



Shire of
Serpentine
Jarrahdale



Byford Traditional Infrastructure Development Contribution Plan

Report No. 2

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1 Introduction

1.1 Background

The Byford development area is located within the Shire of Serpentine Jarrahdale, and is generally bound by Thomas Road to the north, the existing Byford Townsite to the east, South Western Highway to the southeast, Cardup Siding Road to the south and Hopkinson Road to the west.

The Byford District Structure Plan (DSP) has been prepared to guide the preparation of more detailed local structure plans (LSPs) facilitating subdivision and development within the Byford area. Infrastructure and land for public purposes will be required to cater for this development.

A copy of the Byford DSP Map is contained in Figure 1.

In December 2013 the Shire approved the first Development Contribution Plan Report (DCP Report 1).

1.2 Context for Review of DCP Report No. 2

This DCP Report No.2 is necessary to bring to account the development of around 2,777 lots created prior to the Byford DCP becoming operable upon the gazettal on 20 February 2014 of Amendment 168 that inserted the DCP into Appendix 16A of TPS No.2. To 30 June 2014, 3236 lots were created in Byford DCA1.

Initiation of an amendment to include the Byford DCP within TPS 2 occurred in 2005. This initiation allowed the Western Australian Planning Commission (WAPC) to place on subdivision approvals the obligation to pay a DCP contribution. This obligation was secured through a legal deed requiring the subdivider to provide security in the form of cash, bank guarantee or security over land.

There were 97 Interim Development Deeds in place when Amendment 168 was gazetted. Local Planning Policy No.75 provides the framework for the acquittal of the Deeds.

As at gazettal when the Byford Traditional Infrastructure DCP came into operation, 2,777 lots with a DCP contribution value of \$34.4 mil, DCP land value of \$19.6 mil and DCP works value of \$10.46 mil were acquitted. Subsequent subdivision clearances up to 30 June 2014 bring these figures to, respectively; 3236 lots, \$40.547 mil, \$22.446 mil and \$10.462 mil. The acquittal of this significant past activity required the DCP Report 1 to be reviewed as a priority rather than waiting for the twelve month review period.

1.3 Purpose of Development Contribution Plan

Due to the existence of multiple landholdings within the Byford DSP area, the Shire has prepared a development contribution plan (DCP) to share the cost of infrastructure, land and other items required to support the development of the area.

1.4 Purpose of Development Contribution Plan Report

This report has been prepared to set out in detail:

- The infrastructure, land and other items for which development contributions are to be collected.
- How land values are calculated and the valuation methodology applied.
- The cost estimates of infrastructure and other items.
- The periodic review of the cost estimates.
- The cost contribution rates applicable to individual precincts within the Byford development contribution area.
- The methodology to calculate development contributions applicable to landowners/developers and the operational aspects of the methodology.
- Principles for the priority and timing of infrastructure provision and land acquisition.
- The period of operation of the DCP.
- Various other operational matters.
- Examples of how development contributions will be calculated.

1.5 Status

This DCP Report has been prepared pursuant to Clause 10.3.10 of the Shire of Serpentine Jarrahdale Town Planning Scheme No. 2 (TPS 2).

The report should be read in conjunction with Clause 10.3 and Appendix 16A of TPS 2 and any relevant precinct-level LSP. This DCP Report does not form part of TPS 2.

1.6 Principles

This DCP Report has been prepared pursuant to the guiding principles for development contribution plans, as set out in Clause 10.3.6 of TPS 2 and detailed below:

(a) Need and the nexus

The need for the infrastructure included in the plan must be clearly demonstrated (need) and the connection between the development and the demand created should be clearly established (nexus).

(b) Transparency

Both the method for calculating the development contribution and the manner in which it is applied should be clear, transparent and simple to understand and administer.

(c) Equity

Development contributions should be levied from all developments within a development contribution area, based on their relative contribution to need.

(d) Certainty

All development contributions should be clearly identified and methods of accounting for cost adjustments determined at the commencement of a development.

(e) Efficiency

Development contributions should be justified on a whole of life capital cost basis consistent with maintaining financial discipline on service providers by precluding over recovery of costs

(f) Consistency

Development contributions should be applied uniformly across a development contribution area and the methodology for applying contributions should be consistent.

(g) Right of consultation and review

Owners have the right to be consulted on the manner in which development contributions are determined. They also have the opportunity to seek a review by an independent third party if they believe the calculation of the costs of the contributions is not reasonable.

(h) Accountable

There must be accountability in the manner in which development contributions are determined and expended.

1.7 Area of Operation

The DCP Report applies to the Byford development contribution area (DCA) (see Figure 2), as indicated on the TPS 2 Scheme Maps and detailed within Part 10 of TPS 2.

1.8 Strategic Basis

The Byford DSP guides the preparation of LSPs, which in turn facilitate the eventual subdivision and development of land within Byford. This subdivision and development necessitates the provision of new and upgraded infrastructure, land for public open space and drainage purposes. In this context, the Byford DSP forms the strategic basis for the DCP Report.

Figure 1 – Byford District Structure Plan Map



This is a District Structure Plan and shall be used as a basis for more detailed planning when read in conjunction with other documents and the Byford Structure Plan report

This Plan should be read in conjunction with Schedule 1 - Operative Part

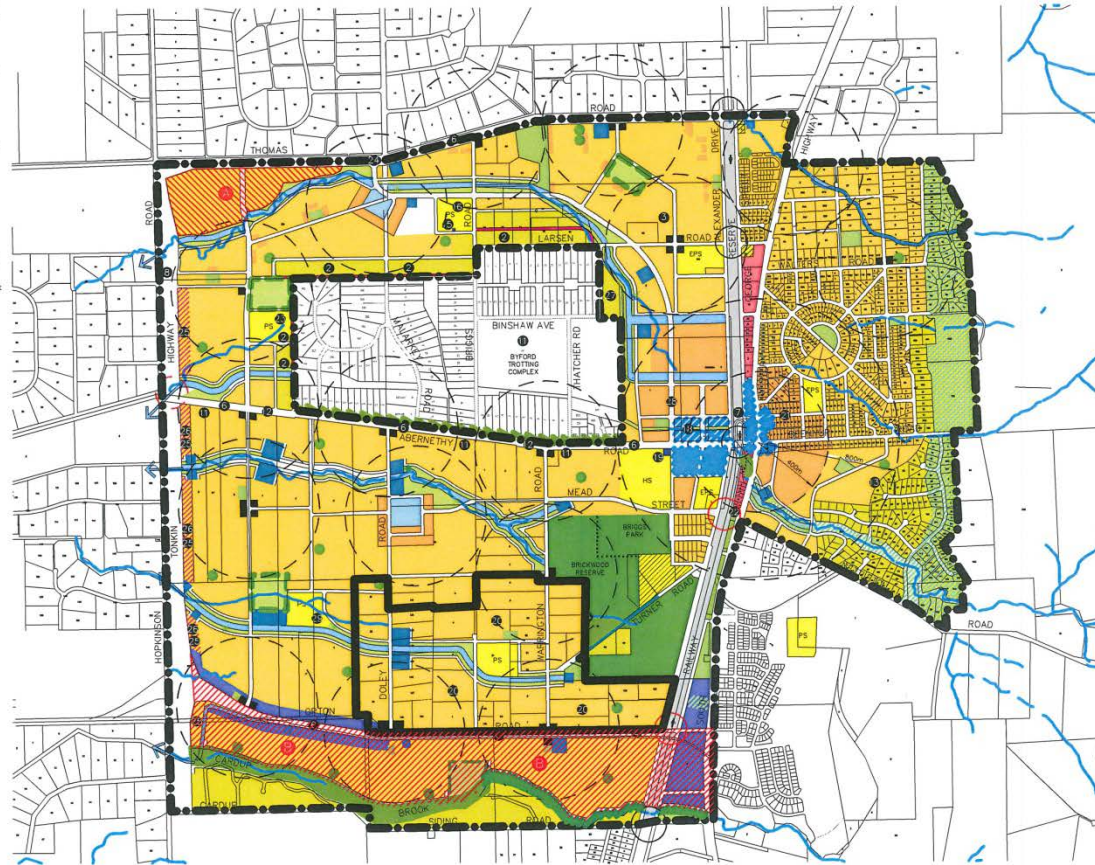


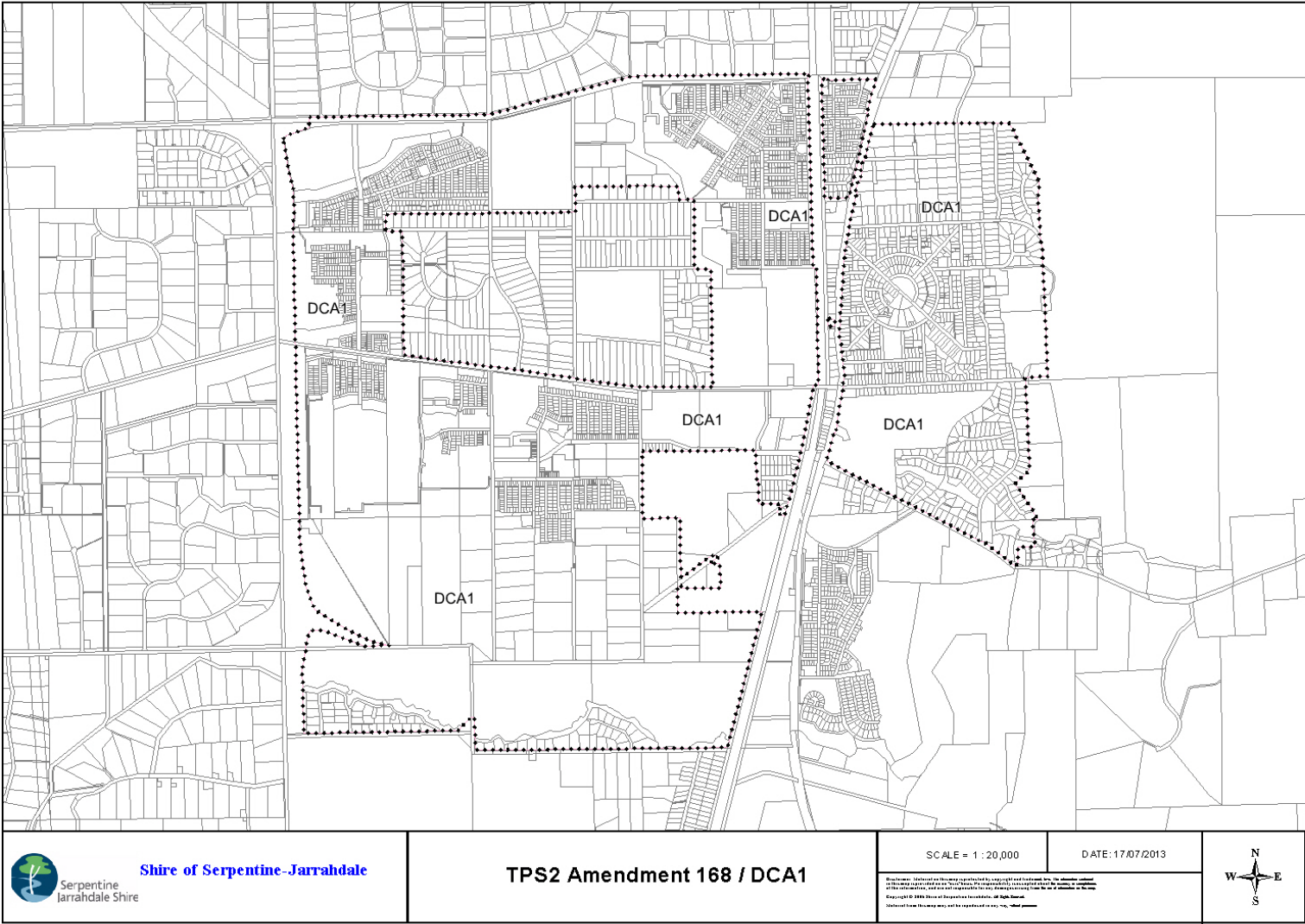
FIGURE 1: BYFORD DISTRICT STRUCTURE PLAN

DATE 10.08.2010
DWG NO 004

REV B
SCALE NTS



Figure 2 – Byford Development Contribution Area



2 Infrastructure, Land and Other Items

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

- District distributor and local roads playing a district function;
- Land for public open space and drainage;
- Land for district open space and drainage;
- Water monitoring costs; and
- Administration costs.

2.1 Land Value

Many of these items include a land component. To determine the total cost of the items, an estimate of land value therefore needs to be identified. This rate for the purpose of calculating the value of land for public open space, drainage and infrastructure in May 2014, is \$550,000 per hectare. This estimate is based on current valuation advice for an indicative R20 zoned 5 hectare unimproved lot within the Byford DSP area. As development progresses through DCA1, the size of englobo lots or parent lots will become smaller. Given that the valuations for future acquisitions are influenced by the size of the parent lot and there is some land in the future mixes that has higher zoning than R20, the englobo value estimate for future acquisitions has been escalated by a contingency factor of 10%.

Pursuant to Clause 10.3.11 of TPS 2, the cost estimate land value will be reviewed at least annually.

For the purposes of TPS 2 s.10.3 and Appendix 16A and this DCP Report, one englobo land value will apply to the entire Byford development contribution area, irrespective of precinct or structure plan classification, for the purpose of establishing the cost estimate allowance for land.

The net land value is to be determined in accordance with the definition of "value" in TPS 2 s.10.3.12 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 should be discounted by standard marketing costs including fees, commissions and advertising costs and by the prevailing DCP contribution liability which otherwise would have applied to the land.

2.2 Roads

The upgrading, construction and land acquisition of the following roads is included within the DCP:

- Thomas Road;
- Abernethy Road;
- Orton Road New;
- Kardan Boulevard;
- San Simeon Boulevard;
- Doley Road; and
- Warrington Road.

Figure 3 provides a graphical representation of the general extent to which the roads will be upgraded and/or constructed through the DCP.

