



Byford Traditional Infrastructure Development Contribution Plan Report

Report No. 7

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Continued

1 Revision Schedule

No.	Date	Details	Author
1	21/01/14	Council adopted final version DCP 1	
2	13/04/15	Council adopted final version DCP 2	
3	09/06/16	Council adopted final version DCP 3	
4	06/07/17	Council adopted final version DCP 4	
5	27/07/20	Council adopted final version DCP 5	
6	26/09/21	Council adopted final version DCP 6	S. Murphy
7	xx/xx/23	Council adopted final version DCP7	S. Murphy



2 Purpose

The purpose of this development contribution plan (DCP) report is to:

- enable the application of infrastructure contributions for the development of new, and the upgrade of existing infrastructure, which is required as a result of increased demand generated in the Development Contribution Area (DCA)
- provide for the equitable sharing of the costs of infrastructure and administrative items between owners
- ensure that cost contributions are reasonably required as a result of the subdivision and development of land in the DCA
- coordinate the timely provision of infrastructure.

The following documents are relevant documents which coordinate the timely provision of the community infrastructure items:

- The Shire of Serpentine Jarrahdale Community Infrastructure Public Open Space Strategy adopted December 2016
- The Shire of Serpentine Jarrahdale Community Infrastructure Public Open Space Strategy 2020 (Draft)
- The Byford District Structure Plan 2020
- The Shire of Serpentine Jarrahdale Local Planning Strategy Number 3 (LPS 3) (Draft)
- The Shire of Serpentine Jarrahdale Strategic Community Plan 2017 - 2027
- The Shire of Serpentine Jarrahdale Corporate Business Plan 2020 - 24, and
- The Shire of Serpentine Jarrahdale Long Term Financial Plan 2020 - 2030.

3 Development Contribution Area

The DCA for this DCP is shown on the scheme map as DCA1. A map is included in [Figure 1](#).

4 Period of the plan

20 years, from 21 January 2014 to 20 January 2034.

5 Operation of the DCP

The Development Contribution plan and associated report have been prepared in accordance with State Planning Policy 3.6 – Development Contributions for Infrastructure and updated to reflect the provisions of the revised State Planning Policy 3.6 - Infrastructure Contributions (SPP 3.6).



This DCP came into effect on the date of gazettal of Amendment 168 to Town Planning Scheme No. 2 (TPS2) which incorporated the plan.

Amendment 208 to TPS2 constitutes the first 5-year major review of the DCP and updates several items within the DCP.

The plan will operate in accordance with the provisions of Amendment 208, and Section 9 and Appendix 10 of TPS2.

6 Application requirements

Where an application for subdivision, strata subdivision, development or an extension of land use is lodged which relates to land to which this plan applies, the local government shall take the provisions of the plan into account in making a recommendation on, or determining, that application.

7 Items included in the plan

This section of the Development Contribution Plan Report identifies the infrastructure, land and other items for which development contributions will be collected in the DCA. These items include:

- District distributor roads and local roads playing a district function
- District Open Space facilities
- Land for community purpose, public and district open space, and drainage
- Water monitoring costs, and
- Administration costs.

Infrastructure items included in the DCP reflect the provisions of the latest Byford District Structure Plan (see [Figure 2](#)) and are incorporated into this DCP through Amendment 208 to the Town Planning Scheme No. 2.

8 Estimated Costs

The costs allocated to this DCP have been derived based on the capital investment required for facilities generated by additional development in the DCA.

Initial cost estimates are undertaken by a suitably qualified professional and will be reviewed by a suitably qualified professional at each [Major Review](#) (as a minimum).

At each [Minor Review](#) the costs may be indexed using the previous year's annual escalation rate for "Road and Bridge Construction" in latest WALGA Quarterly Economic Briefing available at the time the DCP Report is adopted. Where deemed pertinent, some items may be reviewed by a suitably qualified professional.



The methodology applied for each item is detailed within [Appendix O](#).

The associated costs for each DCP item *exclude*:

- Ongoing maintenance costs
- Demand for infrastructure that is generated by the current population
- Demand created by external usage (the proportion of the use drawn from outside the DCA)
- Future usage (the proportion of usage that will be generated by future development outside the development contribution plan timeframe).

The Byford DCA is divided into four precincts, as indicated in Plan 10A of Appendix 10 of TPS 2. Development within each precinct will be required to contribute to a certain set of infrastructure and land items based on the perceived need for, and use of, those items within the precinct.

[Figure 3](#) provides a geographical representation of the DCP Precinct areas.

[Figure 6](#) shows the DCP item(s) each precinct is contributing towards and details of the cost apportionment can be seen in the Cost Apportionment Schedule in [Appendix A](#).

Designs associated with the infrastructure items to be constructed or upgraded (where available) are included in [Appendix D](#).

The cost breakdown (Schedule of Costs) are included in the appendices as follows:

- [Appendix E](#): Land for Infrastructure (Roads and District Open Space)
- [Appendix F](#): Land for Public Open Space and Drainage
- [Appendix G](#): Infrastructure to be constructed/upgraded (Summary)
- [Appendix H](#): Administration Costs
- [Appendix I](#): Water Monitoring
- [Appendix O](#): Infrastructure Costing – full break down

The Cost Review Reconciliation, which adjusts future costs based on historic development, is included in [Appendix J](#).

An extract from the current Land Valuation which informs the land costs above, is available in [Appendix L](#).

Note: Grants or other external Funding shall be shown as a deduction against the applicable item in the Cost Apportionment Schedule ([Appendix A](#)).

9 Land

9.1 Land Valuation

Many traditional infrastructure items include a land component. To determine the total cost of the items, an estimate of land value therefore needs to be identified.

Land to be acquired may be required for areas which can be categorised (through the land use zoning) as residential or non-residential. There is therefore a requirement for two separate rates; one for 'Residential' and one for 'Mixed Use/Non-Residential'.



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Standard Residential/Non-Standard Residential

This rate is based on current valuation advice for an indicative R20 zoned 5 hectares with no servicing constraints within the DCA. An analysis of remaining undeveloped land within the DCA shows an average lot size of 4.82 hectares in Precinct A, thus supporting the continued use of five hectares for the englobo valuation.

Non-Residential/Mixed Use

This rate is based on a Mixed Use R60 zoned area within the planned commercial/town centre precincts within 'The Glades', 'Redgum Brook' and the 'Town Centre'. It has been assumed the typical land parcel is a regular shaped 5-hectare area with no major servicing constraints and no major geotechnical/environmental issues.

Pursuant to Clause 9.3.11 of TPS 2, the estimated land value will be reviewed at least annually.

The net land value is to be determined in accordance with the definition of "value" in TPS 2 Section 9.3.12 and having general regard to the International Valuation Standards Committee's definition of market value as adopted by the Australian Property Institute. To account for the direct transfer of land, the fair market value does not include for standard marketing costs such as fees, commissions and advertising cost.

The rates for residential and non-residential land is included in [Appendix L](#).

9.2 Land for Infrastructure (Roads and District Open Space)

The DCP takes responsibility for acquiring land for District Open Space and Road Reserves (such as road widening or for new roads) associated with DCP infrastructure items.

The associated value of this land is credited to the DCP account of the landowner at the time of ceding. In respect of land for road reserves, DCP Credits only apply to the area in excess of the standard 20m. For example, if the road is 30m wide, only 10m width will be compensated for through this Development Contribution Plan.

This approach ensures transparency, equity (particularly in instances of fragmented ownership) and simplicity of calculation.

All land included within the DCP for Infrastructure Items (Roads and District Open Space), is detailed in [Appendix E](#).

9.3 Land for Public Open Space and/or Drainage

A significant amount of land will be provided within the DCA for Public Open Space and Drainage. This includes:

- A mix of multiple-use corridors with a dual drainage and recreation function, as well as land required for drainage only;
- Local and neighbourhood parks;
- The community centre site proposed for the Byford Town Centre;
- Larger district-level playing fields including where provided to complement school playing



fields.

All land required for Public Open Space and drainage (as prescribed within Liveable Neighbourhoods and where accessible to the general public) is included in the Development Contribution Plan.

The associated value of this land is credited to the DCP account of the landowner at the time of ceding.

This approach ensures transparency, equity (particularly in instances of fragmented ownership) and simplicity of calculation.

How the amount of land for Public Open Space and Drainage is determined

A significant amount of detailed planning has been completed for the DCA, in the form of LSPs. This level of planning allows for the specific identification of land areas required for drainage and/or Public Open Space.

There are however areas within Byford which have not yet been subject to the preparation of LSPs. To ensure that appropriate funds are collected to allow for the future purchase of land required for POS and drainage within these areas, it has been necessary to determine an estimated amount for some LSPs.

The following methodology has been applied:

1. A review of LSPs and spatial data has been undertaken to identify the total amount of land covered by each LSP and the total amount of land required for Public Open Space and drainage.
2. From these totals, the percentage of land required for Public Open Space and drainage has been calculated.
3. Spatial data has been used to identify the total land area of areas in Byford for which LSPs have yet to be prepared.
4. The percentage identified in step 2 has then been applied to the total identified in step 3 to generate an estimated amount of land required for Public Open Space and drainage in these areas.
5. The Public Open Space and drainage land areas identified in steps 1 and 4 are then added to identify a total estimate of land required for POS and drainage within the DCA.

[Appendix F](#) details the calculations for Public Open Space and Drainage land.

POS Items not included

State Policy provides a clear indication that the development of POS to a minimum standard, and maintenance for a minimum period, is at the developer's expense. As such, the development and initial maintenance of Public Open Space is not included within the Development Contribution Plan and will be the responsibility of the subdivider.

In addition, land identified as having conservation value, for example Bush forever sites or protected Wetlands, is excluded from the Development Contribution Plan.

While the Development Contribution Plan includes land for drainage purposes, it does not include drainage works themselves (i.e. earthworks, drainage infrastructure such as piping, pits,



mechanical treatments, water sensitive urban design treatments or similar). These are considered subdivisional works, generally required by local water management strategies and urban water management plans.

Such drainage works are very difficult to calculate given the varying nature of drainage infrastructure and developers may treat drainage works in various ways to benefit their development. The requirement to provide optimal certainty in costing Development Contribution Plan items to achieve equity between developers, reinforces the need to exclude drainage works.

The drainage works contained within the proposed road infrastructure costings *are* permitted to be included, in accordance with SPP3.6.

10 Roads to be constructed or upgraded

[Figure 4](#) shows the locations and extent of the Road Upgrades included in the DCP.

It is noted that costs associated with land to be acquired for infrastructure items within this DCP are costed separately to construction costs, due to different indexation rates applied to the Construction component and the Land Value component.

Road Reserve Improvements Not Included

The amenity of urban areas can be substantially enhanced through public realm improvement works such as vegetation, hard landscaping, public art and higher design standards of infrastructure. Road reserves provide significant opportunities for amenity enhancement, especially in the case of wider reserves such as distributor roads and in the instance of split-carriageways. There is, however, not a clear nexus between development in a new urban area and its associated increase in traffic, and the need for general road reserve improvements.

Nonetheless, it should be noted that most developers undertake works to provide attractive streetscapes as a marketing feature, especially in the context of distributor and connector roads leading into new estates. As such, road reserve improvements, such as hard and soft landscaping and higher design standards of infrastructure, are not included in the DCP.

10.1 Roads - Current

10.1.1 Orton Road New – Integrator B

Orton Road is in the southern portion of the DCA, currently running east to west between Hopkinson Road and Warrington Road. Orton Road is a Shire controlled road and is not reserved under the MRS.

The existing state of Orton Road is rural in nature, with a narrow single carriageway allowing for one lane in either direction. The BDSP 2020 indicates that the road is to be realigned to the west of Doley Road and be extended from Warrington Road to the South Western Highway. Other changes to the alignment of the road are proposed towards Tonkin Highway where the road is proposed to connect into Tonkin Highway.

The width of Orton Road will be 30 metres. The upgrade and construction of Orton Road will occur between the Tonkin Highway reserve and the South Western Highway.



The following items are included in the Byford Development Contribution Plan for Orton Road:

- Land required in excess of a standard 20m reserve, to achieve a 30m wide road reserve, plus additional land where necessary to accommodate channelization and/or roundabout construction at intersections;
- Earthworks for the whole road reserve;
- One at-grade rail crossing;
- Complete road construction based on the Liveable Neighbourhoods Integrator B standard;
- Intersection treatments as required for the following intersections:
 - Kokoda Boulevard (Roundabout)
 - Doley Road (Roundabout)
 - Lawrence Way (Roundabout)
 - Warrington Road (Roundabout)
 - Soldiers Road (Roundabout)
 - South Western Highway (Channelised Intersection)
- Associated drainage works including water sensitive urban design measures;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.

The following items are not included in the Byford Development Contribution Plan for Orton Road:

- Minor intersections treatments into the adjoining subdivisional road network. These will be subject to a standard truncation requirement; and
- Any intersection treatment with Tonkin Highway.

A detailed breakdown of the costing for this project is provided in [Appendix O](#). The value of land associated with each project is included separately in [Appendix E](#).

10.1.2 Indigo Parkway – Integrator B

Indigo Parkway is in the northern portion of the DCA, providing a northwest- southeast connection between Thomas Road and Larsen Road.

Originally part of the “Sansimeon Boulevard” upgrade in previous DCP revisions, this project is now identified separately, which reflects the correct road name, and which will allow Indigo Parkway and Sansimeon Boulevard to have different priority build status.



Continued

Ultimately, the Indigo-Sansimeon connector will be a key district level connection from Thomas Road to Abernethy Road and, with the additional inclusion of Clara Street, will provide a through route into Byford Town Centre. This connection will also assist in limiting vehicle movements through the Byford Trotting Complex.

The construction the Indigo Parkway will occur between Thomas Road and Larsen Road. Indigo Parkway will have a width of 22.5 metres in areas adjacent to public open space, 30m width along the existing Malarkey Road, and 27.5 metres in the remaining areas.

The following items are included in the Byford Development Contribution Plan for Indigo Parkway:

- Land required in excess of a standard 20m reserve, to achieve a 22.5m wide road reserve adjacent to Public Open Space, a 30m wide road reserve for the Malarkey Road section, and a 27.5m wide road reserve for the remaining areas plus additional land where necessary to accommodate channelization and/or roundabout construction at intersections;
- Earthworks for the whole road reserve;
- Complete road construction based on the Liveable Neighbourhoods Integrator B standard;
- Intersection treatments as required for the following intersections:
 - Ballawarra Avenue (Roundabout)
 - Briggs Road (Left In, Left Out)
 - Caraway Avenue (Roundabout)
 - Portwine Avenue (Left In, Left Out)
 - Larsen Road (Roundabout)
- Associated drainage works including water sensitive urban design measures;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.

The following items are not included in the Byford Development Contribution Plan for Indigo Parkway:

- Minor intersections treatments into the adjoining subdivisional road network. These will be subject to a standard truncation requirement.

A detailed breakdown of the costing for this project is provided in [Appendix O](#). The value of land associated with each project is included separately in [Appendix E](#).



10.1.3 Doley Road – Neighbourhood Connector A

Doley Road is in the southern portion of DCA1, providing a north-south connection between Abernethy Road and Cardup Siding Road. The DCP funded upgrade of Doley Road will occur between Abernethy Road and Orton Road.

Doley Road will play an important district role by providing vehicle access into the proposed local centre, which will cater for a wide catchment population.

Considering the function of Doley Road, the Shire requires a 30m road reserve between Abernethy Road and Orton Road.

The following items are included in the Byford Development Contribution Plan for Doley Road:

- Land required in excess of a standard 20m reserve, to achieve a 30m wide road reserve, plus additional land where necessary to accommodate channelization and/or roundabout construction at intersections;
- Earthworks for the whole road reserve;
- Complete road construction based on the Liveable Neighbourhoods Neighbourhood Connector A standard;
- Intersection treatments as required for the following intersection;
- Mead Street (Roundabout)
- Associated drainage works including water sensitive urban design measures;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.

The following items are not included in the Byford Development Contribution Plan for Doley Road:

- Minor intersections treatments into the adjoining subdivisional road network. These will be subject to a standard truncation requirement.

A detailed breakdown of the costing for this project is provided in [Appendix O](#). The value of land associated with each project is included separately in [Appendix E](#).

10.1.4 Warrington Road – Neighbourhood Connector B

Warrington Road is in the southern portion of the DCA area, providing a north-south connection between Abernethy Road and Orton Road. The road passes through an area of highly fragmented landownership. Warrington Road has been included within the Byford DCP to ensure a coordinated upgrade catering for increased traffic volumes.

The width of Warrington Road will be 20 metres.

The following items are included in the Byford Development Contribution Plan for Warrington Road:



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- Land required where necessary to accommodate channelization and/or roundabout construction at intersections;
- Earthworks for the whole road reserve;
- Complete road construction based on the Liveable Neighbourhoods Neighbourhood Connector B standard;
- Intersection treatments as required for the following intersections;
- Mead Street (Roundabout)
- Turner Road (Roundabout)
- Associated drainage works including water sensitive urban design measures;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management

The following items are not included in the Byford Development Contribution Plan for Warrington Road:

- Minor intersections treatments into the adjoining subdivisional road network. These will be subject to a standard truncation requirement.

A detailed breakdown of the costing for this project is provided in [Appendix O](#). The value of land associated with each project is included separately in [Appendix E](#).

10.2 Roads - Completed

10.2.1 Thomas Road – Primary Regional Road (DCP Component Completed)

At this revision, it has been confirmed that Main Roads Western Australia will take over ownership of Thomas Road. There are some historical costs borne by the DCP from works already undertaken and land for road widening purchased, however all costs for remaining works and land have been removed from the calculations.

Thomas Road borders a significant portion of the DCA1 area to the north. Under the Metropolitan Region Scheme (MRS), the road is reserved as an “Other Regional Road” and is identified as a district distributor. This road is being investigated for transfer to MRWA control. Until the transfer terms and timing are finalised, the Shire needs to make provision for the Thomas Road upgrade within the DCP.

The road currently exists but will require upgrades to future intersections and road widening for the future alignment and configuration, in order to support district development and increased regional traffic.

The width of the Thomas Road reserve will be 50 metres.

The upgrade of Thomas Road was originally planned to occur between the Tonkin Highway reserve to the west and the rail reserve to the east. With a grade separate bridge crossing over



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the rail reserve confirmed as being funded by the State Government, the bridge will reduce the planned upgrade length by circa 500m (to the west of the rail reserve). Therefore, this project will now occur between the Tonkin Highway Reserve to the west and the intersection with Wungong South Road to the east.

The following items are included within the Byford Development Contribution Plan for Thomas Road:

- Land required in excess of a standard 20m reserve, to achieve a 50m wide road reserve, plus additional land where necessary to accommodate channelization and/or roundabout construction at intersections;
- Earthworks;
- The construction and upgrade of one carriageway to a Primary Regional Road standard
- Intersection treatments as required for the following intersections:
 - Kardan Boulevard (Roundabout)
 - Indigo Parkway (Roundabout)
 - Briggs Road (Roundabout)
 - Plaistowe Boulevard (Roundabout)
- Associated drainage works and water sensitive urban design measures;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.

The following items are not included in the Byford Development Contribution Plan for Thomas Road:

- Modifications to the current railway crossing configuration and any portion covered by the state funded rail bridge crossing;
- Any upgrades to Thomas Road east of the railway crossing, up to the dual carriageway near South Western Highway;
- Any intersection treatment with Tonkin Highway; and
- Minor intersections treatments into the adjoining subdivisional road network. These will be subject to a standard truncation requirement.

A detailed breakdown of the costing for this project is provided in [Appendix O](#). The value of land associated with each project is included separately in [Appendix E](#).



Continued

10.2.2 Abernethy Road – Integrator A (Completed)

It is noted that the Byford Traditional Infrastructure DCP funded works for this infrastructure item have been completed, with final costs allocated to the DCP for this project confirmed at \$8,001,952.

Abernethy Road is located centrally within DCA1, providing an east-west connection and linking in with the proposed expansion of the Byford Town Centre. Abernethy Road is a Shire controlled road and is not reserved under the MRS. The existing state of Abernethy Road is rural in nature, with a narrow single carriageway allowing for one lane in either direction. The road is not proposed to provide a direct connection to the future extension of Tonkin Highway and will ultimately become a grade separated underpass beneath Tonkin Highway, once extended.

The width of Abernethy Road will generally be 30 metres.

The upgrade of Abernethy Road will occur between the Tonkin Highway reserve to the west and the railway reserve to the east. The portion of Abernethy Road adjacent to the Byford Trotting Complex will have half the cost of road widening, construction and upgrade borne by the DCP. The portion of Abernethy Road between Kardan Boulevard and Hopkinson Road will be retained as a single carriageway. The overall portion of costs borne by the Byford Development Contribution Plan is 71.25%.

The following items are included in the Byford Development Contribution Plan for Abernethy Road:

- Land required in excess of a standard 20m reserve, to achieve a 30m wide road reserve, plus additional land where necessary to accommodate channelization and/or roundabout construction at intersections;
- Earthworks for the whole road reserve;
- Complete road construction based on the Liveable Neighbourhoods Integrator A standard;
- Intersection treatments as required for the following intersections:
 - Kardan Boulevard (Roundabout)
 - Doley Road (Roundabout)
 - Briggs Road (Roundabout)
 - Warrington Road (Roundabout)
 - Sansimeon Boulevard (Roundabout)
- Associated drainage works including water sensitive urban design measures;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.

The Byford Development Contribution Plan proportionate share is 71.25%, with the Shire's share being 28.75% of the full cost.



The following items are not included in the Byford Development Contribution Plan for Abernethy Road:

- Minor intersections treatments into the adjoining subdivisional road network. These will be subject to a standard truncation requirement;
- In accordance with normal subdivision cost apportionment, half the cost share associated with the portion of road adjacent to the Byford Trotting Complex is excluded from the Byford Development Contribution Plan, as it is the responsibility of future development within the Trotting Complex. The excluded 50% cost share includes the land for widening, earthworks, drainage, construction and associated works; and
- Modifications to the current railway crossing configuration, as this may change in the future when detailed planning is undertaken by the Public Transport Authority for the future electrification of the railway line to Byford.

10.2.3 Sansimeon Boulevard – Integrator B (DCP Component Completed)

At this DCP revision, Metronet will be delivering the remaining length of Sansimeon Boulevard. All remaining costs have been removed from the DCP.

Sansimeon Boulevard is in the central portion of DCA1, providing a northwest- southeast connection between Larsen Road and Abernethy Road.

The Indigo-Sansimeon connector will be a key district level connection from Thomas Road to Abernethy Road and, with the additional inclusion of Clara Street, will provide a through route into Byford Town Centre. This connection will also assist in limiting vehicle movements through the Byford Trotting Complex.

The following items are included in the Byford Development Contribution Plan for Sansimeon Boulevard:

- Land required in excess of a standard 20m reserve, to achieve a 22.5m wide road reserve between Larsen Road and Armadan Court, and 25m wide road reserve for the remaining areas, plus additional land where necessary to accommodate channelization and/or roundabout construction at intersections;
- Earthworks for the whole road reserve;
- Complete road construction based on the Liveable Neighbourhoods Integrator B standard;
- Intersection treatments as required for the following intersections;
- Clara Street (Byford Town Centre Main Street) (Roundabout)
- Associated drainage works including water sensitive urban design measures;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.



Continued

The following items are not included in the Byford Development Contribution Plan for Sansimeon Boulevard:

- Minor intersections treatments into the adjoining subdivisional road network. These will be subject to a standard truncation requirement.

A detailed breakdown of the costing for this project is provided in [Appendix O](#). The value of land associated with each project is included separately in [Appendix E](#).

10.2.4 Kardan Boulevard – Neighbourhood Connector A (Completed)

It is noted that the Byford Traditional Infrastructure DCP funded works for this infrastructure item have been completed at this revision.

Kardan Boulevard is in the north-west portion of DCA1, providing a north-south connection between Thomas Road and Abernethy Road. Construction of the road provides an important connection for district traffic and public transport movements.

Considering Kardan Boulevard's role, the Shire requires a road width of 25 metres from Abernethy Road to Fawcett Road, and a road width of 30 metres from Fawcett Road to Thomas Road.

The following items are included in the Byford Development Contribution Plan for Kardan Boulevard:

- Land required in excess of a standard 20m reserve, to achieve a 25m wide road reserve from Abernethy Road to Fawcett Road and a 30m wide road reserve from Fawcett Road to Thomas Road, plus additional land where necessary to accommodate channelization and/or roundabout construction at intersections;
- Earthworks for the whole road reserve;
- Complete road construction based on the Liveable Neighbourhoods Neighbourhood Connector A standard;
- Intersection treatments as required for the following intersections:
 - Kalyang Loop/Pingaring Court (Roundabout)
 - Ballawarra Avenue (Roundabout)
 - Ethereal Road (Roundabout)
 - Sainly Turn (Roundabout)
- Associated drainage works including water sensitive urban design measures;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.

The following items are not included in the Byford Development Contribution Plan for Kardan Boulevard:



- Minor intersections treatments into the adjoining subdivisional road network. These will be subject to a standard truncation requirement.

A detailed breakdown of the costing for this project is provided in [Appendix O](#). The value of land associated with each project is included separately in [Appendix E](#).

11 District Open Space to be constructed or upgraded

The Shire's Community Infrastructure and Public Open Space Strategy (CIPOS) outlines the general approach and philosophy in planning for community infrastructure and public open space in the Shire of Serpentine Jarrahdale. It provides a guiding document for current and future development relevant to this purpose.

The types of community infrastructure include sport, recreation, community, emergency, tourism and Shire administration requirements. These facilities are to cater for the growing pressures on local clubs, community groups and service providers, where the increasing population increases service delivery requirements. As part of the investigations of CIPOS, it has been identified that the Byford District currently has a shortfall of District Open Space suitable for senior competition sports.

The scope of construction included in this Byford Development Contribution Plan is confined to land and below surface works including drainage, irrigation and grassing. Further above ground works are included within the Shire's Community Infrastructure Byford Development Contribution Plan (CIDCP).

[Figure 5](#) provides a graphical representation of District Open Space projects included in the DCP.

It is noted that costs associated with land to be acquired for infrastructure items within this DCP are costed separately, due to different indexation rates applied to the Construction component and the Land Value component.

11.1 District Open Space – Current

11.1.1 The Glades District Open Space

Options for the provision of this DOS facility are currently being explored. Current advice is that a District Level Futsal space (hardcourts) would be of significant benefit to the Byford community.

At the request of the Shire, the developer (LWP) of The Glades site is assisting with a high-level design and costing exercise for a futsal court facility and associated infrastructure as envisaged by the Shire, to enable inclusion of high level costs within the DCP report. Should the Futsal space be approved as anticipated, independent costs for the design will be undertaken by the Shire to ensure independence and impartiality of those costings.

The costs for this item have been updated to reflect the recent Futsal courts' design.

The following items are included in the Byford Development Contribution Plan

- Earthworks;
- Irrigation;



Continued

- Grassing and / or Hard Landscaping; and
- Associated costs relating to construction including design and management.

A detailed breakdown of the costing for this project is provided in [Appendix O](#). The value of land associated with each project is included separately in [Appendix E](#).

11.1.2 Orton Road District Open Space and REW

This project will include one senior sized AFL Oval, which will incorporate 2 rectangular pitches within the Oval, and be located to the south of Orton Road.

As part of this project, the buffer associated with the Cardup Brook Resource Enhancement Wetland (REW) which is considered a regionally valuable ecological and environmentally sensitive corridor, will be rehabilitated.

The following items are included in the Byford Traditional Infrastructure Development Contribution Plan:

- Earthworks;
- Irrigation;
- Grassing; and
- Associated costs relating to construction including design and management.

A detailed breakdown of the costing for this project is provided in [Appendix O](#). The value of land associated with each project is included separately in [Appendix E](#).

It may be noted that a separate project for the building and lights at this DOS location is included and costed within the Community Infrastructure DCP (CIDCP).

11.2 District Open Space - Completed

11.2.1 Byford Central District Open Space (Bill Hicks) (Completed)

It is noted that the Byford Traditional Infrastructure DCP funded works for this infrastructure item have been completed, with final costs allocated to the DCP for this project confirmed at \$953,532.

The Byford Central District Open Space is too small for AFL competition (senior or junior) however; it is the correct size for Soccer. The District Open Space has been constructed and the following items were included in the Byford Development Contribution Plan:

- Earthworks;
- Grassing;
- Irrigation; and
- Associated costs relating to construction including design and management.

11.2.2 The West Byford Primary School / Kalimna District Open Space (Completed)

It is noted that the Byford Traditional Infrastructure DCP funded works for this infrastructure item have been completed, with final costs allocated to the DCP for this project confirmed at \$585,808.



This is a full-sized AFL Oval (165m x 135m) partially located on Department of Education land and subject to a SUA. The SUA shares the cost of developing the oval between the Shire and the Department of Education.

As with all clubs, the Centrals Senior and Junior Clubs are experiencing rapid growth in their playing membership due to the rapid population increase brought on by new developments. Based on figures provided by the club, the juniors are projected to add two new teams each year for the near future and the seniors will add an additional team each year. The Cricket clubs are also experiencing growth. It is because of this growth that these clubs are outgrowing their existing facilities and require new facilities to be able to keep up with demand from the increasing population. According to the Youth Strategy, almost a quarter (21%) of young people played football.

The following items were included in the Byford Development Contribution Plan:

- Earthworks;
- Grassing;
- Irrigation; and
- Associated costs relating to construction including design and management.

