	$310.00	$3,410.00	
2.2.5	Drainage - pits: Supply and install concrete headwall to suit 1500mm dia. pipe	1	No.	$10,000.00	$10,000.00	
2.2.6	Drainage - pits: Supply and install sediment basin to wetland transfer pit including step irons and pipe grill lid arrangement (1500mm x 1500mm x 1500mm)	1	No.	$8,500.00	$8,500.00	
2.2.7	Drainage - pits: Supply and install headwall to suit 1050mm dia. pipe	1	No.	$8,000.00	$8,000.00	
2.2.8	Drainage - pits: Supply and install submerged offtake pits (600mm x 600mm x 600mm) for balance pipes	2	No.	$3,000.00	$6,000.00	
2.2.9	Drainage - pits: Supply and install submerged offtake pit (900mm x 900mm x 900mm) for wetland outlet	1	No.	$5,000.00	$5,000.00	
2.2.10	Drainage - pits: Supply and install twin chamber EDD control outlet pit/retarding basin outlet with side-winder penstock, step irons and pipe grill lid	1	No.	$15,000.00	$15,000.00	
2.2.11	Drainage - pits: Supply and install water level gauge wetland outlet submerged pit	1	No.	$1,000.00	$1,000.00	
2.2.12	Drainage - pits: Allowance for pits located every 80m along stormwater main	5	No.	$2,400.00	$11,910.00	

2.2.3	Drainage – Sub-soil drainage		LM		$-	
2.2.4	Drainage – Miscellaneous *(Description)*		Item		$-	
2.3	**CONCRETE WORKS**					
2.3.1	Apron slab		m2		$-	
2.3.2	Wing wall		m2		$-	
2.3.3	Headwall above culverts		m2		$-	
2.3.4	Supply and install reinforced N32 grade concrete, 150 mm deep, extending 300mm vertically up batter, to form sediment basin base	32	m3	$350.00	$11,025.00	
2.3.5	Concrete weir/sill: Supply and install reinforced N32 grade concrete to form sediment basin to wetland spillway weir/sill to Melbourne Water standard specification 7251/8/108 (300mm thick, 1100mm deep, 7.5m long)	1	Item	$3,000.00	$3,000.00	
2.4	**ON-STRUCTURE WORKS**					
2.4.1	Backfill above drainage structure		m3		$-	Included in pipe rates
2.4.2	Other (Description)		Item		$-	
2.5	**OUTLET STRUCTURE**					
2.5.1	Major Outlet pit structure		Item		$-	
3	**ROCK WORKS**				**$16,255.00**	
3.1	Sediment Pond: Supply and install 4m wide sediment basin maintenance access ramp, including sub base preparation. 200mm depth - bottom layer is 100mm depth of 0-100mm FCR, top layer is 100mm of 0-40 NDCR (6% cement stabilised below NWL).	21	m3	$200.00	$4,160.00	
3.2	Supply and install well graded D50=400mm rock to form sediment basin to wetland spillway	52	m3	$200.00	$10,400.00	
3.3	Geofabric: Supply and install geofabric (Bidim A44 or equivalent) for all rockwork	20	lin.m	$10.00	$195.00	4m wide roll, includes allowance for overlap
3.4	Supply and install rockwork to RB outfall (into G-MW drain)	1	Item	$1,500.00	$1,500.00	
4	**CLAY LINER**				**$79,449.60**	
4.1	Sediment Basin: Placement of 300 mm compacted clay liners for sediment basin (allow to source off site)	254	m3	$32.00	$8,131.20	
4.2	Wetland: Placement of 300 mm compacted clay liners for wetland (allow to source off site)	2,229	m3	$32.00	$71,318.40	Up to TED
5	**TOPSOIL**				**$49,001.70**	
5.1	Sediment basin: Re spread 200 mm topsoil for planting areas	302	m2	$3.30	$996.60	Assumed site topsoil is used, with 20% allowance for imported topsoil
5.2	Wetland: Re spread 200 mm topsoil for planting areas	8,479	m2	$3.30	$27,980.70	Assumed site topsoil is used, with 20% allowance for imported topsoil. Includes ephemeral area for wetland/SB as these are connected
5.3	Retarding basin	6,068	m2	$3.30	$20,024.40	Assumed site topsoil is used, with 20% allowance for imported topsoil
6	**AQUATIC PLANTING**				**$178,150.00**	
6.1	Supply and install submerged marsh planting (600cm3 tube, 1/m2).	272	No.	$5.00	$1,360.00	For both sediment basin and wetland
6.2	Supply and install deep marsh planting (600cm3 tube, 2/m2).	5,474	No.	$5.00	$27,370.00	For both sediment basin and wetland
6.3	Supply and install shallow marsh planting (600cm3 tube, 2/m2).	5,498	No.	$5.00	$27,490.00	For both sediment basin and wetland
6.4	Supply and install ephemeral planting (90cm3 tube, 4/m2).	12,092	No.	$2.50	$30,230.00	For both sediment basin and wetland. Planting rate can be 6/m2. 4/m2 has been adopted for some of our other jobs recently.
6.5	Supply and install terrestrial planting (90cm3 tube, 4/m2).	24,272	No.	$2.50	$60,680.00	RB planting (above path in RB)

6.6	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically)	1,102	m2	$10.00	$11,020.00	NWL to TED area for wetland and SB.
6.7	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	$20,000.00	$20,000.00	
7	**PUMPING**				**$196,700.00**	
7.1	Supply and installation of rising main	121	LM	$200.00	$24,200.00	
7.2	Supply and installation of pumping station	1	Item	$170,000.00	$170,000.00	
7.3	Provision of electricity supply to pump station switchboard from nominated point of supply, supply and installation of electrical switchboard, connection of power and associated fees.	1	Item	$2,500.00	$2,500.00	
8	**LANDSCAPE**				**$143,424.00**	
8.1	Trees: Supply and install trees (tubestock)	100	No.	$6.00	$600.00	Nominal allowance for trees
8.2	Landscaping: Supply and install 4m wide RB perimeter gravel access path (thickness 150mm)	2356	m2	$33.00	$77,748.00	
8.3	Landscaping: Supply and install 4m wide wetland/SB perimeter gravel access path within RB (thickness 150mm)	1972	m2	$33.00	$65,076.00	
9	**MISCELLANEOUS**				**$79,384.00**	
9.1	Civil Works Defects Maintenance incl pits, pipes and rockwork – 1 year	12	Month	$2,500.00	$30,000.00	
9.2	3 months Plant Establishment maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas.	3	Month	$2,000.00	$6,000.00	
9.3	24 month Plant Maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas as per specification.	24	Month	$750.00	$18,000.00	
9.4	Allowance for timber bollards	2	No	$200.00	$400.00	
9.5	Allowance for seats	2	No	$2,500.00	$5,000.00	
9.6	WL/SB: Install habitat logs approx. 4.0m long (no securing required) to wetland area.	2	No.	$5,000.00	$10,000.00	
9.7	Allowance for hydroseeding the batters of the basin	6656	m2	$1.50	$9,984.00	allowance for hydro seeding the batters of the basins and 1m back from the top of batter. RB planting area (above path in RB) + 1m buffer.
10	**OTHER**				$-	
10.1			Item		$-	
	SUB-TOTAL WORKS				**$1,837,722.48**	
11	**DELIVERY**					
11.1	Council Fees	3.25	%		$59,725.98	
11.2	VicRoads Fees	1	%		$18,377.22	
11.3	Traffic Management	5	%		$91,886.12	
11.4	Environmental Management	0.5	%		$9,188.61	
11.5	Survey/Design	5	%		$91,886.12	
11.6	Supervision & Project Management	9	%		$165,395.02	
11.7	Site Establishment	2.5	%		$45,943.06	
11.8	Contingency	20	%		$367,544.50	
	SUB-TOTAL DELIVERY				**$849,946.64**	
12	**TOTAL ESTIMATED COST**				**$2,687,669.12**	