Figure 3 – Road to be upgraded and/or constructed through DCA1 (including traffic control devices)

LEGEND:

GENERAL EXTENT OF ROAD UPGRADE AND/OR CONSTRUCTION

-  THOMAS ROAD 50m road reserve
-  ABERNETHY ROAD 30m road reserve
-  ORTON ROAD 30m road reserve
-  KARDAN BOULEVARD 30m road reserve
-  KARDAN BOULEVARD 25m road reserve
-  SAN SIMEON BOULEVARD 25m road reserve
-  DOLEY ROAD 30m road reserve
-  WARRINGTON ROAD 20m road reserve

TRAFFIC CONTROL DEVICES

-  TRAFFIC LIGHT
-  ROUND ABOUT
-  INTERSECTION TREATMENT
SLIP LANES AND ASSOCIATED WORKS

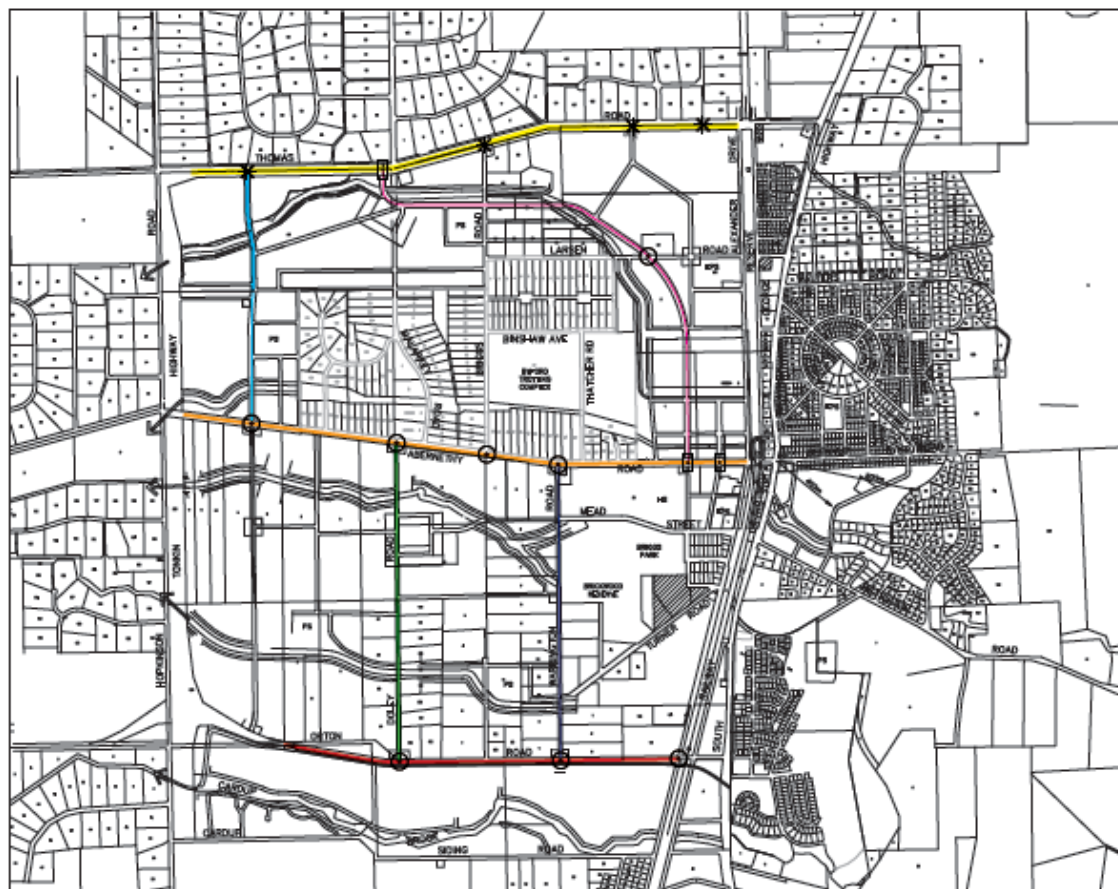


FIGURE 3: ROADS TO BE UPGRADED AND/OR CONSTRUCTED THROUGH THE DEVELOPMENT CONTRIBUTION ARRANGEMENT (AND TRAFFIC CONTROL DEVICES)

DATE 07.11.2013
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SCALE MTS



2.2.1 Thomas Road – District Distributor

Thomas Road borders a significant portion of the Byford DSP area to the south. Under the Metropolitan Region Scheme (MRS), the road is reserved as an Other Regional Road and is identified as a district distributor. The portion of Thomas Road abutting the Byford DSP is under control of the Shire.

The road currently exists, but will require changes in width, alignment and configuration to support development envisaged under the DSP in addition to increased regional traffic.

The width of the Thomas Road reserve will be 50m and the length for DCP responsibility is 3,280 metres and comprises an area of 16.40 ha.

The upgrade of Thomas Road will occur between the Tonkin Highway Metropolitan Region Scheme (MRS) Primary Regional Road Reserve and the railway reserve to the east. The 85% design of Thomas Road has been undertaken.

The following items are included within the DCP for Thomas Road:

- Land required to achieve a 50 metre wide road reserve;
- Earthworks for the unconstructed carriageway;
- The construction and upgrade of one carriageway;
- Associated drainage works including water sensitive urban design measures;
- Traffic control devices including the following intersection treatments:
 - (a) Kardan Boulevard – construction of a channelised intersection, slip lanes and associated works;
 - (b) San Simeon Boulevard – full cost of signalisation;
 - (c) Plaistowe Boulevard – construction of channelised intersection slip lanes and associated works; and,
 - (d) Briggs Road – construction of channelised slip lanes and associated works.
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.

The total future cost for Thomas Road is estimated at \$17,774,980. A detailed breakdown of the costs is provided in Appendix A. A two-third cost offset of \$11,731,490 has been estimated as a contribution from Main Roads WA (MRWA). It is recognised the MRWA grant is subject to confirmation.

The following items are not included in the DCP for Thomas Road:

- 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;
- Any upgrades to Thomas Road east of the railway crossing up to the dual carriageway near South Western Highway; and

- Any intersection treatment with Tonkin Highway. Tonkin Highway is a Primary Regional Road under the MRS and is a responsibility of MRWA.

2.2.2 Abernethy Road – Local Road

Abernethy Road is located centrally within the Byford DSP area, 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 cul-de-sac at this point.

The width of Abernethy Road will generally be 30m. The total length of the road is 2,800 metres.

The upgrade of Abernethy Road will occur between the Tonkin Highway MRS Primary Regional Road reserve and the railway crossing 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 Road and the cul-de-sac at Tonkin Highway will be retained as a single carriageway. The overall portion of costs borne by the DCP is 71.25%

The following items are included in the DCP for Abernethy Road:

- Land required to achieve a road reserve up to 30 metres in width;
- Earthworks for the whole road reserve;
- Complete road construction based on a single lane split carriageway with central median;
- Associated drainage works including water sensitive urban design measures;
- Traffic control devices including the following intersection treatments:
 - (a) San Simeon Boulevard – full cost of signalisation;
 - (b) Kardan Boulevard – full cost of roundabout;
 - (c) Doley Road – full cost of roundabout;
 - (d) Briggs Road – full cost of roundabout; and,
 - (e) Warrington Road – full cost of roundabout.
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.

Completed works include the Briggs Street intersection and other

The total future cost for Abernethy Road is estimated at \$19,786,291. The DCP proportionate share is \$14,097,732. The remaining contributions will be provided by the Shire. A detailed breakdown of the costs is provided in Appendix B. A cost offset of \$725,250 has been received as a contribution from MRWA.

The following items are not included in the DCP for Abernethy Road:

- Minor intersections treatments into Abernethy Road from 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 DCP 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.

2.2.3 Orton Road New – Local Road

Orton Road New is located in the southern portion of the DSP area, currently running east-west between Hopkinson Road and Warrington Road. Orton Road New is a Shire controlled road and is not reserved under the MRS.

The existing state of Orton Road New is rural in nature, with a narrow single carriageway allowing for one lane in either direction. The Byford DSP indicates that the road is to be realigned to the west of Doley Road and be extended from Warrington Road to Soldiers Road. 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 New will be up to 30m and the length to be completed is 2,840 metres. The upgrade and construction of Orton Road New will occur between the Tonkin Highway MRS Primary Regional Road reserve and Soldiers Road. The costs of the land for the Orton Road reserve will take account of the existing road reserve where possible.

The following items are included in the DCP for Orton Road New:

- Land required to achieve a road reserve up to 30 metres in width;
- Earthworks for the whole road reserve;
- Complete road construction based on a single lane split carriageway with central median;
- Associated drainage works including water sensitive urban design measures;
- Traffic control devices including the following intersection treatments:
 - (a) Doley Road – full cost of roundabout;
 - (b) Warrington Road – full cost of roundabout; and,
 - (c) Soldiers Road – full cost of roundabout.
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.

The total cost for Orton Road New is estimated at \$12,435,160. A detailed breakdown of the costs is provided in Appendix C.

The following items are not included in the DCP for Orton Road New:

- Minor intersections treatments into Orton Road New from the adjoining subdivisional road network. These will be subject to a standard truncation requirement; and
- Any intersection treatment with Tonkin Highway. Tonkin Highway is a Primary Regional Road under the MRS and is a responsibility of Main Roads WA.

2.2.4 Kardan Boulevard – Local Road

Kardan Boulevard is located in the north-west portion of the DSP area, providing a north-south connection between Thomas Road and Abernethy Road. Construction of the road was proposed under the Byford DSP as it would provide an important connection for district traffic and public transport movements.

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

The construction of Kardan Boulevard is complete except for the upgrade of a culvert. The following items were included in the DCP for Kardan Boulevard:

- Land required over and above a standard 20 metre road reserve width to achieve a road reserve up to 30 metres in width;
- Earthworks for the whole road reserve;
- Complete road construction based on a single lane split carriageway with central median;
- Associated drainage works including water sensitive urban design measures;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.

The total cost expended for Kardan Boulevard is \$4,056,617. A further \$818,144 is required for an upgraded culvert crossing to accommodate additional regional drainage flow. The detailed breakdown of this cost is provided in Appendix D.

2.2.5 San Simeon Boulevard – Local Road

San Simeon Boulevard is located in the northern portion of the DSP area, providing a northwest-southeast connection between Thomas Road and Abernethy Road. San Simeon Boulevard will play an important district role by providing a direct connection for residents and traffic into the Byford Town Centre. The road will provide a direct access option to and from the Town Centre and assist in limiting vehicle movements through the Byford Trotting Complex.

Subject to final design, this road has a width of 22.5 metres from Thomas Road to Larsen Road and 27.5 metres from Larsen Road to Abernethy Road. The 22.5 metre

road reserve is proposed in areas adjacent to public open space and 27.5 metre in built up areas.

The construction of San Simeon Boulevard will occur between Thomas Road and Abernethy Road. The length of the road to be completed is 2,330 metres. The total length is 2,840 metres.

The following items are included in the DCP for San Simeon Boulevard:

- Land required over and above a standard 20m road reserve width to achieve a road reserve up to 30 metres in width;
- Earthworks for the whole road reserve;
- Complete road construction based on a single lane split carriageway with central median;
- Traffic control devices including the following intersection treatments:
 - (a) Larsen Road – full cost of roundabout; and,
 - (b) Byford Town Centre main street – full cost of roundabout.
- Associated drainage works including water sensitive urban design measures;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.

Works to the value of \$1,383,015 are completed. The total remaining cost for San Simeon Boulevard is estimated at \$14,763,557. A detailed breakdown of the remaining costs is provided in Appendix E.

The following items are not included in the DCP for San Simeon Boulevard:

- Minor intersections treatments into San Simeon Boulevard from the adjoining subdivisional road network. These will be subject to a standard truncation requirement;
- Land required to achieve a standard 20m road reserve, which will be ceded free of cost as part of the subdivision process.

2.2.6 Doley Road – Local Road

Doley Road is located in the southern portion of the DSP area, providing a north-south connection between Abernethy Road and Orton Road New. 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. The Road is identified in the Byford DSP.

In light of this role, the Shire has, subject to final design, required a road width of 30m for Doley Road.

The construction of Doley Road will occur between Abernethy Road and Orton Road New. The length to be constructed is 1,210 metres. The total length of the road is 1,755 metres.

The following items are included in the DCP for Doley Road:

- Land required to achieve a road reserve up to 30 metres in width;
- Earthworks for the whole road reserve;
- Complete road construction based on a single lane split carriageway with central median;
- Associated drainage works including water sensitive urban design measures;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.

Works to the value of \$2,870,303 are completed. The remaining cost for Doley Road is estimated at \$4,588,140. A detailed breakdown of the costs is provided in Appendix F.

The following items are not included in the DCP for Doley Road:

- Minor intersections treatments into Doley Road from the adjoining subdivisional road network. These will be subject to a standard truncation requirement;
- Land required to achieve a standard 20m road reserve, which will be ceded free of cost as part of the subdivision process.

2.2.7 Warrington Road – Local Road

Warrington Road is located in the southern portion of the DSP area, providing a north-south connection between Abernethy Road and Orton Road New. The Road is identified in the Byford DSP and 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, subject to final design, will be 20 metres thus not requiring additional land for road widening.

The upgrade and construction of Warrington Road will occur between Abernethy Road and Orton Road New. The length of road to be completed is 1,295 metres and comprises 2.59 ha. The total length of the road is 1,625 metres.

The following items are included in the DCP for Warrington Road:

- Earthworks for the whole road reserve;
- Complete road construction based on an undivided single carriageway;
- Associated drainage works including water sensitive urban design measures;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design and management.

Works to the value of \$716,367 are completed. The remaining cost for Warrington Road is estimated at \$3,558,582. A detailed breakdown of the costs is provided at Appendix G.

The following items are not included in the DCP for Warrington Road:

- Minor intersections treatments into Warrington Road from the adjoining subdivisional road network. These will be subject to a standard truncation requirement;
- Any land required to achieve a standard 20m road reserve, which will be ceded free of cost as part of the subdivision process or use of the existing road reserve.

2.2.8 Contingencies

Preliminary costs of 7.5% have been included together with a 10% contingency to the developed direct cost rate.

This will account for the civil construction industry being subject to cost variations due to capacity constraints and cost of materials changes, estimated costs generally include cost contingencies. The degree of contingency applied to each item relies on the level of works design, scale of works and other industry factors.

It is recognised the amount of contingency required is reduced by the use of cost escalators between each review.

2.2.9 Road Items Not Included

Road Reserve Improvements

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.

Within the DSP area, Thomas Road, Abernethy Road, Orton Road New and the other distributor roads have the ability to incorporate significant improvement works.

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 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.

2.2.10 Land for Road Reserves

The DCP takes responsibility for acquiring DCP road reserve land where the existing reserve is widened or where the road is a new road. Each of the Appendices A to G contains an item dealing with land requirements for that road.

The following table brings together the road reserve acquisitions for each road:

Table 2.1 Road Reserve Acquisitions

Road/Land Acquisition	To Be Acquired		Acquired		Total	
	Area m2	Cost \$	Area m2	Cost \$	Area m2	Cost \$
Thomas Road	5,821	320,155	6,529	350,000	12,350	670,155
Abernethy Road	5,571	306,405	20,928	933,696	26,499	1,518,651
Orton Road	22,100	1,215,500			22,100	1,215,500
Kardan Boulevard			4,569	170,725	4,569	170,725
San Simeon Boulevard	19,917	1,095,435	2,003	93,000	21,920	1,188,435
Doley Road	14,688	807,840	5,326	253,000	20,014	1,060,840
Warrington Road	-				-	
All	68,097	3,745,335	39,355	1,800,421	107,452	5,545,756

Land to be acquired is costed at the prevailing englobo value of \$550,000 per ha as shown in section 2.1.

2.3 District Open Space Improvements

The Shire's Community Facilities and Services Plan (CFSP) states the playing fields required by the community ultimately will need to be provided with field lighting for training purposes, club storage areas, spectator toilets, and in some instances change room facilities complete with umpires and first aid rooms, and clubrooms for clubs to enable them to operate effectively. These will be provided by the Shire through a future shire-wide Community Development Contribution Plan.

These facilities will cater for the rapid growth in population and in memberships with local sporting clubs that are in need of new facilities. An area of district open space has been provided by developers in Byford Central for junior sporting use. Another senior sized playing field has been developed in the West Byford Primary School/ Kalimna District Open Space for which a Joint Use Agreement (JUA) is being negotiated. The Byford South/ Glades District Open Space will also provide a senior sporting field for which a Joint Use Agreement is required. In addition, the size of this DOS has been enlarged to accommodate a rectangular field suitable for rugby/soccer/hocky.