12 Water Monitoring

The Byford Townsite Drainage and Water Management Plan (DWMP) establishes a framework for water management in new urban development. This ensures that water quantity and quality design objectives can be achieved, and the concerns and risks identified by the Department of Water (DoW) and the Water Corporation can be addressed. The DWMP reinforces the Shire's commitment to ensuring that water sensitive urban design principles are incorporated into new urban development.

During the review of the Byford District Structure Plan in September 2006, the Water Corporation raised several concerns regarding regional drainage planning for the Byford area. In November 2006, a "round-table" forum was convened with the then Department for Planning and Infrastructure, DoW, the Shire and the Water Corporation, to discuss regional drainage requirements and to determine an appropriate path forward. The DoW subsequently engaged consultants SKM to prepare the Byford Flood Plain Management Strategy and then later engaged consultants GHD to further progress this work in the form of a DWMP. In February 2008, a draft DWMP for Byford was released by the DoW for public comment. The DWMP was published as a final document in September 2008.

Since the publishing of the final DWMP, all LSPs, detailed area plans, subdivision and engineering drawing applications have been assessed against the water quantity and quality design objectives outlined in the DWMP and incorporated into an updated Byford Townsite District Water Management Strategy (DWMS). The DWMS provides a summary of monitoring requirements and responsibilities.

The Shire will implement water quality and quantity monitoring within developments and wetlands guided by a Sampling and Analysis Plan that will be prepared on commencement of the program to confirm sampling and analysis arrangements.

Byford Traditional Infrastructure Development Contribution Plan Report



Continued

It is proposed that monitoring will be carried out over 10 years with reports prepared annually and provided to stakeholders for review.

This approach will allow longer-term trends in water quality and quantity to be identified and monitored as the DCA1 is fully developed. Suitable remediation works or structural controls may be implemented to rectify any identified problems.

The monitoring program will include:

- 12 groundwater monitoring wells
- 12 surface water quality sampling sites
- 10 surface water level/flow monitoring sites
- 10 sediment sampling sites

Monitoring will be carried out at the following frequencies:

Year	Groundwater levels	Groundwater quality	Surface water flows /levels	Surface water quality	Sediment
1	Monthly	4 x per year: Mar, Jun, Sep & Dec	4 x per year: Mar (baseline), May (1 st flush), Sep & Oct (winter).		1 x per year
2-10	Quarterly				

Water quality and sediment sampling will include the following parameters:

Group	Frequency	Groundwater	Surface water	Sediment
In-situ	All events	DO, Redox potential (Eh), EC, Temperature, pH		n/a
Physio-chemical	All events	n/a	Total Dissolved Solids (TDS)	n/a
Anions and nutrients	All events	TKN, NH ₄ , NO ₃ , DON, TN, TP and PO ₄ (FRP)		n/a
Metals	One annual event	Al, As, Cd, Cr, Cu, Fe, Pb, Ni, Zn and Hg		
Hydrocarbons	One annual event	TRH, BTEX and PAH		



It is likely that subdivision and development would not be approved within the Byford area without the approval and ongoing implementation of the Byford Town site DWMS. As such, it is considered reasonable that the all costs of, and associated with, the required water monitoring be funded by developers within Byford.

The Byford Development Contribution Plan will assume funding responsibility for the post development water-monitoring program required by the Byford DWMS.

As Development progress within the Byford area has been slower than anticipated, no monitoring has been carried out to date, however district level sampling is anticipated to commence in 2023.

[Appendix I](#) gives a detailed breakdown of the costs associated with Water Monitoring.

13 Administration costs

Administrative costs of the DCP including:

- Costs to prepare and administer the DCP
- Costs associated with the annual review of cost estimates
- Costs associated with the review of the cost apportionment schedules based on land development undertaken since the last review
- Costs for undertaking valuations
- Fees for professional services directly linked to the preparation and implementation of the DCP.
- Costs for computer software and/or hardware upgrades necessary to enable DCP preparation.
- Proportion of staff salaries directly related to DCP administration.
- Financial institution fees and charges associated with the administration of DCP funds
- Interest charged on loans taken out to pre-fund items included in the DCP.

In general, Administration costs of the DCP are broken down into Legal Expenses, expenses associated with advertising & consultancy, and proportional salary allocations for overhead personnel whose are involved in the general operation of the DCP(s). This allocation is reflective of the percentage of time the employee is expected to spend on work associated with the general running of the DCP. This does not include time spent on specific DCP funded infrastructure projects, which is captured within the individual project costings).

The Technical Specialist Infrastructure Contributions (previously titled “DCP Coordinator”) is the only employee whose cost is 100% allocated across the DCPs.

It is noted that staff may also be required to spend time on specific DCP funded projects as part of the design and/or project delivery phase. Any such time/cost allocation is recorded separately and where allowable under the scope/costing for the project, will be recovered under those project costings.

A detailed breakdown of the administrative costs is provided in [Appendix H](#).



14 Method of calculating contributions

14.1 Cost Share Apportionment - Land

The cost of land associated with road widening and district open space is shared equally between the Precincts.

Precincts A, B and D will be required to contribute toward land for POS and/or drainage. This land is required to cater for the recreational and drainage demands of development and has been identified in the BDSP 2020 and LSPs.

Council has resolved not to require Public Open Space contributions from subdivision and development in the existing Byford Town site, identified as Precinct C. This is due to the absence of a Public Open Space strategy or LSP identifying strategic locations for additional recreation lands. A strategy or LSP is necessary, as it is difficult to achieve reasonably sized and consolidated areas of Public Open Space in the context of small and fragmented landholdings. Precinct C will, however, be required to contribute to District Open Space land and associated below surface improvements.

Furthermore, in the absence of an LSP and detailed drainage investigations, it has not been possible to determine the drainage requirements for Precinct C. The area, therefore, will not be required to contribute toward land for drainage purposes. This situation may be reviewed in the future pending further detailed planning and detailed investigations into drainage requirements.

14.2 Cost Share Apportionment – Roads to be constructed or upgraded

Due to the district functions of Orton Road (linking with Tonkin Highway), Abernethy Road (providing access to the Town Centre) and Thomas Road (providing a connection between South Western Highway and Tonkin Highway), all precincts are required to contribute towards the build cost of these items.

All other road costs will be allocated to the Precinct in which they are located, being infrastructure envisaged to predominantly service that Precinct.

14.3 Cost Share Apportionment – District Open Space to be constructed or upgraded

As District Open Space serves the whole District (i.e. the whole DCA), all Precincts will contribute equally towards costs for District Open Space.

14.4 Cost Share Apportionment – Water Monitoring

All precincts will be required to contribute towards water monitoring costs. Water monitoring is a necessary enabler to subdivision and development across the DCA.

14.5 Cost Share Apportionment – Administration

All precincts will be required to contribute towards Administration Costs, as the staff time and related activities which make up these costs are necessary for the preparation and ongoing management of the DCP.



Figure 6 shows the DCP item(s) each precinct is contributing towards.

The above provisions enable the allocation of the DCP costs to each DCA1 Precinct. Once the total cost of each Precinct is known, it is necessary to identify the number of new lots/dwellings, which will be contributing to each item. From this, the contribution rate per m²/lot/dwelling can be determined.

14.6 Calculating the Lot/Dwelling Potential of each Precinct

The development contribution methodology is based on a per lot/dwelling basis (whichever is greater). Therefore, it is necessary to estimate the potential number of additional lots/dwellings to be created in each Precinct within the DCA. This estimate will be used to determine the development contribution rates per lot/dwelling for standard/non-standard residential, non-residential and mixed-use development.

The following methodology has been applied:

- A review of LSPs and spatial data has been undertaken to identify the estimated total lot/dwelling yield for each area covered by an LSP or approved subdivision application.
- The estimates for greenfield areas not yet subject to LSPs have been determined through identifying the total land area, deducting 40 percent (accounting for land required for public purposes such as roads, POS and drainage), and then determining the subdivision/development potential of the remaining land area based on its residential density coding.
- The lot/dwelling estimates for infill sites (i.e. existing urban) not yet subject to LSPs were determined through manual calculations of the development potential of each landholding based on the relevant residential density.
- By adding the lot/dwelling yields calculated in steps 1-3, the total estimated lot/dwelling yield for the Byford Development Contribution Plan area has been identified.
- A 'Parent lot' deduction has been included within the total lot count. Parent lots do not generate a contribution requirement in the Byford Development Contribution Plan.

As lots extinguish their liability to pay contributions, and/or an LSP is revised, the future lot count is updated accordingly at the next DCP Report Review.

The yield estimate calculated for mixed development is based on 15 lots per gross hectare to provide for infrastructure of subdivision works such as roads and drainage facilities to be transferred to the state / local government. Where individual lots do not require land to be transferred to the state / local government, 20 lots per gross hectare has been applied.

There are some instances where an LSP is not prepared for an area within the DCA. In those areas, the following approach has been taken to assess the lot yield and public open space considerations:

- Due to the nature of infill development proposed for the Old Quarter precinct, lot/dwelling estimates have been made based on manual calculations of the subdivision/development potential of each lot. The "Old Quarter" yield has been discounted by 50% in recognition of the likelihood some existing lots may not be redeveloped.



Continued

- Land for public purposes (i.e. Roads, Public Open Space, drainage and similar) is expected to be provided within non-structure planned areas. As such, a 40 percent deduction has been applied to the total site area of each precinct.
- It is assumed that no land will be provided for public purposes within the Mead Street precinct given its existing development pattern. As such, a 40 percent deduction has not been utilised.
- In the absence of finalised (or draft) LSPs depicting residential densities, an R20 code has been utilised to determine the lot/dwelling estimates for the non-structure planned areas.

See [Appendix K](#) for details on lots completed and remaining at this DCP Report revision.

Using the Total Cost allocated per Precinct and dividing this figure by the estimated number of future lots per Precinct, gives the Contribution Per Lot Value for each of the four Precincts in DCA1.

$$\begin{aligned} & \text{Allocated Cost (Precinct) / number of anticipated additional lots/dwellings} \\ & = \text{Precinct Contribution per Lot Value} \end{aligned}$$

The “Cost Apportionment Schedule” shows the split of costs by item and Precinct and shows the Contribution Per Lot value for each Precinct – See [Appendix A](#).

14.7 Calculating the Contribution Rate between Cost Reviews

To ensure costs are current during the time between cost reviews, all costs will be escalated daily, calculated from the number of days since the last cost review (being the latest adopted DCP revision), using an annual escalation rate.

The annual escalation rates for Administration and Infrastructure reflect the forecasts in latest WALGA Quarterly Economic Briefing (the LGCI Forecasts table) available at the time the DCP Report is adopted. The Administration index reflects the LGCI Component “Employee Costs” and the Infrastructure index reflects the LGCI Component “Road and Bridge Construction”. The Land Value index is provided as part of the independent Land Valuation (see Appendix L).

Escalation rates will separately apply to infrastructure costs, land costs and administration costs. The escalation rates will be set at each cost review. Given that the contribution rate entails items with different escalation rates, it is necessary to calculate a weighted escalation rate as follows:

ER = (%IC/TC x IER) + (%LV/TC x LVER) + (%AC/TC x AER), where for each precinct:

- ER - is the weighted Escalation Rate;
- DER - is the daily escalation rate (ER/365);
- IC - is the estimated Infrastructure Cost;
- LV - is the estimated Land Value;
- AC - is the estimated administration Cost, including water monitoring;



Continued

- TC - is the Total Cost being IC + LV + AC;
- IER - is the Infrastructure Escalation Rate;
- LVER - is the Land Value Escalation Rate;
- AER - is the Administration Escalation Rate; and
- D - is the number of days since the last cost review.

The daily indexing of costs described above, means that at any point in time, the Precinct contribution per Lot/m² value will vary according to the number of days since the last Cost Review.

14.8 Calculating the Contribution liability for Landowners/Developers

The Byford development contribution area is divided into five precincts as shown on Plan 10A of Appendix 10 within the Shire of Serpentine Town Planning Scheme No. 2.

Cost Contribution rate is to be calculated on a m² basis based on the remaining developable land in the DCP Precinct/Area identified in Plan 10A. The remaining DCP cost is shared proportionally across the remaining developable land in the DCP Precinct/Area as follows:

$$(Remaining\ Cost / Remaining\ Developable\ land = \$\ contribution\ rate\ per\ m^2).$$

For simplicity of calculation, all Residential lots/dwellings will be calculated as an average R20 (450m²) lot. For Non-Residential subdivision or development, the actual lot area is used for the calculation.

A cost review is to be undertaken at least annually, at which time the Contribution rate will be established based on:

- Road Upgrades and Construction
- District Open Space Improvements
- Land required for Roads, POS, Community Purpose POS, Drainage and DOS
- Water monitoring costs
- Administration Costs
- Yields and Lots completed and expected
- Escalation Rates

To ensure costs remain current between Cost Reviews, all costs will be calculated daily based upon an annual escalation rate to be established through the Cost Review. The start date for daily escalation is the approval date for the prevailing Cost Review.

The Contribution Rate is to be applied as follows where the DER is the daily escalation rate and D is the number of days since the last cost review:

(i) **Standard residential subdivision or development:**

The number of additional dwellings/lots being created at the time of subdivision/development multiplied by the applicable development contribution rate.

$$(Precinct\ contribution\ rate\ per\ lot/dwelling \times DER \times D \times number\ of\ additional\ lots\ or)$$



Continued

dwellings being created = Required development contribution).

- (ii) **Non-standard residential subdivision or development** E.g. Lifestyle village, retirement village, caravan park, park home estate or similar.

The number of additional dwellings, residential units or similar created at the time of subdivision/development multiplied by the applicable development contribution rate.

(Precinct contribution rate per lot/dwelling x DER x D x number of additional lots or dwellings being created = Required development contribution)

- (iii) **Non-residential subdivision or development**

A development contribution is required for the creation of non-residential lots based on the actual size and number of lots created (minus the equivalent of one lot), multiplied by the applicable development contribution rate. Where a subdivision creates a lot that accommodates an existing approved non-residential development, that lot shall be exempt from the requirement for a development contribution to be made. For clarity purposes, the area of the lot accommodating the existing approved non-residential development is to be subtracted from the overall subdivision area, before calculating the development contribution for the remaining balance of the subdivision area.

New non-residential development (including alterations and additions to existing non-residential development) will not be required to make a development contribution unless the new non-residential development results in increased traffic to the subject land, as identified by the information provided by the applicant in support of the development application for that new non-residential development. Where increased traffic is identified to occur, the applicable development contribution is to be calculated as follows:

Square metre rate x square metre size of land being developed (including alterations and additions) = Required development contribution

For new private education establishments and associated development, provided a shared use agreement for public access to district open space is agreed to the satisfaction of the Local Government, development contributions shall be levied at 0.3 percent of the total development costs of the site, as agreed with the Local Government based on the building licence application.

- (iv) **Mixed-use development**

The R20 subdivision/development potential of the site, or the actual number of lots/dwellings being created at the time of subdivision/ development, whichever is the greater (minus the equivalent of one lot or dwelling), multiplied by the applicable development contribution rate.



Continued

Where based on dwelling potential:

(Precinct contribution rate per lot/dwelling x DER x D x R20 subdivision/development potential of the site - the equivalent of one lot or one dwelling = Required contribution rate).

Where based on the actual number of dwellings:

(Precinct contribution rate per lot/dwelling x DER x D x actual number of residential lots/dwellings being created - the first dwelling being created = Required development contribution).

[Appendix B](#) gives examples of the respective calculations.

Future Subdivision/Development Potential

It is acknowledged that land within the DCA may be developed to a residential density lower than that envisaged within the yield calculations. Such development may however allow for additional subdivision and/or development in the future.

Contributions will be required for the creation of additional lots/dwellings post-initial development at the time that those additional lots/dwellings are created. Such additional contributions will be required in accordance with the Development Contribution Plan.

It is important to note that where the land use is non-residential, the DCP liability will be incurred only once on any site area (footprint) provided the liability discharged is based on the full development potential of the lot. Subsequent non-residential development will not be liable for additional DCP contributions.

For example, multilevel non-residential development or ongoing development on the non-residential site will be exempt from further DCP liability; liability is based on the non-residential land "footprint". However, should there be subsequent *residential* development above the non-residential development footprint; additional contribution liability will be incurred for the additional residential dwellings.

15 Priority and timing of infrastructure delivery

Details of the priority/timing of infrastructure items can be seen in the Capital Expenditure Plan in [Appendix C](#).

Timelines are based on the forecast rate of development and expected DCP funds from forecast contributions to be paid. This is reviewed annually and may be adjusted depending upon the rate of development and available DCA1 funds.

[Appendix M](#) contains the Infrastructure Delivery Status Report, which details the planned timelines and any variation to these from the previous DCP revision.



16 Payment of contributions

An owner's liability to pay the owner's cost contribution to the local government arises on the earlier of:

- the local government recommending its approval on the deposited plan or survey strata plan of the subdivision of the owner's land within the development contribution area (subdivision/strata clearance);
- the commencement of any development on the owner's land within the development contribution area (typically triggered at Building Permit application); or
- the approval of a change or extension of use by the local government on the owner's land within the development contribution area.

Where a subdivision is staged, the development contribution is payable only on those stages being cleared.

16.1 Form of Contributions

Pursuant to Clause 9.3.14 of TPS 2, conditions relating to development contribution requirements can, to the satisfaction of the Shire, be satisfied by:

- (v) Cheque or cash
- (vi) Transferring to the local government or a public authority land in satisfaction of the cost contribution
- (vii) The provision of physical infrastructure
- (viii) Some other method acceptable to the local government, or
- (ix) Any combination of these methods.

16.2 Exemptions

Clause 9.3.13.3 of TPS 2 details specific exemptions for which a development contribution is not required.

17 DCP Credits

17.1 DCP Credits to offset Contributions

A landowner may gain DCP credits for provision of DCP infrastructure items (known as "Pre-Funding") and/or land ceded for road widening, POS/Drainage, and DOS.

DCP Credits can be used to offset DCP Contributions (within the same DCA). Credits must be "banked" (through ceding land or completion of pre-funded infrastructure), before they can be used to offset Contributions.

DCP Credits will always be allocated to the registered landowner, as likewise, the liability for DCP Contributions is a liability of the landowner. Credits do not transfer upon sale of the land, unless a legal agreement between the seller, purchaser and the Shire is in place to enable this.



17.2 Credits for DCP Land Ceded

Credits are applicable for land included in the DCP for POS/Drainage, DOS and Road Reserves. The land value applied to credits, will be the land value published in the DCP Report Revision at the time the land is ceded (i.e. Subdivision Clearance).

17.3 Credits for Pre-Funding of DCP Infrastructure

17.3.1 Pre-Funding Agreement

The Shire will support pre-funding and delivery of the infrastructure, provided there are good reasons for doing so and in instances where:

- The works are necessary for the progression of an approved subdivision; or,
- The Developer wishes to undertake works specified in the DCP and the Shire does not hold enough DCP funds to undertake the works and/or has not prioritised such works.

By way of an exchange of letters, the Shire and the Developer will agree the extent, composition and timing of the infrastructure works to be pre-funded. Once agreed, the works become the Approved Works. The Approved Works must be identified sufficiently to ensure the cost and quantities of completed and remaining works in that item can be quantified.

17.3.2 Acceptance of Works

The Developer shall ensure the works are:

- Undertaken in a proper and workmanlike manner;
- In accordance with plans and specifications constituting the Approved Works;
- Completed within the agreed period.

Following written notification from the Developer, that the Approved Works are complete as above, the Shire will confirm the delivery of the Approved Works to its satisfaction.

The Shire can modify, accept or reject the claim where justified, following review of standard and cost. Referral to the Byford Industry Reference Group for comment should be made where rejection of the claim is proposed.

17.3.3 Principles for Cost Recoupment

The recoup is to be based on the current Cost Estimate in accordance with the latest revision of the DCP Report whereby:

- The current cost estimate (excluding contingency allowance) as described in the prevailing DCP Report shall constitute the maximum claimable amount for the completed Approved Works
- If the actual cost of the works exceeds the escalated cost estimate, the developer may claim an additional amount, not exceeding the contingency allowance provided for this item of work
- The cost estimate will be subject to escalation at the rate prescribed from time to time in the DCP Report, up to the time of agreed practical completion of the works.



Once Approved, costs claimed by the Developer/Landowner for the pre-funded works will be independently verified as reasonable and in line with DCP inclusions/exclusions.

DCP credits will only be allocated once agreement is reached on the final claim value for such works after the independent review has occurred.

The value of DCP Credits allocated is *exclusive* of GST.

17.4 Repayment of DCP Credit Balance

Where a developer or landowner has completed all their developments within the DCA and has no further holdings in the DCA, any resulting credit balance amount is held by the local government as a credit to the developer or landowner until sufficient funds are available in the DCP fund to cover the credited amount, taking consideration of planned or committed expenditure at that time.

All credit balance repayment requests during the operation of the DCP, and which qualify for consideration (as per above), will be subject to a council report, and determined by Council. The credit is then reimbursed to the developer or landowner as soon as circumstances permit.

Requests for repayment of a credit balance, once development and landholdings applicable to that developer/landowner within the DCA are complete, should be made in writing to developmentcontributions@sjshire.wa.gov.au.

At the completion of the DCP, all credit balances are to be repaid no later than 90 days from the end date of the DCP.

18 Review

18.1 Major Review (5 Yearly)

In addition to the Annual Review provisions identified below, the Development Contribution Plan will be reviewed five years from the date of gazettal of the local planning scheme, or amendment to the local planning scheme to incorporate or amend the plan, or earlier should the local government consider it appropriate, having regard to the rate of development in the area and the degree of development potential still existing.

There is a statutory obligation for the Shire to advertise and seek comment on a major review of a DCP report. In addition to the statutory provisions, the Shire will consult with the Byford Industry Reference Group (BIRG).

18.2 Annual (Minor) Review

The DCP Report which accompanies the Plan, is to be reviewed at least annually. The following contribution rate inputs will be revised as part of this review:

- Remaining infrastructure costs
- Remaining land acquisition costs
- Remaining water monitoring costs



Continued

- Future administration Costs
- Remaining lots, and
- Cost Review Reconciliation surplus or deficit to date.

There is no statutory obligation for the Shire to advertise or seek comment on the minor annual review of a DCP report, however where the costing and details of the DCP Report are:

- revised based on accounting for completed works
- revised based on construction cost increases/decreases
- revised based on land value increases/decreases
- revised based on revisions to the anticipated undeveloped lot yield; and
- not subject to other material change

the Shire will consult with the Byford Industry Reference Group (BIRG).

It is noted that SPP 3.6 requires an Annual Status Report to be prepared by the local government providing an overview of progress of the delivery of infrastructure specified in the DCP, which is to be published on the local government's website, within 6 months of Financial Year End. It therefore does not form part of this DCP Report.

The Annual Report will be available on the Shire's website for each respective DCP, by no later than end December of each Financial Year: [Infrastructure Contributions » Shire of Serpentine Jarrahdale \(sjshire.wa.gov.au\)](https://www.sjshire.wa.gov.au/infrastructure-contributions).

18.2.1 Updates to Infrastructure Cost Estimates

Cost estimates will be updated annually.

For the purposes of the cost reviews, infrastructure costs may be reviewed in full by an appropriately qualified person or may be indexed based on the Building Cost Index or other appropriate index.

The Cost of Land will be updated annually, in accordance with section 9.1 of this report.

The Cost Apportionment Schedule will identify and adjust/apportion any funding received/required from non-DCP sources (e.g. grants or any "Shire-Share" portion of costs).

18.2.2 Cost Review Reconciliation

The Cost Review Reconciliation is an adjustment made in each revision to adjust for any over-collection or under-collection of DCP contributions versus DCP expenditure. DCP contributions are always based on an estimate of future costs, whereas DCP expenditure is based on actual values. Any variance at the end of the prevailing DCP Report revision, is therefore adjusted on the "Reconciliation" line in the Cost Apportionment Spreadsheet, to assist the DCP in achieving the ultimate goal of breaking-even at its closure.

At each Cost Review, the net balance of contributions and expenditure will be calculated.

This net balance accounts for all contributions due from development in the previous development periods (no account is taken of contributions paid, i.e. cash received) and all expenditure (including credits earned, whether reimbursed or held on account).

Byford Traditional Infrastructure Development Contribution Plan Report



Continued

A Cost Review can result in a surplus or deficit at the date of review. A surplus means the total contributions arising from development has exceeded the total costs incurred at the review date. A deficit means that the total contributions arising from development were less than the total costs incurred at the review date.

Future Byford Development Contribution Plan contribution rates account for this surplus or deficit, as well as future costs and lots yet to be developed.

Over the life of the Byford Development Contribution Plan, the methodology employed should see the annual surpluses and deficits cancel out, to result in a break-even position for the DCP at the end of its lifespan.

[Appendix J](#) details the annual cost review outcomes from the latest review and any adjustment required for the following DCP Report period.

[Appendix N](#) contains the DCP Dashboard Summary for the DCP to date.

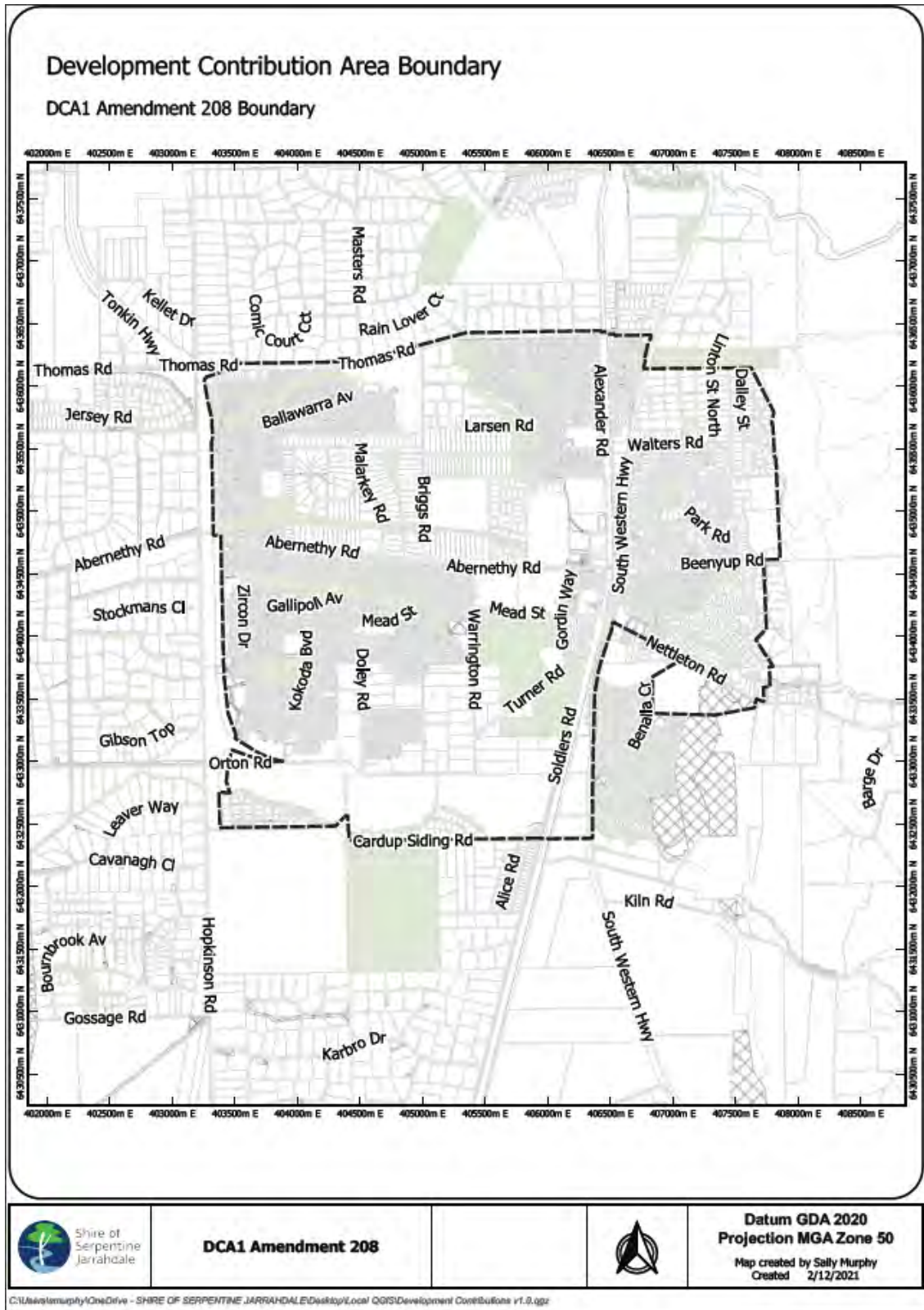
Byford Traditional Infrastructure Development Contribution Plan Report