Wetland RB6 - Cost Estimate

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	**SITEWORKS AND EARTHWORKS**				**$636,414.36**	
1.1	Site preparation	1	Item	$10,000.00	$10,000.00	
1.2	Earthworks		m3		$-	
1.3	Diversion works		Item		$-	
1.4	Waterway re-shaping		Item		$-	
1.5	Stripping of topsoil and stockpiling	17163	m2	$1.50	$25,744.50	Assumed average depth of 200mm
1.6	Excavation: Bulk excavation of soil to specified levels including cut, haulage, stockpiling.	40045	m3	$15.00	$600,669.86	Excavated material assumed to be re-used in development/transported within Shepparton. Includes over-excavation to allow for clay liner (topsoil layer already removed).
1.7	Formation of batters	0	m3	$15.00	$-	Filling and compaction to design levels and compaction in designated areas using selected materials from the excavation.
1.8	Other *(Description)*		Item		$-	
2	**DRAINAGE**				**$681,807.50**	
2.1	**BOX CULVERTS**					
2.1.1	Box culvert units *(Description)*		No.		$-	
2.1.2	Link slabs		No.		$-	
2.1.3	Foundation slab		m2		$-	
2.1.4	Other (Description)		Item		$-	
2.2	**DRAINAGE PIPES**					
2.2.1	Drainage - pipes: Supply and install catchment stormwater main incl. excavation, crushed rock bedding and back fill.	630	LM	$800.00	$504,000.00	Note this has not been designed throughout the catchment yet. A nominal average pipe size has been selected based on the peak 20% AEP flows and preliminary pipe sizing calculations. Assumed average of 1050mm pipe.
2.2.2	Drainage - pipes: Supply and install 900mm dia RC transfer pipe (SB to WL) incl excavation, crushed rock bedding and back fill	11	LM	$550.00	$6,050.00	
2.2.3	Drainage - pipes: Supply and install 300mm dia RC balance pipes incl excavation, crushed rock bedding and back fill	68	LM	$220.00	$14,960.00	
2.2.4	Drainage - pipes: Supply and install 525mm diam RC pipe (submerged offtake to EDD control pit) incl excavation, crushed rock bedding and back fill	11	LM	$310.00	$3,410.00	
2.2.5	Drainage - pipes: Supply and install 925 mm dia retarding basin outfall pipe (to Broken River) incl excavation, crushed rock bedding and back fill	122	LM	$550.00	$67,100.00	
2.2.6	Drainage - pits: Supply and install concrete headwall to suit 1500mm dia. pipe	1	No.	$10,000.00	$10,000.00	
2.2.7	Drainage - pits: Supply and install sediment basin to wetland transfer pit including step irons and pipe grill lid arrangement (1200mm x 1200mm x 1200mm)	1	No.	$7,500.00	$7,500.00	
2.2.8	Drainage - pits: Supply and install headwall to suit 900mm dia. pipe	1	No.	$6,500.00	$6,500.00	
2.2.9	Drainage - pits: Supply and install submerged offtake pits (600mm x 600mm x 600mm) for balance pipes	2	No.	$3,000.00	$6,000.00	
2.2.10	Drainage - pits: Supply and install submerged offtake pit (900mm x 900mm x 900mm) for wetland outlet	1	No.	$5,000.00	$5,000.00	
2.2.11	Drainage - pits: Supply and install twin chamber EDD control outlet pit/retarding basin outlet with side-winder penstock, step irons and pipe grill lid	1	No.	$15,000.00	$15,000.00	
2.2.12	Drainage - pits: Supply and install water level gauge wetland outlet submerged pit	1	No.	$1,000.00	$1,000.00	

2.2.13	Drainage - pits: Allowance for pits located every 80m along stormwater main	8	No.	$2,400.00	$18,900.00	
2.2.3	Drainage – Sub-soil drainage		LM		$-	
2.2.4	Drainage – Miscellaneous *(Description)*		Item		$-	
2.3	**CONCRETE WORKS**					
2.3.1	Apron slab		m2		$-	
2.3.2	Wing wall		m2		$-	
2.3.3	Headwall above culverts		m2		$-	
2.3.4	Supply and install reinforced N32 grade concrete, 150 mm deep, extending 300mm vertically up batter, to form sediment basin base	38.25	m3	$350.00	$13,387.50	
2.3.5	Concrete weir/sill: Supply and install reinforced N32 grade concrete to form sediment basin to wetland spillway weir/sill to Melbourne Water standard specification 7251/8/108 (300mm thick, 1100mm deep, 7m long)	1	Item	$3,000.00	$3,000.00	
2.4	**ON-STRUCTURE WORKS**					
2.4.1	Backfill above drainage structure		m3		$-	Included in pipe rates
2.4.2	Other (Description)		Item		$-	
2.5	**OUTLET STRUCTURE**					
2.5.1	Major Outlet pit structure		Item		$-	
3	**ROCK WORKS**				**$15,597.00**	
3.1	Sediment Pond: Supply and install 4m wide sediment basin maintenance access ramp, including sub base preparation. 200mm depth - bottom layer is 100mm depth of 0-100mm FCR, top layer is 100mm of 0-40 NDCR (6% cement stabilised below NWL).	22	m3	$200.00	$4,480.00	
3.2	Supply and install well graded D50=400mm rock to form sediment basin to wetland spillway	47	m3	$200.00	$9,440.00	
3.3	Geofabric: Supply and install geofabric (Bidim A44 or equivalent) for all rockwork	18	lin.m	$10.00	$177.00	4m wide roll, includes allowance for overlap
3.4	Supply and install rockwork to RB outfall (Broken River connection)	1	Item	$1,500.00	$1,500.00	
4	**CLAY LINER**				**$74,140.80**	
4.1	Sediment Basin: Placement of 300 mm compacted clay liners for sediment basin (allow to source off site)	264	m3	$32.00	$8,448.00	
4.2	Wetland: Placement of 300 mm compacted clay liners for wetland (allow to source off site)	2,053	m3	$32.00	$65,692.80	Up to TED
5	**TOPSOIL**				**$45,764.40**	
5.1	Sediment basin: Re spread 200 mm topsoil for planting areas	299	m2	$3.30	$986.70	Assumed site topsoil is used, with 20% allowance for imported topsoil
5.2	Wetland: Re spread 200 mm topsoil for planting areas	7,683	m2	$3.30	$25,353.90	Assumed site topsoil is used, with 20% allowance for imported topsoil. Includes ephemeral area for wetland/SB as these are connected
5.3	Retarding basin	5,886	m2	$3.30	$19,423.80	Assumed site topsoil is used, with 20% allowance for imported topsoil
6	**AQUATIC PLANTING**				**$167,070.00**	
6.1	Supply and install submerged marsh planting (600cm3 tube, 1/m2).	268	No.	$5.00	$1,340.00	For both sediment basin and wetland
6.2	Supply and install deep marsh planting (600cm3 tube, 2/m2).	5,526	No.	$5.00	$27,630.00	For both sediment basin and wetland
6.3	Supply and install shallow marsh planting (600cm3 tube, 2/m2).	4,706	No.	$5.00	$23,530.00	For both sediment basin and wetland
6.4	Supply and install ephemeral planting (90cm3 tube, 4/m2).	10,392	No.	$2.50	$25,980.00	For both sediment basin and wetland. Planting rate can be 6/m2. 4/m2 has been adopted for some of our other jobs recently.
6.5	Supply and install terrestrial planting (90cm3 tube, 4/m2).	23,544	No.	$2.50	$58,860.00	RB planting (above path in RB)

6.6	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically)	973	m2	$10.00	$9,730.00	NWL to TED area for wetland and SB.
6.7	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	$20,000.00	$20,000.00	
7	**PUMPING**				**$-**	
7.1	Supply and installation of rising main		LM	$200.00	$-	
7.2	Supply and installation of pumping station		Item	$170,000.00	$-	
7.3	Provision of electricity supply to pump station switchboard from nominated point of supply, supply and installation of electrical switchboard, connection of power and associated fees.		Item	$2,500.00	$-	
8	**LANDSCAPE**				**$132,600.00**	
8.1	Trees: Supply and install trees (tubestock)	100	No.	$6.00	$600.00	Nominal allowance for trees
8.2	Landscaping: Supply and install 4m wide RB perimeter gravel access path (thickness 150mm)	2220	m2	$33.00	$73,260.00	
8.3	Landscaping: Supply and install 4m wide wetland/SB perimeter gravel access path within RB (thickness 150mm)	1780	m2	$33.00	$58,740.00	
9	**MISCELLANEOUS**				**$79,060.00**	
9.1	Civil Works Defects Maintenance incl pits, pipes and rockwork – 1 year	12	Month	$2,500.00	$30,000.00	
9.2	3 months Plant Establishment maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas.	3	Month	$2,000.00	$6,000.00	
9.3	24 month Plant Maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas as per specification.	24	Month	$750.00	$18,000.00	
9.4	Allowance for timber bollards	2	No	$200.00	$400.00	
9.5	Allowance for seats	2	No	$2,500.00	$5,000.00	
9.6	WL/SB: Install habitat logs approx. 4.0m long (no securing required) to wetland area.	2	No.	$5,000.00	$10,000.00	
9.7	Allowance for hydroseeding the batters of the basin	6440	m2	$1.50	$9,660.00	allowance for hydro seeding the batters of the basins and 1m back from the top of batter. RB planting area (above path in RB) + 1m buffer.
10	**OTHER**				$-	
10.1			Item		$-	
	SUB-TOTAL WORKS				**$1,832,454.06**	
11	**DELIVERY**					
11.1	Council Fees	3.25	%		$59,554.76	
11.2	VicRoads Fees	1	%		$18,324.54	
11.3	Traffic Management	5	%		$91,622.70	
11.4	Environmental Management	0.5	%		$9,162.27	
11.5	Survey/Design	5	%		$91,622.70	
11.6	Supervision & Project Management	9	%		$164,920.86	
11.7	Site Establishment	2.5	%		$45,811.35	
11.8	Contingency	20	%		$366,490.81	
	SUB-TOTAL DELIVERY				**$847,510.00**	
12	**TOTAL ESTIMATED COST**				**$2,679,964.06**	