Another JUA also will need to be negotiated between the Shire, the Department of Education and the Catholic Education Office for the State High School and the Catholic K-12 School just north of the Recreation Centre. It is likely that at least two, senior sized (165m x 135m), AFL playing fields will be located on these sites along with two Hockey/Soccer/Rugby Pitches. Community consultation has identified the need for playing fields to be designed to cater for codes that are not yet operating in the Shire

(such as Soccer, Hockey, and Rugby). This will require the playing fields to be larger than standard size to allow for the different dimensions of different sporting code's playing fields. The DOS facilities at the High School and Catholic school are not covered by this DCP. Such facilities will be covered in the proposed Community Infrastructure DCP.

The rational for pursuing JUAs is that there are significant economies of scale and efficiencies involved which will allow schools to become a focal point for the community.

The construction of the DOS ovals on land acquired by the DCP is included within the DCP at the following sites;

- Byford Central;
- Kalimna /West Byford Primary School; and
- Byford South /The Glades DOS (senior AFL oval and rectangular field).

The scope of construction included in this DCP is confined to land and below surface works including drainage, irrigation and grassing. Further above ground works will be included in the Shire's proposed Community Infrastructure DCP.

Figure 4 – District Open Space to be improved and/or constructed through the DCP

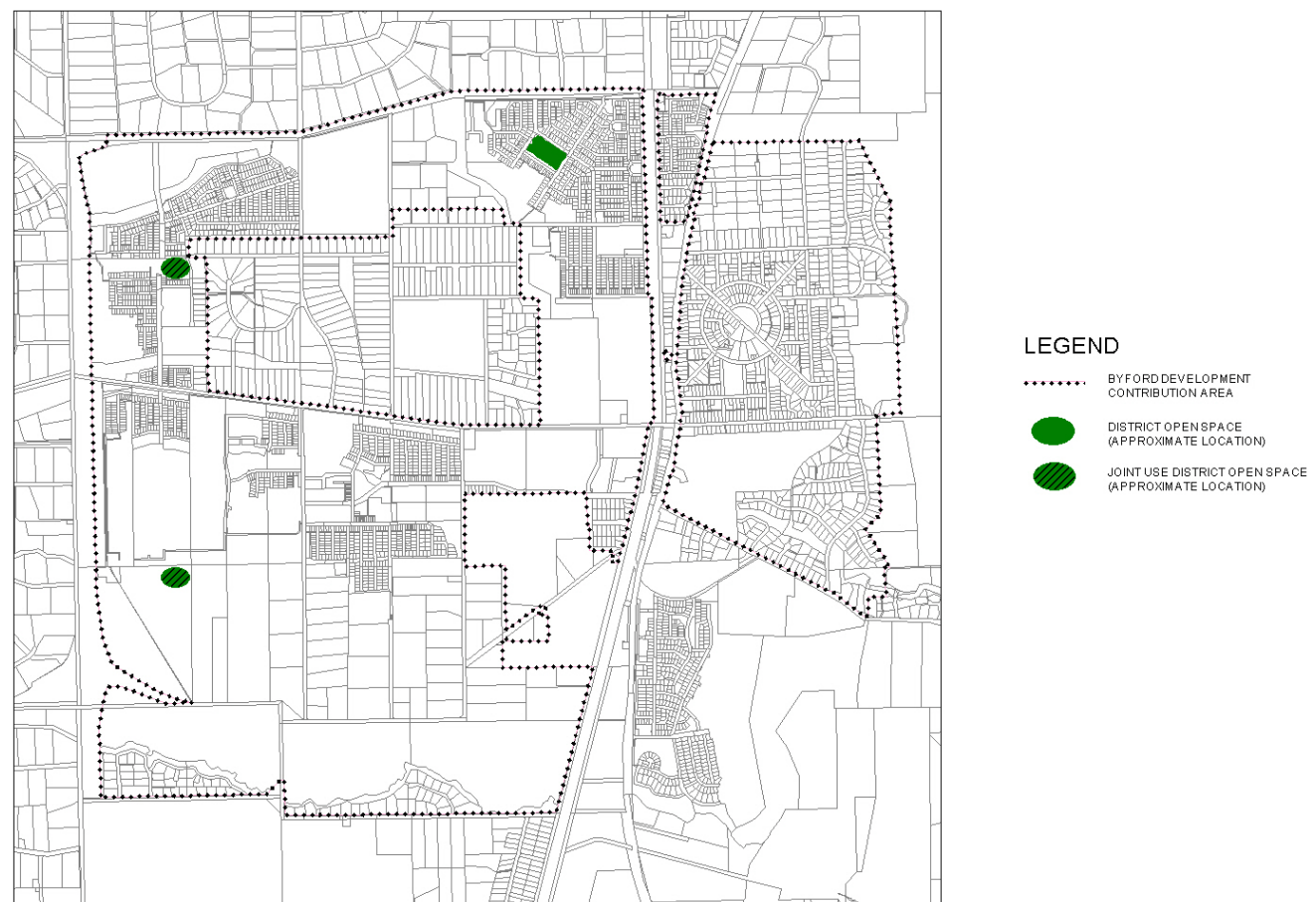


FIGURE 4: DISTRICT OPEN SPACE DEVELOPMENT

2.3.1 Byford Central District Open Space (Soccer)

The Byford Central DOS is too small for AFL competition (senior or junior) however it is the correct size for Soccer. The DOS has been constructed and the following items were included in the DCP:

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

The total cost for Byford Central DOS (Soccer) eligible works were \$888,123. This is the actual cost as the DOS is fully constructed. This oval is not associated with a school facility.

2.3.2 The West Byford Primary School/ Kalimna DOS Oval

This is a full sized AFL Oval (165m / 135m) partially located on Department of Education land and subject to a JUA. The JUA shares the cost of developing the oval between the Shire and the Department of Education. The oval is now fully constructed.

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 foreseeable future and the seniors will also add an additional team each year. The Cricket clubs are also experiencing growth. It is because of this growth that these clubs are out-growing 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 DCP:

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

The cost for Kalimna DOS is based on verified actual costs. The DCP share based on the JUA is \$585,808

2.3.3 Byford South/The Glades DOS

This will be a senior sized AFL size field partially located on Department of Education land and a JUA will be negotiated. The JUA will share the cost of developing the oval between the Shire and the Department of Education. It is expected this primary school will be constructed during 2016/17.

As with the revealed demand for the Kalimna DOS, The Glades is expected to experience a similar level of AFL sporting demand. Additional demand for other football codes has been recognised by the Shire. To meet this need, the size of the Byford South/ The Glades DOS was reconfigured and expanded by a further 0.7549 ha. Note, the additional DOS land was formally allocated to POS.

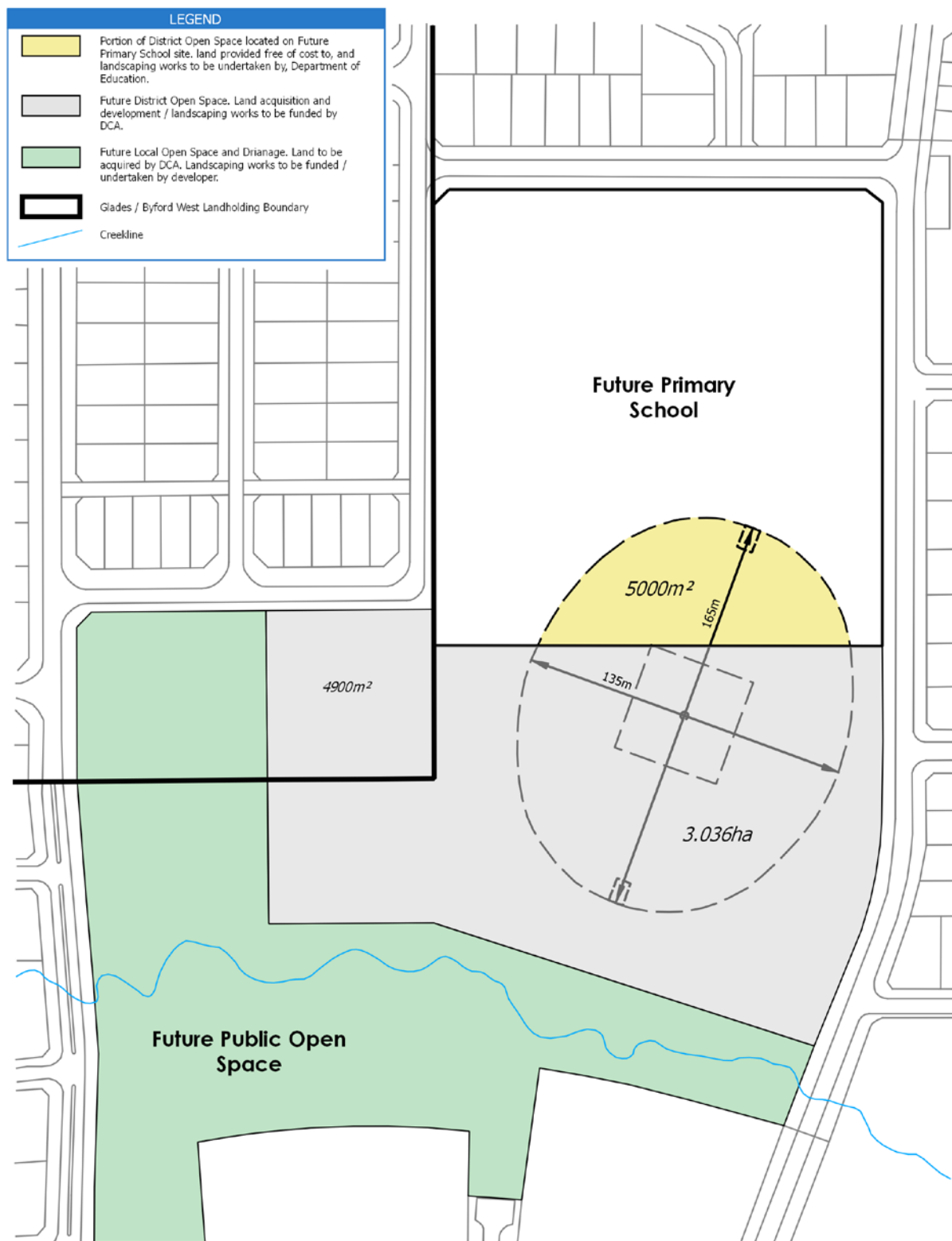
The following items are included in the DCP:

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

The requirement for a senior and a junior sized oval is assumed to result in similar costs as incurred for the Kalimna DOS. The DCP cost for the Byford South/The Glades DOS (senior AFL sized oval) is therefore estimated at \$637,740 in line with the contribution split at Kalimna DOS. The original Kalimna DOS figures relate to November 2010 and have been escalated to June 2014. Given the additional land for the rectangular field is not subject to the JUA, a rate per m² has been estimated from the Byford Central DOS for the additional land. At \$36/m² the 0.7549 ha amounts to \$272,994. The total DCP cost is therefore estimated at \$910,734.

A detailed breakdown of the costs is provided in Appendix H.

Figure 5 - Byford South/The Glades District Open Space Oval (Senior AFL oval and Rectangular field)



2.4 Land for Open Space and/or Drainage

A significant amount of land will be provided within the Byford DSP area for:

- Public open space (POS);
- District open space;
- Dual-function POS and drainage land; and
- Drainage purposes.

This land includes:

- A mix of multiple-use corridors with a dual drainage and recreation function;
- Local and neighbourhood parks;
- Larger district-level playing fields including where provided to complement school playing fields; and
- Land purely for drainage purposes.

In the context of planning undertaken for Byford, it is difficult in many instances to clearly identify and distinguish between land required for recreation and land required for drainage. This is due to:

- The existence of multiple-use corridors and other POS entailing a dual drainage and recreation function.
- Numerous LSPs being prepared based on different POS credit calculation methodologies based on different versions of Liveable Neighbourhoods.
- Deposited plans of subdivision being endorsed containing combined reserves for drainage and recreation.
- Early structure planning and subdivision being based on the adopted Byford Urban Stormwater Management Strategy. This Strategy has now been replaced with the Byford Townsite Drainage and Water Management Plan that is guiding more recent LSPs and subdivision applications.

To ensure compliance with Clause 10.3.6 of TPS 2, all land required for POS and drainage is included in the DCP. This will ensure transparency, equity in terms of land required for district benefit and simplicity of calculation.

Land for DOS and POS & Drainage and associated costs is contained in Appendix K.

2.4.1 Estimated Amount of Land for POS and Drainage

A significant amount of detailed planning has been completed for the Byford DSP area, in the form of LSPs. This level of planning allows for the specific identification of land areas required for drainage and/or POS. More recently the finalisation of the Byford Town Centre has identified additional land for drainage between South Western Highway and George Street and to the east of the high school site.

There are however several areas within Byford which have not yet been subject to the preparation of LSPs, including the Doley Road, Mead Street, Briggs Road and Stanley

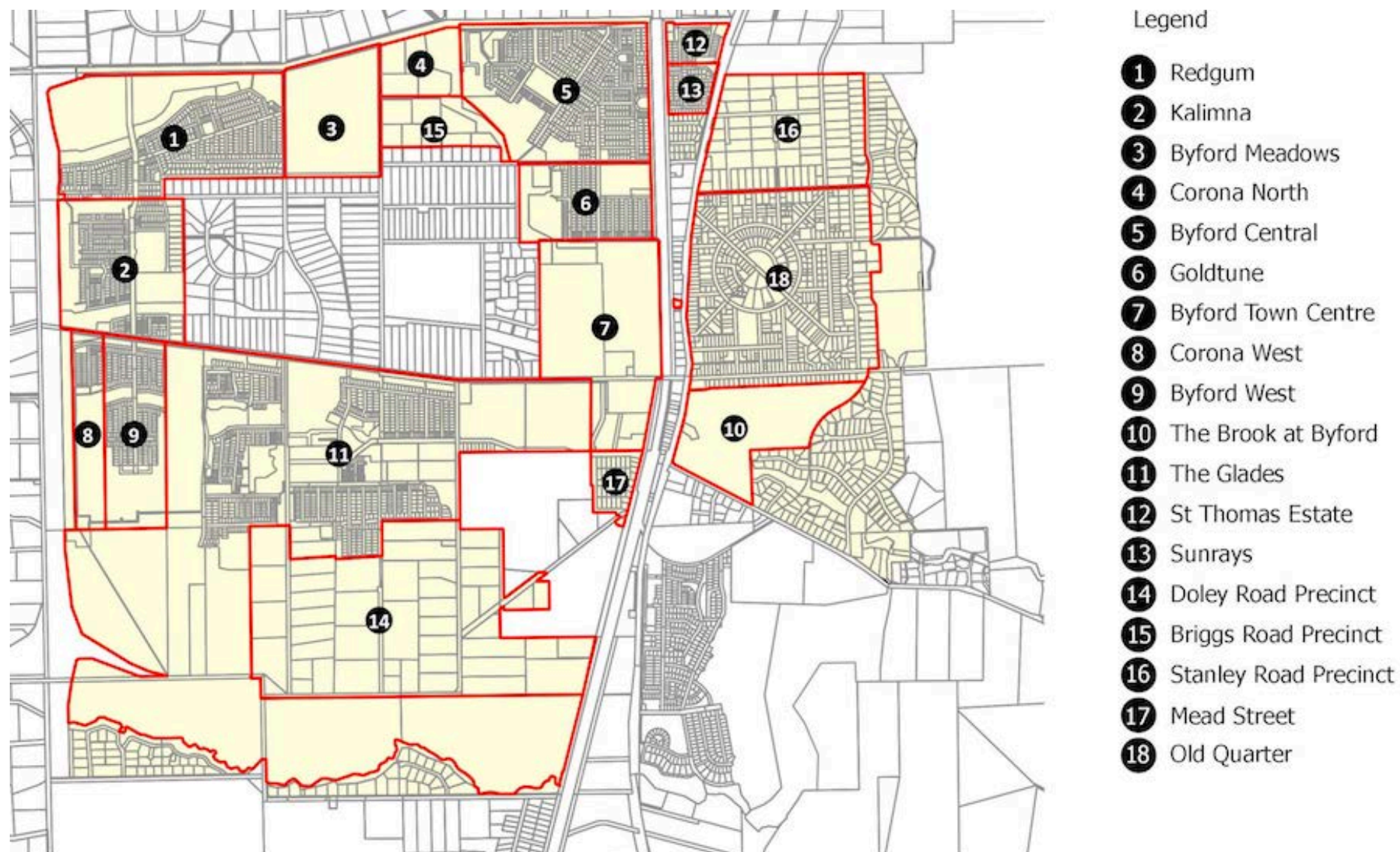
Road areas (see Figure 8). To ensure that appropriate funds are collected to allow for the future purchase of land required for POS and drainage within these areas, it has been necessary to determine an estimated amount for each precinct.