Continued

19 Figures

Figure 1 – Development Contribution Area 1 (DCA1) Boundary



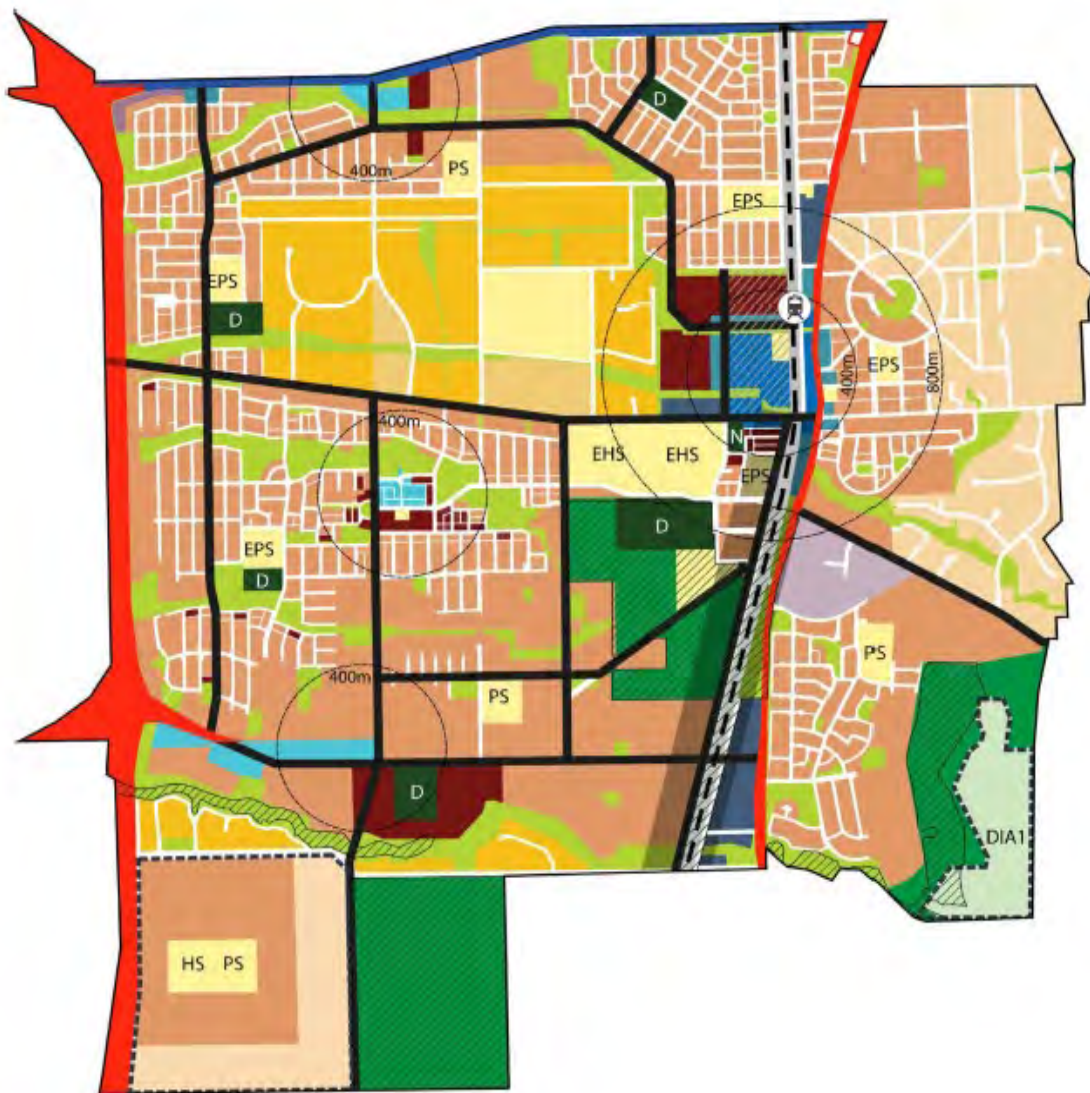


Continued

Figure 2 – Byford District Structure Plan 2020

Byford District Structure Plan

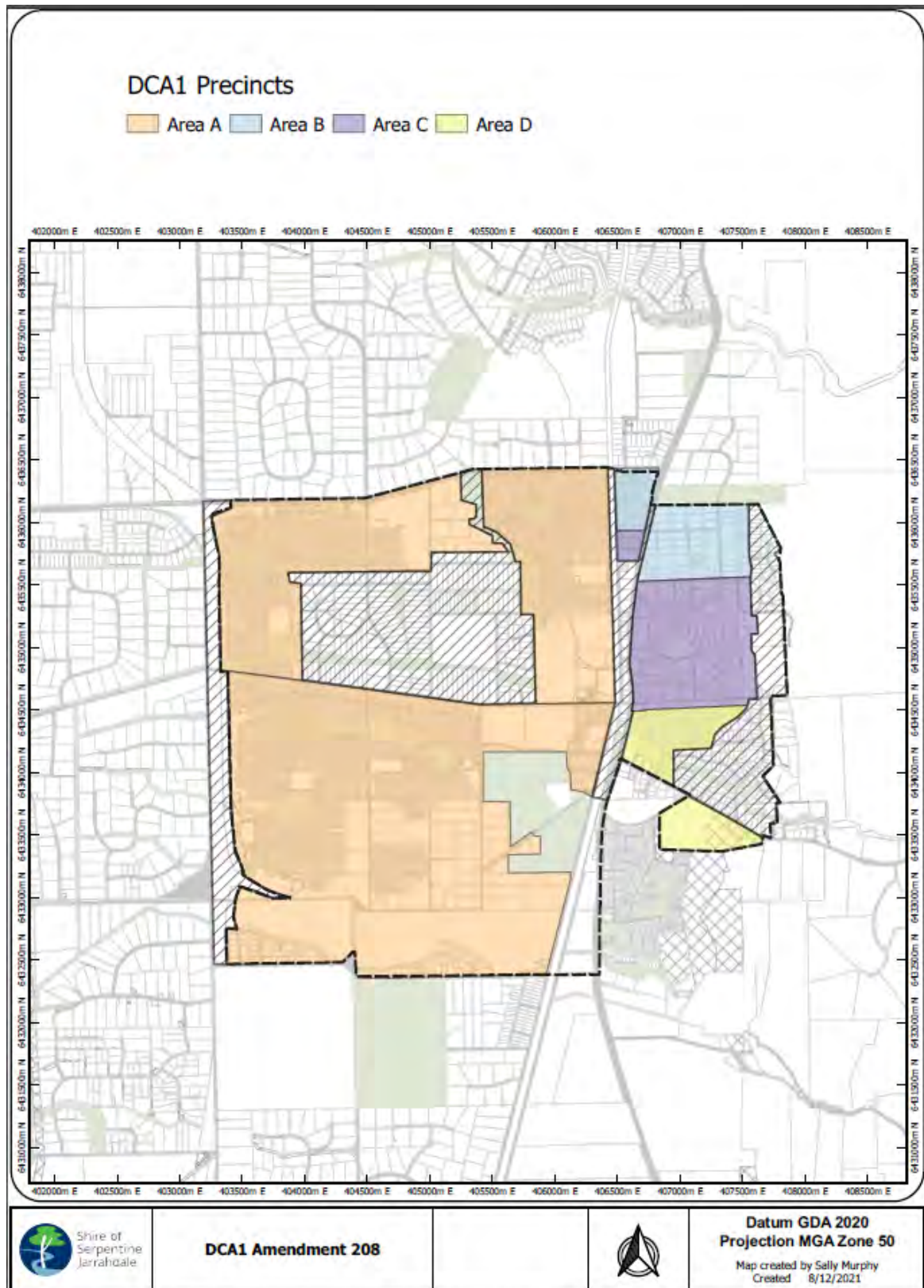
November 2020





Continued

Figure 3 – DCP Precincts

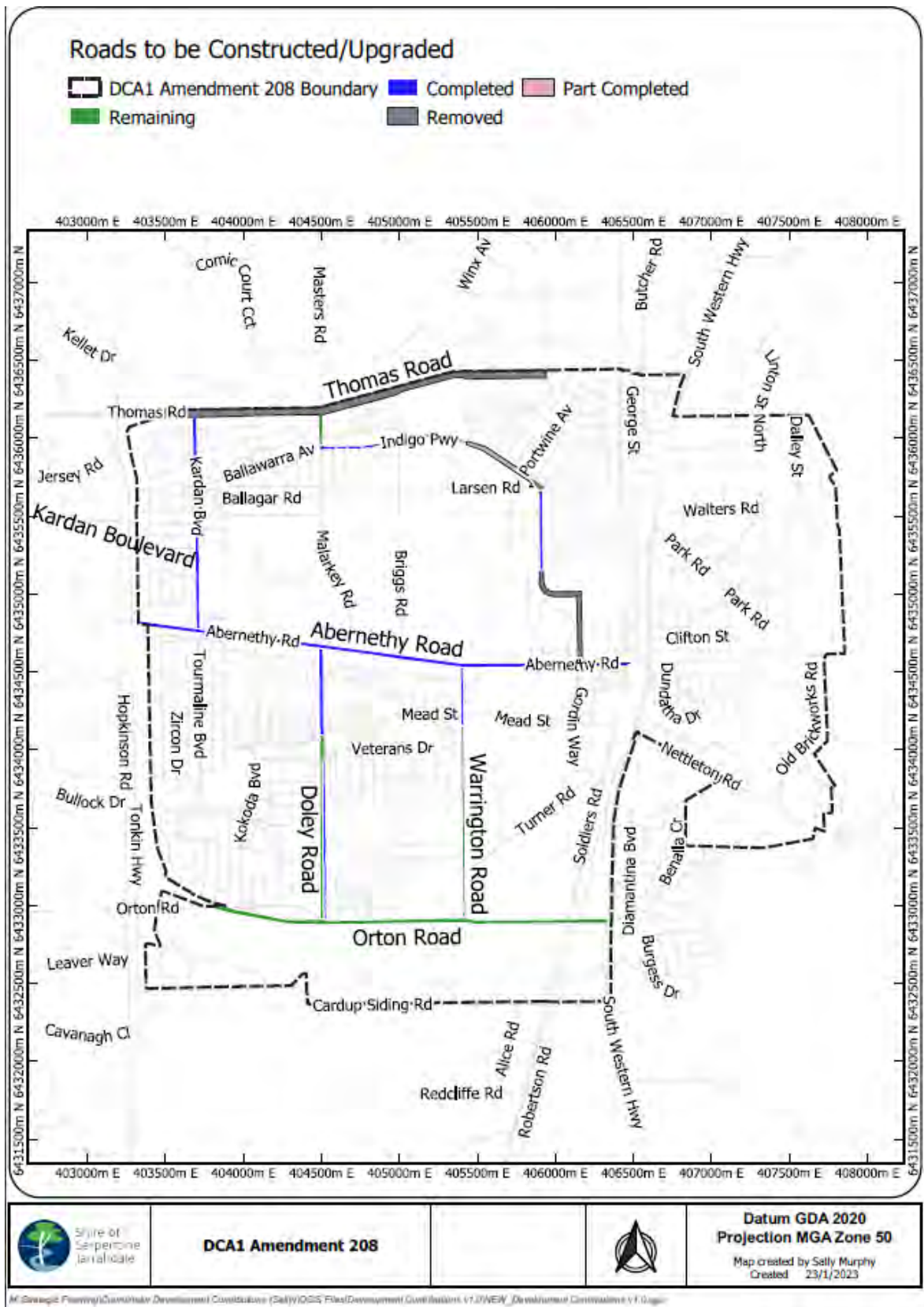


Byford Traditional Infrastructure Development Contribution Plan Report



Continued

Figure 4 – Roads to be constructed/upgraded



Byford Traditional Infrastructure Development Contribution Plan Report



Continued

Figure 5 – District Open Space to be constructed/updated



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Byford Traditional Infrastructure Development Contribution Plan Report



Continued

Figure 6 – Infrastructure Contributions by Precinct

Item/Precinct	A	B	C	D
Thomas Road	X	X	X	X
Abernethy Road	X	X	X	X
Orton Road	X	X	X	X
Kardan Boulevard	X			
Indigo Parkway	X			
Sansimeon Boulevard	X			
Doley Road (to Orton Rd)	X			
Warrington Road	X			
Byford Central DOS	X	X	X	X
The Glades DOS	X	X	X	X
Kalimna DOS	X	X	X	X
Orton Road DOS & REW	X	X	X	X
Land for Roads	X	X	X	X
Land Acquisitions for District Open Space	X	X	X	X
Land Acquisitions for Public Open Space & Drainage	X	X		X
Water Quality Management	X	X	X	X
Development Contribution Plan Administration	X	X	X	X
Cost Review Reconciliation	X	X	X	X

Byford Traditional Infrastructure Development Contribution Plan Report

Appendices

Byford Traditional Infrastructure Development Contribution Plan Report

Appendix A: Cost Apportionment Schedule

Previous Revision \$10,986.25 \$7,472.44 \$3,264.99 \$7,472.44
 Variance prev rev ▲3860.84 ▲3201.98 ▲2102.36 ▲3201.98

Cost Apportionment Schedule DCA1_
 Revision Number 7
 Revision Date 17/07/23
 Ave Res Lot Size 450.00
 Status Final

	A	B	C	D	E	F	G
Residential - Starting Contribution Per Lot	\$14,847.10	\$10,674.42	\$5,367.36	\$10,674.42			
Residential Daily Index Value	\$1.1307	\$0.8106	\$0.4471	\$0.8106			
Non-Res - Starting Contribution per m2	\$32.99	\$23.72	\$11.93	\$23.72			
Non-Res Daily Index Value	\$0.0025	\$0.0018	\$0.0010	\$0.0018			

Index values:	FC IER	2.80%
WALGA Economic Briefing - March 2023	FC LVER	2.50%
	FC AER	3.80%

	Land Value	LVDER
Residential	\$ 60.00	\$0.004
Non Residential	\$ 115.00	\$0.008

Item Name	Escalation Category	Completion_Date	Infrastructure Plan Estimates			Completed To Date	Remaining Project Cost this DCP Rev	Dwelling Yields			Contribution Breakdown per Lot					
			Total Project Cost	Less Grants / Other	Less Shire Share			Contributing Precincts	Total Contributing Lots	Remaining Contributing Lots	By Item	Precinct A	Precinct B	Precinct C	Precinct D	
Reconciliation	n/a		\$-2,355,618	\$0	\$0		\$-2,355,618	A,B,C,D	11695	5464		\$-431.11	\$-431.11	\$-431.11	\$-431.11	\$-431.11
Land_LSP (POS)	LVER		\$66,774,904	\$0	\$0	\$40,689,989	\$26,084,915	A,B,D	11065	4915		\$5,307.07	\$5,307.07	\$5,307.07		\$5,307.07
Land_Infra (DOS_Roads)	LVER		\$12,855,941	\$0	\$0	\$8,298,719	\$4,557,222	A,B,C,D	11695	5464		\$834.03	\$834.03	\$834.03	\$834.03	\$834.03
Administration	AER		\$3,212,021	\$0	\$0	\$2,290,708	\$921,313	A,B,C,D	11695	5464		\$168.61	\$168.61	\$168.61	\$168.61	\$168.61
Water Monitoring	AER	2034	\$897,750	\$0	\$0	\$0	\$897,750	A,B,C,D	11695	5464		\$164.30	\$164.30	\$164.30	\$164.30	\$164.30
Byford Central DOS	IER	Complete	\$953,532	\$0	\$0	\$953,532	\$0	A,B,C,D	11695	5464		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
The Glades DOS	IER	2025	\$2,074,000	\$0	\$0	\$0	\$2,074,000	A,B,C,D	11695	5464		\$379.57	\$379.57	\$379.57	\$379.57	\$379.57
Kalimna DOS	IER	Complete	\$585,808	\$0	\$0	\$585,808	\$0	A,B,C,D	11695	5464		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Doley Road (to Orton)	IER	2026	\$8,259,892	\$0	\$0	\$4,904,439	\$3,355,453	A	9773	4187		\$801.33	\$801.33			
Kardon Boulevard	IER	Complete	\$4,729,636	\$0	\$0	\$4,729,636	\$0	A	9773	4187		\$0.00	\$0.00			
Orton Road	IER	2031	\$15,677,411	\$0	\$0	\$0	\$15,677,411	A,B,C,D	11695	5464		\$2,869.15	\$2,869.15	\$2,869.15	\$2,869.15	\$2,869.15
Sansimeon Boulevard	IER	Complete	\$2,298,307	\$0	\$0	\$2,298,307	\$0	A	9773	4187		\$0.00	\$0.00			
Indigo Parkway	IER	2026	\$8,794,812	\$0	\$0	\$896,035	\$7,898,777	A	9773	4187		\$1,886.34	\$1,886.34			
Warrington Road	IER	2028	\$6,934,586	\$0	\$0	\$716,367	\$6,218,219	A	9773	4187		\$1,485.00	\$1,485.00			
Abernethy Road	IER	Complete	\$18,830,750	\$-5,739,535	\$-5,089,263	\$8,001,952	\$0	A,B,C,D	11695	5464		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Thomas Road	IER	Complete	\$2,563,664	\$-1,872,272	\$0	\$691,392	\$0	A,B,C,D	11695	5464		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Orton Road DOS & REW	IER	2026	\$7,555,848	\$0	\$0	\$0	\$7,555,848	A,B,C,D	11695	5464		\$1,382.81	\$1,382.81	\$1,382.81	\$1,382.81	\$1,382.81

Byford Traditional Infrastructure Development Contribution Plan Report

Appendix B: Example Calculations

Example Contribution Calculations

EXAMPLE CALCULATIONS: Note, for simplicity, daily indexing has not been applied to the below examples.

DCA: DCA1_
Report Revision: 7

Example 1

A residential subdivision creating 50 lots within Precinct A, with one existing parent lot:

Precinct	Development Contribution Rate per lot/dwelling	Number of additional lots/dwellings	Total development contribution	Calculation
A	\$14,847.10	49	\$727,507.80	$\$14,847.10 \times (50 - 1) = \$727,507.80$

Example 2

A residential subdivision in Precinct A, creating 50 lots, with one existing parent lot AND providing 10,000 m2 of creditable public open space / drainage residential land)

Note: creditable land must be cleared before, or at the same time, as the lot clearance in order to be offset against contributions due. Credits that are not yet earned/cleared cannot be used to offset Contributions due.

Precinct	Development Contribution Rate per lot/dwelling	Number of additional lots/dwellings	Total development contribution	Calculation
A	\$14,847.10	49	\$727,507.80	$\$14,847.10 \times (50 - 1) = \$727,507.80$
Public open space credit	m2 of land being provided	Land value per m2	Credit amount	Calculation
	10,000	\$60.00	\$600,000.00	$\$10,000.00 \times 60 = \$600,000.00$
		Total net development contribution	\$127,507.80	$\$727,507.80 - \$600,000.00 = \$127,507.80$

Example 3

A non-residential subdivision creating a 4000m² lot within Precinct A

Precinct	Development Contribution Rate per m2	Parent Lot Discount	Total development contribution	Calculation
A	\$32.99	N/A	\$131,974.20	$(\$32.99 \times 4,000\text{m}^2) = \$131,974.20$

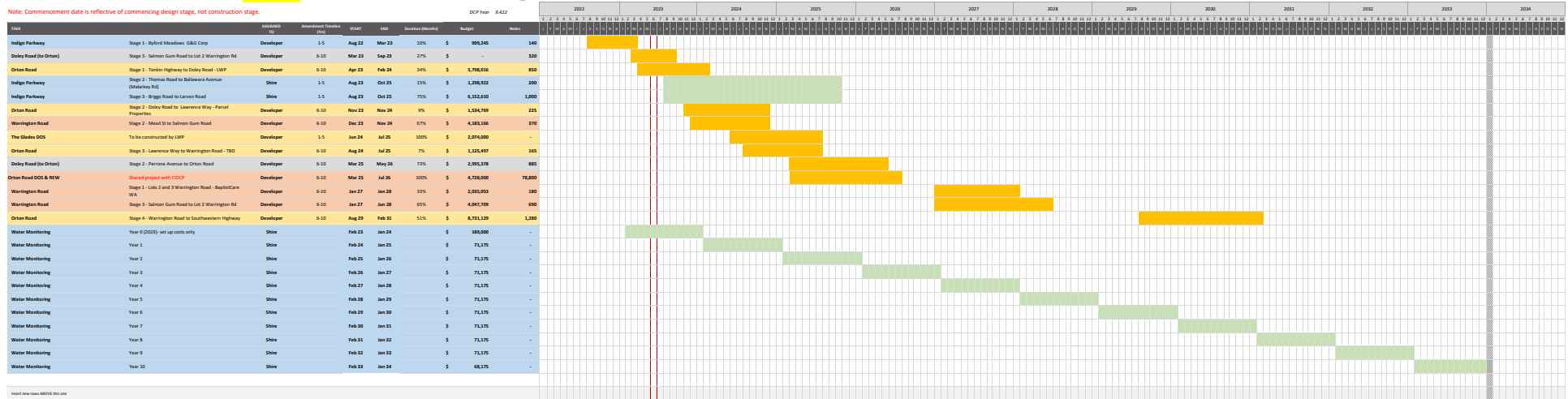
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Byford Traditional Infrastructure Development Contribution Plan Report

Appendix C: Capital Expenditure Plan

Program Schedule
 Byford Traditional Infrastructure DCP
 Revision Number: 7
 DCA1 View Year 2022

Legend Today
 DCP End
 DCP Year 0-422



Report from excel ABCDXY file.xlsx

Byford Traditional Infrastructure Development Contribution Plan Report

Appendix D: Infrastructure Designs

Not applicable

Byford Traditional Infrastructure Development Contribution Plan Report

Appendix E: Schedule of Costs - Land for Infrastructure (Roads & District Open Space)

SCHEDULE OF COSTS

Infrastructure Land - Estimated and Completed

DCA: DCA1_
Report Revision: 7

Residential Land Value (this revision): \$60.00
Non-Residential Land Value (this revision): \$115.00

Infrastructure Item:	ESTIMATED TOTAL Infra Land m2				COMPLETED Infra Land m2				REMAINING Infra Land m2			
	Residential	Non-Residential	Total	Var previous Revision	Residential	Non-Residential	Total	Var previous Revision	Residential	Non-Residential	Total	Var previous Revision
Totals:	227,109	5,919	233,028	28,682	151,830	5,567	157,397	1,722	75,279	352	75,631	26,959
Byford Central DOS	24,979	-	24,979	0	24,979	-	24,979	0	-	-	-	0
The Glades DOS	10,203	-	10,203	0	10,203	-	10,203	0	-	-	-	0
Kalimna DOS	45,518	-	45,518	0	45,518	-	45,518	0	-	-	-	0
Doley Road (to Orton)	17,248	352	17,600	0	9,350	-	9,350	0	7,898	352	8,250	0
Kardan Boulevard	11,098	-	11,098	0	11,098	-	11,098	0	-	-	-	0
Orton Road	25,200	-	25,200	0	1,432	-	1,432	1,432	23,768	-	23,768	-1,432
Sansimeon Boulevard	2,592	-	2,592	(7,108)	2,592	-	2,592	-	-	-	-	(7,108)
Indigo Parkway	9,489	1,361	10,850	0	5,876	1,361	7,237	290	3,613	-	3,613	-290
Warrington Road	-	-	0	0	-	-	-	0	-	-	-	0
Abernethy Road	27,419	2,746	30,165	0	27,419	2,746	30,165	0	-	-	-	0
Thomas Road	13,363	1,460	14,823	-4,210	13,363	1,460	14,823	0	-	-	-	-4,210
Orton Road DOS & REW	40,000	-	40,000	40,000	-	-	-	0	40,000	-	40,000	40,000
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

ESTIMATED TOTAL Land \$				COMPLETED Land \$				REMAINING Land \$			
Residential	Non-Residential	Total	Var previous Revision	Residential	Non-Residential	Total	Var previous Revision	Residential	Non-Residential	Total	Var previous Revision
\$12,025,678	\$830,263	\$12,855,941	\$1,883,229	\$7,508,937	\$789,783	\$8,298,719	\$89,994	\$4,516,742	\$40,480	\$4,557,222	\$1,793,234
\$914,000	\$0	\$914,000	\$0	\$914,000	\$0	\$914,000	\$0	\$0	\$0	\$0	\$0
\$597,000	\$0	\$597,000	\$0	\$597,000	\$0	\$597,000	\$0	\$0	\$0	\$0	\$0
\$1,869,215	\$0	\$1,869,215	\$0	\$1,869,215	\$0	\$1,869,215	\$0	\$0	\$0	\$0	\$0
\$968,576	\$40,480	\$1,009,056	\$89,485	\$494,696	\$0	\$494,696	\$0	\$473,880	\$40,480	\$514,360	\$89,485
\$521,335	\$0	\$521,335	\$0	\$521,335	\$0	\$521,335	\$0	\$0	\$0	\$0	\$0
\$1,501,004	\$0	\$1,501,004	\$203,204	\$74,924	\$0	\$74,924	\$74,924	\$1,426,080	\$0	\$1,426,080	\$128,280
\$121,702	\$0	\$121,702	-\$623,484	\$121,702	\$0	\$121,702	\$0	\$0	\$0	\$0	-\$623,484
\$1,092,363	\$161,615	\$1,253,978	\$30,838	\$875,581	\$161,615	\$1,037,196	\$15,070	\$216,782	\$0	\$216,782	\$15,768
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$1,295,168	\$404,615	\$1,699,783	\$0	\$1,295,168	\$404,615	\$1,699,783	\$0	\$0	\$0	\$0	\$0
\$745,317	\$223,553	\$968,870	-\$216,815	\$745,317	\$223,553	\$968,870	\$0	\$0	\$0	\$0	-\$216,815
\$2,400,000	\$0	\$2,400,000	\$2,400,000	\$0	\$0	\$0	\$0	\$2,400,000	\$0	\$2,400,000	\$2,400,000
-	-	-	-	-	-	-	-	-	-	-	-
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Byford Traditional Infrastructure Development Contribution Plan Report

Appendix F: Schedule of Costs - Land for Public Open Space & Drainage

SCHEDULE OF COSTS

POS Completed and Remaining

DCA: DCA1_
Report Revision: 7

Residential Land Value (this revision): \$60.00
Non-Residential Land Value (this revision): \$115.00

Structure Plan Areas	ESTIMATED TOTAL Land m2				COMPLETED Land m2				REMAINING Land m2			
	Residential	Non-Residential	Total	Var previous Revision	Residential	Non-Residential	Total	Var previous Revision	Residential	Non-Residential	Total	Var previous Revision
Totals:	1,166,941	55,524	1,222,465	10,957	767,323	37,195	804,518	18,243	399,618	18,329	417,947	(7,286)
St Thomas Estate	11,868	-	11,868	-	11,868	-	11,868	-	-	-	-	-
Sunrays	4,236	-	4,236	-	4,236	-	4,236	-	-	-	-	-
Byford Central	52,303	-	52,303	-	52,303	-	52,303	-	-	-	-	-
Redgum Brook	97,195	9,802	106,997	-	97,195	9,802	106,997	-	-	-	-	-
Kalimna Estate	53,242	-	53,242	-	53,242	-	53,242	-	-	-	-	-
Byford West	36,254	-	36,254	-	36,254	-	36,254	-	-	-	-	-
Byford Town Centre & The Reserve	51,544	43,265	94,809	-	1,006	27,393	28,399	-	50,538	15,872	66,410	-
Marni Park	58,494	-	58,494	-	58,494	-	58,494	-	-	-	-	-
Lots 59-62 Briggs Rd	23,031	-	23,031	-	-	-	-	-	23,031	-	23,031	-
Byford Meadows	47,425	-	47,425	-	22,869	-	22,869	10,235	24,556	-	24,556	(10,235)
Grange Meadows (Byford Green)	21,850	-	21,850	-	7,255	-	7,255	4,709	14,595	-	14,595	(4,709)
The Glades	447,259	2,457	449,716	(18,047)	358,547	-	358,547	1,290	88,712	2,457	91,169	(19,337)
Doley Road Precinct	108,920	-	108,920	(17,380)	12,267	-	12,267	-	96,653	-	96,653	(17,380)
The Brook (Aspen) - Lot 2 Nettleton Rd	51,787	-	51,787	2,009	51,787	-	51,787	2,009	-	-	-	-
Stanley Road Precinct	27,000	-	27,000	-	-	-	-	-	27,000	-	27,000	-
Mead St	-	-	-	-	-	-	-	-	-	-	-	-
Old Quarter	-	-	-	-	-	-	-	-	-	-	-	-
Stanley Road North East	14,700	-	14,700	-	-	-	-	-	14,700	-	14,700	-
Briggs Road, Larsen Rd Precinct	15,458	-	15,458	-	-	-	-	-	15,458	-	15,458	-
Nettleton Rd South	44,375	-	44,375	44,375	-	-	-	-	44,375	-	44,375	44,375