Overland flow path - Cost Estimate

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	**SITEWORKS AND EARTHWORKS**				**$ 921,870.50**	
1.1	Site preparation	1	Item	$ 20,000.00	$ 20,000.00	
1.2	Earthworks		m3		$ -	
1.3	Diversion works		Item		$ -	
1.4	Waterway re-shaping		Item		$ -	
1.5	Stripping of topsoil and stockpiling - overland flow path and vegetated buffers (5m either side)	69497	m2	$ 1.50	$ 104,245.50	Assumed average depth of 200mm
1.6	Excavation: Bulk excavation of soil to specified levels including cut, haulage, stockpiling.	53175	m3	$ 15.00	$ 797,625.00	Excavated material assumed to be re-used in development/transported within Shepparton.
1.7	Formation of batters	0	m3	$ 15.00	$ -	Filling and compaction to design levels and compaction in designated areas using selected materials from the excavation.
1.8	Other *(Description)*		Item		$ -	
2	**DRAINAGE**				**$ -**	
2.1	**BOX CULVERTS**					
2.1.1	Box culvert units *(Description)*		No.		$ -	
2.1.2	Link slabs		No.		$ -	
2.1.3	Foundation slab		m2		$ -	
2.1.4	Other (Description)		Item		$ -	
2.2	**DRAINAGE PIPES**					
2.2.1			LM		$ -	
2.2.3	Drainage – Sub-soil drainage		LM		$ -	
2.2.4	Drainage – Miscellaneous *(Description)*		Item		$ -	
2.3	**CONCRETE WORKS**					
2.3.1	Apron slab		m2		$ -	
2.3.2	Wing wall		m2		$ -	
2.3.3	Headwall above culverts		m2		$ -	
2.4	**ON-STRUCTURE WORKS**					
2.4.1	Backfill above drainage structure		m3		$ -	
2.4.2	Other (Description)		Item		$ -	
2.5	**OUTLET STRUCTURE**					
2.5.1	Major Outlet pit structure		Item		$ -	
3	**ROCK WORKS**				**$ -**	
3.1			m3	$ 200.00	$ -	
4	**CLAY LINER**				**$ -**	
4.1			m3	$ 32.00	$ -	
4.2			m3	$ 32.00	$ -	
5	**TOPSOIL**				**$ 229,340.10**	
5.1	Re spread 200 mm topsoil for planting areas (overland flow path and vegetated buffers)	69,497	m2	$ 3.30	$ 229,340.10	Assumed site topsoil is used, with 20% allowance for imported topsoil
6	**AQUATIC PLANTING**				**$ 1,216,220.00**	
6.1	Supply and install ephemeral planting (90cm3 tube, 4/m2).	208,500	No.	$ 2.50	$ 521,250.00	Planting rate can be 6/m2. 4/m2 has been adopted for some of our other jobs recently.

6.2	Supply and install terrestrial planting (90cm3 tube, 4/m2) to vegetated buffers (5m either side of overland flow path)	69,488	No.	$ 2.50	$ 173,720.00	
6.3	Overland flow path: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in overland flow path, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically)	52,125	m2	$ 10.00	$ 521,250.00	
7	**PUMPING**				**$ -**	
7.1			LM		$ -	
8	**LANDSCAPE**				**$ -**	
8.1	Trees: Supply and install trees (tubestock)		No.	$ 6.00	$ -	
9	**MISCELLANEOUS**				**$ 60,000.00**	
9.1	Civil Works Defects Maintenance incl pits, pipes and rockwork – 1 year	12	Month	$ 2,500.00	$ 30,000.00	
9.2	3 months Plant Establishment maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas.	3	Month	$ 2,000.00	$ 6,000.00	
9.3	24 month Plant Maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas as per specification.	24	Month	$ 1,000.00	$ 24,000.00	
10	**OTHER**				**$ -**	
10.1			Item		$ -	
	SUB-TOTAL WORKS				**$ 2,427,430.60**	
11	**DELIVERY**					
11.1	Council Fees	3.25	%		$ 78,891.49	
11.2	VicRoads Fees	1	%		$ 24,274.31	
11.3	Traffic Management	5	%		$ 121,371.53	
11.4	Environmental Management	0.5	%		$ 12,137.15	
11.5	Survey/Design	5	%		$ 121,371.53	
11.6	Supervision & Project Management	9	%		$ 218,468.75	
11.7	Site Establishment	2.5	%		$ 60,685.77	
11.8	Contingency	20	%		$ 485,486.12	
	SUB-TOTAL DELIVERY				**$ 1,122,686.65**	
12	**TOTAL ESTIMATED COST**				**$ 3,550,117.25**	

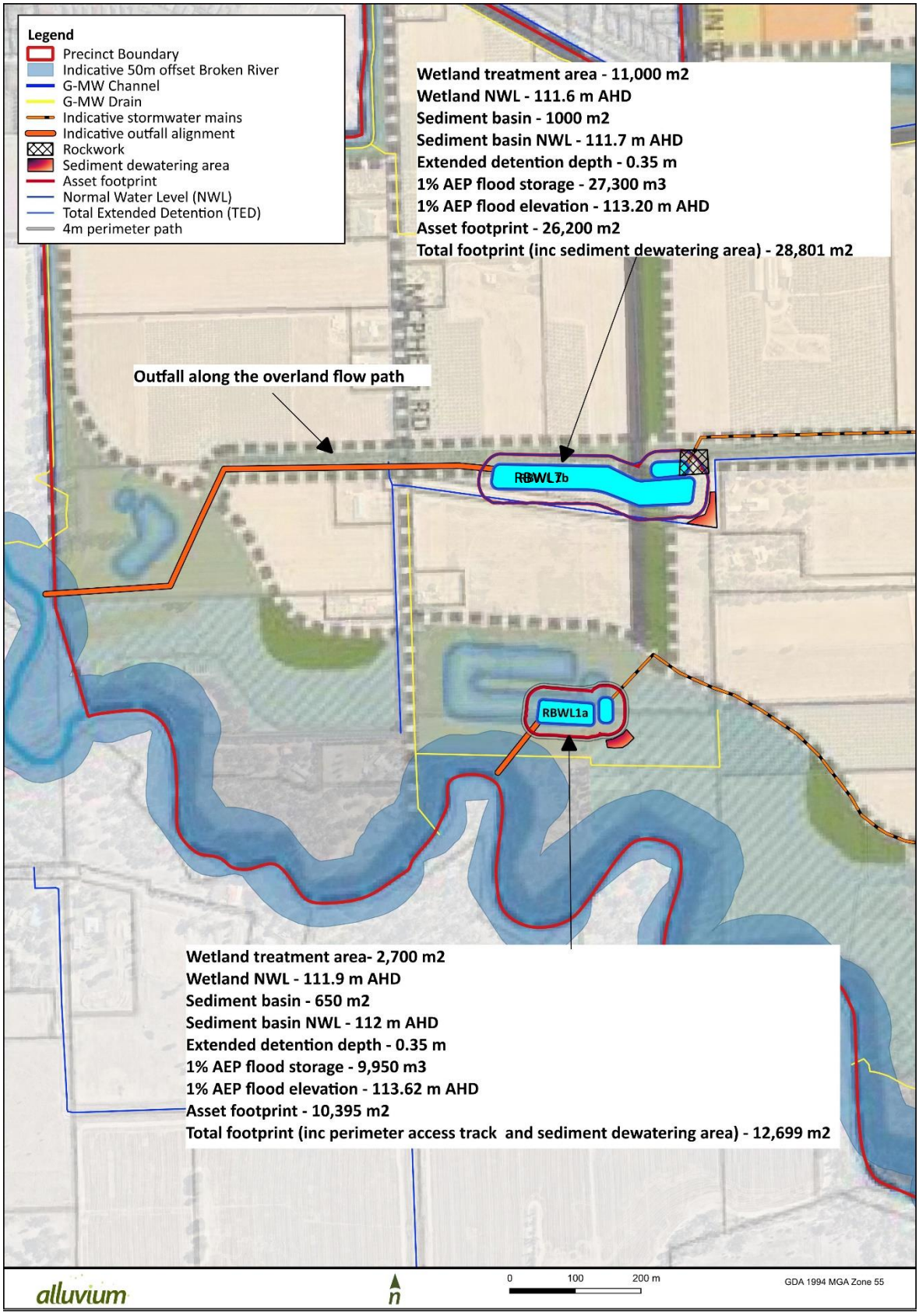
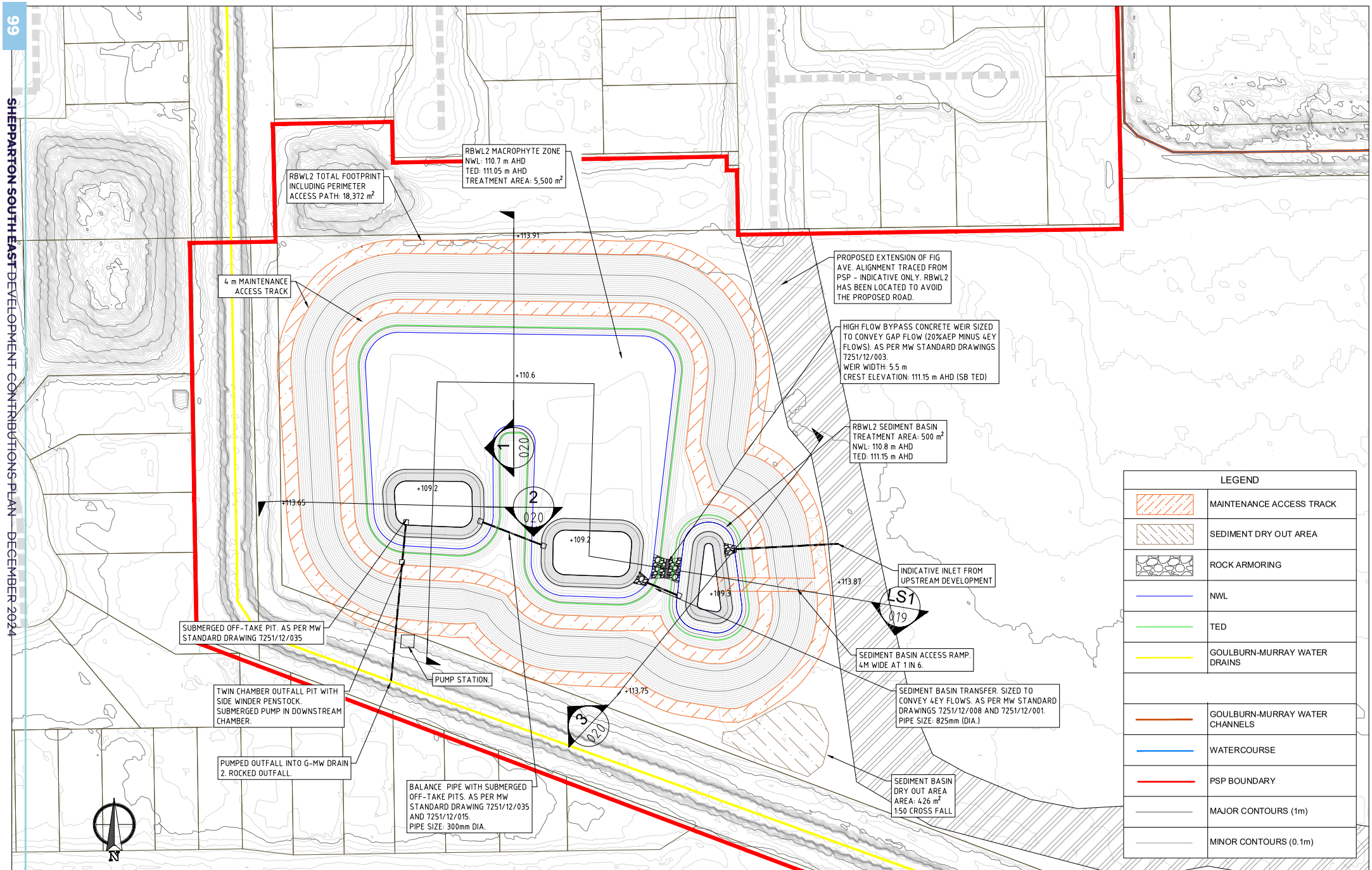