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 POS and drainage.
2. From these totals, the percentage of land required for POS 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 POS and drainage in these areas.
5. The POS 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 Byford DCA1.

Based on this methodology, it has been estimated that 115.3737 ha of land will be required for POS and drainage in the Byford DCP.

Figure 8 – Local Structure Plan Areas and Areas Not yet Subject to a LSP



The following tables provide a detailed breakdown of the calculations:

Table 2.2 POS and Drainage Areas

Local Structure Plan Area	Total Site Area (ha)	Public Open Space Land (ha)	Source
Redgum North & South	68.5500	10.8000	LSP Mar 2010 & LSP Apr 2005
Kalimna	52.6424	5.5800	LSP Oct 2008
Byford Meadows	29.4000	2.1000	LSP 2014
The Reserve	8.7759	1.6800	LSP Oct 2009
Byford Central	65.000	3.8566	LSP Jan 2006
Goldtune	28.8500	5.8500	LSP Jun 2009
Byford Town Centre	78.6857	8.1832	LSP Feb 2014
Grange Meadows	16.6000	1.6000	LSP Apr 2010
Byford West	31.0700	3.5800	LSP Mar 2010
The Brook	32.3000	3.8000	LSP Aug 2014
The Glades	329.1885	43.1440	LSP Jul 2009
St Thomas Estate	5.4582	1.1868	DP 57070
Sunrays	6.3500	0.4400	GIS
Total	752.8705	91.8004	
Percentage of POS to Total Site Area		12.19 %	

Non-Structure Planned Areas	Total Site Area (ha)	Estimated Public Open Space Land (ha)	Applied % for Estimate
Doley Road Precinct	119.7200	14.6896	12.27 %
Briggs Road Precinct	18.7700	2.3031	12.27 %
Stanley Road Precinct	48.8300	5.9914	12.27 %
Mead Street	4.8000	0.5890	12.27 %
Total	192.1200	23.5731	

Total POS and Drainage Land Area		115.3735	
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Notes:

- The St Thomas Estate and Sunrays sites were not subject to LSPs. POS and drainage land calculations were therefore undertaken on the basis of spatial data.
- The existing Byford Townsite (DCP Precinct C) is not subject to POS and drainage land contributions and has therefore not been included in the above calculations. Precinct C is, however, subject to DOS land obligations.
- Lot 7 Abernethy Road (adjacent to the proposed Tonkin Hwy reserve) is not included as it has been purchased by Water Corporation.

2.4.2 Estimated Cost

Based upon the land value detailed in section 2.1 of this report and the value of acquired land, the total estimated cost of creditable POS in the Byford DCP is \$60,637,839 as detailed in the table below:

Table 2.3 POS Cost

Estimated amount of public open space	Land Area	Land value	Total estimated cost
To be acquired	76.8437 ha	\$550,000/ha	\$42,264,035
Acquired	38.5298 ha		\$18,373,804
Total	115.3735		\$60,637,839

2.4.3 Items Not Included

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

In addition, land identified as having conservation value, for example Bush Forever sites, is excluded from the DCP.

It should be noted that the Council has resolved not to require POS contributions from subdivision and development in the existing Byford Townsite, identified as DCP Area C on Plan 16A of Appendix 16 of TPS 2 except for land required for DOS.

While the DCP 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 to be subdivisional works, generally required by local water management strategies and urban water management plans, and are also very difficult to calculate given the varying nature of drainage infrastructure provided and proposed throughout Byford. Developers may treat drainage works in various ways to benefit their development. The requirement to provide optimal certainty in costing DCP items to achieve equity between developers over time reinforces the need to exclude drainage works. The drainage works contained within the proposed roads are permitted to be included in accordance with SPP3.6.

2.4.4 District Open Space

Land identified as DOS occurs in three LSPs. These are Byford Central (2.4979 ha), Kalimna (Australand) (4.0618 ha) and Byford South/The Glades (3.4936 ha)

The total land for DOS is 10.0533 ha. The budgeted cost of DOS land to be purchased is \$1,920,930. \$2,399,775 of land has been purchased.

2.5 Water Monitoring

The Byford Townsite Drainage and Water Management Plan (DWMP) establishes a framework for new urban development, such that established stormwater 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 course of the review of the Byford DSP in September 2006, the Water Corporation raised a number of 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.

The DWMP provides a summary of monitoring requirements and responsibilities (an extract is provided on the following page):

Table 2.4

Responsible Agency	Timing	Monitoring Requirement
Developers	Period of 3 years pre-development (minimum of 18 months with at least 2 winters with approval of DoW)	Monitor key criteria for maintenance of hydrologic regimes, buffers and ecological corridors/linkages of environmental assets Monitor local superficial aquifer groundwater levels Monitor flow and water quality (including nutrients, TSS, and gross pollutants) at regular intervals (monthly) Monitor peak flows (snapshots) within developments and wetlands
	Period of 3 years post-development, including at least 1 year following completion of the majority (80%) of developments	Monitor key criteria for maintenance of hydrologic regimes, buffers and ecological corridors/linkages of environmental assets Monitor local superficial aquifer groundwater levels Monitor flow and water quality (including nutrients, TSS, and gross pollutants) at regular intervals (monthly) Monitor peak flows (snapshots) within developments and wetlands Monitor behavioural patterns with respect to non-structural measures for water quality management Monitor performance of new drainage systems
DoW	Ongoing	Monitor efficacy of water conservation measures and achievement of water consumption targets Monitor regional surface water flows and quality Monitor confined aquifer groundwater levels and regional superficial aquifer groundwater levels and quality Monitor groundwater abstraction in the DSP area Monitor surface water quality and flows at strategic locations in main drains and waterways Monitor structural BMPs for efficacy with advice from the BMP technical reference group Monitor performance of new drainage systems across catchments and property boundaries
SJ Shire – with funding from developer contributions scheme	From 3 years post-development	Monitor key criteria for maintenance of hydrologic regimes, buffers and ecological corridors/linkages of environmental assets Monitor local superficial aquifer groundwater levels Monitor water quality and flows within developments and wetlands Monitor behavioural patterns with respect to non-structural measures for water quality management
DEC	Ongoing	Evaluate health of significant environmental assets

Water quality and quantity monitoring within developments and wetlands will be implemented by the Shire. The draft Byford DSP Area Sampling and Analysis Plan prepared by the Shire identifies the sampling and analysis requirements. It is proposed that monitoring be carried out over the life of the DCP. There will be 5 monitoring events run over an annual period with monthly sampling. Monitoring will be completed in year 0, 4, 8, 12 and 16. Alternatively, monitoring may be carried out as a percentage of build-out (ie. 0, 25, 50, 75 and 100 percent). No monitoring has been carried out to date.

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

It is likely that subdivision and development would not be approved within the Byford area without the approval and ongoing implementation of the Byford Townsite DWMP. 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 DCP will assume funding responsibility for the post development water-monitoring program required by the Byford DWMP.

The total cost for required water monitoring is estimated at \$944,547. A detailed breakdown of the costs is contained at Appendix I.

2.6 Outstanding Costs

Cost estimates relate to future works only. A cost to be recognised is the outstanding cost of completed works less contribution payments received.

Completed works cover all infrastructure works, land transfers and administration including water monitoring. The value of these works reduces the cost estimates applying to future works.

It is important to note that pre-funded works, where a credit has been given, constitute completed works. In the same vein, credits used to offset contribution payments become contribution payments received.

Outstanding costs are therefore the net of the cost of completed works less the value of paid contributions.

DCP lot numbers also will be revised at each review to account for lots developed.

2.7 Administrative Items

There is no obligation on the Shire to prepare and administer a DCP other than to support good and orderly development. The existence of a DCP is, however, important to landowners and developers where there are district level works that need to be provided as a precursor to subdivision.

Administrative items include all expended and estimated future costs associated with administration, planning and development of the Byford District Structure Plan, District Water Management Plan/s, preparation and implementation of the Byford Development Contribution Plan and any technical documents necessary for the implementation of the above, including:

Planning studies;

- Traffic studies;
- Drainage studies (including water management strategies);
- Road design costs were not allocated to specific roads;
- Other related technical and professional studies;
- Borrowing costs (including loan repayments); and
- Scheme Management Costs (including administration and management of the DCP).

Statutory planning costs are not included in the DCP except where directly benefitting the Byford DCP.

The actual administration costs expended up to 30 June 2014 was \$1,647,403.

The total cost for forecast administrative items over the projected 20 year life of the DCP is estimated at \$3,571,330 (\$178,566 annually). Following the first year of operation, the assumptions underpinning the future cost estimates will be reviewed. A detailed breakdown of the costs is provided in Appendix J.

2.8 Cost Review Reconciliation

At each Cost Review net contributions will be calculated. The net contribution is arrived at after accounting for all contributions due from the clearance of 3,236 lots up to 30 June 2014 less offsets for works and land transferred and other historical costs. No account is taken of contributions paid i.e. cash received.

Table 2.5 Cost Review Outcomes to 30 June 2014

Lots Cleared	3,236
<u>Gross Contributions Due</u>	\$40,546,907
Costs Incurred:	
Land settled	\$22,446,500
Works settled	\$10,462,619
Administration Costs incurred	\$1,647,403
<u>Total Costs</u>	\$34,556,522
Net Contributions	\$5,990,385

In the case of the current review to 30 June 2014, net contributions of \$5,990,385 are attributable to the DCP. This surplus simply means the contributions arising from lots developed exceeded the DCP costs incurred. Future DCP contribution rates take account of net contributions and future works and lots yet to be developed.

A Cost Review can result in a surplus or deficit given it represents only one year's activity. Over the life of the DCP, the methodology employed in this DCP will see the annual surpluses and deficits cancel out.

2.9 Total Cost

The following table provides a summary of the total cost for all infrastructure, land and other items within the DCP

Table 2.6 Summary of Costs

Item	Completed	Future	Total Cost (\$)
Thomas Road	136,076	17,774,980	17,911,056
Abernethy Road	1,416,385	19,786,291	21,202,676
Orton Road		12,435,160	12,435,160
Kardan Boulevard	4,056,617	818,144	4,874,761
San Simeon Boulevard	1,383,015	14,763,557	16,146,572
Doley Road	2,870,303	4,588,140	7,458,443
Warrington Road	716,367	3,558,582	4,274,949
District Open Space –limited Improvements	1,473,931	910,734	2,384,665
Land for roads	1,800,421	3,745,335	5,545,756
Land for District Open Space	2,399,775	1,920,930	4,320,705
Land for Public Open Space & Drainage	18,373,804	42,264,035	60,637,839
Water Quality Management		944,547	944,547
DCP Administration	1,647,403	3,571,330	5,218,733
Total (Gross)	36,274,097	127,081,765	163,355,862
MRWA Grant for Thomas		11,731,490	11,731,490
MRWA Grant for Abernethy	725,250		725,250
Abernethy Road BTC share by Shire		5,688,559	5,688,559
Cost Review Reconciliation		5,990,385	5,990,385
Total (Net)	35,548,847	103,671,331	139,220,178

2.10 Cost Escalators

Three cost escalators are used as described in 3.4.2. These are, namely:

2.10.1 Administration Escalation Rate (AER)

The Administration Escalation Rate (AER) is the rate used for wages and salaries in the Local Government Cost Index based on WA State Treasury forecasts. For the period 2014/15, the forecast is for a rise of 3.8%.

2.10.2 Infrastructure Escalation Rate (IER)

The Infrastructure Escalation Rate (IER) of 2.0% (2014/15 forecasts) is taken from a cost series produced by the WA Local Government Association (WALGA). The Road and Bridge Construction forecast is seen as the most appropriate index for infrastructure costs. This index is based on Construction Forecasting Council forecasts.

2.10.3 Land Value Escalation Rate (LVER)

The Land Value Escalation Rate (LVER) of 10% is a forecast provided by the land valuer who assessed the englobo land value rate for this Report.

3 Development Contribution Methodology

This section of the DCP Report sets out the methodology for determining the development contributions applicable within certain precincts of the Byford development contribution area. In a general sense, the development contribution area is divided into precincts and development contributions for each precinct will be made on a 'per lot' or dwelling basis. Additional detail and clarification on the operation of the methodology is provided in the following sections.