Structure Plan Areas	ESTIMATED TOTAL Land \$				COMPLETED Land \$				REMAINING Land \$			
	Residential	Non-Residential	Total	Var previous Revision	Residential	Non-Residential	Total	Var previous Revision	Residential	Non-Residential	Total	Var previous Revision
Totals:	\$60,416,398	\$6,358,506	\$66,774,904	\$4,204,128	\$36,439,318	\$4,250,671	\$40,689,989	\$947,224	\$23,977,080	\$2,107,835	\$26,084,915	\$3,256,904
St Thomas Estate	\$781,000	\$0	\$781,000	\$0	\$781,000	\$0	\$781,000	\$0	\$0	\$0	\$0	\$0
Sunrays	\$136,867	\$0	\$136,867	\$0	\$136,867	\$0	\$136,867	\$0	\$0	\$0	\$0	\$0
Byford Central	\$1,817,118	\$0	\$1,817,118	\$0	\$1,817,118	\$0	\$1,817,118	\$0	\$0	\$0	\$0	\$0
Redgum Brook	\$5,033,786	\$1,151,735	\$6,185,521	\$0	\$5,033,786	\$1,151,735	\$6,185,521	\$0	\$0	\$0	\$0	\$0
Kalimna Estate	\$2,094,000	\$0	\$2,094,000	\$0	\$2,094,000	\$0	\$2,094,000	\$0	\$0	\$0	\$0	\$0
Byford West	\$1,447,950	\$0	\$1,447,950	\$0	\$1,447,950	\$0	\$1,447,950	\$0	\$0	\$0	\$0	\$0
Byford Town Centre & The Reserve	\$3,091,130	\$4,924,216	\$8,015,346	\$508,933	\$58,850	\$3,098,936	\$3,157,786	\$0	\$3,032,280	\$1,825,280	\$4,857,560	\$508,933
Marni Park	\$2,398,000	\$0	\$2,398,000	\$0	\$2,398,000	\$0	\$2,398,000	\$0	\$0	\$0	\$0	\$0
Lots 59-62 Briggs Rd	\$1,381,860	\$0	\$1,381,860	\$195,764	\$0	\$0	\$0	\$0	\$1,381,860	\$0	\$1,381,860	\$195,764
Byford Meadows	\$2,642,320	\$0	\$2,642,320	\$213,232	\$1,168,960	\$0	\$1,168,960	\$531,608	\$1,473,360	\$0	\$1,473,360	-\$318,377
Grange Meadows (Byford Green)	\$1,186,214	\$0	\$1,186,214	\$124,058	\$310,514	\$0	\$310,514	\$242,514	\$875,700	\$0	\$875,700	-\$118,456
The Glades	\$23,722,398	\$282,555	\$24,004,953	-\$18,411	\$18,399,678	\$0	\$18,399,678	\$67,373	\$5,322,720	\$282,555	\$5,605,275	-\$85,784
Doley Road Precinct	\$6,455,465	\$0	\$6,455,465	-\$73,520	\$656,285	\$0	\$656,285	\$0	\$5,799,180	\$0	\$5,799,180	-\$73,520
The Brook (Aspen) - Lot 2 Nettleton Rd	\$2,136,311	\$0	\$2,136,311	\$105,730	\$2,136,311	\$0	\$2,136,311	\$105,730	\$0	\$0	\$0	\$0
Stanley Road Precinct	\$1,620,000	\$0	\$1,620,000	\$229,500	\$0	\$0	\$0	\$0	\$1,620,000	\$0	\$1,620,000	\$229,500
Mead St	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Old Quarter	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Stanley Road North East	\$882,000	\$0	\$882,000	\$124,950	\$0	\$0	\$0	\$0	\$882,000	\$0	\$882,000	\$124,950
Briggs Road, Larsen Rd Precinct	\$927,480	\$0	\$927,480	\$131,393	\$0	\$0	\$0	\$0	\$927,480	\$0	\$927,480	\$131,393
Nettleton Rd South	\$2,662,500	\$0	\$2,662,500	\$2,662,500	\$0	\$0	\$0	\$0	\$2,662,500	\$0	\$2,662,500	\$2,662,500

Byford Traditional Infrastructure Development Contribution Plan Report

Appendix G: Schedule of Costs – Infrastructure to be constructed/upgraded (Summary)

Infrastructure Construction - Estimated and Completed

DCA: DCA1_
Report Revision: 7

<i>Infrastructure Item:</i>	ESTIMATED TOTAL Infra Cost this DCP Revision			<i>Var previous Revision</i>	<i>% change</i>
	Completed	Remaining	Total		
Totals:	\$23,777,467	\$42,779,708	\$66,557,175	\$14,420,889	48.61%
Byford Central DOS	\$953,532	\$0	\$953,532	\$0	
The Glades DOS	\$0	\$2,074,000	\$2,074,000	\$804,015	63.31%
Kalimna DOS	\$585,808	\$0	\$585,808	\$0	
Doley Road (to Orton)	\$4,904,439	\$3,355,453	\$8,259,892	\$1,606,988	91.91%
Kardan Boulevard	\$4,729,636	\$0	\$4,729,636	-\$757,136	-100.00%
Orton Road	\$0	\$15,677,411	\$15,677,411	\$4,672,239	42.45%
Sansimeon Boulevard	\$2,298,307	\$0	\$2,298,307	-\$2,984,224	-76.53%
Indigo Parkway	\$896,035	\$7,898,777	\$8,794,812	\$1,140,361	15.95%
Warrington Road	\$716,367	\$6,218,219	\$6,934,586	\$3,232,950	108.30%
Abernethy Road	\$8,001,952	\$0	\$8,001,952	-\$0	-100.00%
Thomas Road	\$691,392	\$0	\$691,392	-\$850,150	-100.00%
Orton Road DOS & REW		\$7,555,848	\$7,555,848	\$7,555,848	

Byford Traditional Infrastructure Development Contribution Plan Report

Appendix H: Schedule of Costs - Administration

SCHEDULE OF COSTS

ADMINISTRATION COSTS Budget FY 2023
Report Revision
Fiscal Year

DCA1_ 7 2023
23/05/2024 DCP Staff
19/09/2023 (See DCP Worksheet)
23/05/2024 DCP Staff
Match

Byford Traditional Infrastructure DCP	Budget FY 2023	Years Remaining	Remaining Spend	Spent to Date (See Table 4)	Total Forecast
Legal Expenses	\$4,000.00	10.51	\$42,044.44		
Advertising, Promotion & Consultancy	\$3,000.00	10.51	\$31,533.33		
DWMS Review	\$0.00	10.51	\$0.00		
Wages Totals (See Table 1)	\$80,651.31	10.51	\$847,734.93		
Sub Total	\$87,651.31	10.51	\$921,312.70	\$2,290,708.26	\$3,212,020.96
<i>Change from previous year (see Tables 2 and 3)</i>	<i>-\$48,723</i>	<i>-1.81</i>	<i>-\$758,746</i>	<i>-\$168,603</i>	<i>-\$927,349</i>

Table 1 - Budget allocations current FY

Budget FY 2023	DCA1	DCA2	DCA3	DCA4	Totals
Legal Expenses	\$4,000	\$4,000	\$4,000	\$4,000	\$16,000
Advertising, Promotion & Consultancy	\$3,000	\$3,000	\$3,000	\$3,000	\$12,000
DWMS Review	\$0	\$0	\$0	\$0	\$0
Wages Totals (see below allocations)	\$80,651	\$13,441	\$40,328	\$134,418	\$268,836
Sub Totals	\$87,651	\$20,441	\$47,328	\$141,418	\$296,836
<i>Change from previous year</i>	<i>-\$48,723</i>	<i>-\$25,370</i>	<i>\$1,513</i>	<i>\$80,972</i>	<i>\$8,391</i>
Salary allocations	30% of FTE	5% of FTE	15% of FTE	50% of FTE	Total FTE
Technical Specialist Infrastructure Contributions (DCP Coordinator)	0.30	0.050	0.150	0.500	1.000
Director Development Services	0.03	0.005	0.015	0.050	0.100
Coordinator Strategic Planning	0.02	0.003	0.008	0.025	0.050
Manager Strategic Planning	0.03	0.005	0.015	0.050	0.100
Manager Engineering Services	0.01	0.001	0.003	0.010	0.020
Engineering Development Lead	0.01	0.002	0.005	0.015	0.030
Engineering Design Lead	0.01	0.001	0.003	0.010	0.020
Infrastructure Projects Lead	0.01	0.001	0.003	0.010	0.020
Manager Major Projects	0.01	0.001	0.003	0.010	0.020
Senior Project Engineer	0.01	0.001	0.003	0.010	0.020
Manager Finance	0.03	0.005	0.015	0.050	0.100
Management Accountant	0.03	0.005	0.015	0.050	0.100
Financial Accountant	0.06	0.010	0.030	0.100	0.200

Table 2 - Administration Costs Previous FY

ADMINISTRATION COSTS	DCA1	DCA2	DCA3	DCA4	Totals
Byford Traditional Infrastructure DCP	Budget FY 2022	Years Remaining	Remaining Spend	Spent to Date (See Table 4)	Total Forecast
Legal Expenses	\$4,000.00	12.32	\$48,277.78		
Advertising, Promotion & Consultancy	\$3,000.00	12.32	\$36,958.33		
DWMS Review	\$0.00	12.32	\$0.00		
Wages Totals (See Table 1)	\$129,374.57	12.32	\$1,593,827.85		
Sub Total	\$136,374.57	12.32	\$1,680,058.96	\$2,459,311.03	\$4,139,369.99

Table 3 - Budget allocations previous FY

Budget FY 2022-23	DCA1	DCA2	DCA3	DCA4	Totals
Legal Expenses	\$4,000	\$4,000	\$4,000	\$4,000	\$16,000
Advertising, Promotion & Consultancy	\$3,000	\$3,000	\$3,000	\$3,000	\$12,000
DWMS Review	\$0	\$0	\$0	\$0	\$0
Wages Totals (see below allocations)	\$129,375	\$38,812	\$38,812	\$56,446	\$263,445
Sub Totals	\$136,375	\$45,812	\$45,812	\$60,446	\$288,445
Salary allocations	Total FTE	50% of FTE	15% of FTE	15% of FTE	20% of FTE
Technical Specialist Infrastructure Contributions (DCP Coordinator)	1.00	0.50	0.150	0.150	0.200
Director Development Services	0.10	0.05	0.015	0.015	0.020
Coordinator Strategic Planning	0.05	0.03	0.008	0.008	0.010
Manager Strategic Planning	0.10	0.05	0.015	0.015	0.020
Manager Engineering Services	0.02	0.01	0.003	0.003	0.004
Engineering Development Lead	0.03	0.02	0.005	0.005	0.006
Engineering Design Lead	0.02	0.01	0.003	0.003	0.004
Manager Project Delivery	0.02	0.01	0.003	0.003	0.004
Infrastructure Projects Lead	0.02	0.01	0.003	0.003	0.004
Senior Project Engineer	0.02	0.01	0.003	0.003	0.004
Manager Finance	0.10	0.05	0.015	0.015	0.020
Management Accountant	0.10	0.05	0.015	0.015	0.020
Financial Accountant	0.20	0.10	0.030	0.030	0.040

Table 4

DCA	DCA1
Developer	(All)
Development Name	Administration
Report Revision	(All)
Row Labels	Administration spend to date
2014	-\$1,600,226.00
Administration costs 2014	-\$1,600,226.00
2015	-\$211,908.73
Administration costs 2015	-\$211,908.73
2016	\$77,115.29
Administration costs 2016	-\$263,038.71
Interest added	\$340,154.00
2017	-\$275,028.18
Administration costs 2017	-\$275,028.18
2018	-\$87,669.71
Administration costs 2018	-\$304,177.21
Interest added	\$116,502.50
2019	-\$31,134.01
Administration costs 2019	-\$241,838.45
Interest added	\$210,704.44
2020	-\$25,426.85
Administration costs 2020	-\$208,983.56
Interest added	\$183,556.71
2021	\$145,220.09
Administration costs 2021	-\$226,949.31
Auditing Adjustment (Interim) 2021	-\$144,597.66
Interest 21/22	\$864.55
Interest added	\$65,514.13
Interest exant - adjustment	\$449,388.38
2022	-\$145,275.16
Admin costs 2021/22	-\$153,007.04
Administration adjustment and drawdown	\$0.00
Interest Received 2021/22	\$7,731.88
2023	-\$136,375.00
Admin costs (budget) 2022/23 - TBC	-\$136,375.00
Grand Total	-\$2,290,708.26

Byford Traditional Infrastructure Development Contribution Plan Report

Appendix I: Schedule of Costs - Water Monitoring

**Shire of Serpentine Jarrahdale DCP
DCA 1 - Byford Traditional Infrastructure**

Our Ref: E23/7670

DCP7			
Summary of Costs:	Costed by	Date	Cost
Water Monitoring	Urbaqua	Jun-22	\$897,750
TOTAL (excl. GST)			\$897,750

WATER MONITORING COSTS

Byford Development Contribution Plan

Description	Hours Qty	People Qty	Salary \$/hr	Sample No. Qty	Sample runs/yr Qty	Cost Per Sample \$	Sites Qty	Rate \$	Cost	Contingency 25%	Annual Cost (GST Excl)	Years	Total Cost (GST Excl)
Sampling Program Management													
Preparation of the RFQ/Tender, Tender Brief, Scope and Specification	120	1	\$200						\$24,000	\$6,000	\$30,000	1	\$30,000
Preparation of Sample and Analysis Plan (SAP)	20	1	\$100						\$2,000	\$500	\$2,500	1	\$2,500
Program management (incl updates to SAP as required)	50	1	\$200						\$10,000	\$2,500	\$12,500	10	\$125,000
Data Management (site and program registration, data entry, validation)	40	1	\$100						\$4,000	\$1,000	\$5,000	10	\$50,000
Preparation / assistance with report (Annual Report)	50	2	\$100						\$10,000	\$2,500	\$12,500	10	\$125,000
Total - Sampling Program Management									\$50,000	\$12,500	\$62,500	\$32	\$332,500
Water Analysis (12 GW & 12 SW sites)													
Nitrogens (TN, TKN, NH4, NOx-N (NO3+NO2)) + TP + FRP				26	6	20	24		\$3,120	\$780	\$3,900	10	\$39,000
Dissolved Organic Nitrogen, DON				26	6	50	24		\$7,800	\$1,950	\$9,750	10	\$97,500
Total Dissolved Solids, TDS				14	6	25	12		\$2,100	\$525	\$2,625	10	\$26,250
Metals Set-up (Filtered)				26	1	12	24		\$312	\$78	\$390	10	\$3,900
Heavy Metals (Al, As, Cd, Cr, Cu, Fe, Pb, Ni, Zn & Hg)				26	1	70	24		\$1,820	\$455	\$2,275	10	\$22,750
Total Recoverable Hydrocarbons (TRH)				26	1	40	24		\$1,040	\$260	\$1,300	10	\$13,000
Polycyclic Aromatic Hydrocarbons and BTEX				26	1	90	24		\$2,340	\$585	\$2,925	10	\$29,250
Total - Water Analysis									\$18,532	\$4,633	\$23,165		\$231,650
Sediment Analysis (10 sites)													
Total Recoverable Hydrocarbons (TRH) & BTEX				12	1	40	10		\$480	\$120	\$600	10	\$6,000
Polycyclic Aromatic Hydrocarbons (PAH)				12	1	90	10		\$1,080	\$270	\$1,350	10	\$13,500
Metals Set-up				12	1	14	10		\$168	\$42	\$210	10	\$2,100
Heavy Metals (Al, As, Cd, Cr, Cu, Fe, Pb, Ni, Zn & Hg)				12	1	70	10		\$840	\$210	\$1,050	10	\$10,500
Moisture (no charge with metals)				12	1	0	10		\$0	\$0	\$0	10	\$0
Total - Sediment Analysis									\$2,568	\$642	\$3,210		\$32,100
Analysis - Other													
Troll 9500 Profiler XP (in-situ analysis)									\$20,000	\$20,000	\$5,000	1	\$25,000
Consumables (incl. nitrile Gloves)					6				\$100	\$600	\$150	10	\$7,500
Equipment hire (pumps etc)					6				\$300	\$1,800	\$450	10	\$22,500
Courier fees					6				\$40	\$240	\$60	10	\$3,000
Total - Analysis - Other									\$22,640	\$5,660	\$28,300		\$58,000
Superficial Groundwater Monitoring (12 sites)													
Installation of monitoring wells for superficial aquifer monitoring (average 3m depth, includes survey & development)							12	\$4,000	\$48,000	\$12,000	\$60,000	1	\$60,000
Monitor local superficial aquifer groundwater levels (Monthly) - Labour incl travel between sites	0.25	1	200		12		12		\$7,200	\$1,800	\$9,000	1	\$9,000
Monitor local superficial aquifer groundwater quality (Quarterly) - Labour incl travel between sites	0.25	1	200		4		12		\$2,400	\$600	\$3,000	10	\$30,000
Monitor local superficial aquifer groundwater levels (Quarterly) - Labour incl travel between sites	0.25	1	200		4		12		\$2,400	\$600	\$3,000	9	\$27,000
Total - Superficial Groundwater Monitoring									\$60,000	\$15,000	\$75,000		\$126,000
Surface Water Monitoring													
Purchase & installation of surface water level loggers - 10 sites							10	\$5,000	\$50,000	\$12,500	\$62,500	1	\$62,500
Monitor flows in Multiple Use Corridors - labour - 10 sites	0.25	1	200		4		10		\$2,000	\$500	\$2,500	10	\$25,000
Monitor quality in Multiple Use Corridors - labour - 12 sites	0.25	1	200		4		12		\$2,400	\$600	\$3,000	10	\$30,000
Total - Surface Water Level Monitoring									\$54,400	\$13,600	\$68,000		\$117,500
Total - Water Quality Management									\$208,140	\$52,035	\$260,175		\$897,750

Year 0 setup costs	\$189,000	1	\$189,000
Year 1 - 9 costs	\$71,175	9	\$640,575
Year 10 costs	\$68,175	1	\$68,175
			\$897,750

Byford Traditional Infrastructure Development Contribution Plan Report

Appendix J: Cost Review Reconciliation Adjustment

Cost Review Reconciliation

Cost Review Reconciliation

DCA: DCA1_
Report Revision: 7

This data reflects up to the end of the previous revision, does not include data from current revision or lots carried over (cleared under a pending Amendment) - see Appendix K for more details on lots carried over

Lots Cleared	6,231
Gross Contributions	\$77,412,502
Land for Roads/DOS settled	(\$8,298,719)
Land for POS settled	(\$40,689,989)
Works settled	(\$23,777,467)
Administration Costs incurred	(\$2,290,708)
Total Costs	(\$75,056,884)
Net Contribution Surplus/Deficit for Review Period	\$2,355,618

The DCP is intended to be "break-even" at its ultimate closure, i.e. the net contribution at the end of the DCP life should be zero (monies collected equal monies expended). In order to support this end target of zero, the Surplus or Defecit present at the end of each revision, is used to adjust the contribution values in the next revision.

For example, a Surplus at the end of a revision would result in a "credit" (or cost reduction) in the next DCP Report revision - thus reducing the contribution value. Likewise a defecit would result in a cost increase (cost addition) to the next DCP Report, for the equivalent value - thus increasing the contribution value.

This can be seen in the Cost Apportionment Schedule, referenced as "Reconciliation".

The Net Contribution for this revision represents a SURPLUS in the DCP

This means that the Contributions collected for the DCP so far, have exceeded the monies spent (at the closure of the last DCP Revision).

This surplus value is included in the Cost Apportionment Schedule as a CREDIT to the costs of the DCP (i.e. a cost reduction) in the "Reconciliation" line, in order to bring the balance back towards zero.

Byford Traditional Infrastructure Development Contribution Plan Report

Appendix K: Lots Completed and Remaining

Estimated Lots

Lots Completed and Remaining

DCA: DCA1_
Report Revision: 7

	ESTIMATED TOTAL LOTS	COMPLETED LOTS	ESTIMATED REMAINING LOTS	Lots Cleared under Amendment (to be carried over into the this next revision)
Totals:	11,695	6,231	5,464	28
St Thomas Estate	60	60	-	-
Sunrays	82	82	-	-
Byford Central	767	767	-	-
Redgum Brook	746	746	0	-
Kalimna Estate	408	408	-	-
Byford West	375	375	-	-
Byford Town Centre & The Reserve	1,076	196	880	5
Marri Park	315	315	-	-
Lots 59-62 Briggs Rd	192	-	192	-
Byford Meadows	358	173	185	-
Grange Meadows (Byford Green)	208	171	37	-
The Glades	3,180	1,987	1,193	20
Doley Road Precinct	1,926	440	1,486	-
The Brook (Aspen) - Lot 2 Nettleton Rd	420	420	-	-
Stanley Road Precinct	283	3	280	-
Mead St	74	6	68	-
Old Quarter	630	81	549	3
Stanley Road North East	288	-	288	-
Briggs Road_Larsen Rd Precinct	148	2	146	-
Nettleton Rd South	160	-	160	-

Byford Traditional Infrastructure Development Contribution Plan Report

Appendix L: Land Valuation

Executive Summary

Property Address:	Byford Traditional Infrastructure DCP – Development Contribution Area 1 (DCA1)		
General Description:	The subject of our valuation comprises notional englobo landholdings zoned as follows:		
	1)	“Residential R20”	
	2)	“Mixed Use / R60”	
	Both scenarios assume the land comprises a 5.0ha parcel that requires servicing but is within close proximity to services so there are no major servicing constraints and no major geotechnical / environmental issues.		
Purpose of Valuation:	Annual Scheme Contribution purposes.		
Valuation:	“Residential R20” Land Rate	-	\$ 60.00/m ²
	“Mixed Use / R60 Land Rate	-	\$115.00/m ²
	The above values assume the land comprises a 5ha parcel that requires servicing but is within close proximity to services so there are no major servicing constraints and no major geotechnical/environmental issues.		
	The above values are stated inclusive of GST and take into consideration a discount of 2.5% including GST, being an allowance for selling costs (sales commission, marketing and legal costs).		
	Our valuation has assumed that there is no significant change in market conditions between the date of inspection and the date of valuation.		
Date of Inspection:	25 November 2022.		
Date of Valuation:	1 February 2023.		
Senior Valuer:	David Molony AAPI, B.Com (Property & Finance) Certified Practising Valuer Licensed Valuer No. 44387 Western Australia		

This Executive Summary is a brief synopsis of the property and our assessment of market value.

It is designed to provide a brief overview and must not be read in isolation, separate from our formal valuation report.

Definition of “Market Value”:

The International Valuation Standards Council (and as adopted by the Australian Property Institute) defines Market Value in the *International Valuation Standards 2022* as:

“The estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm’s length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.”

Assumptions, Conditions and Limitations:

- The market is being impacted by the uncertainty caused by the COVID-19 pandemic. As at the date of valuation we consider that there is market uncertainty resulting in significant valuation uncertainty.

This valuation is therefore reported on the basis of 'significant valuation uncertainty'. As a result, less certainty exists than normal and a higher degree of caution should be attached to our valuation than normally would be the case. Given the unknown future impact that COVID-19 might have on markets, we recommend that the user(s) of this report review this valuation periodically.

This valuation is current at the date of valuation only. The value assessed herein may change significantly and unexpectedly over a relatively short period of time (including as a result of factors that the valuer could not reasonably have been aware of as at the date of valuation). We do not accept responsibility or liability for any losses arising from such subsequent changes in value.

- The planning and cadastral details obtained from the Department of Planning, Lands & Heritage, Main Roads Western Australia, Landgate and Local Authority websites are current and correct.
- Adjoining land owners or community groups do not impede or restrain development as foreseen.
- We are not aware of any Notices currently issued against the property and we have made no enquiries in this regard.
- Our valuation assumes there is no asbestos contamination.

We must point out however, that we are not experts in the detection or quantification of asbestos problems and accordingly, have not carried out a detailed investigation. Therefore, this valuation is made on the assumption that there are no actual or potential asbestos contamination issues affecting the subject property.

Should a subsequent investigation undertaken by a suitably qualified expert show that the site is contaminated, we reserve the right to amend our valuation accordingly.

- The value and utility of land can be adversely affected by the presence of Aboriginal sacred sites and/or sites of Aboriginal heritage significance. We have made no investigations in this regard, as Aboriginal requirements can only be determined by the appointment of an appropriate expert.

Under these circumstances, we cannot warrant that there are no such sites on the land and if it is subsequently determined that the reality is so affected, we reserve the right to review this valuation.

- The land is assumed to comprise topsoils which are relatively free draining, however as no geotechnical investigations have been either undertaken or commissioned, we are unable to report on the underlying nature of the site.
- This market valuation assumes there is no environmental contamination of the property.
- This market valuation assumes there is no encroachment of adjoining buildings onto the subject property.
- This market valuation assumes an unencumbered fee simple title to the property.
- If there are any encumbrances, encroachments, restrictions, leases or covenants which are not noted in this report, they may affect the assessment of market value. If any such matters are known or discovered, we should be advised and asked as to whether they affect our assessment of market value.
- We have assumed that all information supplied in conducting this market valuation consists of a full and accurate disclosure of all information that is relevant.
- It is assumed that no significant event occurs between the date of inspection and the date of valuation that would impact on the market value of the subject property.
- We have not obtained a Property Interest Report in providing our advice. A property-specific report will provide detailed information of property interests not listed on the Certificate of Title that may affect the use and enjoyment of the land.

A report can be obtained from Landgate for a charge of \$54.95 (incl. GST). If a subsequent Property Interest Report reveals any aspects of the property that may impact on its value, we reserve the right to review our market valuation.

If there is any variance/contradiction in any of the above assumptions, then we reserve the right to review this market valuation accordingly.

16.0 VALUATION CONCLUSIONS

In considering suitable lands rate for the subject hypothetical parcels, we are of the opinion the following factors require due regard in this instance.

- The properties comprises notional parent parcels of 5.00ha.
- It is assumed the land requires servicing but is within close proximity to services so there are no major servicing constraints.
- It is assumed there are no major geotechnical/environmental issues.
- The DCP Area is rapidly emerging and whilst peripheral, benefits from established arterial road linkages.
- The first scenario assumes a relatively low notional density coding of "Residential R20".
- The second scenario assumes a broader scope for development as "Mixed Use / R60".
- Whilst finished lot values have generally appreciated in recent years, civil development costs have escalated rapidly which is having an associated negative impact on project feasibility.

Value per m² for Standard Residential/Non-Standard Residential:

Based on our analysis we have adopted a rate of **\$60.00/m²** including GST. This takes into consideration the 2.5% discount applicable for selling costs (sales commission, marketing and legal costs).

The above rate is current as at 1 February 2023.

Our valuation has assumed that there is no significant change in market conditions between the date of inspection and the date of valuation

Value per m² for Non-Residential:

Based on our analysis we have adopted a rate of **\$115.00/m²** including GST. This takes into consideration the 2.5% discount applicable for selling costs (sales commission, marketing and legal costs).

The above rate is current as at 1 February 2023.

Our valuation has assumed that there is no significant change in market conditions between the date of inspection and the date of valuation

Land Value Escalation Rate:

Based on current market conditions, we believe an indicative growth rate of **2.5%** is reasonable for the next 12 months.



David Molony AAPI, B. Com (Property & Finance)
 Certified Practising Valuer
 Licensed Valuer No. 44387
 Western Australia

Byford Traditional Infrastructure Development Contribution Plan Report

Appendix M: Infrastructure Delivery Status Report

Development Contribution Area: DCA1_
 Report Revision: 7
 Name of DCP: Byford Traditional Infrastructure DCP

Infrastructure Delivery Status Report

This report reflects the estimated **completion** dates for infrastructure items. Delivery may be staged, and works may be ongoing throughout the life of the DCP.