FIGURE 9 Concept Layout - Alternative Arrangement for RBWL1a and RBWL1b



REV	DESCRIPTION	APP'D	DATE
B	FINAL FUNCTIONAL DESIGN SSEPSP	JB	11.03.22
A	DRAFT FUNCTIONAL DESIGN SSEPSP	JB	07.12.21

Victorian Planning Authority

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Alluvium Consulting Australia Pty. Ltd.
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DESIGNED:	DRAWN:	CHECKED:	APPROVED:	PROJECT No:
AM	KP	JB	SC	0121036.1

VICTORIAN PLANNING AUTHORITY
SHEPPARTON SOUTH EAST PRECINCT STRUCTURE PLAN
FUNCTIONAL DESIGN DRAWINGS
RBWL2 DESIGN PLAN

REVISION:	SHEET No.:	ORIGINAL SIZE: A1	SCALE: 1:500
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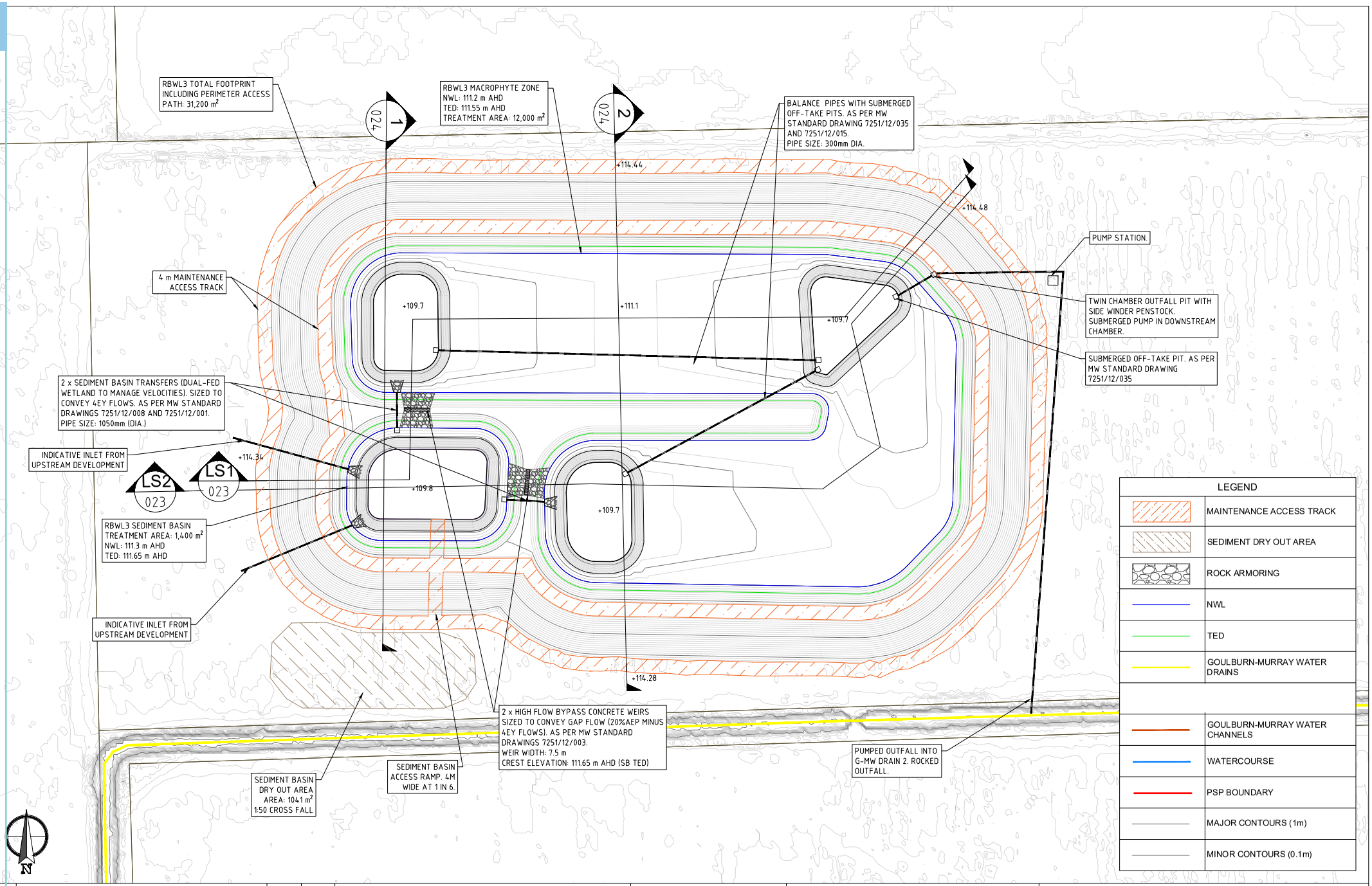

REV	DESCRIPTION	APP'D	DATE
B	FINAL FUNCTIONAL DESIGN SSEPSP	JB	11.03.22
A	DRAFT FUNCTIONAL DESIGN SSEPSP	JB	07.12.21

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DESIGNED:	DRAWN:	CHECKED:	APPROVED:	PROJECT No:
AM	KP	JB	SC	0121036.1