3.1 Precincts

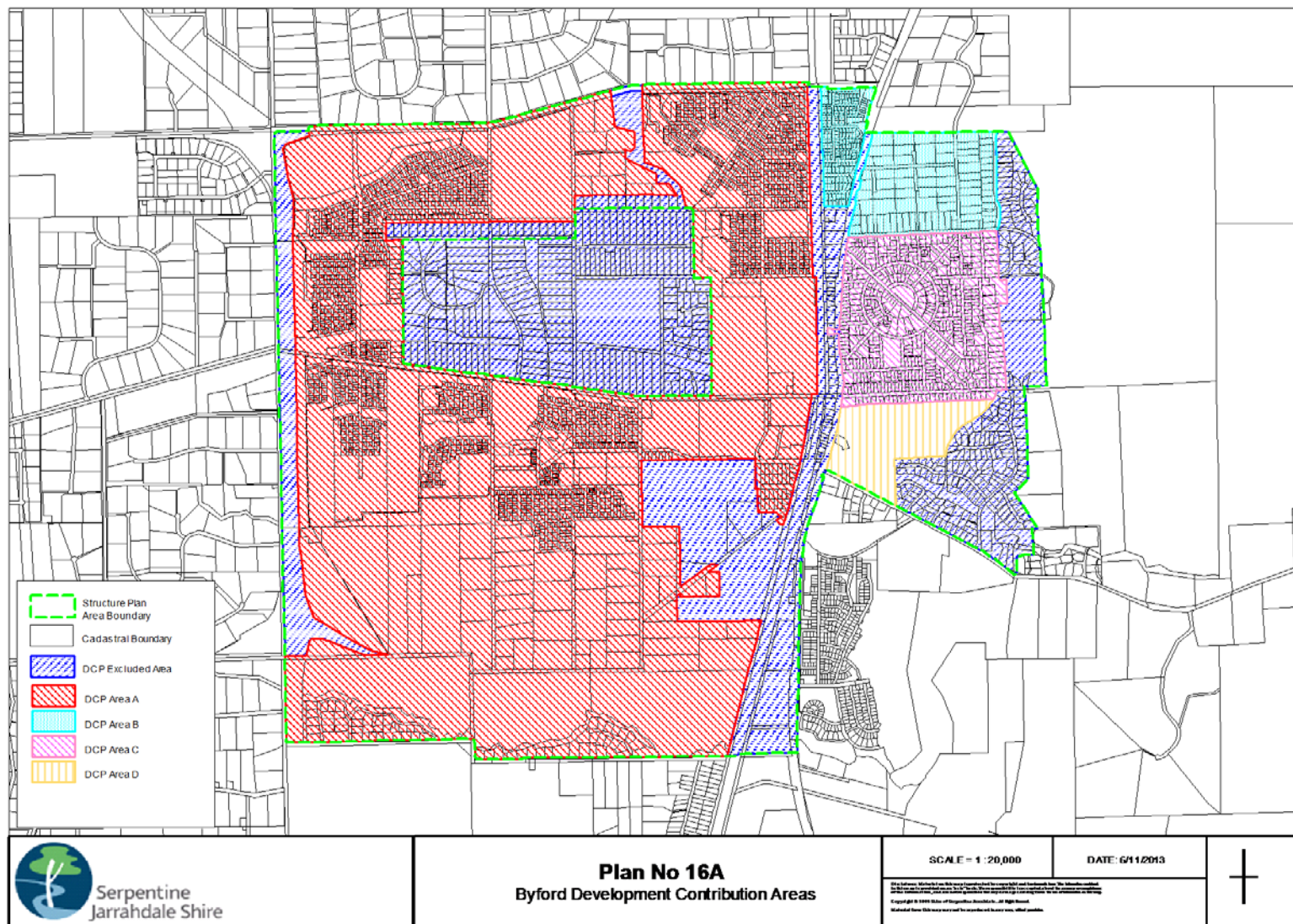
The Byford development contribution area is divided into four precincts, as indicated in Plan 16A of Appendix 16A of TPS 2. Development within each precinct will be required to contribute to a certain set of infrastructure and land items based on the perceived need for and use of those items within the precinct.

The following matrix identifies the precincts and what items they are required to contribute toward:

Table 3.1 Precinct Contribution Items

Item/Precinct	A	B	C	D
Thomas Road	✓	✓	✓	✓
Abernethy Road	✓	✓	✓	✓
Orton Road	✓	✓	✓	✓
Kardan Boulevard	✓	x	x	x
San Simeon Boulevard	✓	x	x	x
Doley Road	✓	x	x	x
Warrington Road	✓	x	x	x
Land for Roads (district)	✓	✓	✓	✓
Land for Roads (local)	✓	x	x	x
District Open Space Improvements	✓	✓	✓	✓
Land Acquisitions for District Open Space	✓	✓	✓	✓
Land Acquisitions for Public Open Space & Drainage	✓	✓	x	✓
Water Quality Management	✓	✓	✓	✓
DCP Administration	✓	✓	✓	✓
Cost Review Reconciliation	✓	✓	✓	✓

Figure 9 – Plan 16A of Appendix 16 of Town Planning Scheme No. 2 – Byford Development Contribution Area Precincts



Precincts B, C and D will not be required to contribute towards Kardan Boulevard, San Simeon Boulevard, Doley Road or Warrington Road. All of these roads are located within Precinct A and are considered to predominately cater for vehicular traffic within new development areas west of the railway reserve.

Council has resolved not to require POS contributions from subdivision and development in the existing Byford Townsite, identified as DCP Precinct C. This is due to the absence of a POS 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 POS in the context of small and fragmented landholdings. Precinct C will, however, be required to contribute to DOS 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.

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 Byford DSP and LSPs.

Due to the district function of Orton Road New 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 these items.

All precincts will be required to contribute towards water monitoring and administrative costs. These items are required to facilitate the preparation of the Byford DSP and subsequently facilitate the preparation of LSPs and allow for subdivision and development to occur.

3.2 Estimation of Lot/Dwelling Potential

The development contribution methodology is based on a per lot/dwelling basis. Therefore it is necessary to estimate the potential number of additional lots/dwellings to be created in the Byford area. This estimate will be used to determine the development contribution rates per lot/dwelling.

The following methodology has been applied:

1. 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.
2. The lot/dwelling estimates for greenfield areas not yet subject to LSPs have been determined through identifying their total land area, deducting 40 percent of this land area (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.

3. The lot/dwelling estimates for infill sites (ie. 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.
4. By adding the lot/dwelling yields calculated in steps 1-3, the total estimated lot/dwelling yield for the Byford DCP area has been identified.

Based on this methodology, it has been estimated that 11,977 lots/dwellings will be created within the Byford DCP area during the life of this DCP. As lots extinguish their liability to pay contributions, the future lot count is revised at each cost review (see Table 3.3).

Table 3.2 Estimated Lot Yield by Estate by Precinct

Local Structure Plan Areas	Total Site Area (ha)	Estimated Lot / Dwelling Yield				Source
		A	B	C	D	
Redgum North & South	68.5500	641				LSP Mar 2010 & LSP Apr 2005
Kalimna	52.6424	398				LSP Oct 2008
Byford Meadows	29.4000	360				LSP Jun 2014
The Reserve	8.7759	120				LSP Oct 2009 *
Byford Central	65.0000	713				LSP Jan 2006
Goldtune	28.8500	321				LSP Jun 2009
Byford Town Centre	78.2900	1,484				LSP February 2014*
Grange Meadows	16.6000	225				LSP Apr 2010
Byford West	31.5600	380				LSP Mar 2010
The Brook	32.3000				360	LSP Aug 2014
The Glades	329.4532	3,650				LSP Jul 2009
St Thomas Estate	5.4582		60			DP 5070
Sunrays	6.3500		83			GIS
Total	753.2297	8,292	143	-	360	

*Utilising provision 3.2 of the DCP for computation.

In the case of Byford Town Centre, the Local Structure Plan identifies the capacity for 1,260 dwellings. This number needs to be augmented by the lot equivalent calculation for non-residential land (3.4.5). The Town Centre (retail), Town Centre (mixed use), Commercial and Highway Commercial zones total 9.66 ha (discounted to avoid double counting of residential already counted) yielding a lot equivalent of 214 lots. Therefore, lots for DCP calculation purposes a total 1,484 lots in the Town Centre LSP.

Non-Structure Planned Areas	Total Site Area (ha)	Estimated Lot / Dwelling Yield				Source
		A	B	C	D	
Doley Road Precinct	119.7200	1596				Total area minus 40% (land for public purposes) divided by 450sqm (R20)
Briggs Road Precinct	18.7700	200				Total area minus 40% (land for public purposes) divided by 450sqm (R20)
Stanley Road Precinct	48.8300		650			Total area minus 40% (land for public purposes) divided by 450sqm (R20)
Mead Street	4.8000	106				Total area (no land for public purposes) divided by 450sqm (R20)
Old Quarter	98.6370			630		Manual Calculations
Total		1,902	650	630	-	

Total Lots / Dwelling Yield		10,194	793	630	360	Structure Planned & Non- Structure Planned
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Notes:

- Land for public purposes (ie. POS, drainage and similar) is expected to be provided within the Doley and Briggs Road precincts. 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 LSPs depicting residential densities, an R20 code has been utilised to determine the lot/dwelling estimates for the Doley Road, Briggs Road and Mead Street precincts.
- Due to the nature of infill development proposed for the Stanley Road and Old Quarter precincts, lot/dwelling estimates have been made on the basis of manual calculations of the subdivision/development potential of each lot.

The following table identifies the current total estimated lot/dwelling yield for each of the Byford DCA precincts:

Table 3.3 Estimated Future Lot Yield Totals By Precinct

DCA1 Precinct	Lots Created (as at 30 June 2014)	Future Lots	Estimated Lot/Dwelling Yield
A	3,091	7,103	10,194
B	101	692	793
C	44	586	630
D	-	360	360
Total	3,236	8,741	11,977

3.3 Identifying the Contribution Rate for Each Precinct

As previously identified, the Byford development contribution area is divided into four precincts. Each precinct will contribute toward certain infrastructure and cost items. Each precinct will therefore have a different contribution rate.

To determine the contribution rate for each precinct, it is first necessary to identify the current total number of lot/dwellings which will be contributing to each item. From this, the contribution rate per lot/dwelling for each infrastructure item or cost can be determined. A breakdown is provided in the following table:

Table 3.4 Contribution Rate Per Lot By Cost Item

Item/Precinct	Cost (\$)	Precinct	Lots Contributing	Contribution Per Lot (\$)
Thomas Road *	6,043,490	All	8,741	691
Abernethy Road *	14,097,732	All	8,741	1,613
Orton Road	12,435,160	All	8,741	1,423
Kardan Boulevard	818,144	A	7,103	115
San Simeon Boulevard	14,763,557	A	7,103	2,078
Doley Road	4,588,140	A	7,103	646
Warrington Road	3,558,582	A	7,103	501
Land for Roads (district)	1,842,060	All	8,741	211
Land for Roads (local)	1,903,275	A	7,103	268
District Open Space Improvements	910,734	All	8,741	104
Land Acquisitions for District Open Space	1,920,930	All	8,741	210
Land Acquisitions for Public Open Space & Drainage	42,264,035	A, B & D	8,155	5,183
Water Quality Management	944,547	All	8,741	108
DCP Administration	3,571,330	All	8,741	408
30 June Reconciliation Surplus	-5,990,385	All	8,741	-685
Total	103,671,331			12,874

* Reduced by value of MRWA grants

The infrastructure and cost contribution rates per lot/dwelling applicable to each precinct can then be calculated, by adding the cost of each applicable item. The table below identified the development contribution rate per lot/dwelling for each precinct.

Table 3.5 Contribution Rate Per Lot By Precinct

Item/Precinct	Contribution per lot	A	B	C	D
Thomas Road	691	✓	✓	✓	✓
Abernethy Road	1,613	✓	✓	✓	✓
Orton Road	1,423	✓	✓	✓	✓
Kardan Boulevard	115	✓	x	x	x
San Simeon Boulevard	2,078	✓	x	x	x
Doley Road	646	✓	x	x	x
Warrington Road	501	✓	x	x	x
Land for Roads (district)	211	✓	✓	✓	✓
Land for Roads (local)	268	✓	x	x	x
District Open Space Improvements	104	✓	✓	✓	✓
Land Acquisitions for District Open Space	210	✓	✓	✓	✓
Land Acquisitions for Public Open Space & Drainage	5,183	✓	✓	x	✓
Water Quality Management	108	✓	✓	✓	✓
DCP Administration	408	✓	✓	✓	✓
30 June Reconciliation Credit	-685	✓	✓	✓	✓
Total Contribution Per Lot		12,874	9,266	4,083	9,266

3.4 Calculating the Contribution Rate for Landowners/Developers

At any point in time, the contribution rate/lot will vary according to Precinct and number of days since the last Cost Review.

The contribution rate is adjusted after each cost review in terms of contributions received, expenditure, cost estimates for each cost item and number of lots with paid contributions.

Various types of residential and non-residential subdivision and development will occur within Byford. The following sections identify how the methodology applies to each of these scenarios. For the purposes of calculating an R20 equivalent a minimum area of 450 m² will be implemented, as per State Planning Policy 3.1 (The Residential Design Codes).

3.4.1 Cost Review Input into Contribution Rate Revisions

Cost Reviews will be undertaken at least annually

At the time of adoption of a cost review, the following contribution rate inputs will be reset:

- (a) Table 2.1 Road Reserve Acquisitions
- (b) Table 2.3 POS Costs
- (c) Table 2.5 Cost Review Outcomes
- (d) Table 2.6 Summary of Costs
- (e) Table 3.3 Estimated Future Lot Yield Totals by Precinct
- (f) Table 3.4 Contribution Rate Per Lot by Cost Item
- (g) Table 3.5 Contribution Rate Per Lot by Precinct
- (h) Outstanding Cost of Completed Works (Expenditure on all Cost Items – Value of all Contributions Received)
- (i) Infrastructure Cost Escalator
- (j) Land Value Escalator
- (k) Administration Cost Escalator
- (l) Precinct Daily Escalation Rate

3.4.2 Calculating the Contribution Rate between Cost Reviews

To ensure costs are current during the time between cost reviews, all costs will be escalated on a daily basis calculated from an annual escalation rate. Escalation rates will separately apply to infrastructure costs, land costs and administration costs. The escalation rates will be set at each cost review. The starting point for daily escalation is the approval date for the prevailing cost review.

Given that each Precinct cost entail a different bundle of items, it is necessary to calculate a weighted escalation rate for each precinct.

$$\text{Precinct ER} = (\%IC/TC \times IER) + (\%LV/TC \times LVER) + (\%AC/TC \times AER)$$

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 (Administration Cost includes Water Monitoring and Outstanding Cost of Completed Works);

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.

3.4.3 Standard Residential Subdivision or Development

In the instance of standard residential subdivision or development, development contributions for each precinct will be determined in the following manner:

*Precinct contribution rate per lot/dwelling x DER x D x number
of additional lots or dwellings being created*

=

Required development contribution

The calculation methodology works on the additional number of lots/dwellings being created. This approach is based upon each original lot either having, or having the potential to entail a single dwelling without the requirement for substantial infrastructure upgrades. The creation of the first dwelling or lot would therefore in effect, retain the status quo and not necessitate a contribution toward infrastructure upgrades, land and other items. For the avoidance of doubt, the original lot is the parent lot for the subdivision. Where subdivision is being undertaken in stages on a parent lot, there is one lot credit only for that lot. In other words, each subdivision stage does not receive a one lot credit.

3.4.4 Non-Standard Residential Subdivision or Development

There may be instances in the Byford DSP area where the large-scale permanent residential development of a site is proposed without any standard residential subdivision and/or development (ie. a lifestyle village, retirement village, caravan park, park home estate or similar).

Development contributions will be required from such forms of non-standard residential subdivision/development as for Standard Residential Subdivision or Development shown in 3.4.3 above.

3.4.5 Non-Residential Subdivision or Development

Portions of land within the Byford will be developed for non-residential purposes, including retail/commercial, community purpose (or similar) and private schools. All forms of development contribute toward a need for new and improved infrastructure including roads. Non-residential development is no different in this regard.

Non-residential subdivision or development will be required to contribute toward land for public open space and drainage. The multiple use corridors in Byford provide both a drainage and recreation function, and will provide a means of access to non-residential developments.

Development contributions for non-residential subdivision or development will be calculated based upon the number of dwellings/lots that could have been created/developed at an R20 density (ie. the R20 subdivision/development potential of the site), minus the equivalent of the first lot created in a subdivision or first dwelling created in a development. Note, the one lot credit can be claimed only once in any multi-staged development. For additional information on commercial development, see 3.4.6 Mixed Use below.

The R20 development potential of the site will be determined according to the site size and need for additional infrastructure/subdivision works such as internal roads and

drainage facilities. The minimum lots for a greenfields site are 15 lots per hectare increasing to 22 lots per hectare (450m² lot size) for a small fully serviced site.