Summary of delivery of infrastructure

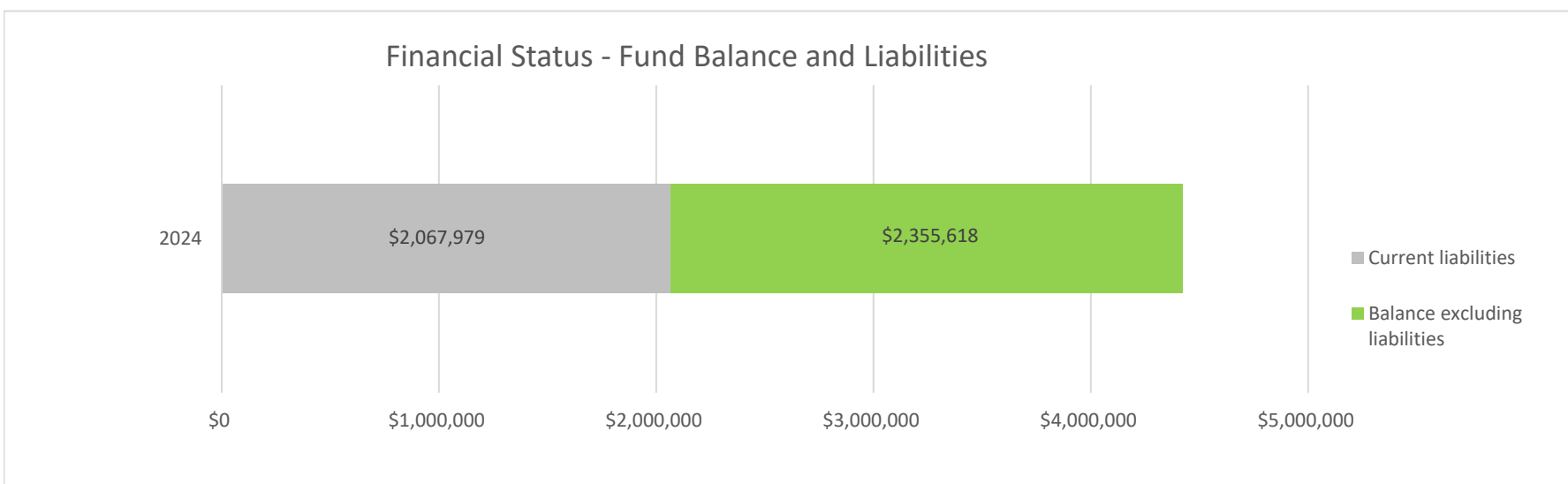
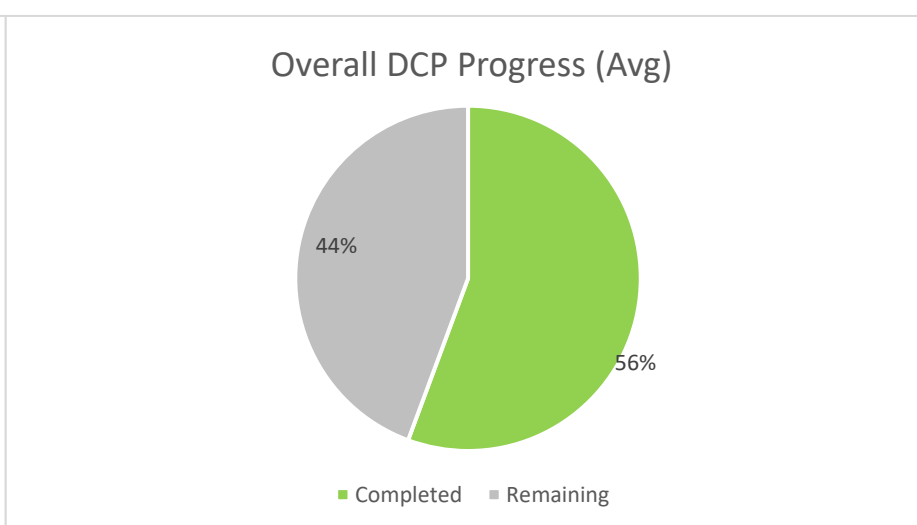
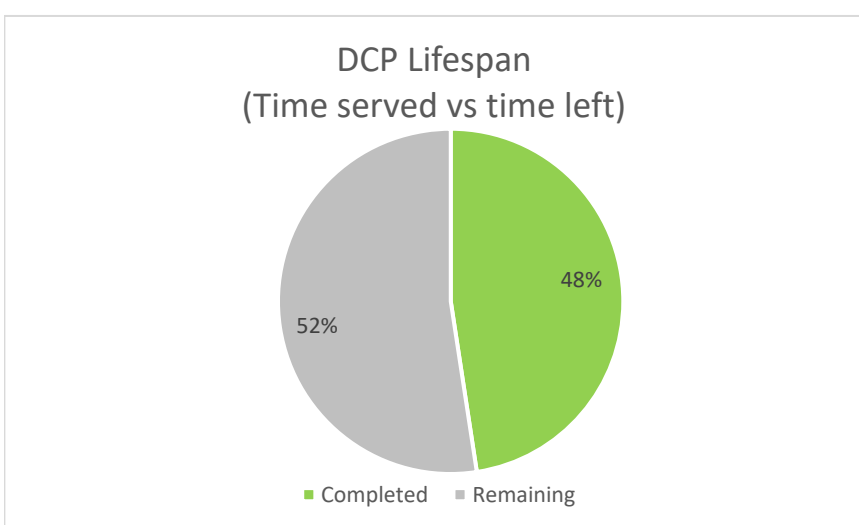
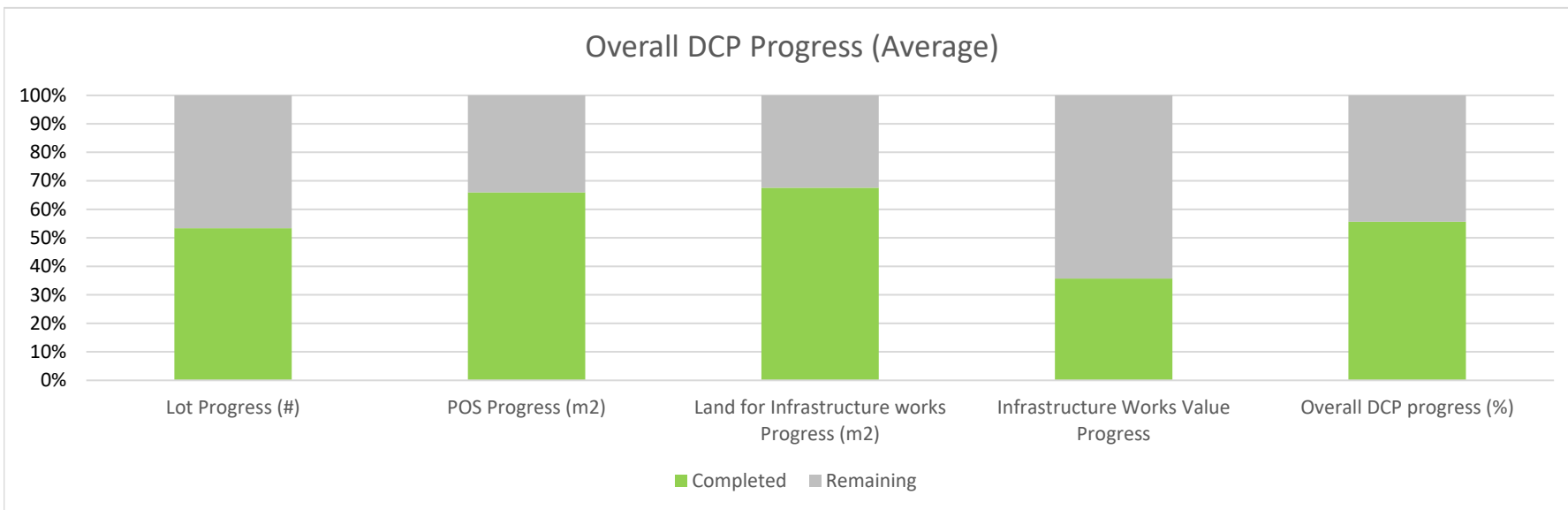
Item of infrastructure	Scheduled delivery priority in previous DCP Revision	Progress/status (% complete by \$ value)	Expected delivery	% detail of funding			% detail of funding			Notes (Highlighted Cells)
				Grants	Shire	DCP	Grants	Shire	DCP	
The Glades DOS	2022	0%	2025	\$ -	\$ -	\$ 2,074,000	0%	0%	100%	This report now reflects completion, rather than commencement.
Doley Road (to Orton)	2025	59%	2026	\$ -	\$ -	\$ 8,259,892	0%	0%	100%	This report now reflects completion, rather than commencement.
Orton Road	2027	0%	2031	\$ -	\$ -	\$ 15,677,411	0%	0%	100%	This report now reflects completion, rather than commencement.
Indigo Parkway	2029	10%	2026	\$ -	\$ -	\$ 8,794,812	0%	0%	100%	This report now reflects completion, rather than commencement.
Warrington Road	2030	10%	2028	\$ -	\$ -	\$ 6,934,586	0%	0%	100%	This report now reflects completion, rather than commencement.
Orton Road DOS & REW		0%	2026	\$ -	\$ -	\$ 7,555,848	0%	0%	100%	New item

Byford Traditional Infrastructure Development Contribution Plan Report

Appendix N: DCP Dashboard Summary

DCP Progress Summary Dashboard Report

DCA: DCA1_
Report Revision: 7



Byford Traditional Infrastructure Development Contribution Plan Report

Appendix O: Infrastructure Costings – full breakdown

**Shire of Serpentine Jarrahdale DCP
DCA 1 - Byford Traditional Infrastructure**

Our Ref: E22/14029

Summary of Costs:	DCP7		
	Costed by	Date	Cost
Orton Road New – Integrator B	Rawlinsons	Jun-23	\$15,677,411
Indigo Parkway – Integrator B	Rawlinsons	Jun-23	\$7,898,777
Doley Road – Neighbourhood Connector A	Rawlinsons	Jun-23	\$3,355,453
Warrington Road – Neighbourhood Connector B	Rawlinsons	Jun-23	\$6,218,219
The Glades District Open Space	Rawlinsons	Jun-23	\$2,074,000
Orton Road District Open Space	Rawlinsons	Jun-23	\$4,146,000
Orton Road REW	Rawlinsons	Jun-23	\$3,409,848
TOTAL (excl. GST)			\$42,779,708

Shire of Serpentine Jarrahdale DCP
DCA 1 - Byford Traditional Infrastructure - Update

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
A	ROAD - ORTON ROAD NEW							
A.A	Road Construction							
A.A.A	Road Works							
	Earthworks and Site Preparation				\$0			
A.A.A.1	Site Clearance (based on light shrubs)	49,223	m2	\$4	\$173,265			
A.A.A.2	Extra over for removal of trees		item		\$64,485			
A.A.A.3	Remove existing structures along Orton Road		item		\$23,420			
A.A.A.4	Removal of topsoil 150mm and stockpile for later re-use	49,223	m2	\$2	\$79,249			
A.A.A.5	Cut to Fill - General Earthworks	19,560	m3	\$8	\$160,979			
A.A.A.6	Detailed excavation - mill and profile	6,984	m2	\$19	\$132,556			
A.A.A.7	Imported Fill		m3	\$30	\$0			
A.A.A.8	Form swale	8,993	m2	\$4	\$34,083			
	Subgrade Preparation				\$0			
A.A.A.9	Preparation, trim and compact	56,206	m2	\$6	\$309,133			
	Sub Base and Base Course				\$0			
A.A.A.10	100mm thick crushed rock base course	33,499	m2	\$8	\$275,362			
	200mm thick compacted limestone sub base		m2	\$14				
A.A.A.11	250mm thick compacted limestone sub base	33,499	m2	\$17	\$585,563			
A.A.A.12	300mm thick compacted limestone sub base		m2	\$21	\$0			
	Road Paving				\$0			
A.A.A.13	50mm thick (AC14)	28,103	m2	\$31	\$877,938			
A.A.A.14	Extra over for 2% red oxide	12,366	m2	\$6	\$77,040			
A.A.A.15	Primer seal	28,103	m2	\$4	\$113,536			
	Kerbing				\$0			
A.A.A.16	Mountable Kerb (MK)	4,497	m	\$25	\$114,404			
A.A.A.17	Kerb openings	225	no	\$350	\$78,750			
A.A.A.18	Semi Mountable Kerb (SMK)	4,497	m	\$30	\$133,336			
A.A.A.19	Concrete flush edge beam	2,249	m	\$67	\$150,795			
	Line Marking and Furniture				\$0			
A.A.A.20	Line marking	4,497	m	\$6	\$28,511			
A.A.A.21	Street sign post	0	no	\$122	\$0			
A.A.A.22	Street name plate	0	no	\$199	\$0			
A.A.A.23	Chevron sign	0	no	\$613	\$0			
A.A.A.24	Traffic sign	0	no	\$450	\$0			
	Landscaping							
A.A.A.25	Mulch to planter boxes (2m x 2m)	0	m2	\$16	\$0			
A.A.A.26	Trees (100l)	0	no	\$506	\$0			
A.A.A.27	Soft landscaping	12,740	m2	\$0	\$0			
A.A.A.28	Landscape mix	3,185	m3	\$90	\$286,650			
A.A.A.29	Rock pitching	750	m2	\$155	\$116,438			
A.A.A.30	Drainage layer	13,490	m2	\$0	\$0			
	TOTAL Road Works		Item			\$3,815,493		
A.A.B	Shared Paths							
	Earthworks and Site Preparation							
A.A.B.1	Site Clearance (based on light shrubs)	10,118	m2	\$4	\$35,615			
A.A.B.2	Removal of topsoil 150mm and stockpile for later re-use	10,118	m2	\$2	\$16,290			
A.A.B.3	Cut to Fill - General Earthworks	3,036	m3	\$8	\$24,986			
A.A.B.4	Imported Fill	0	m3	\$30	Excl.			
	Subgrade Preparation							
A.A.B.5	Preparation, trim and compact	10,118	m2	\$6	\$55,649			
	Pathway							
A.A.B.6	100 thick concrete footpath with broomed finish	10,118	m2	\$71	\$716,759			
A.A.B.7	Sand fill below concrete footpath (100mm)	10,118	m2	\$5	\$55,244			
A.A.B.8	Pram ramp	0	no	\$670	Included with intersections			
	TOTAL Shared Paths		Item			\$904,544		
A.A.C	Street Lighting							
A.A.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	129	no	\$3,442	\$443,982			
A.A.C.2	6.5 DOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	65	no	\$5,111	\$332,214			
	TOTAL Street Lighting		Item			\$776,196		
A.A.D	Road Drainage							
A.A.D.1	450dia reinforced concrete pipe including excavation and backfill	2,249	m	\$233	\$524,129			
A.A.D.2	150dia slotted PVC subsoil drainage pipe including aggregate, geofabric and porous sand	2,249	m	\$189	\$424,161			
A.A.D.3	Side entry pits including liner, cover, excavation, and associated works	0	no	\$2,667	CESP measured at intersections, RAB's			

**Shire of Serpentine Jarrahdale DCP
 DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
A.A.D.4	Raised gully / bubble up pits including liner, cover, grate, excavation, rock pitching, and associated works	75	no	\$3,021	\$226,544			
	TOTAL Road Drainage		Item			\$1,174,834		
<u>A.A.E</u>	<u>Preliminaries and Project Costs</u>							
A.A.E.1	Traffic Management	5.0000	%	\$6,671,067	\$333,553			
A.A.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$6,671,067	\$1,000,660			
A.A.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$6,671,067	\$500,330			
A.A.E.4	Risk Contingency Allowance	10.0000	%	\$8,505,610	\$850,561			
	TOTAL Preliminaries and Project Costs		Item			\$2,685,104		
	TOTAL Road Construction		Item				\$9,356,171	
<u>A.B</u>	<u>Tourmaline Boulevard (Left In Left out Intersection)</u>							
<u>A.B.A</u>	<u>Road Works</u>							
A.B.A.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	966	m2	\$4		Excl.		
A.B.A.2	Removal of topsoil 150mm and stockpile for later re-use	966	m2	\$2		Excl.		
A.B.A.3	Cut to Fill - General Earthworks	290	m3	\$8		Excl.		
A.B.A.4	Imported Fill	0	m3	\$30		Excl.		
A.B.A.5	Subgrade Preparation Preparation, trim and compact Sub Base and Base Course	966	m2	\$6		Excl.		
A.B.A.6	100mm thick crushed rock base course	786	m2	\$8		Excl.		
A.B.A.7	250mm thick compacted limestone sub base	786	m2	\$17		Excl.		
A.B.A.8	Road Paving 50mm thick (AC14)	516	m2	\$31		Excl.		
A.B.A.9	Extra over for 2% red oxide	90	m2	\$6		Excl.		
A.B.A.10	Primer seal	516	m2	\$4		Excl.		
A.B.A.11	Kerbing Mountable Kerb (MK)	60	m	\$25		Excl.		
A.B.A.12	Semi Mountable Kerb (SMK)	71	m	\$30		Excl.		
A.B.A.13	Line Marking and Furniture Line marking	80	m	\$6		Excl.		
A.B.A.14	Street sign post	1	no	\$122		Excl.		
A.B.A.15	Street name plate	2	no	\$199		Excl.		
A.B.A.16	Traffic sign	2	no	\$450		Excl.		
A.B.A.17	Landscaping Soft landscaping	180	m2	\$0		Excl.		
A.B.A.18	Landscape mix	42	m3	\$90		Excl.		
A.B.A.19	Rock pitching	8	m2	\$155		Excl.		
A.B.A.20	Drainage layer	180	m2	\$0		Excl.		
	TOTAL Road Works		Item			\$0		
<u>A.B.B</u>	<u>Shared Paths</u>							
A.B.B.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	150	m2	\$4		Excl.		
A.B.B.2	Removal of topsoil 150mm and stockpile for later re-use	150	m2	\$2		Excl.		
A.B.B.3	Cut to Fill - General Earthworks	45	m3	\$8		Excl.		
A.B.B.4	Imported Fill	0	m3	\$30		Excl.		
A.B.B.5	Subgrade Preparation Preparation, trim and compact Pathway	150	m2	\$6		Excl.		
A.B.B.6	100 thick concrete footpath with broomed finish	150	m2	\$71		Excl.		
A.B.B.7	Sand fill below concrete footpath (100mm)	150	m2	\$5		Excl.		
A.B.B.8	Pram ramp	0	no	\$670		Excl.		
A.B.B.9	Pram ramp including tactile	2	no	\$973		Excl.		
A.B.B.10	Line Marking and Furniture Traffic sign	2	no	\$450		Excl.		
	TOTAL Shared Paths		Item			\$0		
<u>A.B.C</u>	<u>Street Lighting</u>							
A.B.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	2	no	\$3,442		Excl.		
	TOTAL Street Lighting		Item			\$0		
<u>A.B.D</u>	<u>Road Drainage</u>							
A.B.D.1	450dia reinforced concrete pipe including excavation and backfill	65	m	\$233		Excl.		
A.B.D.2	Side entry pits including liner, cover, excavation, and associated works	2	no	\$2,667		Excl.		
	TOTAL Road Drainage		Item			\$0		
<u>A.B.E</u>	<u>Preliminaries and Project Costs</u>							
A.B.E.1	Traffic Management	5.0000	%	\$105,821		Excl.		

**Shire of Serpentine Jarrahdale DCP
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Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
A.B.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$105,821	Excl.			
A.B.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$105,821	Excl.			
A.B.E.4	Risk Contingency Allowance	10.0000	%	\$134,922	Excl.			
	TOTAL Preliminaries and Project Costs		Item			\$0		
	TOTAL Tourmaline Boulevard (Left In Left out Intersection)		Item				\$0	
A.C	<u>Kokoda Boulevard (Roundabout)</u>							
A.C.A	<u>Road Works</u>							
A.C.A.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	2,504	m2	\$4	\$8,814			
A.C.A.2	Removal of topsoil 150mm and stockpile for later re-use	2,504	m2	\$2	\$4,031			
A.C.A.3	Cut to Fill - General Earthworks	752	m3	\$8	\$6,189			
A.C.A.4	Imported Fill	0	m3	\$30	Excl.			
A.C.A.5	Subgrade Preparation Preparation, trim and compact Sub Base and Base Course	2,504	m2	\$6	\$13,772			
A.C.A.6	100mm thick crushed rock base course	1,983	m2	\$8	\$16,300			
A.C.A.7	250mm thick compacted limestone sub base	1,983	m2	\$17	\$34,663			
A.C.A.8	Road Paving 50mm thick (AC14)	1,518	m2	\$31	\$47,422			
A.C.A.9	Primer seal	1,518	m2	\$4	\$6,133			
A.C.A.10	Brick Paving 80 thick brick pavers	333	m2	\$100	\$33,333			
A.C.A.11	30 thick compacted sand bed	180	m2	\$2	\$295			
A.C.A.12	40 thick compacted sand bed (RAB)	153	m2	\$2	\$335			
A.C.A.13	170mm thick compacted limestone	180	m2	\$11	\$2,047			
A.C.A.14	250mm thick compacted limestone sub base	153	m2	\$17	\$2,674			
A.C.A.15	Kerbing Mountable Kerb (MK)	70	m	\$25	\$1,781			
A.C.A.16	Semi Mountable Kerb (SMK)	143	m	\$30	\$4,240			
A.C.A.17	Barrier Kerb (BK)	54	m	\$53	\$2,869			
A.C.A.18	Line Marking and Furniture Line marking	53	m	\$6	\$336			
A.C.A.19	Street sign post	1	no	\$122	\$122			
A.C.A.20	Street name plate	2	no	\$199	\$398			
A.C.A.21	Chevron sign	1	no	\$613	\$613			
A.C.A.22	Traffic sign	3	no	\$450	\$1,350			
A.C.A.23	Landscaping Landscape mix	57	m3	\$90	\$5,130			
	TOTAL Road Works		Item			\$192,847		
A.C.B	<u>Shared Paths</u>							
A.C.B.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	356	m2	\$4	\$1,253			
A.C.B.2	Removal of topsoil 150mm and stockpile for later re-use	356	m2	\$2	\$573			
A.C.B.3	Cut to Fill - General Earthworks	107	m3	\$8	\$881			
A.C.B.4	Imported Fill	0	m3	\$30	Excl.			
A.C.B.5	Subgrade Preparation Preparation, trim and compact Pathway	356	m2	\$6	\$1,958			
A.C.B.6	100 thick concrete footpath with broomed finish	356	m2	\$71	\$25,219			
A.C.B.7	Sand fill below concrete path (100mm)	356	m2	\$5	\$1,944			
A.C.B.8	Pram ramp	0	no	\$670	\$0			
A.C.B.9	Pram ramp including tactile	6	no	\$973	\$5,836			
A.C.B.10	Tactile paving	10	m2	\$325	\$3,250			
A.C.B.11	Line Marking and Furniture Traffic sign	2	no	\$450	\$900			
	TOTAL Shared Paths		Item			\$41,814		
A.C.C	<u>Street Lighting</u>							
A.C.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	4	no	\$3,442	\$13,767			
	TOTAL Street Lighting		Item			\$13,767		
A.C.D	<u>Road Drainage</u>							
A.C.D.1	450dia reinforced concrete pipe including excavation and backfill	130	m	\$233	\$30,297			
A.C.D.2	Side entry pits including liner, cover, excavation, and associated works	4	no	\$2,667	\$10,666			
	TOTAL Road Drainage		Item			\$40,963		
A.C.E	<u>Preliminaries and Project Costs</u>							
A.C.E.1	Traffic Management	5.0000	%	\$289,390	\$14,470			
A.C.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$289,390	\$43,409			

**Shire of Serpentine Jarrahdale DCP
 DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
A.C.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$289,390	\$21,704			
A.C.E.4	Risk Contingency Allowance	10.0000	%	\$368,973	\$36,897			
	TOTAL Preliminaries and Project Costs		Item			\$116,480		
	TOTAL Kokoda Boulevard (Roundabout)		Item				\$405,870	
A.D	<u>Doley Road (Roundabout)</u>							
A.D.A	<u>Road Works</u>							
	Earthworks and Site Preparation							
A.D.A.1	Site Clearance (based on light shrubs)	2,504	m2	\$4	\$8,814			
A.D.A.2	Removal of topsoil 150mm and stockpile for later re-use	2,504	m2	\$2	\$4,031			
A.D.A.3	Cut to Fill - General Earthworks	752	m3	\$8	\$6,189			
A.D.A.4	Imported Fill	0	m3	\$30	Excl.			
	Subgrade Preparation							
A.D.A.5	Preparation, trim and compact	2,504	m2	\$6	\$13,772			
	Sub Base and Base Course							
A.D.A.6	100mm thick crushed rock base course	1,983	m2	\$8	\$16,300			
A.D.A.7	250mm thick compacted limestone sub base	1,983	m2	\$17	\$34,663			
	Road Paving							
A.D.A.8	50mm thick (AC14)	1,518	m2	\$31	\$47,422			
A.D.A.9	Primer seal	1,518	m2	\$4	\$6,133			
	Brick Paving							
A.D.A.10	80 thick brick pavers	333	m2	\$100	\$33,333			
A.D.A.11	30 thick compacted sand bed	180	m2	\$2	\$295			
A.D.A.12	40 thick compacted sand bed (RAB)	153	m2	\$2	\$335			
A.D.A.13	170mm thick compacted limestone	180	m2	\$11	\$2,047			
A.D.A.14	250mm thick compacted limestone sub base	153	m2	\$17	\$2,674			
	Kerbing							
A.D.A.15	Mountable Kerb (MK)	70	m	\$25	\$1,781			
A.D.A.16	Semi Mountable Kerb (SMK)	143	m	\$30	\$4,240			
A.D.A.17	Barrier Kerb (BK)	54	m	\$53	\$2,869			
	Line Marking and Furniture							
A.D.A.18	Line marking	53	m	\$6	\$336			
A.D.A.19	Street sign post	1	no	\$122	\$122			
A.D.A.20	Street name plate	2	no	\$199	\$398			
A.D.A.21	Chevron sign	1	no	\$613	\$613			
A.D.A.22	Traffic sign	3	no	\$450	\$1,350			
	Landscaping				\$0			
A.D.A.23	Landscape mix	57	m3	\$90	\$5,130			
	Other							
A.D.A.24	Allow for connection to existing Doley Road		Item		\$10,000			
	TOTAL Road Works		Item			\$202,847		
A.D.B	<u>Shared Paths</u>							
	Earthworks and Site Preparation							
A.D.B.1	Site Clearance (based on light shrubs)	356	m2	\$4	\$1,253			
A.D.B.2	Removal of topsoil 150mm and stockpile for later re-use	356	m2	\$2	\$573			
A.D.B.3	Cut to Fill - General Earthworks	107	m3	\$8	\$881			
A.D.B.4	Imported Fill	0	m3	\$30	Excl.			
	Subgrade Preparation							
A.D.B.5	Preparation, trim and compact	356	m2	\$6	\$1,958			
	Pathway							
A.D.B.6	100 thick concrete footpath with broomed finish	356	m2	\$71	\$25,219			
A.D.B.7	Sand fill below concrete path (100mm)	356	m2	\$5	\$1,944			
A.D.B.8	Pram ramp	0	no	\$670	\$0			
A.D.B.9	Pram ramp including tactile	6	no	\$973	\$5,836			
A.D.B.10	Tactile paving	10	m2	\$325	\$3,250			
	Line Marking and Furniture							
A.D.B.11	Traffic sign	2	no	\$450	\$900			
	Landscaping							
A.D.B.12	Mulch to planter boxes (2m x 2m)	0	m2	\$16	Excl.			
A.D.B.13	Trees (100l)	0	no	\$506	Excl.			
A.D.B.14	Soft landscaping	0	m2	\$0	Excl.			
	Other							
A.D.B.15	Allow for connecting into existing footpath		item		\$2,500			
	TOTAL Shared Paths		Item			\$44,314		
A.D.C	<u>Street Lighting</u>							
A.D.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	4	no	\$3,442	\$13,767			
	TOTAL Street Lighting		Item			\$13,767		
A.D.D	<u>Road Drainage</u>							
A.D.D.1	450dia reinforced concrete pipe including excavation and backfill	130	m	\$233	\$30,297			
A.D.D.2	Side entry pits including liner, cover, excavation, and associated works	4	no	\$2,667	\$10,666			
	TOTAL Road Drainage		Item			\$40,963		

Shire of Serpentine Jarrahdale DCP
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Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
A.D.E	<u>Preliminaries and Project Costs</u>							
A.D.E.1	Traffic Management	5.0000	%	\$301,890	\$15,095			
A.D.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$301,890	\$45,284			
A.D.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$301,890	\$22,642			
A.D.E.4	Risk Contingency Allowance	10.0000	%	\$384,910	\$38,491			
	TOTAL Preliminaries and Project Costs		Item			\$121,511		
	TOTAL Doley Road (Roundabout)		Item				\$423,401	
A.E	<u>Lawrence Way (Roundabout)</u>							
A.E.A	<u>Road Works</u>							
	Earthworks and Site Preparation							
A.E.A.1	Site Clearance (based on light shrubs)	2,504	m2	\$4	\$8,814			
A.E.A.2	Removal of topsoil 150mm and stockpile for later re-use	2,504	m2	\$2	\$4,031			
A.E.A.3	Cut to Fill - General Earthworks	752	m3	\$8	\$6,189			
A.E.A.4	Imported Fill	0	m3	\$30	Excl.			
	Subgrade Preparation							
A.E.A.5	Preparation, trim and compact Sub Base and Base Course	2,504	m2	\$6	\$13,772			
A.E.A.6	100mm thick crushed rock base course	1,983	m2	\$8	\$16,300			
A.E.A.7	250mm thick compacted limestone sub base	1,983	m2	\$17	\$34,663			
	Road Paving							
A.E.A.8	50mm thick (AC14)	1,518	m2	\$31	\$47,422			
A.E.A.9	Primer seal	1,518	m2	\$4	\$6,133			
	Brick Paving							
A.E.A.10	80 thick brick pavers	333	m2	\$100	\$33,333			
A.E.A.11	30 thick compacted sand bed	180	m2	\$2	\$295			
A.E.A.12	40 thick compacted sand bed (RAB)	153	m2	\$2	\$335			
A.E.A.13	170mm thick compacted limestone	180	m2	\$11	\$2,047			
A.E.A.14	250mm thick compacted limestone sub base	153	m2	\$17	\$2,674			
	Kerbing							
A.E.A.15	Mountable Kerb (MK)	70	m	\$25	\$1,781			
A.E.A.16	Semi Mountable Kerb (SMK)	143	m	\$30	\$4,240			
A.E.A.17	Barrier Kerb (BK)	54	m	\$53	\$2,869			
	Line Marking and Furniture							
A.E.A.18	Line marking	53	m	\$6	\$336			
A.E.A.19	Street sign post	1	no	\$122	\$122			
A.E.A.20	Street name plate	2	no	\$199	\$398			
A.E.A.21	Chevron sign	1	no	\$613	\$613			
A.E.A.22	Traffic sign	3	no	\$450	\$1,350			
	Landscaping							
A.E.A.23	Mulch to planter boxes (2m x 2m)	0	m2	\$16	Excl.			
A.E.A.24	Trees (100l)	0	no	\$506	Excl.			
A.E.A.25	Soft landscaping	227	m2	\$0	Excl.			
A.E.A.26	Landscape mix	57	m3	\$90	\$5,130			
	Other							
A.E.A.27	Allow for connection to existng Lawrence Way		item		\$10,000			
	TOTAL Road Works		Item			\$202,847		
A.E.B	<u>Shared Paths</u>							
	Earthworks and Site Preparation							
A.E.B.1	Site Clearance (based on light shrubs)	356	m2	\$4	\$1,253			
A.E.B.2	Removal of topsoil 150mm and stockpile for later re-use	356	m2	\$2	\$573			
A.E.B.3	Cut to Fill - General Earthworks	107	m3	\$8	\$881			
A.E.B.4	Imported Fill	0	m3	\$30	Excl.			
	Subgrade Preparation							
A.E.B.5	Preparation, trim and compact Pathway	356	m2	\$6	\$1,958			
A.E.B.6	100 thick concrete footpath with broomed finish	356	m2	\$71	\$25,219			
A.E.B.7	Sand fill below concrete path (100mm)	356	m2	\$5	\$1,944			
A.E.B.8	Pram ramp	0	no	\$670	\$0			
A.E.B.9	Pram ramp including tactile	6	no	\$973	\$5,836			
A.E.B.10	Tactile paving	10	m2	\$325	\$3,250			
	Line Marking and Furniture							
A.E.B.11	Line marking	0	m	\$6	Excl.			
A.E.B.12	Street sign post	0	no	\$122	Excl.			
A.E.B.13	Street name plate	0	no	\$199	Excl.			
A.E.B.14	Chevron sign	0	no	\$613	Excl.			
A.E.B.15	Traffic sign	2	no	\$450	\$900			
	Landscaping							
A.E.B.16	Mulch to planter boxes (2m x 2m)	0	m2	\$16	Excl.			
A.E.B.17	Trees (100l)	0	no	\$506	Excl.			
A.E.B.18	Soft landscaping	0	m2	\$0	Excl.			
	TOTAL Shared Paths		Item			\$41,814		
A.E.C	<u>Street Lighting</u>							