VICTORIAN PLANNING AUTHORITY
SHEPPARTON SOUTH EAST PRECINCT STRUCTURE PLAN
FUNCTIONAL DESIGN DRAWINGS
RBWL3 DESIGN PLAN

REVISION:	SHEET No.:	ORIGINAL SIZE:	SCALE:
B	21 of 40	A1	1:1500

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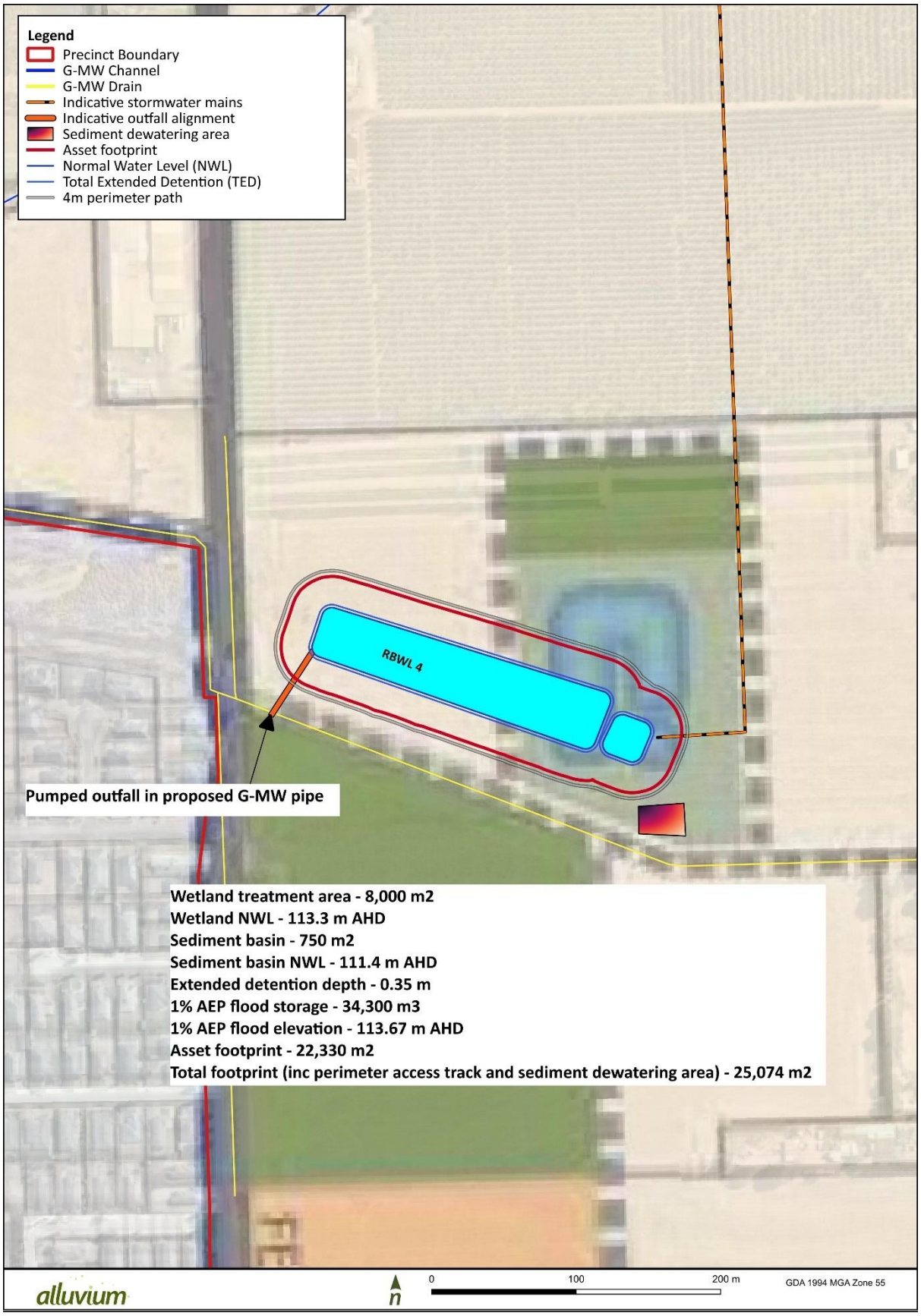
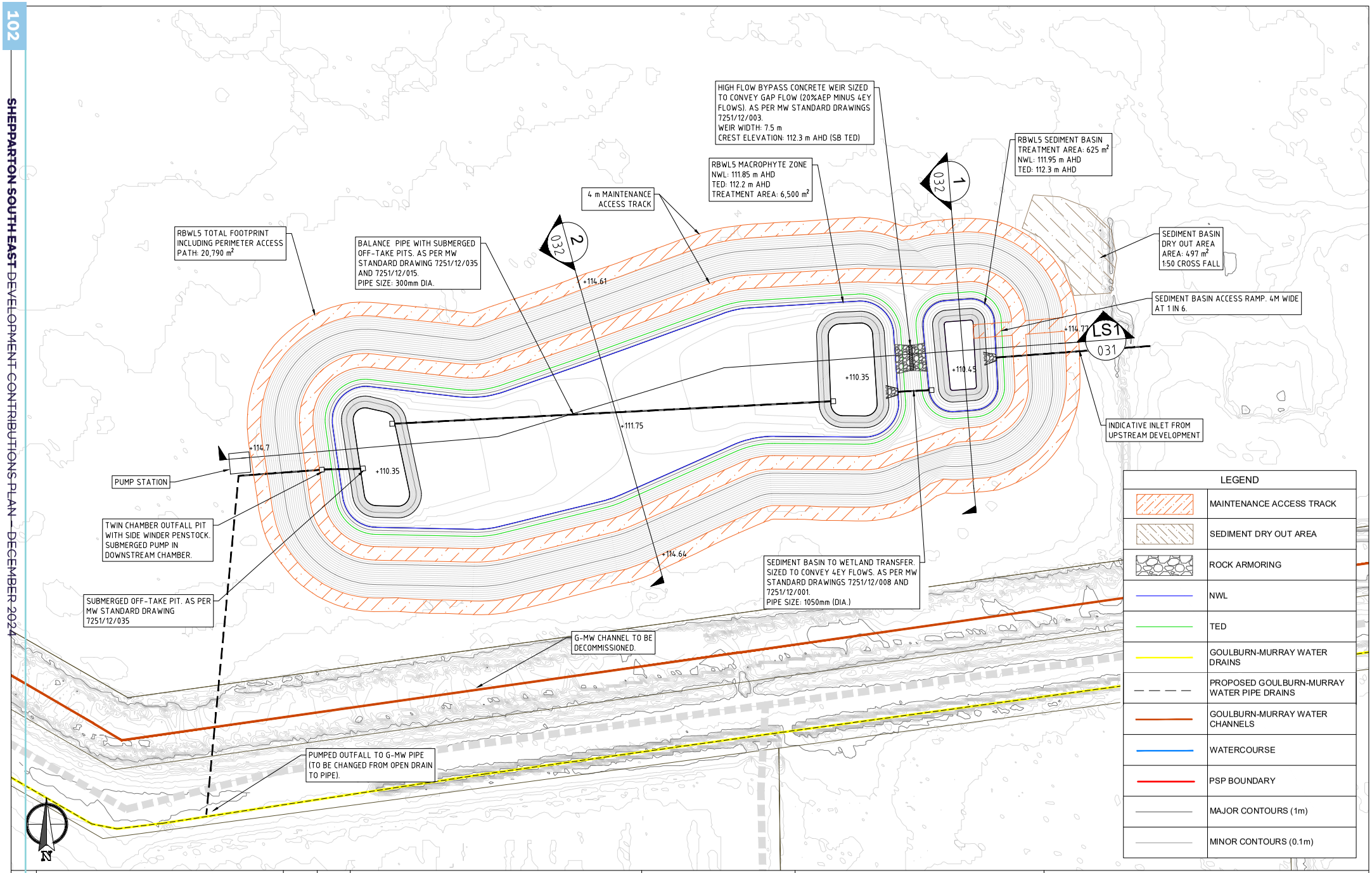


FIGURE 12 Concept Layout - Alternative Arrangement for RBWL4



REV	DESCRIPTION	APP'D	DATE
B	FINAL FUNCTIONAL DESIGN SSEPSP	JB	11.03.22
A	DRAFT FUNCTIONAL DESIGN SSEPSP	JB	07.12.21

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AM	KP	JB	SC	0121036.1

VICTORIAN PLANNING AUTHORITY
SHEPPARTON SOUTH EAST PRECINCT STRUCTURE PLAN
FUNCTIONAL DESIGN DRAWINGS
RBWL5 DESIGN PLAN

REVISION:	SHEET No.:	ORIGINAL SIZE:	SCALE:
B	29 of 40	A1	1:1500

DATUM: m AHD (MGA z55)

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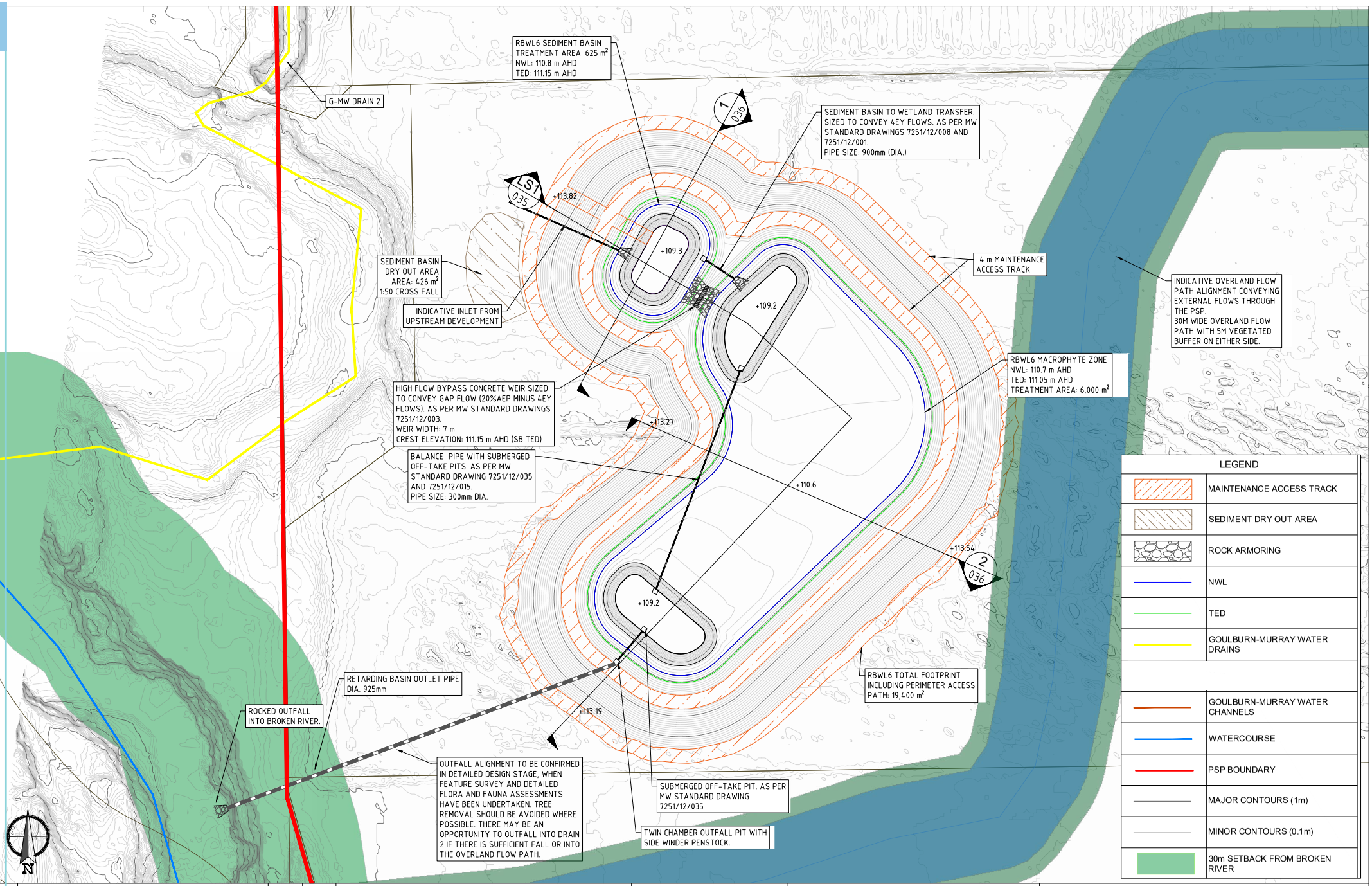