For each precinct:

*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 where applicable*

=

Required development contribution

Land for primary and secondary public schools use will be exempt from paying development contributions. For secondary public schools, exemption only occurs where the land is already in state ownership. In other cases, the land is purchased from private owners at full market value that includes the DCP payment.

For private education establishments and associated development, development contributions will be levied at 0.3 percent of the total development costs of the site, as agreed with the Shire based on the building licence application.

For the purposes of determining the total development contribution amount of the DCP, the following estimates have been made for each private school site based on developer advice:

- Abernethy Road private school proposal - \$15,000,000.00 based on Building Licence submission.

This 0.3 percent calculation method will only be applied where the private education establishment has entered into a joint use agreement with the Shire and/or Department of Education regarding the co-location and use of district open space and school ovals and associated facilities. The joint use agreement must ensure that the co-located and used facilities are publically accessible. Based on this approach, the discounted DCP contribution amounts to \$45,000 for the Catholic K - 12 school.

Where a joint use agreement is not in place as described above, development contributions will be levied based on the R20 subdivision/development potential of the site.

3.4.6 Mixed Use Development

In the preparation of this DCP Report it has become apparent the approach to mixed use development does not accommodate commercial and residential development on the same footprint. This issue will be addressed in a separate item to the Council. In the interim, this Report is confined to using the definition in TPS 2 Appendix 16A.

In the context of mixed use development, there are residential and commercial components. Mixed use therefore can combine standard residential (3.4.3), non-standard residential (3.4.4) and non-residential (3.4.5) forms of development. The contribution rate is based upon the number of dwellings/lots equivalents that could have been created/developed at an R20 density on the site or stage area, or the actual number of residential dwellings/lots being created at the time of subdivision/development, whichever is the greater, minus the equivalent of the first dwelling created in the first stage of a development.

For each site (and for each stage if appropriate):

$$\begin{aligned} & \text{Precinct contribution rate per dwelling} \times \text{DER} \times D \times (\text{R20 development} \\ & \text{potential of the site/development area}) \text{ or } (\text{actual number of dwellings}) \\ & \text{less the equivalent of one dwelling for the first development on the site} \\ & = \text{Required development contribution} \end{aligned}$$

It is recognised development can be staged on a site. Therefore the calculation of contribution liability will be calculated for each stage. It is important to note that where the land use is commercial, a DCP liability will be incurred only once on any site area (footprint). Subsequent commercial development will not be liable for additional DCP contributions. For example, multi level commercial development or ongoing development on the commercial site will be exempt from further DCP liability – liability is based on the commercial land “footprint”.

Calculation examples are provided in section 7 of this report.

3.5 Future Subdivision/Development Potential

It is acknowledged that land within the Byford area may be developed to a density lower than that envisaged by the Byford DSP. 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 DCP.

It should be noted that future lot yield is the base for calculation of contribution/lot. At each cost review the future yield will be adjusted to account for lots on which contributions have been paid.

3.6 Exemptions

Clause 10.3.13.3 of TPS 2 details various situations in which a development contribution is not required.

4 Priority and Timing of Provision

The following key principles are utilised to guide the identification of priorities for the provision of infrastructure and land acquisition, including:

- Ensuring a constant turnover of funds – By managing the cash flow of the DCP, the Shire can optimise the use of funds between land acquisition and civil works and recoupment of developer pre-funding.
- Prioritising the purchase of land identified for public purposes that encompasses all of, or a substantial portion of, one landholding – such landholdings are essentially “quarantined” from subdivision and/or development and would be difficult to sell to a private buyer.
- Constructing infrastructure on an “as needs” basis to facilitate development – This is especially apparent in the context of road upgrades.
- Undertaking works and land acquisition in areas of fragmented ownership – this assists in the successful and coordinated development of these areas. In areas of consolidated ownership, most infrastructure and land is provided by the developer as offsets to cost contributions.
- Grant funding opportunities – the Shire will actively seek grant funding to assist in the provision of DCP infrastructure. In most instances, the use of grant funding is reliant on the Shire providing a matching or partial contribution. The Shire may utilise DCP funds and elevate the priority and timing of an infrastructure item to capitalise on grant funding opportunities. This approach is beneficial to the long-term financial viability of the DCP.

The following items have been determined by the Shire as current priority items. Work on the construction of Abernethy Road is a first priority and will commence in early 2015. Thomas Road scheduling will be linked to the availability of funding

- Abernethy Road; and
- Thomas Road second carriageway and intersections.

The identification of priorities will be undertaken as part of the annual cost estimate review and associated DCP Report update.

5 Period of Operation and Review

The DCP will operate for a period of 20 years from 20 January 2014, being the date of gazettal of the related scheme amendment to incorporate the DCP into TPS 2 as Appendix 16A.

The DCP will be reviewed when considered appropriate, having regard to the rate of subsequent development in the area since the last review and the degree of development potential still existing, but not exceeding a period of 5 years.

The DCP Report, incorporating cost estimates and cost escalators, will be reviewed at least annually, allowing for more frequent reviews to be completed on an as-required basis having regard to cost volatility and development priorities. The view of the Byford Infrastructure Reference Group will be sought when revising the cost estimates.

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; and
- revised based on revisions to the anticipated undeveloped lot yield;

and not subject to other material change, the revised DCP Report may not be advertised for public comment, but will remain available for public inspection. All landowners with current subdivision approvals will be automatically advised of each revision of the DCP Report. The Byford Industry Reference Group (BIRG), comprising all major landowners, will be consulted as part of its regular agenda.

6 Operational Matters

This section of the DCP Report addresses various operational matters associated with the Byford DCP.

6.1 Estimation of Costs

This matter is dealt with in Clause 10.3.11 of TPS 2.

6.2 Land Valuation

The definition of value is dealt with in Clause 10.3.12 of TPS 2. The valuation base is further refined to cover the process in the Byford DCA whereby:

The net land value is to be determined in accordance with the definition of "value" in cl.10.3.12 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 should be discounted by standard marketing costs including fees, commissions and advertising costs and by the prevailing DCP contribution liability which otherwise would have applied to the land.

Market Value shall be determined by methodology primarily based on comparable sales evidence. Analysis of comparable sales shall account for all circumstances that might affect value, either advantageously or prejudicially, and that development contributions or other statutory charges are not attributable to the Land.

Market Values of Land shall include GST.

Valuations should have due regard to the characteristics of the Land including:

- a) highest and best use, zoning, development density and efficiency;
- b) physical characteristics such as size, topographical, aesthetic, geological and environmental factors;
- c) location, access and surrounding amenities;
- d) market conditions and the then present demand for land; and
- e) development levies.

6.3 Liability and Timing for Contributions

This matter is dealt with in Clause 10.3.13 of TPS 2. In particular, 10.3.13.2 covers timing of payment.

10.3.13.2 An owner's liability to pay the owner's cost contribution to the local government arises on the earlier of—
(a) the Western Australian Planning Commission endorsing its approval on the deposited plan or survey strata plan of the subdivision of the owner's land within the development contribution area;
(b) the commencement of any development on the owner's land within the development contribution area;
(c) the approval of any strata plan by the local government or Western Australian Planning Commission on the owner's land within the development contribution area; or
(d) the approval of a change or extension of use by the local government on the owner's land within the development contribution area.

The liability arises only once upon the earliest of the above listed events.

The intent of s.10.3.13.2 appears to be that payment should be tied as far as possible

to the availability of the development to be marketed. As in the case of liability to pay under (a) above, liability is not triggered by the approval to subdivide but rather by the actual completion of subdivision works and condition compliance. It is not uncommon for such a subdivision to be staged, in which case the development contribution is payable only on stages cleared. The use of condition clearance of deposited plans to determine timing for DCP contribution payment supports this point.

s.10.3.13.2 (b) and (c) are initiated by a development approval. Within a site there may be a number of development approvals due to staging. Continuing the intent of 10.3.13.2 (a), liability to pay contributions, where development approval condition clearance is the payment trigger, is tied to issue of clearance.

6.3 should be read in conjunction with 3.4.6

6.4 Payment of Contributions

This matter is dealt with in Clauses 10.3.14 of TPS 2.

6.5 Arbitration

This matter is dealt with in Clause 10.3.19 of TPS 2.

6.6 Implementation

Development contributions may be calculated and applied as conditions of subdivision, strata subdivision and development.

6.7 Form of Contributions

Pursuant to Clause 10.3.14 of TPS 2, conditions relating to development contribution requirements can, to the satisfaction of the Shire, be satisfied by:

- The ceding of land;
- The construction of infrastructure works which are transferred to public authorities on completion;
- The provision of monetary contributions to acquire land or undertake works by the Shire, public authorities or others where covered by the DCP; or
- A combination of the above.

6.8 Pre-funding of Infrastructure Items

6.8.1 Context

Where,

- The Developer wishes to undertake works specified in Appendix 16A;
- The works are necessary for the progression of an approved subdivision; and,
- The Shire does not hold sufficient DCP funds to undertake the works and/or has not prioritised such works,

The Shire will support pre-funding and delivery of the infrastructure provided there are good reasons for doing so.

6.8.2 Pre-funding Agreement

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 remaining works in that item can be quantified. This is particularly relevant where linear rates are involved.

6.8.3 Principles for Cost Recoupment

The recoup is to be based on the Current Cost Estimate in Accordance with TPS 2 clause 10.3.11 whereby,

- The current cost estimate (excluding contingency allowance) as described in the prevailing DCP Report shall constitute the claimable amount for the completed Approved Works
- 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
- The cost estimate may be revised due to the periodic Cost Review in which case the updated cost estimate will prevail
- 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. Such a claim shall be independently substantiated to the satisfaction of the Shire
- Credit for land will be at valuation in accordance with 10.3.13 of TPS 2 where the valuation is current at time of transfer.

Note: Grants or other external Funding shall be deducted from any recoup or credit to the account of the developer.

6.8.4 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.

6.8.5 Accounting for Recoupment

On acceptance of the approved Works by the Shire, the cost of the works shall be credited to the DCP account of the Developer.

The balance in this account may be used to offset any cost contribution liabilities owed by the Developer.

Any balance owed to the Developer on completion of all subdivision on land held by the Developer within the Byford DSP area shall be paid to the Developer within 90 days of the condition clearance of the final subdivision in the DSP area subject to:

- (a) there being sufficient funds available in the DCP account; and,
- (b) having regard to the business plan by the Shire for delivery of outstanding DCP works.

7 Examples of Calculation

The following examples are provided to explain the method of calculating the development contribution applicable to a certain development scenario.

7.1 Example 1

A residential subdivision creating 50 additional lots within precinct A.

Precinct	Development contribution rate per lot/dwelling	Number of additional lots/dwellings	Total development contribution
A	\$12,874	50	\$643,700

7.2 Example 2

A residential subdivision creating 100 additional lots within precinct A and providing 1 hectare of public open space.

Precinct	Development contribution rate per lot/dwelling	Number of additional lots/dwellings	Total development contribution
A	\$12,874	100	\$1,287,400
Public open space credit	Amount of public open space and drainage land being provided	Land value per hectare	Credit amount
✓	1ha	Subject to market valuation	market value
		Total net development contribution (contribution minus credit)	\$1,287,400 less market value of 1.0 ha POS

7.3 Example 3

A commercial development on a 4000m² lot within precinct B.

4500m² (lot size) / 450m² (average lot size under the R20 residential density code) – one lot

=

9 lots/dwellings (yield calculation for the purposes of determining development contribution for commercial development – 4500/450 = 10 less original lot = 9)

Precinct	Development contribution rate per lot/dwelling	Number of additional lots/dwellings	Total development contribution
B	\$9,266	9	\$83,394

7.4 Example 4

A mixed-use development on a 9000m² lot incorporating seven residential dwellings within precinct C.

In the context of mixed use development, the contribution rate is based upon the subdivision/development potential of the subject site based on a residential density code of R20 or the number of lots/dwellings created, whichever is the greater.

Calculation 1 – Subdivision/development potential of the site based on a residential density code of R20:

$$\begin{aligned} &9000\text{m}^2 \text{ (lot size)} / 450\text{m}^2 \text{ (average minimum lot size under the R20 residential density code)} \\ &= 20 \text{ lots/dwellings} \end{aligned}$$

Or


Calculation 2 – The number of dwellings created.


$$= 8 \text{ residential dwellings}$$


The contribution rate will be based upon 19 lots/dwellings being created, as this is the greater of calculations 1 and 2 (minus original one lot/dwelling).


Precinct	Development contribution rate per lot/dwelling	Number of additional lots/dwellings	Total development contribution
C	\$4,083	19	\$77,577


Appendix A – Thomas Road Costs

Serpentine Jarrahdale Shire					 Serpentine Jarrahdale Shire	
Byford Development Contribution Plan						
Thomas Road						
					Thomas	
MRWA Item Number	Description	Unit	RATE		Quantity	Cost
	SCOPE OF WORK -SUMMARY OF MAIN QUANTITIES					
	Length of Road	m				
	Width of Road Reserve	m				
	Depth of Road Cut to Fill	m				
	Depth of Road Embankment	m				
	200mm Subbase Width	m				
	300mm Subbase Width	m				
	100mm Base Course Width	m				
	150mm Base Course Width	m				
	Seal Width	m				
	Concrete Footpath/PSP Width	m				
	SCHEDULE No. 1 - ADDITIONAL PRELIMINARY COSTS					
110.01	Design and Investigation	Sum	\$ 1.00	\$ 1.00	1.00	\$ 739,992.82
110.02	Client Project Management Costs	Sum	\$ 1.00	\$ 1.00	1.00	\$ 739,992.82
110.03	Local Government Fees	Sum	\$ 1.00	\$ 1.00	1.00	\$ 221,997.85
110.04	As Constructed Drawings	Sum	\$ 50,000.00	\$ 50,000.00	1.00	\$ 50,000.00
	TOTAL - SCHEDULE NO. 1					\$ 1,751,983.49
	SCHEDULE No. 2 - CONTRACTOR GENERAL ITEMS					
	CONDITIONS OF CONTRACT					
GCC	GENERAL CONDITIONS OF CONTRACT					
GCC.01	Insurances in accordance with the General Conditions of Contract	Item	\$3,000.00		1	\$3,000.00
GCC.02	Contractor's superintendence during the execution of the Works	Item	\$26,400.00		35	\$924,000.00
	SERIES 100 - GENERAL REQUIREMENTS					
	DESCRIPTION OF WORKS					
101.01	Provision of access for others to undertake work	Item			1	included
101.02	Contractors programs	Item			1	included
	102 SURVEY INFORMATION					
102.01	Survey information, control and setting out of the works	Week	\$5,000.00		35	\$175,000.00
	103 SITE FACILITIES					
	Contractors Site Facilities					
103.01	Site facilities	Week	\$3,500.00		35	\$122,500.00
	105 WATER SUPPLIES					
105.01	Supply of water	Week	\$5,000.00		35	\$175,000.00
	106 UTILITIES AND SERVICES					
106.01	Liaison, programming, location and protection of utilities and services	Week	\$1,000.00		35	\$35,000.00
	SERIES 200 - MANAGEMENT REQUIREMENTS					
	202 - TRAFFIC					
202.01	Traffic management	Week	\$13,000.00		35	\$455,000.00
	203 - OCCUPATIONAL SAFETY AND HEALTH					
203.01	Occupational safety and health including safety plans and safety audits	Week	\$3,500.00		35	\$122,500.00
	204 - ENVIRONMENT					
204.02	Protection of flora and fauna	Item			1	included
204.03	Fire prevention	Item			1	included
204.04	Waste disposal	Item			1	included
204.05	Dieback control	Item			1	included
204.06	Protection of public and property	Item			1	included
204.07	Pre-construction property inspections	PS	\$5,000.00		1	\$5,000.00
204.08	Dust control	Week	\$2,000.00		35	\$70,000.00