**Shire of Serpentine Jarrahdale DCP
 DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
A.E.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	4	no Item	\$3,442	\$13,767			
	TOTAL Street Lighting					\$13,767		
<u>A.E.D</u>	<u>Road Drainage</u>							
A.E.D.1	450dia reinforced concrete pipe including excavation and backfill	130	m	\$233	\$30,297			
A.E.D.2	Side entry pits including liner, cover, excavation, and associated works	4	no Item	\$2,667	\$10,666			
	TOTAL Road Drainage					\$40,963		
<u>A.E.E</u>	<u>Preliminaries and Project Costs</u>							
A.E.E.1	Traffic Management	5.0000	%	\$299,390	\$14,970			
A.E.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$299,390	\$44,909			
A.E.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$299,390	\$22,454			
A.E.E.4	Risk Contingency Allowance	10.0000	%	\$381,723	\$38,172			
	TOTAL Preliminaries and Project Costs		Item			\$120,505		
	TOTAL Lawrence Way (Roundabout)		Item				\$419,895	
<u>A.F</u>	<u>Warrington Road (Roundabout)</u>							
<u>A.F.A</u>	<u>Road Works</u>							
A.F.A.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	2,504	m2	\$4	\$8,814			
A.F.A.2	Removal of topsoil 150mm and stockpile for later re-use	2,504	m2	\$2	\$4,031			
A.F.A.3	Cut to Fill - General Earthworks	752	m3	\$8	\$6,189			
A.F.A.4	Imported Fill	0	m3	\$30	Excl.			
A.F.A.5	Subgrade Preparation Preparation, trim and compact Sub Base and Base Course	2,504	m2	\$6	\$13,772			
A.F.A.6	100mm thick crushed rock base course	1,983	m2	\$8	\$16,300			
A.F.A.7	250mm thick compacted limestone sub base Road Paving	1,983	m2	\$17	\$34,663			
A.F.A.8	50mm thick (AC14)	1,518	m2	\$31	\$47,422			
A.F.A.9	Primer seal	1,518	m2	\$4	\$6,133			
A.F.A.10	Brick Paving 80 thick brick pavers	333	m2	\$100	\$33,333			
A.F.A.11	30 thick compacted sand bed	180	m2	\$2	\$295			
A.F.A.12	40 thick compacted sand bed (RAB)	153	m2	\$2	\$335			
A.F.A.13	170mm thick compacted limestone	180	m2	\$11	\$2,047			
A.F.A.14	250mm thick compacted limestone sub base Kerbing	153	m2	\$17	\$2,674			
A.F.A.15	Mountable Kerb (MK)	70	m	\$25	\$1,781			
A.F.A.16	Semi Mountable Kerb (SMK)	143	m	\$30	\$4,240			
A.F.A.17	Barrier Kerb (BK)	54	m	\$53	\$2,869			
A.F.A.18	Concrete flush edge beam Line Marking and Furniture	0	m	\$67	\$0			
A.F.A.19	Line marking	53	m	\$6	\$336			
A.F.A.20	Street sign post	1	no	\$122	\$122			
A.F.A.21	Street name plate	2	no	\$199	\$398			
A.F.A.22	Chevron sign	1	no	\$613	\$613			
A.F.A.23	Traffic sign	3	no	\$450	\$1,350			
A.F.A.24	Landscaping Mulch to planter boxes (2m x 2m)	0	m2	\$16	Excl.			
A.F.A.25	Trees (100l)	0	no	\$506	Excl.			
A.F.A.26	Soft landscaping	227	m2	\$0	Excl.			
A.F.A.27	Landscape mix	57	m3	\$90	\$5,130			
	TOTAL Road Works		Item			\$192,847		
<u>A.F.B</u>	<u>Shared Paths</u>							
A.F.B.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	356	m2	\$4	\$1,253			
A.F.B.2	Removal of topsoil 150mm and stockpile for later re-use	356	m2	\$2	\$573			
A.F.B.3	Cut to Fill - General Earthworks	107	m3	\$8	\$881			
A.F.B.4	Imported Fill	0	m3	\$30	\$0			
A.F.B.5	Subgrade Preparation Preparation, trim and compact Pathway	356	m2	\$6	\$1,958			
A.F.B.6	100 thick concrete footpath with broomed finish	356	m2	\$71	\$25,219			
A.F.B.7	Sand fill below concrete path (100mm) Pram ramp	356	m2	\$5	\$1,944			
A.F.B.8	Pram ramp including tactile	6	no	\$973	\$5,836			
A.F.B.9	Tactile paving	10	m2	\$325	\$3,250			
A.F.B.10	Line Marking and Furniture Line marking	0	m	\$6	Excl.			
A.F.B.11	Street sign post	0	no	\$122	Excl.			
A.F.B.12	Street name plate	0	no	\$199	Excl.			

**Shire of Serpentine Jarrahdale DCP
 DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
A.F.B.13	Chevron sign	0	no	\$613	Excl.			
A.F.B.14	Traffic sign	2	no	\$450	\$900			
	Landscaping							
A.F.B.15	Mulch to planter boxes (2m x 2m)	0	m2	\$16	Excl.			
A.F.B.16	Trees (100l)	0	no	\$506	Excl.			
A.F.B.17	Soft landscaping	0	m2	\$0	Excl.			
	TOTAL Shared Paths		Item			\$41,814		
<u>A.F.C</u>	<u>Street Lighting</u>							
A.F.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	4	no	\$3,442	\$13,767			
	TOTAL Street Lighting		Item			\$13,767		
<u>A.F.D</u>	<u>Road Drainage</u>							
A.F.D.1	450dia reinforced concrete pipe including excavation and backfill	130	m	\$233	\$30,297			
A.F.D.2	Side entry pits including liner, cover, excavation, and associated works	4	no	\$2,667	\$10,666			
	TOTAL Road Drainage		Item			\$40,963		
<u>A.F.E</u>	<u>Preliminaries and Project Costs</u>							
A.F.E.1	Traffic Management	5.0000	%	\$289,390	\$14,470			
A.F.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$289,390	\$43,409			
A.F.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$289,390	\$21,704			
A.F.E.4	Risk Contingency Allowance	10.0000	%	\$368,973	\$36,897			
	TOTAL Preliminaries and Project Costs		Item			\$116,480		
	TOTAL Warrington Road (Roundabout)		Item				\$405,870	
<u>A.G</u>	<u>Soldiers Road (Roundabout)</u>							
<u>A.G.A</u>	<u>Road Works</u>							
A.G.A.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	2,728	m2	\$4	\$9,603			
A.G.A.2	Removal of topsoil 150mm and stockpile for later re-use	2,728	m2	\$2	\$4,392			
A.G.A.3	Cut to Fill - General Earthworks	819	m3	\$8	\$6,740			
A.G.A.4	Imported Fill	0	m3	\$30	Excl.			
	Subgrade Preparation							
A.G.A.5	Preparation, trim and compact Sub Base and Base Course	2,728	m2	\$6	\$15,004			
A.G.A.6	100mm thick crushed rock base course	2,139	m2	\$8	\$17,583			
A.G.A.7	250mm thick compacted limestone sub base	2,139	m2	\$17	\$37,390			
	Road Paving							
A.G.A.8	50mm thick (AC14)	1,672	m2	\$31	\$52,233			
A.G.A.9	Primer seal	1,672	m2	\$4	\$6,755			
	Brick Paving		Item					
A.G.A.10	80 thick brick pavers	393	m2	\$100	\$39,339			
A.G.A.11	30 thick compacted sand bed	240	m2	\$2	\$394			
A.G.A.12	40 thick compacted sand bed (RAB)	153	m2	\$2	\$335			
A.G.A.13	170mm thick compacted limestone	240	m2	\$11	\$2,729			
A.G.A.14	250mm thick compacted limestone sub base	153	m2	\$17	\$2,674			
	Kerbing							
A.G.A.15	Mountable Kerb (MK)	70	m	\$25	\$1,781			
A.G.A.16	Semi Mountable Kerb (SMK)	146	m	\$30	\$4,329			
A.G.A.17	Barrier Kerb (BK)	54	m	\$53	\$2,869			
	Concrete flush edge beam		m	\$67				
	Line Marking and Furniture							
A.G.A.18	Line marking	70	m	\$6	\$444			
A.G.A.19	Street sign post	1	no	\$122	\$122			
A.G.A.20	Street name plate	2	no	\$199	\$398			
A.G.A.21	Chevron sign	0	no	\$613	\$0			
A.G.A.22	Traffic sign	4	no	\$450	\$1,800			
	Landscaping							
A.G.A.23	Mulch to planter boxes (2m x 2m)	0	m2	\$16	Excl.			
A.G.A.24	Trees (100l)	0	no	\$506	Excl.			
A.G.A.25	Soft landscaping	227	m2	\$0	Excl.			
A.G.A.26	Landscape mix	57	m3	\$90	\$5,130			
	Other							
A.G.A.27	Allowance to tie in to existing Soldiers Road (in No 2 locations)		item		\$20,000			
	TOTAL Road Works		Item			\$232,043		
<u>A.G.B</u>	<u>Shared Paths</u>							
A.G.B.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	364	m2	\$4	\$1,281			
A.G.B.2	Removal of topsoil 150mm and stockpile for later re-use	364	m2	\$2	\$586			
A.G.B.3	Cut to Fill - General Earthworks	110	m3	\$8	\$905			
A.G.B.4	Imported Fill	0	m3	\$30	Excl.			

**Shire of Serpentine Jarrahdale DCP
 DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
A.G.B.5	Subgrade Preparation Preparation, trim and compact Pathway	364	m2	\$6	\$2,002			
A.G.B.6	100 thick concrete footpath with broomed finish	364	m2	\$71	\$25,786			
A.G.B.7	Sand fill below concrete path (100mm) Pram ramp	364	m2	\$5	\$1,987			
A.G.B.8	Pram ramp including tactile	8	no	\$973	\$7,781			
A.G.B.9	Tactile paving	13	m2	\$325	\$4,225			
A.G.B.10	Line Marking and Furniture Traffic sign	4	no	\$450	\$1,800			
A.G.B.11	Landscaping Mulch to planter boxes (2m x 2m)	0	m2	\$16	Excl.			
A.G.B.12	Trees (100l)	0	no	\$506	Excl.			
A.G.B.13	Soft landscaping	0	m2	\$0	Excl.			
	TOTAL Shared Paths		Item			\$46,354		
A.G.C	Street Lighting							
A.G.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	4	no	\$3,442	\$13,767			
	TOTAL Street Lighting		Item			\$13,767		
A.G.D	Road Drainage							
A.G.D.1	450dia reinforced concrete pipe including excavation and backfill	130	m	\$233	\$30,297			
A.G.D.2	Side entry pits including liner, cover, excavation, and associated works	4	no	\$2,667	\$10,666			
	TOTAL Road Drainage		Item			\$40,963		
A.G.E	Preliminaries and Project Costs							
A.G.E.1	Traffic Management	5.0000	%	\$333,126	\$16,656			
A.G.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$333,126	\$49,969			
A.G.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$333,126	\$24,984			
A.G.E.4	Risk Contingency Allowance	10.0000	%	\$424,736	\$42,474			
	TOTAL Preliminaries and Project Costs		Item			\$134,083		
	TOTAL Soldiers Road (Roundabout)		Item				\$467,210	
A.H	South Western Highway (Channelised Intersection)							
A.H.A	Road Works							
A.H.A.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	2,550	m2	\$4	\$8,976			
A.H.A.2	Removal of topsoil 150mm and stockpile for later re-use	2,550	m2	\$2	\$4,106			
A.H.A.3	Cut to Fill - General Earthworks	765	m3	\$8	\$6,296			
A.H.A.4	Detailed excavation - mill and profile	1,800	m2	\$19	\$34,164			
A.H.A.5	Imported Fill	0	m3	\$30	Excl.			
A.H.A.6	Subgrade Preparation Preparation, trim and compact Sub Base and Base Course	2,550	m2	\$6	\$14,025			
A.H.A.7	100mm thick crushed rock base course	2,466	m2	\$8	\$20,271			
A.H.A.8	250mm thick compacted limestone sub base	2,466	m2	\$17	\$43,106			
A.H.A.9	Road Paving 50mm thick (AC14)	1,980	m2	\$31	\$61,855			
A.H.A.10	Extra over for 2% red oxide	90	m2	\$6	\$561			
A.H.A.11	Primer seal	1,980	m2	\$4	\$7,999			
A.H.A.12	Kerbing Mountable Kerb (MK)	60	m	\$25	\$1,526			
A.H.A.13	Semi Mountable Kerb (SMK)	80	m	\$30	\$2,372			
A.H.A.14	Line Marking and Furniture Line marking	660	m	\$6	\$4,184			
A.H.A.15	Street sign post	1	no	\$122	\$122			
A.H.A.16	Street name plate	2	no	\$199	\$398			
A.H.A.17	Chevron sign	1	no	\$613	\$613			
A.H.A.18	Traffic sign	3	no	\$450	\$1,350			
A.H.A.19	Landscaping Mulch to planter boxes (2m x 2m)	0	m2	\$16	Excl.			
A.H.A.20	Trees (100l)	0	no	\$506	Excl.			
A.H.A.21	Soft landscaping	180	m2	\$0	Excl.			
A.H.A.22	Landscape mix	42	m3	\$90	\$3,780			
A.H.A.23	Rock pitching	8	m2	\$155	\$1,242			
A.H.A.24	Drainage layer	180	m2	\$0	Excl.			
A.H.A.25	Other Allow for connection to SWH		item		\$20,000			
	TOTAL Road Works		Item			\$236,945		
A.H.B	Shared Paths							
A.H.B.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	150	m2	\$4	\$528			

**Shire of Serpentine Jarrahdale DCP
 DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
A.H.B.2	Removal of topsoil 150mm and stockpile for later re-use	150	m2	\$2	\$242			
A.H.B.3	Cut to Fill - General Earthworks	45	m3	\$8	\$370			
A.H.B.4	Imported Fill	0	m3	\$30	\$0			
A.H.B.5	Subgrade Preparation Preparation, trim and compact Pathway	150	m2	\$6	\$825			
A.H.B.6	100 thick concrete footpath with broomed finish	150	m2	\$71	\$10,626			
A.H.B.7	Sand fill below concrete footpath (100mm)	150	m2	\$5	\$819			
A.H.B.8	Pram ramp		no	\$670	\$0			
A.H.B.9	Pram ramp including tactile Line Marking and Furniture	2	no	\$973	\$1,945			
A.H.B.10	Traffic sign Landscaping	2	no	\$450	\$900			
A.H.B.11	Mulch to planter boxes (2m x 2m)	0	m2	\$16	Excl.			
A.H.B.12	Trees (100l)	0	no	\$506	Excl.			
A.H.B.13	Soft landscaping	0	m2	\$0	Excl.			
	TOTAL Shared Paths		Item			\$16,255		
A.H.C	Street Lighting							
A.H.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads TOTAL Street Lighting	2	no Item	\$3,442	\$6,883		\$6,883	
A.H.D	Road Drainage							
A.H.D.1	450dia reinforced concrete pipe including excavation and backfill	90	m	\$233	\$20,975			
A.H.D.2	Side entry pits including liner, cover, excavation, and associated works TOTAL Road Drainage	2	no Item	\$2,667	\$5,333		\$26,308	
A.H.E	Preliminaries and Project Costs							
A.H.E.1	Traffic Management	5.0000	%	\$286,391	\$14,320			
A.H.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$286,391	\$42,959			
A.H.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$286,391	\$21,479			
A.H.E.4	Risk Contingency Allowance	10.0000	%	\$365,148	\$36,515			
	TOTAL Preliminaries and Project Costs		Item			\$115,272		
	TOTAL South Western Highway (Channelised Intersection)		Item				\$401,663	
A.I	At-Grade Rail Crossing							
A.I.A	Road Works							
A.I.A.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	1,063	m2	\$4	\$3,742			
A.I.A.2	Removal of topsoil 150mm and stockpile for later re-use	1,063	m2	\$2	\$1,711			
A.I.A.3	Cut to Fill - General Earthworks	532	m3	\$8	\$4,378			
A.I.A.4	Dispose of material off site	532	cum	\$10	\$5,320			
A.I.A.5	Imported Fill	0	m3	\$30	Excl.			
A.I.A.6	Subgrade Preparation Preparation, trim and compact Sub Base and Base Course	1,063	m2	\$6	\$5,847			
A.I.A.7	100mm thick crushed rock base course	740	m2	\$8	\$6,083			
A.I.A.8	250mm thick compacted limestone sub base Road Paving	740	m2	\$17	\$12,935			
A.I.A.9	50mm thick (AC14)	995	m2	\$31	\$31,084			
A.I.A.10	Primer seal	995	m2	\$4	\$4,020			
A.I.A.11	Kerbing Semi Mountable Kerb (SMK) Line Marking and Furniture	65	m	\$30	\$1,927			
A.I.A.12	Line marking	106	m	\$6	\$672			
A.I.A.13	Line marking at crossing	995	sqm	\$10	\$9,950			
A.I.A.14	Traffic sign Landscaping	4	no	\$450	\$1,800			
A.I.A.15	Mulch to planter boxes (2m x 2m)		m2	\$16	Excl.			
A.I.A.16	Trees (100l)		no	\$506	Excl.			
A.I.A.17	Soft landscaping		m2	\$0	Excl.			
A.I.A.18	Landscape mix Other TOTAL Road Works		m3 Item	\$90	Excl.	\$89,469		
A.I.B	Shared Paths							
A.I.B.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	213	m2	\$4	\$750			
A.I.B.2	Removal of topsoil 150mm and stockpile for later re-use	213	m2	\$2	\$343			
A.I.B.3	Cut to Fill - General Earthworks	107	m3	\$8	\$881			
A.I.B.4	Dispose of material off site	107	m3	\$10	\$1,070			

**Shire of Serpentine Jarrahdale DCP
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Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
A.I.B.5	Imported Fill	0	m3	\$30	Excl.			
	Subgrade Preparation							
A.I.B.6	Preparation, trim and compact Pathway	213	m2	\$6	\$1,172			
A.I.B.7	100 thick concrete footpath with broomed finish	213	m2	\$71	\$15,089			
A.I.B.8	Sand fill below concrete path (100mm)	213	m2	\$5	\$1,163			
	Pram ramp		no	\$670				
A.I.B.9	Pram ramp including tactile Line Marking and Furniture	4	no	\$973	\$3,891			
A.I.B.10	Traffic sign	4	no	\$450	\$1,800			
	Landscaping							
A.I.B.11	Mulch to planter boxes (2m x 2m)		m2	\$16	Excl.			
A.I.B.12	Trees (100l)		no	\$506	Excl.			
A.I.B.13	Soft landscaping		m2	\$0	Excl.			
	TOTAL Shared Paths		Item			\$26,157		
A.I.C	Street Lighting							
A.I.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads (provisional allowance)	4	no	\$3,442	\$13,767			
	TOTAL Street Lighting		Item			\$13,767		
A.I.D	Road Drainage							
A.I.D.1	450dia reinforced concrete pipe including excavation and backfill	115	m	\$233	\$26,801			
A.I.D.2	Side entry pits including liner, cover, excavation, and associated works (provisional allowance)	4	no	\$2,667	\$10,666			
	TOTAL Road Drainage		Item			\$37,467		
A.I.E	Level crossing at Orton Road							
A.I.E.1	Level crossing							
	Allow for new level crossing at Orton Road	1	no	\$632,500	\$632,500			
	TOTAL Level crossing at Orton Road		item			\$632,500		
A.I.F	Preliminaries and Project Costs							
A.I.F.1	Traffic Management	10.0000	%	\$799,360	\$79,936			
A.I.F.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$799,360	\$119,904			
A.I.F.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$799,360	\$59,952			
A.I.F.4	Risk Contingency Allowance	10.0000	%	\$1,059,152	\$105,915			
	TOTAL Preliminaries and Project Costs		Item			\$365,707		
	TOTAL At-Grade Rail Crossing		Item				\$1,165,067	
A.J	Utilities							
A.J.A	Power and Lighting (Western Power)							
A.J.A.1	Relocate 920m of Overhead Power underground - Provisional Sum	1	PS	\$1,439,038	\$1,439,038			
	TOTAL Power and Lighting (Western Power)		Item			\$1,439,038		
A.J.B	Communications (NBN / Telstra / Westnet / etc.)							
A.J.B.1	Relocate 920m road length of communications related infrastructure about 10m from the current location - Provisional Sum	1	PS	\$301,521	\$301,521			
	TOTAL Communications (NBN / Telstra / Westnet / etc.)		Item			\$301,521		
A.J.C	Water and Sewer (Water Corporation)							
	No allowance has been made for Water Corporation diversions as we do not see existing valves from our desktop study		Note					
	TOTAL Water and Sewer (Water Corporation)		Item			\$0		
A.J.D	Gas (ATCO)							
	No allowance has been made for ATCO diversions as we do not see existing valves from our desktop study		Note					
	TOTAL Gas (ATCO)		Item			\$0		
A.J.E	Preliminaries and Project Costs							
A.J.E.1	Traffic Management	10.0000	%	\$1,740,559	\$174,056			
A.J.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$1,740,559	\$261,084			
A.J.E.3	Project Owner's Cost (Planning and Design Costs)	5.0000	%	\$1,740,559	\$87,028			
A.J.E.4	Risk Contingency Allowance	10.0000	%	\$2,262,727	\$226,273			
	TOTAL Preliminaries and Project Costs		Item			\$748,440		
	TOTAL Utilities		Item				\$2,488,999	
A.A.A.7	Estimated Imported Fill	33,521	m3					
A.A.A.5	Total m3 of Cut to Fill - General Earthworks	28,745	m3					



**Shire of Serpentine Jarrahdale DCP
DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total	
	Less Cut to Fill costed	4,776	m3	\$30	\$143,265				
	Total Adjustment for Imported Fill (less Cut to Fill)	<i>See "Imported Fill" sheet at the end of these costings.</i>						\$143,265	
	TOTAL Road - Orton Road New		Item					\$15,677,411	

**Shire of Serpentine Jarrahdale DCP
 DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
B	ROAD - INDIGO PARKWAY							
B.A	Road Construction							
B.A.A	Road Works							
	Earthworks and Site Preparation							
B.A.A.1	Site Clearance (based on light shrubs)	31,628	m2	\$4	\$111,331			
B.A.A.2	Removal of topsoil 150mm and stockpile for later re-use	31,628	m2	\$2	\$50,921			
B.A.A.3	Cut to Fill - General Earthworks	11,233	m3	\$8	\$92,448			
B.A.A.4	Imported Fill	0	m3	\$30	Excl.			
B.A.A.5	Form swale	5,816	m2	\$4	\$22,043			
	Subgrade Preparation							
B.A.A.6	Preparation, trim and compact Sub Base and Base Course	31,628	m2	\$6	\$173,954			
B.A.A.7	100mm thick crushed rock base course	19,304	m2	\$8	\$158,679			
B.A.A.8	250mm thick compacted limestone sub base Road Paving	19,304	m2	\$17	\$337,434			
B.A.A.9	50mm thick (AC14)	15,814	m2	\$31	\$494,029			
B.A.A.10	Extra over for 2% red oxide	4,362	m2	\$6	\$27,175			
B.A.A.11	Primer seal	15,814	m2	\$4	\$63,889			
	Kerbing							
B.A.A.12	Mountable Kerb (MK)	2,908	m	\$25	\$73,980			
B.A.A.13	Kerb openings	146	no	\$350	\$51,100			
B.A.A.14	Semi Mountable Kerb (SMK)	2,908	m	\$30	\$86,222			
	Barrier Kerb (BK)							
B.A.A.15	Concrete flush edge beam	646	m	\$67	\$43,314			
	Line Marking and Furniture							
B.A.A.16	Line marking	2,908	m	\$6	\$18,437			
	Landscaping							
B.A.A.17	Mulch to planter boxes (2m x 2m)	0	m2	\$16	Excl.			
B.A.A.18	Trees (100l)	0	no	\$506	Excl.			
B.A.A.19	Soft landscaping	8,245	m2	\$0	Excl.			
B.A.A.20	Landscape mix	2,062	m3	\$90	\$185,580			
B.A.A.21	Rock pitching	485	m2	\$155	\$75,296			
B.A.A.22	Drainage layer	8,723	m2	\$0	Excl.			
	Other							
B.A.A.23	Allow for tie in to existing Indigo Parkway		item		\$10,000			
	TOTAL Road Works		Item			\$2,075,831		
B.A.B	Shared Paths							
	Earthworks and Site Preparation							
B.A.B.1	Site Clearance (based on light shrubs)	8,445	m2	\$4	\$29,726			
B.A.B.2	Removal of topsoil 150mm and stockpile for later re-use	8,445	m2	\$2	\$13,596			
B.A.B.3	Cut to Fill - General Earthworks	2,534	m3	\$8	\$20,855			
B.A.B.4	Imported Fill	0	m3	\$30	\$0			
	Subgrade Preparation							
B.A.B.5	Preparation, trim and compact Pathway	8,445	m2	\$6	\$46,448			
B.A.B.6	100 thick concrete footpath with broomed finish	8,445	m2	\$71	\$598,244			
B.A.B.7	Sand fill below concrete footpath (100mm)	8,445	m2	\$5	\$46,110			
B.A.B.8	Pram ramp	0	no	\$670	Included with intersections			
	TOTAL Shared Paths		Item			\$754,979		
B.A.C	Street Lighting							
B.A.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	20	no	\$3,442	\$68,834			
B.A.C.2	6.5 DOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	36	no	\$5,111	\$183,995			
	TOTAL Street Lighting		Item			\$252,830		
B.A.D	Road Drainage							
B.A.D.1	450dia reinforced concrete pipe including excavation and backfill	1,244	m	\$233	\$289,914			
B.A.D.2	150dia slotted PVC subsoil drainage pipe including aggregate, geofabric and porous sand	1,244	m	\$189	\$234,618			
B.A.D.3	Side entry pits including liner, cover, excavation, and associated works	0	no	\$2,667	CESP measured at intersections, RAB's			
B.A.D.4	Raised gully / bubble up pits including liner, cover, grate, excavation, rock pitching, and associated works	42	no	\$3,021	\$126,864			
	TOTAL Road Drainage		Item			\$651,397		