REV	DESCRIPTION	APP'D	DATE
B	FINAL FUNCTIONAL DESIGN SSEPSP	JB	11.03.22
A	DRAFT FUNCTIONAL DESIGN SSEPSP	JB	07.12.21

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AM	KP	JB	SC	0121036.1

VICTORIAN PLANNING AUTHORITY
SHEPPARTON SOUTH EAST PRECINCT STRUCTURE PLAN
FUNCTIONAL DESIGN DRAWINGS
RBWL6 DESIGN PLAN

REVISION:	SHEET No.:	ORIGINAL SIZE: A1	SCALE: 1:500
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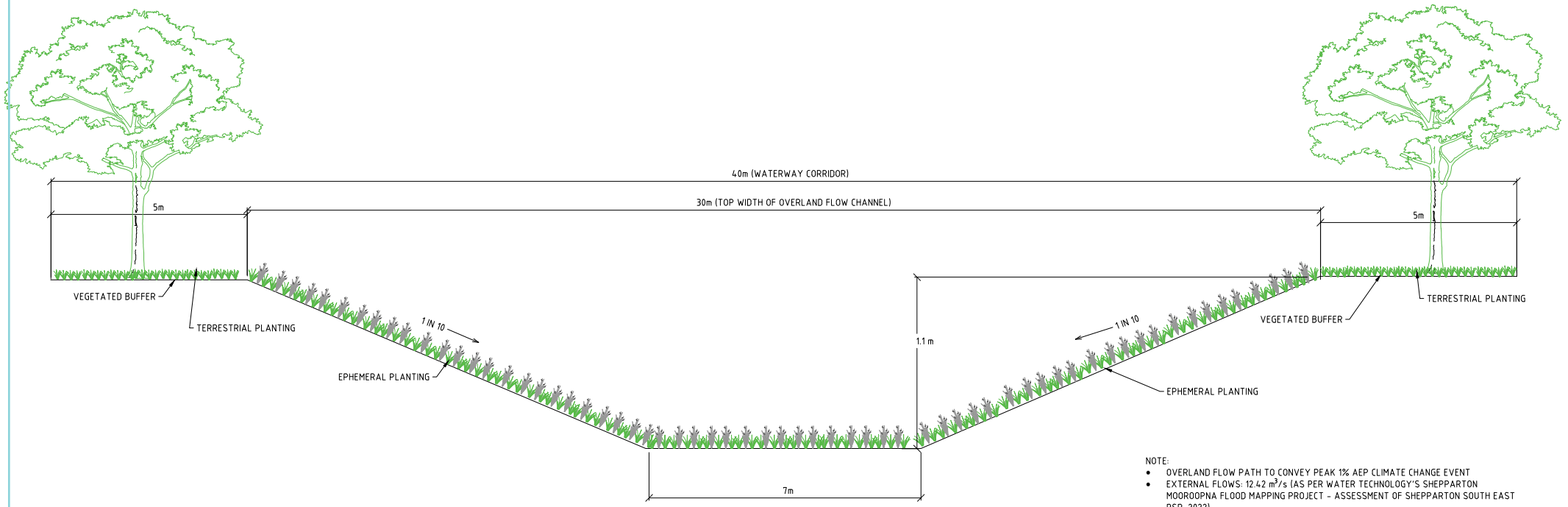

NOTE:
- OVERLAND FLOW PATH TO CONVEY PEAK 1% AEP CLIMATE CHANGE EVENT
- EXTERNAL FLOWS: 12.42 m^3/s (AS PER WATER TECHNOLOGY'S SHEPPARTON MOOROOPNA FLOOD MAPPING PROJECT – ASSESSMENT OF SHEPPARTON SOUTH EAST PSP, 2022).
- THIS IS A PRELIMINARY TYPICAL CHANNEL CROSS SECTION. IN FUTURE DESIGN STAGES THE OPTION OF HAVING A MEANDERING LOW FLOW CHANNEL WITHIN A HIGH FLOW CHANNEL SHOULD BE INVESTIGATED.

TYPICAL SECTION: OVERLAND FLOW PATH

REV	DESCRIPTION	APP'D	DATE
A	FINAL FUNCTIONAL DESIGN SSEPSP	JB	31.05.22

Victorian Planning Authority

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DESIGNED:	DRAWN:	CHECKED:	APPROVED:	PROJECT No:
AM	KP	JB	SC	012036.1

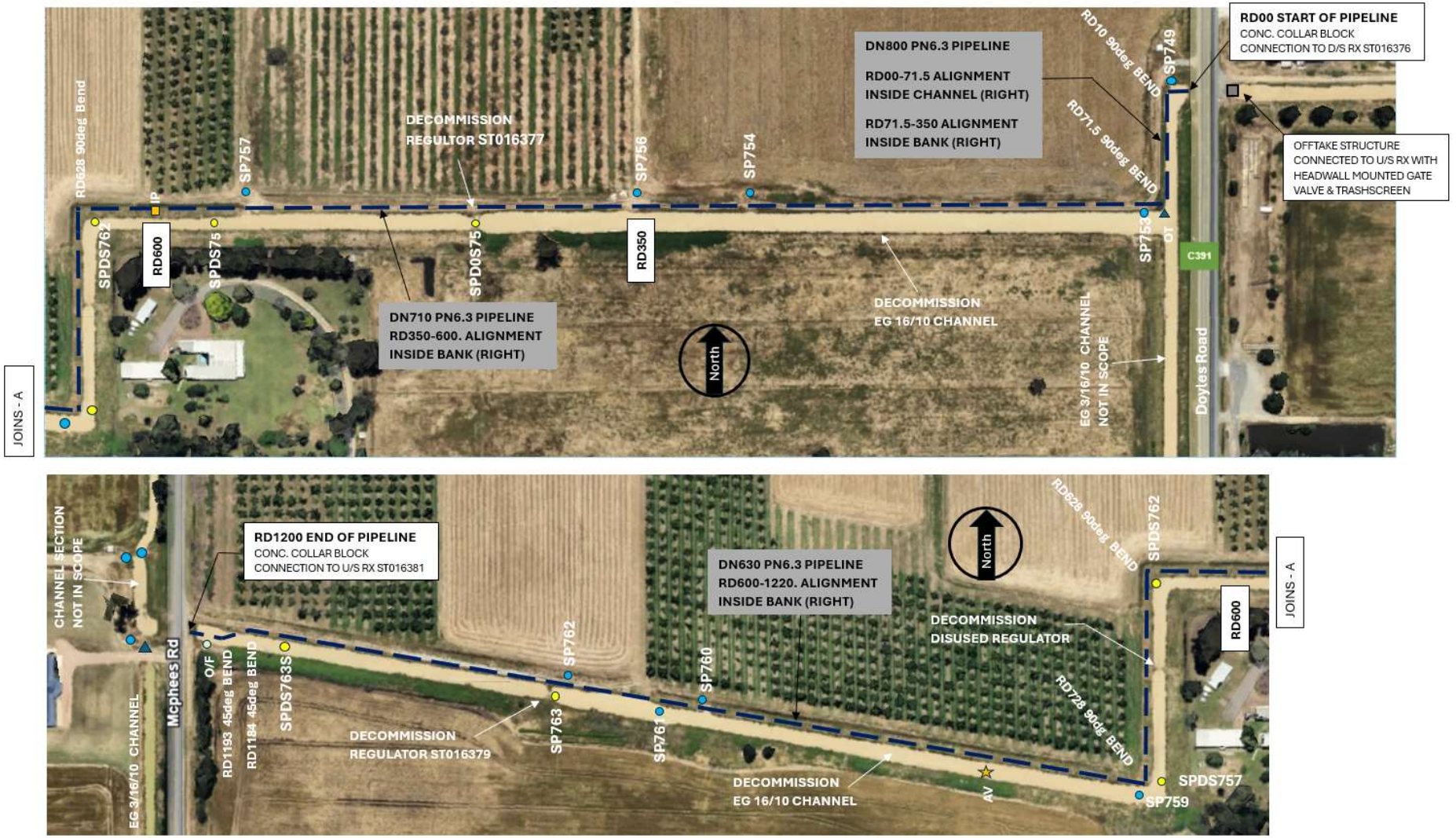
VICTORIAN PLANNING AUTHORITY
SHEPPARTON SOUTH EAST PRECINCT STRUCTURE PLAN
FUNCTIONAL DESIGN DRAWINGS
TYPICAL SECTION OVERLAND FLOW PATH