Serpentine Jarrahdale Shire					 <div>Serpentine Jarrahdale Shire</div>	
Byford Development Contribution Plan						
Thomas Road						
					Thomas	
MRWA Item Number	Description	Unit	RATE		Quantity	Cost
	TOTAL - SCHEDULE NO. 2					\$2,087,000.00
	SCHEDULE No. 3 - ROADWORKS					
	<u>SERIES 300 - EARTHWORKS</u>					
	301 - CLEARING					
301.01	Site clearing	ha	\$9,788.00		9	\$88,092.00
	302 - EARTHWORKS					
	<u>TOPSOILING</u>					
	<u>Topsoil Removal</u>					
302.01	Topsoil removal, 100mm deep	ha	\$5,303.00		2.5	\$13,257.50
302.02	Topsoil removal, 100mm deep, and disposal of to Contractor's spoil area off-site	ha	\$8,303.00		6.1	\$50,648.30
	<u>Topsoil Spreading</u>					
302.03	Respread topsoil, 75mm thick	ha	\$8,400.00		3.3	\$27,720.00
	<u>REMOVAL OF REDUNDANT ITEMS</u>					
302.05	Removal of redundant pavement including seal	m²	\$7.50		8,201	\$61,507.50
302.09	Removal of redundant kerbs	m	\$9.90		890	\$8,811.00
302.10	Marking out and cutting edge along junction between new pavement and existing pavement including trimming existing pavement layers as required to bond to new pavement	m	\$7.50		940	\$7,050.00
	<u>UNSUITABLE MATERIAL</u>					
302.11	Excavation and removal of unsuitable material	m³			0	
302.12	Backfilling unsuitable material excavations with site excavated material or imported material	m³			0	
	<u>EXCAVATION IN ROCK</u>					
302.13A	Excavation common (not in rock - std rate)	m³	\$10.66		4,925	\$52,500.50
302.13	Excavation and removal of rock	m³			0	
	<u>EMBANKMENT CONSTRUCTION</u>					
302.14	Embankment foundation compaction	m²	\$1.12		18,646	\$20,883.52
302.15	Embankment foundation compaction in widenings	m²	\$1.12		4,354	\$4,876.48
302.16	Embankment construction using site excavated material and imported material	m³	\$35.00		35,554	\$1,244,390.00
302.17	Embankment construction in widenings using site excavated material and imported material	m³	\$35.00		26,938	\$942,830.00
302.20	Subgrade	m²	\$3.71		42,271	\$156,825.41
302.21	Subgrade in road widenings	m²	\$3.71		1,862	\$6,908.02
	304 - REVEGETATION AND LANDSCAPING					
304.11	Grass seeding planted at the rate of ?m² of seed to ?m² of ground	m²	\$5.00		39	\$195.00
	Total Carried Forward to Summary					\$2,686,495.23
	<u>SERIES 400 - DRAINAGE</u>					
	402 - SURFACE DRAINS AND LEVEES					
	<u>SURFACE DRAINS AND LEVEES</u>					
402.01	Drain type - Trapezoidal 3m base 1:6 batters	m	\$98.00		200	\$19,600.00
402.01A	Drain type - Trapezoidal 4m base 1:3 batters	m	\$42.00		260	\$10,920.00
	404 - CULVERTS					
	<u>CULVERTS</u>					
	<u>Reinforced Concrete Pipes Class 4</u>					
404.01	450 Diameter pipe culvert	m	\$250.00		115	\$28,750.00
	<u>Reinforced Concrete Box Sections</u>					
404.03	1200 x 750 Box culvert	m	\$849.17		47	\$39,910.99


Serpentine Jarrahdale Shire					 Serpentine Jarrahdale Shire	
Byford Development Contribution Plan						
Thomas Road						
					Thomas	
MRWA Item Number	Description	Unit	RATE		Quantity	Cost
404.03A	1800 x 900 Box culvert	m	\$1,345.83		148	\$199,182.84
404.03B	1200 x 600 Box Culvert	m	\$861.67		77	\$66,348.59
	<u>All Culverts</u>					
404.04	Selected bedding material	m³	\$110.00		170	\$18,700.00
404.05	Extra over culverts for cement stabilised backfill	m³	\$350.00		125	\$43,750.00
404.06	Reinforced concrete base slab and shear keys	m³	\$1,872.00		130	\$243,360.00
404.07	Reinforced concrete insitu end treatment	m³	\$2,922.00		22	\$64,284.00
404.08	Extra over culverts for excavation in rock	m³			0	\$0.00
	<u>Redundant Culverts</u>					
404.10	Removal of existing 750 diameter pipe culvert and backfilling excavations	m	\$154.00		70	\$10,780.00
404.10A	Removal of existing 375 diameter pipe culvert and backfilling excavations	m	\$107.00		55	\$5,885.00
404.10B	Removal of existing 600 diameter pipe culvert and backfilling excavations	m	\$134.00		45	\$6,030.00
404.15	Removal of existing culvert end treatment (All sizes)	No.	\$200.00		8	\$1,600.00
	<u>STORMWATER DRAINS</u>					
	<u>Reinforced Concrete Pipes Class 4</u>					
404.16	450 Diameter drain in trench, depth not exceeding 1.5m	m	\$250.00		729	\$182,250.00
	<u>All Stormwater Drains</u>					
404.20	Extra over stormwater drains for cement stabilised backfill	m³	\$350.00		340	\$119,000.00
404.21	Extra over stormwater drains for excavation in rock	m³			0	\$0.00
404.22	Precast concrete end treatments to suit 450 diameter pipe.	No.	\$2,400.00		30	\$72,000.00
	405 - DRAINAGE STRUCTURES					
	<u>MANHOLES</u>					
405.01	Manhole type TWT	No.	\$2,222.00		1	\$2,222.00
	<u>GULLIES</u>					
405.02	Gully - Side Entry Pit	No.	\$2,358.00		26	\$61,308.00
	<u>CATCHPITS</u>					
405.04	Catchpit - High Flow type THN	No.	\$2,307.00		15	\$34,605.00
	<u>ALTERATIONS TO EXISTING DRAINAGE STRUCTURES</u>					
405.07	Alteration of existing headwall as per drawing C508	No.	\$3,750.00		1	\$3,750.00
405.07A	Alteration of structure and cover to suit new finished level and kerb line	No.	\$1,800.00		4	\$7,200.00
	<u>REDUNDANT DRAINAGE STRUCTURES</u>					
405.09	Removal of existing drainage structure	No.	\$500.00		4	\$2,000.00
	406 - ROCK PROTECTION					
406.01	Type B Rock protection (500mm thick) to culvert inlet / outlet	m²	\$255.00		889	\$226,695.00
406.01A	Type B Rock protection (500mm thick) to open drains	m²	\$255.00		849	\$216,495.00
406.01A	Type B Rock weir (300mm thick) 4m in length as detail 1 on drawing C500	No.	\$5,500.00		10	\$55,000.00
	407 - KERBING					
407.01	Kerb type - semi mountable	m	\$22.04		5,958	\$131,314.32
407.04	Extra over kerbs for pedestrian ramp type A	No.	\$750.00		12	\$9,000.00
407.05	Extra over kerbs for driveway kerb	m				
	Total Carried Forward to Summary					\$1,881,940.74
	SERIES 500 - PAVEMENT & SURFACING					
	501 - PAVEMENTS					
	<u>DRAINAGE LAYER</u>					
501.02	150mm Thick sand drainage layer	m²	\$7.45		42,097	\$313,622.65

Serpentine Jarrahdale Shire					 Serpentine Jarrahdale Shire	
Byrford Development Contribution Plan						
Thomas Road						
					Thomas	
MRWA Item Number	Description	Unit	RATE		Quantity	Cost
	SUBBASE					
501.03	120mm Thick crushed limestone subbase	m²	\$11.41		41,690	\$475,682.90
501.04	120mm Thick crushed limestone subbase in widenings	m²	\$11.41		1,845	\$21,051.45
	BASECOURSE					
501.12	180mm Thick crushed basecourse	m²	\$19.62		41,280	\$809,913.60
501.12A	150mm Thick crushed limestone	m²	\$12.34		171	\$2,110.14
501.13	180mm Thick crushed basecourse in widenings	m²	\$19.62		1,826	\$35,826.12
	503 - BITUMINOUS SURFACING					
	ROADWORKS					
	Primerseal					
503.05	First coat emulsion seal with BAR of ? litres/m² and 10mm aggregate	m²	\$3.64		42,679	\$155,351.56
503.06	Second coat emulsion seal with BAR of ? litres/m² and 5mm aggregate	m²	\$3.64		42,679	\$155,351.56
	504 - ASPHALT SURFACING					
	ROADWORKS					
504.01	Tack coat	m²	\$0.59		42,848	\$25,280.32
504.02	30mm Thick dense graded asphalt	m²	\$13.88		27,847	\$386,516.36
504.02A	40mm Thick intersection mix asphalt	m²	\$17.43		14,832	\$258,521.76
504.04	25mm Thick dense graded coloured asphalt	m²	\$32.80		169	\$5,543.20
	505 - SEGMENTAL PAVING					
505.02	Tactile ground surface indicators	m²	\$90.00		52	\$4,680.00
	MEDIANS AND TRAFFIC ISLANDS					
505.03	230mm x 115mm Brick paving units on and including 30mm sand bedding	m²	\$70.00		2,748	\$192,360.00
505.04	Concrete Infill	m²	\$50.00		21	\$1,050.00
	Total Carried Forward to Summary					\$2,842,861.62
	SERIES 600 - TRAFFIC FACILITIES					
	601 - SIGNS					
	SINGLE POST SIGNS					
601.01	Traffic sign	No.	\$400.00		41	\$16,400.00
	RELOCATION OF EXISTING SIGNS					
601.08	Single post sign	No.	\$300.00		1	\$300.00
	603 - ROAD SAFETY BARRIER SYSTEMS					
	BARRIER					
603.01	Galvanised W-Beam barrier	m	\$250.00		4,411	\$1,102,750.00
603.01A	Galvanised W-Beam barrier - double sided back to back	m	\$500.00		216	\$108,000.00
603.03A	X-Tension verge application approach terminal	No.	\$5,000.00		8	\$40,000.00
603.03B	X-Tension median application approach terminal	No.	\$9,000.00		13	\$117,000.00
603.03C	Buffered End Trailing Terminal	No.	\$2,000.00		3	\$6,000.00
	REDUNDANT ROAD SAFETY BARRIER SYSTEM					
603.07	Removal of redundant W-Beam guardrail	m	\$75.00		163	\$12,225.00
	604 - PAVEMENT MARKING					
	ROAD PAVEMENT MARKINGS					
604.01	Line Type - Edge Line	m	\$2.25		8,317	\$18,713.25
604.01A	Line Type - Continuity Line	m	\$2.00		1,708	\$3,416.00
604.01B	Line Type - Broken Lane Line	m	\$1.75		4,488	\$7,854.00
604.01C	Line Type - Continuous Lane Line	m	\$2.25		0	\$0.00

Serpentine Jarrahdale Shire					 Serpentine Jarrahdale Shire	
Byford Development Contribution Plan						
Thomas Road						
					Thomas	
MRWA Item Number	Description	Unit	RATE		Quantity	Cost
604.01D	Line Type - Pedestrian Guidelines	m	\$1.50		170	\$255.00
604.01E	Line Type - Broken Turn Lines	m	\$1.50		95	\$142.50
604.01F	Line Type - Unbroken Turn Lines	m	\$2.00		8	\$16.00
604.01G	Line Type - Stop Line	m	\$5.50		63	\$346.50
604.01H	Line Type - Give Way Line	m	\$4.50		86	\$387.00
604.03	Right Turn arrow	No.	\$45.00		27	\$1,215.00
604.03A	Left Turn arrow	No.	\$45.00		25	\$1,125.00
604.03B	Straight, Left Turn arrow	No.	\$65.00		1	\$65.00
604.03C	Straight arrow	No.	\$45.00		1	\$45.00
604.03D	Left, Right Turn arrow	No.	\$65.00		1	\$65.00
604.04	Removal of redundant road pavement markings	Item	\$1,000.00		1	\$1,000.00
	RAISED PAVEMENT MARKERS					
	Not withstanding Main Roads Standard Method of Measurement for Construction Works Clause 604.2.2, removal of redundant raised pavement markers shall be measured as an item					
604.05	Raised pavement marker type - unidirectional white	No.	\$15.00		872	\$13,080.00
604.07	Removal of redundant raised pavement marker	Item	\$1,000.00		1	\$1,000.00
	Total Carried Forward to Summary					\$1,451,400.25
	SERIES 700 - ELECTRICAL & LIGHTING					
	701 - ROADWAY LIGHTING					
	SUPPLY & INSTALLATION OF NEW LIGHTING POLES COMPLETE					
701.01	Street Lighting (No design drawings - Qty and rate provided by Shire)	No	\$10,000.00		140	\$1,400,000.00
	712 - TRAFFIC SIGNALS					
	THOMAS ROAD / MASTERS ROAD INTERSECTION					
712.01	Traffic signals (No design drawings - rate provided by Shire)	PS	\$250,000.00		1	\$250,000.00
	Total Carried Forward to Summary					\$1,650,000.00
	SERIES 900 - MISCELLANEOUS					
	901 - CONCRETE - GENERAL WORKS					
901.01	100mm Thick concrete footpath	m²	\$40.00		10,960	\$438,400.00
	Total Carried Forward to Summary					\$438,400.00
	TOTAL - SCHEDULE NO. 3					\$10,951,097.84
	SCHEDULE No. 4 - PROVISIONAL SUMS					
	PROVISIONAL SUMS					
	PUBLIC UTILITIES					
PS.07	Western Power - Roadway Lighting	P.S.	\$560,000.00		1	\$560,000.00
PS.08	Western Power - Relocate Existing HV Transmission Poles etc	P.S.	\$1,621,620.00		1	\$1,621,620.00
PS.09	Telstra	P.S.	\$617,463.00		1	\$617,463.00
PS.10	Westnet Energy	P.S.	\$64,865.00		1	\$64,865.00
PS.11	Water Corporation	P.S.	\$257,027.00		1	\$257,027.00
	TOTAL - SCHEDULE NO. 4					\$3,120,975.00
	TOTAL COST (Ex GST)					\$17,911,056.33