**Shire of Serpentine Jarrahdale DCP
 DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
<u>B.A.E</u>	<u>Preliminaries and Project Costs</u>							
B.A.E.1	Traffic Management	5.0000	%	\$3,735,036	\$18,675			
B.A.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$3,735,036	\$560,255			
B.A.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$3,735,036	\$280,128			
B.A.E.4	Risk Contingency Allowance	10.0000	%	\$4,594,094	\$459,409			
	TOTAL Preliminaries and Project Costs		Item			\$1,318,468		
	TOTAL Road Construction						\$5,053,504	
<u>B.B</u>	<u>Ballawarra Avenue (Roundabout)</u>							
<u>B.B.A</u>	<u>Road Works</u>							
B.B.A.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	368	m2	\$4	\$1,295			
B.B.A.2	Removal of topsoil 150mm and stockpile for later re-use	368	m2	\$2	\$592			
B.B.A.3	Cut to Fill - General Earthworks	111	m3	\$8	\$914			
B.B.A.4	Imported Fill	0	m3	\$30	Excl.			
B.B.A.5	Subgrade Preparation Preparation, trim and compact Sub Base and Base Course	368	m2	\$6	\$2,024			
B.B.A.6	100mm thick crushed rock base course	198	m2	\$8	\$1,628			
B.B.A.7	250mm thick compacted limestone sub base	198	m2	\$17	\$3,461			
B.B.A.8	Road Paving 50mm thick (AC14)	156	m2	\$31	\$4,873			
B.B.A.9	Primer seal	156	m2	\$4	\$630			
B.B.A.10	Brick Paving 80 thick brick pavers	60	m2	\$100	\$6,006			
B.B.A.11	30 thick compacted sand bed	60	m2	\$2	\$98			
B.B.A.12	170mm thick compacted limestone	60	m2	\$11	\$682			
B.B.A.13	Kerbing Semi Mountable Kerb (SMK)	71	m	\$30	\$2,105			
B.B.A.14	Line Marking and Furniture Line marking	18	m	\$6	\$114			
B.B.A.15	Traffic sign	1	no	\$450	\$450			
B.B.A.16	Landscaping Mulch to planter boxes (2m x 2m)	0	m2	\$16	Excl.			
B.B.A.17	Trees (100l)	0	no	\$506	Excl.			
B.B.A.18	Soft landscaping	227	m2	\$0	Excl.			
B.B.A.19	Landscape mix	57	m3	\$90	\$5,130			
B.B.A.20	Other Remove existing SMK	30	m	\$10	\$300			
B.B.A.21	Allow for connection to existing RAB asphalt		item		\$5,000			
B.B.A.22	Allow for connection to existing footpath		item		\$2,500			
	TOTAL Road Works		Item			\$37,804		
<u>B.B.B</u>	<u>Shared Paths</u>							
B.B.B.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	178	m2	\$4	\$627			
B.B.B.2	Removal of topsoil 150mm and stockpile for later re-use	178	m2	\$2	\$287			
B.B.B.3	Cut to Fill - General Earthworks	54	m3	\$8	\$444			
B.B.B.4	Imported Fill	0	m3	\$30	Excl.			
B.B.B.5	Subgrade Preparation Preparation, trim and compact Pathway	178	m2	\$6	\$979			
B.B.B.6	100 thick concrete footpath with broomed finish	178	m2	\$71	\$12,610			
B.B.B.7	Sand fill below concrete path (100mm)	178	m2	\$5	\$972			
B.B.B.8	Pram ramp	0	no	\$670	\$0			
B.B.B.9	Pram ramp including tactile	2	no	\$973	\$1,945			
B.B.B.10	Tactile paving	4	m2	\$325	\$1,300			
B.B.B.11	Line Marking and Furniture Traffic sign	2	no	\$450	\$900			
B.B.B.12	Landscaping Mulch to planter boxes (2m x 2m)	0	m2	\$16	Excl.			
B.B.B.13	Trees (100l)	0	no	\$506	Excl.			
B.B.B.14	Soft landscaping	0	m2	\$0	Excl.			
	TOTAL Shared Paths		Item			\$20,063		
<u>B.B.C</u>	<u>Street Lighting</u>							
B.B.C.1	6.5 DOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads (existing ROB, allowed for additional DOR)	1	no	\$5,111	\$5,111			
	TOTAL Street Lighting		Item			\$5,111		
<u>B.B.D</u>	<u>Road Drainage</u>							

Shire of Serpentine Jarrahdale DCP
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Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
B.B.D.1	450dia reinforced concrete pipe including excavation and backfill (for new SEP's)	20	m	\$233	\$4,661			
B.B.D.2	150dia slotted PVC subsoil drainage pipe including aggregate, geofabric and porous sand	0	m	\$189	\$0			
B.B.D.3	Side entry pits including liner, cover, excavation, and associated works at new turning points	2	no	\$2,667	\$5,333			
	TOTAL Road Drainage		Item			\$9,994		
B.B.E	Preliminaries and Project Costs							
B.B.E.1	Traffic Management	5.0000	%	\$72,972	\$3,649			
B.B.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$72,972	\$10,946			
B.B.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$72,972	\$5,473			
B.B.E.4	Risk Contingency Allowance	10.0000	%	\$93,039	\$9,304			
	TOTAL Preliminaries and Project Costs		Item			\$29,371		
	TOTAL Ballawarra Avenue (Roundabout)						\$102,343	
B.C	Briggs Road (Left in left out intersection)							
B.C.A	Road Works							
	Earthworks and Site Preparation				\$0			
B.C.A.1	Site Clearance (based on light shrubs)	1,931	m2	\$4	\$6,797			
B.C.A.2	Removal of topsoil 150mm and stockpile for later re-use	1,931	m2	\$2	\$3,109			
B.C.A.3	Cut to Fill - General Earthworks	580	m3	\$8	\$4,773			
B.C.A.4	Imported Fill	966	m3	\$30	\$28,980			
	Subgrade Preparation							
B.C.A.5	Preparation, trim and compact	1,931	m2	\$6	\$10,621			
	Sub Base and Base Course				\$0			
B.C.A.6	100mm thick crushed rock base course	1,572	m2	\$8	\$12,922			
B.C.A.7	250mm thick compacted limestone sub base	1,572	m2	\$17	\$27,479			
	Road Paving				\$0			
B.C.A.8	50mm thick (AC14)	1,031	m2	\$31	\$32,208			
B.C.A.9	Extra over for 2% red oxide	180	m2	\$6	\$1,121			
B.C.A.10	Primer seal	1,031	m2	\$4	\$4,165			
	Kerbing							
B.C.A.11	Mountable Kerb (MK)	120	m	\$25	\$3,053			
B.C.A.12	Semi Mountable Kerb (SMK)	141	m	\$30	\$4,181			
	Line Marking and Furniture							
B.C.A.13	Line marking	160	m	\$6	\$1,014			
B.C.A.14	Street sign post	2	no	\$122	\$244			
B.C.A.15	Street name plate	4	no	\$199	\$795			
B.C.A.16	Traffic sign	4	no	\$450	\$1,800			
	Landscaping							
B.C.A.17	Soft landscaping	360	m2	\$0	Excl.			
B.C.A.18	Landscape mix	83	m3	\$90	\$7,470			
B.C.A.19	Rock pitching	15	m2	\$155	\$2,329			
B.C.A.20	Drainage layer	360	m2	\$0	Excl.			
	Other							
B.C.A.21	Allow for connection to existing Briggs Road		item		\$10,000			
	TOTAL Road Works		Item			\$163,061		
B.C.B	Shared Paths							
	Earthworks and Site Preparation							
B.C.B.1	Site Clearance (based on light shrubs)	300	m2	\$4	\$1,056			
B.C.B.2	Removal of topsoil 150mm and stockpile for later re-use	300	m2	\$2	\$483			
B.C.B.3	Cut to Fill - General Earthworks	90	m3	\$8	\$741			
B.C.B.4	Imported Fill	150	m3	\$30	\$4,500			
	Subgrade Preparation							
B.C.B.5	Preparation, trim and compact	300	m2	\$6	\$1,650			
	Pathway							
B.C.B.6	100 thick concrete footpath with broomed finish	300	m2	\$71	\$21,252			
B.C.B.7	Sand fill below concrete footpath (100mm)	300	m2	\$5	\$1,638			
B.C.B.8	Pram ramp	0	no	\$670	\$0			
B.C.B.9	Pram ramp including tactile	4	no	\$973	\$3,891			
	Line Marking and Furniture							
B.C.B.10	Traffic sign	4	no	\$450	\$1,800			
	TOTAL Shared Paths		Item			\$37,010		
B.C.C	Street Lighting							
B.C.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	4	no	\$3,442	\$13,767			
	TOTAL Street Lighting		Item			\$13,767		
B.C.D	Road Drainage							
B.C.D.1	450dia reinforced concrete pipe including excavation and backfill	115	m	\$233	\$26,801			

Shire of Serpentine Jarrahdale DCP
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Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
B.C.D.2	Side entry pits including liner, cover, excavation, and associated works	4	no	\$2,667	\$10,666			
	TOTAL Road Drainage		Item			\$37,467		
B.C.E	Preliminaries and Project Costs							
B.C.E.1	Traffic Management	5.0000	%	\$251,305	\$12,565			
B.C.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$251,305	\$37,696			
B.C.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$251,305	\$18,848			
B.C.E.4	Risk Contingency Allowance	10.0000	%	\$320,414	\$32,041			
	TOTAL Preliminaries and Project Costs		Item			\$101,150		
	TOTAL Briggs Road (Left in left out intersection)						\$352,455	
B.D	Caraway (Roundabout)							
B.D.A	Road Works							
	Earthworks and Site Preparation							
B.D.A.1	Site Clearance (based on light shrubs)	2,504	m2	\$4	\$8,814			
B.D.A.2	Removal of topsoil 150mm and stockpile for later re-use	2,504	m2	\$2	\$4,031			
B.D.A.3	Cut to Fill - General Earthworks	752	m3	\$8	\$6,189			
B.D.A.4	Detailed excavation - mill and profile	0	m3	\$19	Measured elsewhere			
B.D.A.5	Imported Fill	1,252	m3	\$30	\$37,560			
	Subgrade Preparation							
B.D.A.6	Preparation, trim and compact	2,504	m2	\$6	\$13,772			
	Sub Base and Base Course							
B.D.A.7	100mm thick crushed rock base course	1,983	m2	\$8	\$16,300			
B.D.A.8	200mm thick compacted limestone sub base		m2	\$14	\$0			
B.D.A.9	250mm thick compacted limestone sub base	1,983	m2	\$17	\$34,663			
	Road Paving							
	30mm thick (AC10)		m2	\$18				
B.D.A.10	50mm thick (AC14)	1,518	m2	\$31	\$47,422			
	Extra over for 2% red oxide		m2	\$6				
B.D.A.11	Primer seal	1,518	m2	\$4	\$6,133			
	Brick Paving		Item		\$0			
B.D.A.12	80 thick brick pavers	333	m2	\$100	\$33,333			
B.D.A.13	30 thick compacted sand bed	180	m2	\$2	\$295			
B.D.A.14	40 thick compacted sand bed (RAB)	153	m2	\$2	\$335			
B.D.A.15	170mm thick compacted limestone	180	m2	\$11	\$2,047			
B.D.A.16	250mm thick compacted limestone sub base	153	m2	\$17	\$2,674			
	Concrete Paving							
B.D.A.17	100 thick concrete paving with broomed finish	0	m2	\$71	\$0			
B.D.A.18	Sand fill below concrete paving (100mm)	0	m2	\$5	\$0			
	Kerbing							
B.D.A.19	Mountable Kerb (MK)	70	m	\$25	\$1,781			
B.D.A.20	Semi Mountable Kerb (SMK)	143	m	\$30	\$4,240			
B.D.A.21	Barrier Kerb (BK)	54	m	\$53	\$2,869			
B.D.A.22	Concrete flush edge beam	0	m	\$67	\$0			
	Line Marking and Furniture							
B.D.A.23	Line marking	53	m	\$6	\$336			
B.D.A.24	Street sign post	1	no	\$122	\$122			
B.D.A.25	Street name plate	2	no	\$199	\$398			
B.D.A.26	Chevron sign	1	no	\$613	\$613			
B.D.A.27	Traffic sign	3	no	\$450	\$1,350			
	Landscaping				\$0			
B.D.A.28	Mulch to planter boxes (2m x 2m)	0	m2	\$16	\$0			
B.D.A.29	Trees (100l)	0	no	\$506	\$0			
B.D.A.30	Soft landscaping	227	m2	\$0	\$0			
B.D.A.31	Landscape mix	57	m3	\$90	\$5,130			
	Other							
B.D.A.32	Allow for connection to existing Caraway Avenue		item		\$5,000			
	TOTAL Road Works		Item			\$235,407		
B.D.B	Shared Paths							
	Earthworks and Site Preparation							
B.D.B.1	Site Clearance (based on light shrubs)	356	m2	\$4	\$1,253			
B.D.B.2	Removal of topsoil 150mm and stockpile for later re-use	356	m2	\$2	\$573			
B.D.B.3	Cut to Fill - General Earthworks	107	m3	\$8	\$881			
	Detailed excavation - mill and profile		m3	\$19				
B.D.B.4	Imported Fill	178	m3	\$30	\$5,340			
	Subgrade Preparation							
B.D.B.5	Preparation, trim and compact	356	m2	\$6	\$1,958			
	Pathway							
B.D.B.6	100 thick concrete footpath with broomed finish	356	m2	\$71	\$25,219			
B.D.B.7	Sand fill below concrete path (100mm)	356	m2	\$5	\$1,944			

Shire of Serpentine Jarrahdale DCP
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Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
	Pram ramp		no	\$670				
B.D.B.8	Pram ramp including tactile	6	no	\$973	\$5,836			
B.D.B.9	Tactile paving	10	m2	\$325	\$3,250			
	Line Marking and Furniture							
B.D.B.10	Line marking	0	m	\$6	\$0			
B.D.B.11	Street sign post	0	no	\$122	\$0			
B.D.B.12	Street name plate	0	no	\$199	\$0			
B.D.B.13	Chevron sign	0	no	\$613	\$0			
B.D.B.14	Traffic sign	2	no	\$450	\$900			
	Landscaping							
B.D.B.15	Mulch to planter boxes (2m x 2m)	0	m2	\$16	\$0			
B.D.B.16	Trees (100l)	0	no	\$506	\$0			
B.D.B.17	Soft landscaping	0	m2	\$0	\$0			
	TOTAL Shared Paths		Item			\$47,154		
B.D.C	Street Lighting							
B.D.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	4	no	\$3,442	\$13,767			
	TOTAL Street Lighting		Item			\$13,767		
B.D.D	Road Drainage							
B.D.D.1	450dia reinforced concrete pipe including excavation and backfill	130	m	\$233	\$30,297			
B.D.D.2	150dia slotted PVC subsoil drainage pipe including aggregate, geofabric and porous sand	0	m	\$189	\$0			
B.D.D.3	Side entry pits including liner, cover, excavation, and associated works	4	no	\$2,667	\$10,666			
	Drainage layer measured with landscaping		Note					
	TOTAL Road Drainage		Item			\$40,963		
B.D.E	Preliminaries and Project Costs							
B.D.E.1	Traffic Management	5.0000	%	\$337,290	\$16,865			
B.D.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$337,290	\$50,594			
B.D.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$337,290	\$25,297			
B.D.E.4	Risk Contingency Allowance	10.0000	%	\$430,045	\$43,005			
	TOTAL Preliminaries and Project Costs		Item			\$135,759		
	TOTAL Caraway (Roundabout)						\$473,050	
B.E	Portwine Avenue (Left in left out intersection)							
B.E.A	Road Works							
	Earthworks and Site Preparation				\$0			
B.E.A.1	Site Clearance (based on light shrubs)	816	m2	\$4	\$2,872			
B.E.A.2	Removal of topsoil 150mm and stockpile for later re-use	816	m2	\$2	\$1,314			
B.E.A.3	Cut to Fill - General Earthworks	245	m3	\$8	\$2,016			
B.E.A.4	Imported Fill	408	m3	\$30	\$12,240			
	Subgrade Preparation							
B.E.A.5	Preparation, trim and compact	816	m2	\$6	\$4,488			
	Sub Base and Base Course				\$0			
B.E.A.6	100mm thick crushed rock base course	1,041	m2	\$8	\$8,557			
B.E.A.7	250mm thick compacted limestone sub base	1,041	m2	\$17	\$18,197			
	Road Paving				\$0			
B.E.A.8	50mm thick (AC14)	516	m2	\$31	\$16,120			
B.E.A.9	Extra over for 2% red oxide	90	m2	\$6	\$561			
B.E.A.10	Primer seal	516	m2	\$4	\$2,085			
	Kerbing							
B.E.A.11	Mountable Kerb (MK)	60	m	\$25	\$1,526			
B.E.A.12	Semi Mountable Kerb (SMK)	71	m	\$30	\$2,105			
	Line Marking and Furniture							
B.E.A.13	Line marking	80	m	\$6	\$507			
B.E.A.14	Street sign post	1	no	\$122	\$122			
B.E.A.15	Street name plate	2	no	\$199	\$398			
B.E.A.16	Traffic sign	2	no	\$450	\$900			
	Landscaping							
B.E.A.17	Soft landscaping	180	m2	\$0	Excl.			
B.E.A.18	Landscape mix	42	m3	\$90	\$3,780			
B.E.A.19	Rock pitching	8	m2	\$155	\$1,242			
B.E.A.20	Drainage layer	180	m2	\$0	Excl.			
	TOTAL Road Works		Item			\$79,030		
B.E.B	Shared Paths							
	Earthworks and Site Preparation							
B.E.B.1	Site Clearance (based on light shrubs)	150	m2	\$4	\$528			
B.E.B.2	Removal of topsoil 150mm and stockpile for later re-use	150	m2	\$2	\$242			

Shire of Serpentine Jarrahdale DCP
DCA 1 - Byford Traditional Infrastructure - Update

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
B.E.B.3	Cut to Fill - General Earthworks	45	m3	\$8	\$370			
B.E.B.4	Imported Fill	0	m3	\$30	Excl.			
B.E.B.5	Subgrade Preparation Preparation, trim and compact Pathway	150	m2	\$6	\$825			
B.E.B.6	100 thick concrete footpath with broomed finish	150	m2	\$71	\$10,626			
B.E.B.7	Sand fill below concrete footpath (100mm)	150	m2	\$5	\$819			
B.E.B.8	Pram ramp	0	no	\$670	\$0			
B.E.B.9	Pram ramp including tactile Line Marking and Furniture	2	no	\$973	\$1,945			
B.E.B.10	Traffic sign TOTAL Shared Paths	2	no Item	\$450	\$900	\$16,255		
B.E.C	Street Lighting							
B.E.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads TOTAL Street Lighting	2	no Item	\$3,442	\$6,883	\$6,883		
B.E.D	Road Drainage							
B.E.D.1	450dia reinforced concrete pipe including excavation and backfill	65	m	\$233	\$15,148			
B.E.D.2	Side entry pits including liner, cover, excavation, and associated works TOTAL Road Drainage	2	no Item	\$2,667	\$5,333	\$20,481		
B.E.E	Preliminaries and Project Costs							
B.E.E.1	Traffic Management	5.0000	%	\$122,649	\$6,132			
B.E.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$122,649	\$18,397			
B.E.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$122,649	\$9,199			
B.E.E.4	Risk Contingency Allowance TOTAL Preliminaries and Project Costs	10.0000	% Item	\$156,378	\$15,638	\$49,366		
	TOTAL Portwine Avenue (Left in left out intersection)						\$172,016	
B.F	Larsen Road (Roundabout)							
B.F.A	Road Works							
B.F.A.1	Earthworks and Site Preparation Site Clearance (based on light shrubs)	2,728	m2	\$4	\$9,603			
B.F.A.2	Removal of topsoil 150mm and stockpile for later re-use	2,728	m2	\$2	\$4,392			
B.F.A.3	Cut to Fill - General Earthworks	819	m3	\$8	\$6,740			
B.F.A.4	Detailed excavation - mill and profile	900	m2	\$19	\$17,082			
B.F.A.5	Imported Fill Subgrade Preparation	1,316	m3	\$30	\$39,480			
B.F.A.6	Preparation, trim and compact Sub Base and Base Course	2,728	m2	\$6	\$15,004			
B.F.A.7	100mm thick crushed rock base course	2,139	m2	\$8	\$17,583			
B.F.A.8	250mm thick compacted limestone sub base Road Paving	2,139	m2	\$17	\$37,390			
B.F.A.9	50mm thick (AC14)	1,672	m2	\$31	\$52,233			
B.F.A.10	Primer seal Brick Paving	1,672	m2 Item	\$4	\$6,755	\$0		
B.F.A.11	80 thick brick pavers	393	m2	\$100	\$39,339			
B.F.A.12	30 thick compacted sand bed	240	m2	\$2	\$394			
B.F.A.13	40 thick compacted sand bed (RAB)	153	m2	\$2	\$335			
B.F.A.14	170mm thick compacted limestone	240	m2	\$11	\$2,729			
B.F.A.15	250mm thick compacted limestone sub base Concrete Paving	153	m2	\$17	\$2,674			
B.F.A.16	100 thick concrete paving with broomed finish	0	m2	\$71	\$0			
B.F.A.17	Sand fill below concrete paving (100mm) Kerbing	0	m2	\$5	\$0			
B.F.A.18	Mountable Kerb (MK)	70	m	\$25	\$1,781			
B.F.A.19	Semi Mountable Kerb (SMK)	146	m	\$30	\$4,329			
B.F.A.20	Barrier Kerb (BK) Concrete flush edge beam Line Marking and Furniture	54	m m	\$53 \$67	\$2,869			
B.F.A.21	Line marking	70	m	\$6	\$444			
B.F.A.22	Street sign post	1	no	\$122	\$122			
B.F.A.23	Street name plate	2	no	\$199	\$398			
B.F.A.24	Chevron sign	0	no	\$613	\$0			
B.F.A.25	Traffic sign Landscaping	4	no	\$450	\$1,800	\$0		
B.F.A.26	Mulch to planter boxes (2m x 2m)	0	m2	\$16	\$0			
B.F.A.27	Trees (100l)	0	no	\$506	\$0			
B.F.A.28	Soft landscaping	227	m2	\$0	\$0			
B.F.A.29	Landscape mix	57	m3	\$90	\$5,130			

**Shire of Serpentine Jarrahdale DCP
 DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
B.F.A.30	Other Allow for connection to existing Larsen Road		item		\$15,000			
	TOTAL Road Works		Item			\$283,605		
B.F.B	Shared Paths							
	Earthworks and Site Preparation							
B.F.B.1	Site Clearance (based on light shrubs)	364	m2	\$4	\$1,281			
B.F.B.2	Removal of topsoil 150mm and stockpile for later re-use	364	m2	\$2	\$586			
B.F.B.3	Cut to Fill - General Earthworks	110	m3	\$8	\$905			
	Detailed excavation - mill and profile		m3	\$19				
B.F.B.4	Imported Fill	182	m3	\$30	\$5,460			
	Subgrade Preparation							
B.F.B.5	Preparation, trim and compact	364	m2	\$6	\$2,002			
	Pathway							
B.F.B.6	100 thick concrete footpath with broomed finish	364	m2	\$71	\$25,786			
B.F.B.7	Sand fill below concrete path (100mm)	364	m2	\$5	\$1,987			
	Pram ramp		no	\$670				
B.F.B.8	Pram ramp including tactile	8	no	\$973	\$7,781			
B.F.B.9	Tactile paving	13	m2	\$325	\$4,225			
	Line Marking and Furniture							
B.F.B.10	Line marking	0	m	\$6	\$0			
B.F.B.11	Street sign post	0	no	\$122	\$0			
B.F.B.12	Street name plate	0	no	\$199	\$0			
B.F.B.13	Chevron sign	0	no	\$613	\$0			
B.F.B.14	Traffic sign	4	no	\$450	\$1,800			
	Landscaping							
B.F.B.15	Mulch to planter boxes (2m x 2m)	0	m2	\$16	\$0			
B.F.B.16	Trees (100l)	0	no	\$506	\$0			
B.F.B.17	Soft landscaping	0	m2	\$0	\$0			
	TOTAL Shared Paths		Item			\$51,814		
B.F.C	Street Lighting							
B.F.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	4	no	\$3,442	\$13,767			
	TOTAL Street Lighting		Item			\$13,767		
B.F.D	Road Drainage							
B.F.D.1	450dia reinforced concrete pipe including excavation and backfill	130	m	\$233	\$30,297			
B.F.D.2	150dia slotted PVC subsoil drainage pipe including aggregate, geofabric and porous sand	0	m	\$189	\$0			
B.F.D.3	Side entry pits including liner, cover, excavation, and associated works	6	no	\$2,667	\$15,999			
	Drainage layer measured with landscaping		Note					
	TOTAL Road Drainage		Item			\$46,296		
B.F.E	Preliminaries and Project Costs							
B.F.E.1	Traffic Management	5.0000	%	\$395,481	\$19,774			
B.F.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$395,481	\$59,322			
B.F.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$395,481	\$29,661			
B.F.E.4	Risk Contingency Allowance	10.0000	%	\$504,239	\$50,424			
	TOTAL Preliminaries and Project Costs		Item			\$159,181		
	TOTAL Larsen Road (Roundabout)						\$554,663	
B.G	Utilities							
B.G.A	Power and Lighting (Western Power)							
B.G.A.1	Relocate 228m of inground Power underground about 20m - Provisional Sum	1	PS	\$206,441	\$206,441			
B.G.A.2	Relocate one Overhead Power Pole on Thomas Road - Provisional Sum	1	PS	\$46,501	\$46,501			
B.G.A.3	Relocate two Overhead Power Poles on Larsen Road - Provisional Sum	1	PS	\$93,002	\$93,002			
	TOTAL Power and Lighting (Western Power)		Item			\$345,944		
B.G.B	Communications (NBN / Telstra / Westnet / etc.)							
B.G.B.1	Relocate 228m road length of communications related infrastructure about 20m from the current location - Provisional Sum	1	PS	\$112,098	\$112,098			
B.G.B.2	Relocate approximately 60m of communications related infrastructure about 20m from the current location at Larsen Road - Provisional Sum	1	PS	\$71,673	\$71,673			
	TOTAL Communications (NBN / Telstra / Westnet / etc.)		Item			\$183,771		
B.G.C	Water and Sewer (Water Corporation)							

**Shire of Serpentine Jarrahdale DCP
 DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
B.G.C.1	Relocate 228m road length of water and sewer about 20m from the current location - Provisional Sum	1	PS	\$229,023	\$229,023			
B.G.C.2	Relocate 60m of water and sewer about 20m from the current location and relocate existing mahole at Larsen Road - Provisional Sum	1	PS	\$107,260	\$107,260			
	TOTAL Water and Sewer (Water Corporation)		Item			\$336,282		
B.G.D	<u>Gas (ATCO)</u>							
	No allowance has been made for ATCO diversions as we do not see existing valves from our desktop study		Note					
	TOTAL Gas (ATCO)		Item			\$0		
B.G.E	<u>Preliminaries and Project Costs</u>							
B.G.E.1	Traffic Management (Road not constructed but may require minor management at Thomas Road)	5.0000	%	\$865,997	\$43,300			
B.G.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$865,997	\$129,900			
B.G.E.3	Project Owner's Cost (Planning and Design Costs)	5.0000	%	\$865,997	\$43,300			
B.G.E.4	Risk Contingency Allowance	10.0000	%	\$1,082,497	\$108,250			
	TOTAL Preliminaries and Project Costs		Item			\$324,749		
	TOTAL Utilities						\$1,190,746	
A.A.A.7	Estimated Imported Fill	7,487	m3					
A.A.A.5	Total m3 of Cut to Fill - General Earthworks	16,680	m3					
	Less Cut to Fill costed	0	m3	\$30	\$0			
	Total Adjustment for Imported Fill (less Cut to Fill)						\$0	
	TOTAL Road - Indigo Parkway		Item					\$7,898,777

**Shire of Serpentine Jarrahdale DCP
 DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
C	ROAD – DOLEY ROAD							
C.A	Road Construction							
C.A.A	Road Works							
	Earthworks and Site Preparation				\$0			
C.A.A.1	Site Clearance (based on light shrubs)	18,431	m2	\$4	\$64,877			
C.A.A.2	Extra over for removal of trees		item		\$20,704			
C.A.A.3	Removal of topsoil 150mm and stockpile for later re-use	18,431	m2	\$2	\$29,674			
C.A.A.4	Cut to Fill - General Earthworks	6,956	m3	\$8	\$57,248			
C.A.A.5	Imported Fill	0	m3	\$30	Excl			
C.A.A.6	Form swale	4,757	m2	\$4	\$18,029			
	Subgrade Preparation							
C.A.A.7	Preparation, trim and compact Sub Base and Base Course	18,431	m2	\$6	\$101,371			
C.A.A.8	100mm thick crushed rock base course	10,345	m2	\$8	\$85,036			
C.A.A.9	200mm thick compacted limestone sub base	10,345	m2	\$14	\$144,727			
	Road Paving							
C.A.A.10	30mm thick (AC10)	8,918	m2	\$18	\$162,218			
C.A.A.11	Extra over for 2% red oxide	8,918	m2	\$6	\$55,559			
C.A.A.12	Primer seal	8,918	m2	\$4	\$36,029			
	Kerbing				\$0			
C.A.A.13	Mountable Kerb (MK)	2,379	m	\$25	\$60,522			
C.A.A.14	Kerb openings	67	no	\$350	\$23,450			
C.A.A.15	Semi Mountable Kerb (SMK)	1,336	m	\$30	\$39,612			
	Barrier Kerb (BK)		m	\$53				
C.A.A.16	Concrete flush edge beam	1,190	m	\$67	\$79,790			
	Line Marking and Furniture							
C.A.A.17	Line marking	2,379	m	\$6	\$15,083			
	Landscaping							
C.A.A.18	Soft landscaping	6,738	m2	\$0	Excl.			
C.A.A.19	Landscape mix	1,685	m3	\$90	\$151,650			
C.A.A.20	Rock pitching	397	m2	\$155	\$61,634			
C.A.A.21	Drainage layer	7,135	m2	\$0	Excl.			
	Other							
C.A.A.22	Allow for connection to existing Mead RAB asphalt		item		\$5,000			
C.A.A.23	Remove existing median and kerbing		item		\$5,000			
C.A.A.24	Allow for making good existing asphalt as required		item		\$20,000			
	TOTAL Road Works		Item			\$1,237,212		
C.A.B	Shared Paths							
	Earthworks and Site Preparation							
C.A.B.1	Site Clearance (based on light shrubs)	2,973	m2	\$4	\$10,465			
C.A.B.2	Removal of topsoil 150mm and stockpile for later re-use	2,973	m2	\$2	\$4,787			
C.A.B.3	Cut to Fill - General Earthworks	892	m3	\$8	\$7,341			
C.A.B.4	Imported Fill	0	m3	\$30	Excl.			
	Subgrade Preparation							
C.A.B.5	Preparation, trim and compact Pathway	2,973	m2	\$6	\$16,352			
C.A.B.6	100 thick concrete footpath with broomed finish	2,973	m2	\$71	\$210,607			
C.A.B.7	Sand fill below concrete footpath (100mm)	2,973	m2	\$5	\$16,233			
C.A.B.8	Pram ramp	0	no	\$670	Included with intersections			
	TOTAL Shared Paths		Item			\$265,784		
C.A.C	Street Lighting							
C.A.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads (allowed for one side from Orton to Kinsella as other side already included)	23	no	\$3,442	\$79,160			
	TOTAL Street Lighting		Item			\$79,160		
C.A.D	Road Drainage							
C.A.D.1	450dia reinforced concrete pipe including excavation and backfill (assuming Orton to Kinsella Ave already has the provisions based on aerial view)	147	m	\$233	\$34,258			
C.A.D.2	150dia slotted PVC subsoil drainage pipe including aggregate, geofabric and porous sand (assuming Orton to Kinsella Ave do not have the subsoil provisions)	1,190	m	\$189	\$224,434			