REVISION:	SHEET No.:	ORIGINAL SIZE: A1	SCALE: NOT TO SCALE
A	40 of 40	DATUM: m AHD (MGA z55)	

8.2.2 Costing of SC-02d

prepared by Three Sixty Projects

FIGURE 16 Configuration Concept Site Plan



LEGEND

CONCEPT EG 16/10 PIPELINE	
SMALL METER OUTLET	
STOCK & DOMESTIC OUTLET	
CHANNEL OFFTAKE	OT
INSPECTION & DEWATERING PIT	IP
AIR VENT	AV
CHANNEL OUTFALL	O/F

REFERENCE GMW STANDARD DRAWINGS AND TECHNICAL GUIDLINES

No.484756 – GENERAL SPECIFICATIONS
No.486619 - STD OFFTAKE STRUCTURE TYPE B (MODIFIED ENTRY TO SUIT)
No.48665 – AIR VENT CONFIGURATION
No.484757 – SERVICE POINT & INSPECTION & DEWATERING OPENING
No.484768 – 450 & 600 CLOSED CONDIT METER OUTLET FOR PIPELINES (MODIFIED TO SUIT 350 CLOSED CONDUIT)
No.486757 – SMALL PIPE METER OUTLET FOR GMW PIPELINES
No.486672 – CAST IN-SITU CONCRETE COLLAR BLOCK DETAILS
No.483810 – DECOMMISSIONING TYPICAL CHANNEL INFILL DETAIL
No.486728 – DECOMMISSIONING GENERAL SPECIFICATIONS
A3469938 – DETAILED DESIGN OF GMW PIPELINES – TECHNICAL GUIDELINES

CONFIGURATION CONCEPT SITE PLAN
GOULBURN MURRAY WATER
EAST GOULBURN 16/10 CHANNEL – SHEPPARTON EAST

DATE : JULY 2024 **SCALE :** NTS **PREPARED BY :** GC

Appendix B - Hydraulic Calculations

Hydraulic Equations

Darcy-Weisbach equation: h = f L v2 / 2gD

Colebrook-White equation: 1/f 1/2 = -2 log10 [k/3.7D + 2.51/Re f 1/2]

Hydraulic Parameters

Mean pipe diameter - standard PE100 to AS/NZS 4130

Spreadsheet Model Guide

inputs
parameters
autocalculated values
calculation
results

pipeline
meters

Pipeline Description	RD (m)	Pipe Length (m)	Meter Outlet	Meter Outlet Length (m)	Design Flow (ML/d)	Design Flow (L/s)	Culvert Type	Pressure Rating/ Dome Height/ Box Culvert Nominal	Nominal Pipe Dia / Dome Width (mm)	Pipe ID Dia / Equivalent Diameter (mm)	Area (m2)	Velocity (m/s)	Colebrook White roughness coefficient (k) (mm)	Kinematic Viscosity of water (n) (m2/s)	Acceleration due to gravity (g) (m/s2)	Reynolds Number (R_e = vDA/)	Velocity Head (v^2/2g) (m)	Darcy Friction Factor (f) =	1/$f^{1/2}$ =	1/$f^{1/2}$ =	Calc. Headloss	Hydraulic Gradient (h/L)	1 in	Head Loss through pipeline (h)	Fitting (description)	Fitting (Sum of K')	Pipeline Fittings Losses	Pipeline Losses	HGL - Pipeline	HGL - Outlet	Exist SL	Min. WSL	Difference	Comments
Main Pipeline (RD0 - RD1220)																																		
Retrofit 1.5m pit to U/S Doyles RX	-22																												115.5		115.50			
RCP DN750 Doyles RX	0	22			15	173.6	RCP	Class 2	750	760	0.45	0.38	0.15	1.13E-06	9.81	257392	0.007	0.017	7.778	7.778	0.00	0.000	6159	0.00357	EN, J, TRSH	2.2	0.016423	0.019995	115.48		115.50			
Collar Block	1	23			15	173.6	RCP	Class 2	750	760	0.45	0.38	0.15	1.13E-06	9.81	257392	0.007	0.017	7.778	7.778	0.00	0.000	6159	0.00373				0.003735	115.48		115.50			
375 CC meter (right side)	9	9			15	173.6	HDPE PE100	PN 6.3	800	739	0.43	0.40	0.60	1.13E-06	9.81	264778	0.008	0.020	7.085	7.085	0.00	0.000	4437	0.00203	T	0.6	0.005016	0.007044	115.47		115.50			
			SP749	8	4	46.3	HDPE PE100	PN 6.3	400	369	0.11	0.43	0.60	1.13E-06	9.81	141253	0.010	0.024	6.511	6.512	0.00	0.001	1644	0.00487						115.42	115.50	115.27	0.153	OK
90 deg horizontal bend	10	1			15	173.6	HDPE PE100	PN 6.3	800	739	0.43	0.40	0.60	1.13E-06	9.81	264778	0.008	0.020	7.085	7.085	0.00	0.000	4437	0.00023	90	1.2	0.010031	0.010257	115.46		115.50			
DN600 EG 2/16/10 Offtake (manual isolation valve)	71.5	61.5			15	173.6	HDPE PE100	PN 6.3	800	739	0.43	0.40	0.60	1.13E-06	9.81	264778	0.008	0.020	7.085	7.085	0.00	0.000	4437	0.01386	T-90	1.75	0.014629	0.028490	115.43		115.50			
375 CC meter (left side)	88.5	17			15	173.6	HDPE PE100	PN 6.3	800	739	0.43	0.40	0.60	1.13E-06	9.81	264778	0.008	0.020	7.085	7.085	0.00	0.000	4437	0.00383	T	0.6	0.005016	0.008847	115.42		115.50			
			SP753	8	4	46.3	HDPE PE100	PN 6.3	400	369	0.11	0.43	0.60	1.13E-06	9.81	141253	0.010	0.024	6.511	6.512	0.00	0.001	1644	0.00487						115.38	115.50	115.27	0.105	OK
375 CC meter (right side)	284	195.5			15	173.6	HDPE PE100	PN 6.3	800	739	0.43	0.40	0.60	1.13E-06	9.81	264778	0.008	0.020	7.085	7.085	0.00	0.000	4437	0.04406	T	0.6	0.005016	0.049080	115.37		115.50			
			SP754	8	4	46.3	HDPE PE100	PN 6.3	400	369	0.11	0.43	0.60	1.13E-06	9.81	141253	0.010	0.024	6.511	6.512	0.00	0.001	1644	0.00487						115.33	115.50	115.27	0.056	OK
375 CC meter (right side) & Pipe Reducer	350	65.5			15	173.6	HDPE PE100	PN 6.3	710	656	0.34	0.51	0.60	1.13E-06	9.81	298380	0.013	0.020	7.027	7.027	0.00	0.000	2401	0.02728	T, R	0.675	0.009100	0.036377	115.34		115.50			
			SP756	8	4	46.3	HDPE PE100	PN 6.3	400	369	0.11	0.43	0.60	1.13E-06	9.81	141253	0.010	0.024	6.511	6.512	0.00	0.001	1644	0.00487						115.29	115.50	115.27	0.020	OK
375 CC meter (right side)	544	194.5			15	173.6	HDPE PE100	PN 6.3	710	656	0.34	0.51	0.60	1.13E-06	9.81	298380	0.013	0.020	7.027	7.027	0.00	0.000	2401	0.08100	T	0.6	0.008089	0.089086	115.25		115.50			
			SP757	8	4	46.3	HDPE PE100	PN 6.3	400	369	0.11	0.43	0.60	1.13E-06	9.81	141253	0.010	0.024	6.511	6.512	0.00	0.001	1644	0.00487						115.20	114.93	114.70	0.501	OK
Vertical Inspection and Dewatering Opening & Pipe Reducer	600	56			15	173.6	HDPE PE100	PN 6.3	630	582	0.27	0.65	0.60	1.13E-06	9.81	336229	0.022	0.021	6.961	6.961	0.00	0.001	1297	0.04318	T, R	0.675	0.014672	0.057851	115.19		114.93			
90 deg horizontal bend	628	28			15	173.6	HDPE PE100	PN 6.3	630	582	0.27	0.65	0.60	1.13E-06	9.81	336229	0.022	0.021	6.961	6.961	0.00	0.001	1297	0.02159	90	1.2	0.026083	0.047673	115.14		114.93			
90 deg horizontal bend	728	100			15	173.6	HDPE PE100	PN 6.3	630	582	0.27	0.65	0.60	1.13E-06	9.81	336229	0.022	0.021	6.961	6.961	0.00	0.001	1297	0.07711	90	1.2	0.026083	0.103188	115.04		114.93			
375 CC meter (right side)	733	5			15	173.6	HDPE PE100	PN 6.3	630	582	0.27	0.65	0.60	1.13E-06	9.81	336229	0.022	0.021	6.961	6.961	0.00	0.001	1297	0.00386	T	0.6	0.013042	0.016897	115.02		114.93			
			SP759	8	4	46.3	HDPE PE100	PN 6.3	400	369	0.11	0.43	0.60	1.13E-06	9.81	141253	0.010	0.024	6.511	6.512	0.00	0.001	1644	0.00487						114.98	114.93	114.70	0.275	OK
375 CC meter (right side)	946	213			15	173.6	HDPE PE100	PN 6.3	630	582	0.27	0.65	0.60	1.13E-06	9.81	336229	0.022	0.021	6.961	6.961	0.00	0.001	1297	0.16423	T	0.6	0.013042	0.177275	114.84		114.93			
			SP960	8	4	46.3	HDPE PE100	PN 6.3	400	369	0.11	0.43	0.60	1.13E-06	9.81	141253	0.010	0.024	6.511	6.512	0.00	0.001	1644	0.00487						114.80	114.93	114.70	0.098	OK
375 CC meter (left side)	964	18			15	173.6	HDPE PE100	PN 6.3	630	582	0.27	0.65	0.60	1.13E-06	9.81	336229	0.022	0.021	6.961	6.961	0.00	0.001	1297	0.01388	T	0.6	0.013042	0.026921	114.82		114.93			
			SP961	8	4	46.3	HDPE PE100	PN 6.3	400	369	0.11	0.43	0.60	1.13E-06	9.81	141253	0.010	0.024	6.511	6.512	0.00	0.001	1644	0.00487						114.77	114.93	114.70	0.071	OK
375 CC meter (right side)	987	22.5			15	173.6	HDPE PE100	PN 6.3	630	582	0.27	0.65	0.60	1.13E-06	9.81	336229	0.022	0.021	6.961	6.961	0.00	0.001	1297	0.01735	T	0.6	0.013042	0.030390	114.79		114.93			
			SP962	8	4	46.3	HDPE PE100	PN 6.3	400	369	0.11	0.43	0.60	1.13E-06	9.81	141253	0.010	0.024	6.511	6.512	0.00	0.001	1644	0.00487						114.74	114.93	114.70	0.040	OK
45 deg horizontal bend (S/W direction)	1184	197.5			15	173.6	HDPE PE100	PN 6.3	630	582	0.27	0.65	0.60	1.13E-06	9.81	336229	0.022	0.021	6.961	6.961	0.00	0.001	1297	0.15228	45	0.32	0.006956	0.159238	114.63		114.67			
45 deg horizontal bend (W direction in middle of chl to align with C.L. RX)	1193	9			15	173.6	HDPE PE100	PN 6.3	630	582	0.27	0.65	0.60	1.13E-06	9.81	336229	0.022	0.021	6.961	6.961	0.00	0.001	1297	0.00694	45	0.32	0.006956	0.013895	114.61		114.67			
375 CC outfall meter (left side)	1194	1			15	173.6	HDPE PE100	PN 6.3	630	582	0.27	0.65	0.60	1.13E-06	9.81	336229	0.022	0.021	6.961	6.961	0.00	0.001	1297	0.00077	T	0.6	0.013042	0.013813	114.60		114.67			
			Outfall	8	4	46.3	HDPE PE100	PN 6.3	400	369	0.11	0.43	0.60	1.13E-06	9.81	141253	0.010	0.024	6.511	6.512	0.00	0.001	1644	0.00487						114.55	114.67	114.44	0.113	OK
Collar Block	1200	6			15	173.6	HDPE PE100	PN 6.3	630	582	0.27	0.65	0.60	1.13E-06	9.81	336229	0.022	0.021	6.961	6.961	0.00	0.001	1297	0.00463				0.004626	114.60		114.67			
RCP DN600 McPhee RX	1220	20			15	173.6	RCP	Class 2	600	610	0.29	0.59	0.15	1.13E-06	9.81	320686	0.018	0.016	7.789	7.789	0.00	0.000	2058	0.00972				0.009720	114.59		114.67			

Item	Qty	Unit	Rate	Source	Cost
1 - Design					
Detailed Design	1	item	$ 27,000	WEP 2016	$ 27,000
Feature Survey	1	item	$ 2,340	WEP 2016	$ 2,340
Geotechnical Investigation	1	item	$ 6,000	WEP 2016	$ 6,000
Sub Total					$ 35,340
Contingency 10%					$ 3,534
Sub Total + Contingency					$ 38,874
3% CPI to Escalate to Current Day Costs (Note 1)		**Total Item 1**			**$ 49,244**
Item	**Qty**	**Unit**	**Rate**	**Source**	**Cost**
2 - Approvals					
Due Diligence	1	item	$ 2,000	WEP 2016	$ 2,000
Standard CHMP	1	item	$ 12,000	WEP 2016	$ 12,000
Sub Total					**$ 14,000**
Contingency 10%					$ 1,400
Sub Total + Contingency					$ 15,400
3% CPI to Escalate to Current		**Total Item 2**			**$ 19,508**
3 - Pipe Supply					
DN800 PN6.3 PE100	350	m	$ 240	WEP 2016	$ 84,000
DN710 PN6.3 PE100	250	m	$ 185	WEP 2016	$ 46,250
DN630 PN6.3 PE100	600	m	$ 148	WEP 2016	$ 88,800
Sub Total					**$ 219,050**
Contingency 10%					$ 21,905
Sub Total + Contingency					$ 240,955
5% CPI to Escalate to Current		**Total Item 3**			**$ 356,000**
4 - Fittings					
Irrigation Outlets	10	item	$ 4,000	WEP 2016	$ 40,000
S&D Outlets	6	item	$ 1,200	WEP 2016	$ 7,200
Fittings Medium (12% pipe supply)	1	item	$ 25,602	WEP 2016	$ 25,602
Sub Total					**$ 72,802**
Contingency 10%					$ 7,280
Sub Total + Contingency					$ 80,082
5% CPI to Escalate to Current		**Total Item 4**			**$ 118,318**
5 - Construction					

DN800 PN6.3 PE100 (in channel)	350	m	$ 210	WEP 2016	$ 73,500
DN710 PN6.3 PE100 (in channel bank)	250	m	$ 189	WEP 2016	$ 47,250
DN630 PN6.3 PE100 (in channel bank)	600	m	$ 168	WEP 2016	$ 100,800
U/S Doyles Road offtake pit/door/screen	1	item	$ 30,000	WEP 2016	$ 30,000
Collar block connections to road crossings	2	item	$ 6,000	WEP 2016	$ 12,000
Inspection/Dewatering Pit	1	item	$ 20,000	WEP 2016	$ 20,000
Pressure Test	1	item	$ 10,000	WEP 2016	$ 10,000
Site establishment	1	item	$ 20,000	WEP 2016	$ 20,000
Site Cleanup	1	item	$ 6,000	WEP 2016	$ 6,000
Demobilisation	1	item	$ 10,000	WEP 2016	$ 10,000
Sub Total					**$ 329,550**
Contingency 40%					$ 131,820
Sub Total + Contingency					$ 461,370
3% CPI to Escalate to Current Day Costs (Note 1)		**Total Item 5**			**$ 584,450**
Item	**Qty**	**Unit**	**Rate**	**Source**	**Cost**
6 - Meters (inc. materials, construction & commissioning)					
375mm Closed Conduit - Local Operate/Remote Read	10	item	$ 37,600	WEP 2021	$ 376,000
375mm Closed Conduit - FIA & Design	10	item	$ 2,000	WEP 2021	$ 20,000
50mm Small Pipe Outlet - Local Operate/Local Read	6	item	$ 7,800	WEP 2021	$ 46,800
50mm Small Pipe Outlet - FIA & Design	6	item	$ 500	WEP 2021	$ 3,000
Sub Total					**$ 445,800**
Contingency 10%					$ 44,580
Sub Total + Contingency					$ 490,380
0% CPI to Escalate to Current		**Total Item 6**			**$ 490,380**
7 - Decommissioning (Note 3 & 4)					
EG 16/10 Channel CH017289, CH017290 CH017291	1206	m	$ 50	WEP 2024	$ 60,300
Regulators ST016377, ST016379 & disused	3	item	$ 2,500	WEP 2024	$ 7,500
Small Meter Outlets (Dethridge)	10	item	$ 600	WEP 2024	$ 6,000
50mm D&S	6	item	$ 250	WEP 2024	$ 1,500
Sub Total					**$ 75,300**
Contingency 25%					$ 18,825
Sub Total + Contingency					$ 94,125
Total Item 7					**$ 94,125**
Grand Total Items 1, 2, 3, 4, 5, 6, 7 (2024 dollars)					**$ 1,712,026**

8.3 Plan Preparation Costs

8.3.1 VPA plan preparation costs

AGENT	EXPENSE	COST
Victorian Planning Authority	VPA Staff Resourcing Costs	$1,769,419
	SUB-TOTAL	**$1,769,419**
VPA-commissioned Technical Reports	Technical advice Drainage, Transport and Infrastructure Design and Costing, Panel and Legal expenses	$892,014
	SUB-TOTAL	**$892,014**
Victorian Planning Authority	Greater Shepparton City Council Contributions to VPA Plan Preparation	$(328,869)
	SUB-TOTAL	**$(328,869)**
	TOTAL	**$2,332,563**

8.3.2 Council plan preparation costs

AGENT	TECHNICAL REPORTS	COST
Greater Shepparton City Council-commissioned Technical Reports	Drainage, Utilities, Amenity, Transport, Cultural Heritage, Community, Bushfire, Infrastructure Design and Costing, Land Valuations, Panel and Legal expenses	$556,604
	SUB-TOTAL	**$556,604**
Greater Shepparton City Council	Greater Shepparton City Council Contributions to VPA Plan Preparation	$328,869
	SUB-TOTAL	**$328,869**
	TOTAL	**$885,473**

VICTORIA
State Government

Shepparton South East
Development Contributions Plan

December 2024

Victorian Planning Authority