**Shire of Serpentine Jarrahdale DCP
DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
C.A.D.3	Side entry pits including liner, cover, excavation, and associated works	0	no	\$2,667				
C.A.D.4	Raised gully / bubble up pits including liner, cover, grate, excavation, rock pitching, and associated works (assuming Orton to Kinsella Ave already has the provisions based on aerial view)	5	no	\$3,021	\$15,103			
	TOTAL Road Drainage		Item			\$273,795		
<u>C.A.E</u>	<u>Preliminaries and Project Costs</u>							
C.A.E.1	Traffic Management	5.0000	%	\$1,855,951	\$92,798			
C.A.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$1,855,951	\$278,393			
C.A.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$1,855,951	\$139,196			
C.A.E.4	Risk Contingency Allowance	10.0000	%	\$2,366,337	\$236,634			
	TOTAL Preliminaries and Project Costs		Item			\$747,020		
	TOTAL Road Construction						\$2,602,971	
<u>C.B</u>	<u>Mead Street (Roundabout) - already constructed</u>							
<u>C.B.A</u>	<u>Road Works</u>							
C.B.A.1	Already Constructed				\$0			
	TOTAL Road Works		Item			\$0		
<u>C.B.B</u>	<u>Shared Paths</u>							
C.B.B.1	Already Constructed				\$0			
	TOTAL Shared Paths		Item			\$0		
<u>C.B.C</u>	<u>Street Lighting</u>							
C.B.C.1	Already Constructed				\$0			
	TOTAL Street Lighting		Item			\$0		
<u>C.B.D</u>	<u>Road Drainage</u>							
C.B.D.1	Already Constructed				\$0			
	TOTAL Road Drainage		Item			\$0		
<u>C.B.E</u>	<u>Preliminaries and Project Costs</u>							
C.B.E.1	Already Constructed				\$0			
	TOTAL Preliminaries and Project Costs		Item			\$0		
	TOTAL Mead Street (Roundabout) - already constructed						\$0	
<u>C.C</u>	<u>Utilities</u>							
C.C.A	Power and Lighting (Western Power)							
	No allowance has been made for Power diversions as it seems that the overhead lines have already been relocated underground from our desktop study		Note					
	TOTAL Power and Lighting (Western Power)		Item			\$0		
<u>C.C.B</u>	<u>Communications (NBN / Telstra / Westnet / etc.)</u>							
C.C.B.1	Relocate 1189 m road length of communications related infrastructure about 20m from the current location - Provisional Sum	1	PS	\$358,231	\$358,231			
	TOTAL Communications (NBN / Telstra / Westnet / etc.)		Item			\$358,231		
<u>C.C.C</u>	<u>Water and Sewer (Water Corporation)</u>							
C.C.C.1	Relocate 147m road length of water and sewer about 20m from the current location - Provisional Sum	1	PS	\$167,981	\$167,981			
	TOTAL Water and Sewer (Water Corporation)		Item			\$167,981		
<u>C.C.D</u>	<u>Gas (ATCO)</u>							
	No allowance has been made for ATCO diversions as we do not see existing valves from our desktop study		Note					
	TOTAL Gas (ATCO)		Item			\$0		
<u>C.C.E</u>	<u>Preliminaries and Project Costs</u>							
C.C.E.1	Traffic Management	10.0000	%	\$526,212	\$52,621			
C.C.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$526,212	\$78,932			
C.C.E.3	Project Owner's Cost (Planning and Design Costs)	5.0000	%	\$526,212	\$26,311			



**Shire of Serpentine Jarrahdale DCP
DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
C.C.E.4	Risk Contingency Allowance TOTAL Preliminaries and Project Costs TOTAL Utilities	10.0000	% Item	\$684,075	\$68,408	\$226,271	\$752,483	
A.A.A.7	Estimated Imported Fill	5,940	m3					
A.A.A.5	Total m3 of Cut to Fill - General Earthworks	7,848	m3					
	Less Cut to Fill costed	0	m3	\$30	\$0			
	Total Adjustment for Imported Fill (less Cut to Fill)	<i>See "Imported Fill" sheet at the end of these costings.</i>					\$0	
	TOTAL Road – Doley Road		Item					\$3,355,453



**Shire of Serpentine Jarrahdale DCP
DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
D	ROAD – WARRINGTON ROAD							
D.A	Road Construction							
<u>D.A.A</u>	<u>Road Works</u>							
	Earthworks and Site Preparation				\$0			
D.A.A.1	Site Clearance (based on light shrubs)	12,898	m2	\$4	\$45,401			
D.A.A.2	Removal of topsoil 150mm and stockpile for later re-use	12,898	m2	\$2	\$20,766			
D.A.A.3	Cut to Fill - General Earthworks	5,897	m3	\$8	\$48,532			
D.A.A.4	Detailed excavation - mill and profile	6,756	m2	\$19	\$128,229			
D.A.A.5	Imported Fill	0	m3	\$30	Excl.			
	Subgrade Preparation							
D.A.A.6	Preparation, trim and compact Sub Base and Base Course	19,654	m2	\$6	\$108,097			
D.A.A.7	100mm thick crushed rock base course	17,689	m2	\$8	\$145,404			
D.A.A.8	200mm thick compacted limestone sub base	17,689	m2	\$14	\$247,469			
	Road Paving							
D.A.A.9	30mm thick (AC10)	14,741	m2	\$18	\$268,139			
D.A.A.10	Primer seal	14,741	m2	\$4	\$59,554			
	Kerbing							
D.A.A.11	Mountable Kerb (MK)	2,457	m	\$25	\$62,506			
	Line Marking and Furniture				\$0			
D.A.A.12	Line marking	2,457	m	\$6	\$15,577			
	Other							
D.A.A.13	Allow to connect to existng asphalt		item		\$5,000			
	TOTAL Road Works		Item			\$1,154,674		
<u>D.A.B</u>	<u>Shared Paths</u>							
	Earthworks and Site Preparation							
D.A.B.1	Site Clearance (based on light shrubs)	6,142	m2	\$4	\$21,620			
D.A.B.2	Removal of topsoil 150mm and stockpile for later re-use	6,142	m2	\$2	\$9,889			
D.A.B.3	Cut to Fill - General Earthworks	1,843	m3	\$8	\$15,168			
D.A.B.4	Imported Fill	0	m3	\$30	Excl.			
	Subgrade Preparation							
D.A.B.5	Preparation, trim and compact Pathway	6,142	m2	\$6	\$33,781			
D.A.B.6	100 thick concrete footpath with broomed finish	6,142	m2	\$71	\$435,099			
D.A.B.7	Sand fill below concrete footpath (100mm)	6,142	m2	\$5	\$33,535			
D.A.B.8	Pram ramp	0	no	\$670	Included with intersections			
	TOTAL Shared Paths		Item			\$549,092		
<u>D.A.C</u>	<u>Street Lighting</u>							
D.A.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads (allowed for one side only as per already constructed portion of road)	27	no	\$3,442	\$92,926			
	TOTAL Street Lighting		Item			\$92,926		
<u>D.A.D</u>	<u>Road Drainage</u>							
D.A.D.1	450dia reinforced concrete pipe including excavation and backfill	1,169	m	\$233	\$272,435			
D.A.D.2	Side entry pits including liner, cover, excavation, and associated works (to one side only at 30m spacings)	39	no	\$2,667	\$103,997			
	TOTAL Road Drainage		Item			\$376,432		
<u>D.A.E</u>	<u>Preliminaries and Project Costs</u>							
D.A.E.1	Traffic Management	5.0000	%	\$2,173,124	\$108,656			
D.A.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$2,173,124	\$325,969			
D.A.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$2,173,124	\$162,984			
D.A.E.4	Risk Contingency Allowance	10.0000	%	\$2,770,733	\$277,073			
	TOTAL Preliminaries and Project Costs		Item			\$874,682		
	TOTAL Road Construction						\$3,047,806	
D.B	Mead Street (Roundabout) - already constructed							
<u>D.B.A</u>	<u>Road Works</u>							
D.B.A.1	Already Constructed				\$0			

**Shire of Serpentine Jarrahdale DCP
 DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
	TOTAL Road Works		Item			\$0		
<u>D.B.B</u>	<u>Shared Paths</u>							
D.B.B.1	Already Constructed				\$0			
	TOTAL Shared Paths		Item			\$0		
<u>D.B.C</u>	<u>Street Lighting</u>							
D.B.C.1	Already Constructed				\$0			
	TOTAL Street Lighting		Item			\$0		
<u>D.B.D</u>	<u>Road Drainage</u>							
D.B.D.1	Already Constructed				\$0			
	TOTAL Road Drainage		Item			\$0		
<u>D.B.E</u>	<u>Preliminaries and Project Costs</u>							
D.B.E.1	Already Constructed				\$0			
	TOTAL Preliminaries and Project Costs		Item			\$0		
	TOTAL Mead Street (Roundabout) - already constructed						\$0	
<u>D.C</u>	<u>Turner Road (Roundabout)</u>							
<u>D.C.A</u>	<u>Road Works</u>							
	Earthworks and Site Preparation							
D.C.A.1	Site Clearance (based on light shrubs)	2,504	m2	\$4	\$8,814			
D.C.A.2	Removal of topsoil 150mm and stockpile for later re-use	2,504	m2	\$2	\$4,031			
D.C.A.3	Cut to Fill - General Earthworks	752	m3	\$8	\$6,189			
D.C.A.4	Imported Fill	0	m3	\$30	Excl.			
	Subgrade Preparation							
D.C.A.5	Preparation, trim and compact Sub Base and Base Course	2,504	m2	\$6	\$13,772			
D.C.A.6	100mm thick crushed rock base course	1,983	m2	\$8	\$16,300			
D.C.A.7	250mm thick compacted limestone sub base	1,983	m2	\$17	\$34,663			
	Road Paving							
D.C.A.8	50mm thick (AC14)	1,518	m2	\$31	\$47,422			
D.C.A.9	Primer seal	1,518	m2	\$4	\$6,133			
	Brick Paving				\$0			
D.C.A.10	80 thick brick pavers	333	m2	\$100	\$33,333			
D.C.A.11	30 thick compacted sand bed	180	m2	\$2	\$295			
D.C.A.12	40 thick compacted sand bed (RAB)	153	m2	\$2	\$335			
D.C.A.13	170mm thick compacted limestone	180	m2	\$11	\$2,047			
D.C.A.14	250mm thick compacted limestone sub base	153	m2	\$17	\$2,674			
	Kerbing							
D.C.A.15	Mountable Kerb (MK)	70	m	\$25	\$1,781			
D.C.A.16	Semi Mountable Kerb (SMK)	143	m	\$30	\$4,240			
D.C.A.17	Barrier Kerb (BK)	54	m	\$53	\$2,869			
	Line Marking and Furniture							
D.C.A.18	Line marking	53	m	\$6	\$336			
D.C.A.19	Street sign post	1	no	\$122	\$122			
D.C.A.20	Street name plate	2	no	\$199	\$398			
D.C.A.21	Chevron sign	1	no	\$613	\$613			
D.C.A.22	Traffic sign	3	no	\$450	\$1,350			
	Landscaping				\$0			
D.C.A.23	Soft landscaping	227	m2	\$0	Excl.			
D.C.A.24	Landscape mix	57	m3	\$90	\$5,130			
	TOTAL Road Works		Item			\$192,847		
<u>D.C.B</u>	<u>Shared Paths</u>							
	Earthworks and Site Preparation							
D.C.B.1	Site Clearance (based on light shrubs)	356	m2	\$4	\$1,253			
D.C.B.2	Removal of topsoil 150mm and stockpile for later re-use	356	m2	\$2	\$573			
D.C.B.3	Cut to Fill - General Earthworks	107	m3	\$8	\$881			
D.C.B.4	Imported Fill	0	m3	\$30	Excl.			
	Subgrade Preparation							
D.C.B.5	Preparation, trim and compact Pathway	356	m2	\$6	\$1,958			
D.C.B.6	100 thick concrete footpath with broomed finish	356	m2	\$71	\$25,219			
D.C.B.7	Sand fill below concrete path (100mm)	356	m2	\$5	\$1,944			
D.C.B.8	Pram ramp including tactile	6	no	\$973	\$5,836			
D.C.B.9	Tactile paving	10	m2	\$325	\$3,250			
	Line Marking and Furniture							
D.C.B.10	Traffic sign	2	no	\$450	\$900			
	TOTAL Shared Paths		Item			\$41,814		



**Shire of Serpentine Jarrahdale DCP
DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
<u>D.C.C</u>	<u>Street Lighting</u>							
D.C.C.1	6.5 SOR Street Light Pole incl. all conduits, light cabling, excavation, and related overheads	4	no Item	\$3,442	\$13,767	\$13,767		
	TOTAL Street Lighting							
<u>D.C.D</u>	<u>Road Drainage</u>							
D.C.D.1	450dia reinforced concrete pipe including excavation and backfill	130	m	\$233	\$30,297			
D.C.D.2	Side entry pits including liner, cover, excavation, and associated works	4	no Item	\$2,667	\$10,666			
	TOTAL Road Drainage					\$40,963		
<u>D.C.E</u>	<u>Preliminaries and Project Costs</u>							
D.C.E.1	Traffic Management	5.0000	%	\$289,390	\$14,470			
D.C.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$289,390	\$43,409			
D.C.E.3	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$289,390	\$21,704			
D.C.E.4	Risk Contingency Allowance	10.0000	%	\$368,973	\$36,897			
	TOTAL Preliminaries and Project Costs		Item			\$116,480		
	TOTAL Turner Road (Roundabout)						\$405,870	
<u>D.D</u>	<u>Utilities</u>							
<u>D.D.A</u>	<u>Power and Lighting (Western Power)</u>							
D.D.A.1	Relocate 1213m of Overhead Power underground - Provisional Sum	1	PS Item	\$1,600,386	\$1,600,386	\$1,600,386		
	TOTAL Power and Lighting (Western Power)							
<u>D.D.B</u>	<u>Communications (NBN / Telstra / Westnet / etc.)</u>							
D.D.B.1	Relocate 1213m road length of communications related infrastructure about 10m from the current location - Provisional Sum	1	PS Item	\$332,861	\$332,861	\$332,861		
	TOTAL Communications (NBN / Telstra / Westnet / etc.)							
<u>D.D.C</u>	<u>Water and Sewer (Water Corporation)</u>							
	No allowance has been made for Water Corporation diversions as we do not see existing mains from our desktop study		Note Item			\$0		
	TOTAL Water and Sewer (Water Corporation)							
<u>D.D.D</u>	<u>Gas (ATCO)</u>							
	No allowance has been made for ATCO diversions as we do not see existing valves from our desktop study		Note Item			\$0		
	TOTAL Gas (ATCO)							
<u>D.D.E</u>	<u>Preliminaries and Project Costs</u>							
D.D.E.1	Traffic Management	10.0000	%	\$1,933,247	\$193,325			
D.D.E.2	Project Overheads and Preliminaries (Indirect Construction Costs)	15.0000	%	\$1,933,247	\$289,987			
D.D.E.3	Project Owner's Cost (Planning and Design Costs)	5.0000	%	\$1,933,247	\$96,662			
D.D.E.4	Risk Contingency Allowance	10.0000	%	\$2,513,221	\$251,322			
	TOTAL Preliminaries and Project Costs		Item			\$831,296		
	TOTAL Utilities						\$2,764,543	
A.A.A.7	Estimated Imported Fill	0	m3					
A.A.A.5	Total m3 of Cut to Fill - General Earthworks	8,599	m3					
	Less Cut to Fill costed	0	m3	\$30	\$0			
	Total Adjustment for Imported Fill (less Cut to Fill)						\$0	
	TOTAL Road – Warrington Road		Item					\$6,218,219

**Shire of Serpentine Jarrahdale DCP
 DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
E	DISTRICT OPEN SPACE – THE GLADES (FUTSAL COURTS)							
E.A	Siteworks & Earthworks							
E.A.A	Site Clearance (based on light scrub)	10,992	m2	\$4		\$40,451		
E.A.B	Removal of topsoil 150mm and remove off-site	10,992	m2	\$2		\$18,456		
E.A.C	Cut to Fill - General Earthworks of 300mm across site	3,298	m3	\$8		\$27,118		
E.A.D	Excavation to 350 below finished levels to playing courts	688	m3	\$14		\$9,494		
E.A.E	Levelling, grading and compaction to final design levels	10,992	m2	\$3		\$36,274		
E.A.F	Weed eradication	10,086	m2	\$1		\$5,900		
E.A.G	Gypsum soil conditioner	10,086	m2	\$2		\$17,045		
E.A.H	15 deep C-Wise Horticulture soil conditioner	10,086	m2	\$5		\$55,070		
E.A.I	100 thick imported turf sand	5,080	m2	\$5		\$25,095		
E.A.J	Organic fertilizer to turf	5,080	m2	\$1		\$5,944		
E.A.K	Protect and retain existing trees	28	no	\$190		\$5,320		
E.A.L	Forming batter using existing soil on site	1,333	m2	\$6		\$8,331		
E.A.M	Drainage swale including excavation, drainage cells and matting	771	m3	\$50		\$38,550		
E.A.N	Adjust existing fence for carpark entry	1	Item	\$2,780		\$2,780		
	TOTAL Siteworks & Earthworks						\$296,000	
E.B	Grassing & Irrigation							
E.B.A	Supply and lay roll on turf including maintaining	5,080	m2	\$25		\$127,000		
E.B.B	Ground cover including planting	5,006	m2	\$15		\$75,090		
E.B.C	Trees medium including irrigation	12	no	\$520		\$6,240		
E.B.D	Trees large including irrigation	4	no	\$1,080		\$4,320		
E.B.E	Irrigation	10,086	m2	\$10		\$100,860		
E.B.F	Provisional sum allowance for pumps, bores and controls - no allowance for storage tank	1	Item	\$50,000		\$50,000		
	TOTAL Grassing & Irrigation						\$364,000	
E.C	Courts							
	Sub Base and Base Course							
E.C.A	100mm thick crushed rock base course	1,226	m2	\$8		\$10,067		
E.C.B	250mm thick compacted limestone sub base	1,226	m2	\$17		\$21,430		
	Playing surface							
E.C.C	Sports surface on prepared surface	1,226	sqm	\$155		\$190,030		
E.C.D	Court linemarking	353	m	\$10		\$3,530		
	Fencing & Gates							
E.C.E	3600 high chainlink fence with tubular posts	237	m	\$150		\$35,550		
E.C.F	1000 wide gate	2	no	\$480		\$960		
	TOTAL Courts						\$262,000	
E.D	Landscaping & Equipment							
	Equipment							
E.D.A	Futsal goals including net	4	no	\$3,432		\$13,727		
E.D.B	Basketball post including ring and backboard	4	no	\$4,482		\$17,927		
E.D.C	Stainless steel bin enclosures	2	no	\$7,236		\$14,472		
E.D.D	Drinking fountain stainless steel including water supply	1	no	\$10,120		\$10,120		
E.D.E	Continuous seating fixed to ground	41	m	\$1,364		\$55,904		
E.D.F	Individual bench seats 3000 long fixed to ground	2	no	\$3,182		\$6,363		
E.D.G	Timber Bollards @1200 spacing	159	no	\$121		\$19,239		
E.D.H	Lighting poles for paths	16	no	\$5,500		\$88,000		
E.D.I	Lighting for courts	4	no	\$20,000		\$80,000		
E.D.J	Stainless steel bike rack to suit 5 bikes fixed to ground	1	no	\$3,000		\$3,000		
	Provisional Sums							
E.D.K	Provisional sum allowance for shade structures comprising metal roof similar to a gazebo	2	no	\$20,000		\$40,000		
E.D.L	Provisional sum allowance for K9700 Parkland automated public toilets including full fitout and installation	1	no	\$80,000		\$80,000		
E.D.M	Provisional sum allowance for signage	1	item	\$5,000		\$5,000		
	TOTAL Landscaping & Equipment						\$434,000	
E.E	Roadworks & Pavings							
	Subgrade Preparation							
E.E.A	Preparation, trim and compact	793	m2	\$8		\$6,566		
	Sub Base and Base Course							



**Shire of Serpentine Jarrahdale DCP
DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
E.E.B	100mm thick crushed rock base course	518	m2	\$8		\$4,253		
E.E.C	250mm thick compacted limestone sub base	518	m2	\$17		\$9,055		
	Asphalt Paving							
E.E.D	30mm thick (AC10)	518	m2	\$19		\$9,847		
E.E.E	Primer seal	518	m2	\$4		\$2,186		
	Concrete Paving							
E.E.F	100 thick grey concrete footpath with broomed finish	1,446	m2	\$74		\$106,888		
E.E.G	Sand fill below concrete footpath (100mm)	276	m2	\$6		\$1,574		
E.E.H	Pram ramp	1	no	\$670		\$670		
	Kerbing							
E.E.I	Mountable Kerb (MK)	126	m	\$50		\$6,300		
E.E.J	Mowing kerb	62	m	\$50		\$3,100		
	Miscellaneous							
E.E.K	Line marking	60	m	\$6		\$380		
	Crossovers							
E.E.L	Public crossovers to carpark including additional traffic management	2	no	\$10,000		\$20,000		
	TOTAL Roadworks & Pavings						\$171,000	
E.F	Drainage							
E.F.A	150 diameter pipe including excavation and backfill	399	m	\$143		\$56,858		
E.F.B	Buried flushing points	2	no	\$500		\$1,000		
E.F.C	Headwall, rock pitching, and associated works	1	no	\$3,021		\$3,021		
E.F.D	Stormwater drainage to carpark including excavation, backfill, pits, grates and pipework	518	m2	\$30		\$15,540		
	TOTAL Drainage						\$77,000	
E.G	Preliminaries & Project Costs							
E.G.A	Traffic Management	0.0000	%	\$1,604,000		\$0		
E.G.B	Project Overheads and Preliminaries (Indirect Construction Costs)	10.0000	%	\$1,604,000		\$160,400		
E.G.C	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$1,604,000		\$120,300		
E.G.D	Risk Contingency Allowance	10.0000	%	\$1,884,700		\$188,470		
	TOTAL Preliminaries & Project Costs						\$470,000	
	TOTAL District Open Space – The Glades (Futsal courts)		Item					\$2,074,000



**Shire of Serpentine Jarrahdale DCP
DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
F	DISTRICT OPEN SPACE – ORTON ROAD OVAL							
F.A	Siteworks & Earthworks							
F.A.A	Site Clearance (based on light shrubs)	43,875	m2	\$4		\$161,460		
F.A.B	Removal of topsoil 150mm and remove off-site	43,875	m2	\$2		\$73,666		
F.A.C	Cut to Fill - General Earthworks of 300mm across site	13,163	m3	\$8		\$108,233		
F.A.D	Levelling, grading and compaction to final design levels	43,875	m2	\$3		\$144,788		
F.A.E	Weed eradication	43,875	m2	\$1		\$25,667		
F.A.F	Excavation to 300 below finished levels	13,163	m2	\$14		\$181,649		
F.A.G	Clean sand fill to oval	13,163	m3	\$30		\$394,890		
F.A.H	Gypsum soil conditioner	43,875	m2	\$2		\$74,149		
F.A.I	15 deep C-Wise Horticulture soil conditioner	43,875	m2	\$5		\$239,558		
F.A.J	100 thick imported turf sand	43,875	sqm	\$5		\$216,743		
F.A.K	Organic fertilizer to turf	43,875	sqm	\$1		\$51,334		
	TOTAL Siteworks & Earthworks						\$1,673,000	
F.B	Grassing & Irrigation							
F.B.A	Supply and lay roll on turf including maintaining	43,875	sqm	\$20		\$877,500		
F.B.B	Irrigation	43,875	sqm	\$8		\$351,000		
F.B.C	Provisional sum allowance for pumps, bores and controls - no allowance for storage tank	1	Item	\$80,000		\$80,000		
	TOTAL Grassing & Irrigation						\$1,309,000	
F.C	Landscaping & Equipment							
	Equipment							
F.C.A	AFL goal posts (set of 8) including sleeves, footings, cages and post padding	1	no	\$7,406		\$7,406		
F.C.B	Timber Bollards @ 1200 spacing	188	no	\$121		\$22,748		
F.C.C	<u>Line marking to oval</u>							
F.C.C.1	Allow 2 guys 1 day	16	hrs	\$100	\$1,600			
F.C.C.2	Equipment	1	no	\$1,000	\$1,000			
F.C.C.3	Profit				\$260			
	TOTAL Line marking to oval	710	m	\$4		\$2,860		
F.C.D	Provisional Sums Provisional sum allowance for signage	1	item	\$5,000		\$5,000		
	TOTAL Landscaping & Equipment						\$39,000	
F.D	Drainage							
F.D.A	150 diameter pipe including excavation and backfill	1,300	m	\$143		\$185,250		
	TOTAL Drainage						\$186,000	
F.E	Preliminaries & Project Costs							
F.E.A	Traffic Management	0.0000	%	\$3,207,000		\$0		
F.E.B	Project Overheads and Preliminaries (Indirect Construction Costs)	10.0000	%	\$3,207,000		\$320,700		
F.E.C	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$3,207,000		\$240,525		
F.E.D	Risk Contingency Allowance	10.0000	%	\$3,768,225		\$376,823		
	TOTAL Preliminaries & Project Costs						\$939,000	
	TOTAL District Open Space – Orton Road Oval		Item					\$4,146,000



**Shire of Serpentine Jarrahdale DCP
DCA 1 - Byford Traditional Infrastructure - Update**

Code	Description	Quantity	UOM	Rate	Subtotal	Sub Section Total	Section Total	Road/ DOS Total
DISTRICT OPEN SPACE – ORTON ROAD WETLAND REHABILITATION								
G.A Siteworks & Earthworks								
G.A.A	Site Clearance (based on light shrubs)	69,716	m2	\$4		\$256,555		
G.A.B	Removal of topsoil 150mm and remove off-site	69,716	m2	\$2		\$117,053		
G.A.C	Cut to Fill - General Earthworks of 300mm across site	20,915	m3	\$8		\$171,974		
G.A.D	Levelling, grading and compaction to final design levels	69,716	m2	\$3		\$230,063		
G.A.E	Allow for 50 deep mulch	60,623	m2	\$12		\$727,476		
G.A.F	Allow for wetland vegetation planting	60,623	m2	\$8		\$484,984		
	TOTAL Siteworks & Earthworks						\$1,988,104	
G.B Roadworks & Pavings								
Subgrade Preparation								
G.B.A	Preparation, trim and compact	9,094	m2	\$8		\$75,298		
Paving								
G.B.B	25 thick red asphalt paving	9,094	m2	\$58		\$522,905		
G.B.C	Sand fill below footpath (100mm)	9,094	m2	\$6		\$51,872		
	TOTAL Roadworks & Pavings						\$650,075	
G.C Preliminaries & Project Costs								
G.C.A	Traffic Management	0.0000	%	\$2,638,180		\$0		
G.C.B	Project Overheads and Preliminaries (Indirect Construction Costs)	10.0000	%	\$2,638,180		\$263,818		
G.C.C	Project Owner's Cost (Planning and Design Costs)	7.5000	%	\$2,638,180		\$197,863		
G.C.D	Risk Contingency Allowance	10.0000	%	\$3,099,861		\$309,986		
	TOTAL Preliminaries & Project Costs						\$771,668	
	TOTAL District Open Space – Orton Road Wetland Rehabilitation		Item					\$3,409,848

DCP Roads - Imported Fill inputs		Average fill depth required before topsoil removal (mm)	Topsoil removal (mm)	Total Sand depth reqd (mm)	Length	Width	Vol	Total m3	Notes
DCA1	Orton Road New – Integrator B	300	150	450	2483	30	0.45	33,520.5	300mm fill required to lift full length
	Indigo Parkway – Integrator B	300	150	450	605	27.5	0.45	7,486.9	First 375m length (Larsen to Caraway), No fill required. 605m length (Caraway Ave to Briggs Rd) - 300mm fill required for full road reserve width
	Doley Road – Neighbourhood Connector A	300	150	450	880	15	0.45	5,940.0	Existing Eastern carriageway to be upgraded, No fill required. 320m of Western Carriageway Mead St to Allanson Road, No fill Required. 880m of Eastern Carriageway (1/2 road reserve Allanson Rd to Orton Road) 300mm fill required
	Warrington Road – Neighbourhood Connector B	0	0	0	0	0	0	-	Road upgrade only, No fill or top soil removal required.

This information has been internally generated by the Shire in order to calculate Fill volumes to inform the costings provided by Rawlinsons. These calculations are reflected at the bottom of each costing sheet as supplementary to the information Rawlinson's has provided.