Appendix B – Abernethy Road Costs

Serpentine Jarrahdale Shire		 Serpentine Jarrahdale Shire			
Byford Development Contribution Plan					
Abernethy Road		Abernethy v3 - Aquenta			
MRWA Item Number	Description	Unit	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	SCOPE OF WORK -SUMMARY OF MAIN QUANTITIES				
	Length of Road	m		2,800.00	
	Width of Road Reserve	m		30.00	
	Depth of Road Cut to Fill	m		0.50	
	Depth of Road Embankment	m		0.30	
	200mm Subbase Width	m		12.40	
	300mm Subbase Width	m		12.40	
	100mm Base Course Width	m		12.40	
	150mm Base Course Width	m		12.40	
	Seal Width	m		10.00	
	Concrete Footpath/PSP Width	m		4.00	
	SCHEDULE No. 1 - ADDITIONAL PRELIMINARY COSTS				
110.01	Design and Investigation	Sum	\$ 1.00	1.00	\$ 740,957.93
110.02	Client Project Management Costs	Sum	\$ 1.00	1.00	\$ 529,255.66
110.03	Local Government Fees	Sum	\$ 1.00	0.00	\$ -
110.04	As Constructed Drawings	Sum	\$ 50,000.00	1.00	\$ 50,000.00
	TOTAL - SCHEDULE NO. 1				\$ 1,320,213.60
	Note: Rates inclusive of Contractor's Overhead, Margin and Project Management Costs (P&G)				
	SCHEDULE No. 2 - ROADWORKS				
	<u>SERIES 300 - EARTHWORKS</u>				
	301 - CLEARING				
301.01	Site Clearing (Incl mulching)	ha	\$ 11,743.72	7.2633	\$ 85,298.18
301.02	Final Grade and Clean Up Site	m2	\$ 4.88		
	302 - EARTHWORKS				
	<u>TOPSOILING</u>				
	<u>Topsoil Removal</u>				
302.01	Topsoil removal, 100mm deep	ha	\$ 5,419.71	7.2633	\$ 39,365.01
	<u>Topsoil Spreading</u>				
302.02	Respread topsoil, 75mm thick	ha	\$ 2,883.29	0.00	\$ -
	<u>REMOVAL OF REDUNDANT PAVEMENTS & OTHER ITEMS</u>				
302.03	Removal of redundant seal and dispose off site	m2	\$ 5.79	28,000.00	\$ 162,114.75
302.04	Ripping & rehabilitating redundant pavement	m2		0.00	\$ -
302.05	Removal of redundant lighting poles	No	\$ 313.95	0.00	\$ -
	<u>EXCAVATION</u>		\$ -		
302.06	Cut and Fill including removal of surplus material	m3/BCM	\$ 18.31	9,483.00	\$ 173,614.47
302.06A	Cut	m3/BCM		0.00	\$ -
302.06B	Fill	m3/BCM	\$ 55.94	4,749.00	\$ 265,667.37
	<u>EMBANKMENT CONSTRUCTION</u>				
302.07	Embankment construction using site excavated and/ or imported fill as required including embankment compaction	m3/CCM	\$ 55.94	0.00	\$ -

Serpentine Jarrahdale Shire		 Serpentine Jarrahdale Shire			
Byford Development Contribution Plan					
Abernethy Road				Abernethy v3 - Aquenta	
MRWA Item Number	Description	Unit	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	SHOULDER & TABLE DRAIN REFURBISHING				
302.08	Allow for refurbishing of existing shoulder and table drain between ch 55250 and ch 55980	m		0.00	\$ -
302.09	Proof Roll	m2	\$ 2.22	40,068.00	\$ 88,981.01
302.10	Stabilisation of Lots	m2	\$ 2.66		
	Total Carried Forward to Summary				\$ 815,040.79
	SERIES 400 - DRAINAGE				
	402 - SURFACE DRAINS & LEVEES				
402.01	Table Drain blocks	No		0.00	\$ -
402.02	Surface Drain Type F	m		0.00	\$ -
402.03	Construct Graded V Drain	m	\$ 19.83	39.00	\$ 773.30
402.04	Shape 200mm deep Swale	No	\$ 26,437.50	1.00	\$ 26,437.50
402.05	160mm Sub-surface drainage	m			
402.06	Subsurface to Swales	m			
402.07	100mm Draincoil	m	\$ 48.99		
402.08	300mm RC Pipework with subsoil	m	\$ 239.88		
402.09	Drainage basin at Bradley Close	No	\$ 76,668.75	1.00	\$ 76,668.75
402.10	Drainage basin at Malarkey Road	No	\$ 54,196.88	1.00	\$ 54,196.88
402.11	Drainage basin at Renaud Way	No	\$ 29,081.25	1.00	\$ 29,081.25
402.12	Drainage basin at Tourmaline Boulevard	No	\$ 22,471.88	1.00	\$ 22,471.88
402.13	Perimeter berm fill for 4No. Basins.	m3	\$ 57.41	163.00	\$ 9,357.67
402.14	Basin outlet structure to Beenyup Brook	No	\$ 6,609.38	3.00	\$ 19,828.13
402.15	Cleanout/flushing point for subsoil drains	No	\$ 132.19	76.00	\$ 10,046.25
	403 - SUBSOIL DRAINS				
403.01	150dia slotted PVC subsoil drainage pipe	m	\$ 54.42	4,575.00	\$ 248,978.79
	404 - CULVERTS				
	CULVERTS				
	Reinforced Concrete Pipes - Class 3				
404.01	375 Diameter pipe culvert	m		0.00	\$ -
404.02	600 Diameter pipe culvert	m		0.00	\$ -
404.03	750 Diameter pipe culvert	m	\$ 697.67	0.00	\$ -
404.04	1200 Diameter RCB culvert (incl rock protection to outlet)	m	\$ 1,260.33	0.00	\$ -
404.05	Extend DN750 pipe culvert	m		0.00	\$ -
	Redundant Culverts				
404.06	Removal of existing 300 diameter pipe culvert including all necessary backfilling	m	\$ 51.55	210.60	\$ 10,857.09
404.07	Removal of existing 375 diameter pipe culvert - No backfilling Culvert Replaced	m	\$ -	0.00	\$ -
404.08	Removal of existing 375 diameter pipe culvert including all necessary backfilling	m	\$ 52.88	114.10	\$ 6,033.04
404.09	Removal of existing 1200 diameter pipe culvert including all necessary backfilling	m	\$ -	0.00	\$ -
404.10	Removal of existing 450 diameter pipe culvert including all necessary backfilling	m	\$ 59.48	208.30	\$ 12,390.60
404.11	Removal of existing 525 diameter pipe culvert including all necessary backfilling	m	\$ 66.09	36.97	\$ 2,443.49
404.12	Removal of existing 600 diameter pipe culvert including all necessary backfilling	m	\$ 79.31	5.00	\$ 396.56
404.13	Removal of existing box culvert including all necessary backfilling	m	\$ 99.14	16.00	\$ 1,586.25
404.14	Removal of existing culvert end treatment	m	\$ 99.14	57.00	\$ 5,651.02

Serpentine Jarrahdale Shire		Serpentine Jarrahdale Shire			
Byford Development Contribution Plan					
Abernethy Road				Abernethy v3 - Aqunta	
MRWA Item Number	Description	Unit	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	STORMWATER DRAINS				
	Reinforced Concrete Pipes in trench, depth not exceeding 1.5m				
404.10	375 Diameter stormwater drain	m		0.00	\$ -
404.11	600 Diameter stormwater drain	m	\$ 469.45	0.00	\$ -
404.11a	Additional 600 Diameter stormwater drains for Byford Townsite Drainage and Water Management Plan Floodways	m	\$ 469.45	0.00	\$ -
404.12	1050 Diameter stormwater drain	m	\$ 1,594.55		\$ -
	All Stormwater Drains				
404.13	Extra over stormwater drains for cement stabilised backfill	m		0.00	\$ -
404.14	V-Drain as per Schematic Shire Design	m	\$ 14.96	0.00	\$ -
	Amended Pit and Pipe Stormwater Drainage System				
404.15	2,400mm x 1,200mm box culverts complete with headwalls etc.	m	\$ 3,639.30	0.00	\$ -
404.16	1,800mm x 900mm box culverts complete with headwalls etc.	m	\$ 2,425.42	0.00	\$ -
404.17	1,500mm x 1,500mm box culverts complete with headwalls etc.	m	\$ 2,475.51	0.00	\$ -
404.18	2,100mm x 1,200mm box culverts complete with headwalls etc.	m	\$ 3,145.89	0.00	\$ -
404.19	2,400mm x 1,200mm box culverts complete with headwalls etc.	m	\$ 3,465.15	0.00	\$ -
404.20	2,400mm x 2,100mm box culverts complete with headwalls etc.	m	\$ 4,108.62	0.00	\$ -
404.21	450mm diameter class 4 concrete stormwater pipes	m	\$ 437.69	14.00	\$ 6,127.60
404.22	Kerb inlets complete with bio retention rain garden	No	\$ 15,175.91	0.00	\$ -
404.23	Class 2 300 Diameter pipe culvert	m	\$ 257.77	3,070.00	\$ 791,340.47
404.24	Class 2 375 Diameter pipe culvert	m	\$ 297.42	835.00	\$ 248,347.27
404.25	Class 2 450 Diameter pipe culvert	m	\$ 363.52	265.00	\$ 96,331.64
404.26	Class 4 300 Diameter pipe culvert	m	\$ 270.98	665.00	\$ 180,204.61
404.27	Class 4 375 Diameter pipe culvert	m	\$ 323.86	225.00	\$ 72,868.36
404.28	EO for cement stabilisation	m3	\$ 165.23	181.00	\$ 29,907.42
404.29	Standard trapped junction pit	No	\$ 2,181.09	2.00	\$ 4,362.19
404.30	Standard side entry gully	No	\$ 3,767.34	74.00	\$ 278,783.44
404.31	Removal of existing manhole	No	\$ 660.94	5.00	\$ 3,304.69
404.32	Removal of existing drainage structure grate	No	\$ 660.94	3.00	\$ 1,982.81
404.33	Removal of existing drainage structure SEP	No	\$ 660.94	4.00	\$ 2,643.75
404.34	Limestone spalls (headwall outlets)	m2	\$ 165.23	12.50	\$ 2,065.43
404.35	Limestone spalls (basin intlets)	m2	\$ 165.23	10.00	\$ 1,652.34
404.36	Gabions	m2	\$ 660.94	12.00	\$ 7,931.25
404.37	Geotextile lining	m2	\$ 19.83	35.00	\$ 693.98
404.38	Rain garden - Type 1	No	\$ 23,793.75	21.00	\$ 499,668.75
404.39	Rain garden - Type 1	No	\$ 29,081.25	53.00	\$ 1,541,306.25
	405 - DRAINAGE STRUCTURES				
	End Treatments				
405.01	Precast concrete end treatment to suit DN600 stormwater pipe	No	\$ 6,118.79	0.00	\$ -
405.02	Precast concrete end treatment to suit DN750 stormwater pipe	No	\$ 7,648.48	0.00	\$ -
405.03	1200 dia RC liner Street Gully to suit 675dia max stormwater pipe	No	\$ 3,613.83	0.00	\$ -
405.04	1200 dia Class 2 RC liner Side Entry Pit cover and apron to suit 675dia max pipe	No	\$ 4,200.54	0.00	\$ -
	407 - KERBING				
407.01	300 wide Mountable kerb	m	\$ 66.62	190.00	\$ 12,658.28
407.02	230 wide Semi mountable kerb	m	\$ 57.83	11,440.00	\$ 661,598.44
407.03	Ramp kerb	m	\$ 66.62	0.00	\$ -
407.04	100 thick N32 concrete pram ramp including thickening	No	\$ 143.00	40.00	\$ 5,720.02
407.05	Reinstate Kerbing	m	\$ 66.62		\$ -
407.06	Barrier kerbing	m	\$ 65.42	140.00	\$ 9,158.74
	Total Carried Forward to Summary				\$4,995,856.15
	SERIES 500 - PAVEMENT & SURFACING				
	501 - PAVEMENTS				
	SUBBASE				
501.01	150mm thick Gravel subbase in reconstruction	m2	\$ 14.24	40,068.00	\$ 570,431.84

Serpentine Jarrahdale Shire		Serpentine Jarrahdale Shire			
Byford Development Contribution Plan					
Abernethy Road				Abernethy v3 - Aquenta	
MRWA Item Number	Description	Unit	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
501.01a	200mm thick Limestone subbase in reconstruction	m2	\$ 17.78	0.00	\$ -
501.01b	300mm thick Limestone subbase in reconstruction	m2	\$ 24.97	0.00	\$ -
	BASECOURSE				
501.02	100mm thick Gravel bascourse in reconstruction	m2	\$ 9.89	0.00	\$ -
501.02a	150mm thick Gravel bascourse in reconstruction	m2	\$ 14.83	0.00	\$ -
501.02b	180mm thick Gravel bascourse in reconstruction	m2	\$ 17.92	40,068.00	\$ 718,203.87
	503 - BITUMINOUS SURFACING				
	ROADWORKS				
	Primerseal				
503.01	First coat primerseal with BAR of 1.1 litres/m2 and 10mm aggregate	m2		0.00	\$ -
503.02	Second coat primerseal with BAR of 1.0 litres/m2 and 5mm aggregate	m2		0.00	\$ -
503.03	First coat primerseal with BAR of 0.7 litres/m2 and 7mm aggregate	m2	\$ 4.59	40,068.00	\$ 183,788.16
	GENERAL				
	Binder Application Rate Variation				
503.03A	Rated (L) for bituminous binder is \$ per litre for adjustments greater than 7.55 of the tendered BAR ordered by the Superintendent	litre		0.00	\$ -
503.04	New single lane roundabout	No	\$ 137,114.13	3.00	\$ 411,342.38
503.05	Adjustment to single lane roundabout	No	\$ 66,093.75	1.00	\$ 66,093.75
	504 - ASPHALT SURFACING				
	ROADWORKS				
	Asphalt				
504.01	30mm thick Asphalt	m2	\$ 17.18	40,068.00	\$ 688,543.54
504.01a	40mm thick Asphalt	m2	\$ 22.89	0.00	\$ -
	505 - SEGMENTAL PAVING				
505.01	50mm thick brick paving on 30mm compacted sand bed	m2	\$ 140.25	8,094.00	\$ 1,135,191.09
	Total Carried Forward to Summary				\$ 3,773,594.63
	SERIES 600 - TRAFFIC FACILITIES				
	601 - SIGNS				
	RELOCATION OF EXISTING SIGNS				
601.01	Single post sign	No		0.00	\$ -
601.02	Double post sign	No		0.00	\$ -
	SUPPLY & INSTALLATION OF NEW SIGNS				
601.03	Single post sign	No		0.00	\$ -
601.04	Double post sign	No		0.00	\$ -
	602 - GUIDE POSTS				
602.01	Guide post	No		0.00	\$ -
	603 - ROAD SAFETY BARRIER SYSTEMS				
603.01	Galvanised W-beam barrier	m	\$ 138.51	0.00	\$ -
	604 - PAVEMENT MARKING				
	ROAD PAVEMENT MARKINGS				
604.01	Line Type - Edge	m		0.00	\$ -
604.02	Line Type - Broken Separation Line	m		0.00	\$ -
604.03	Line Type - Double one way barrier line	m		0.00	\$ -

Serpentine Jarrahdale Shire		 Serpentine Jarrahdale Shire			
Byford Development Contribution Plan					
Abernethy Road		Abernethy v3 - Aquenta			
MRWA Item Number	Description	Unit	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
604.04	Line Type - double two way barrier line	m		0.00	\$ -
604.05	Line Type - Continuity line	m		0.00	\$ -
	Total Carried Forward to Summary				\$ -
	<u>SERIES 700 - ELECTRICAL AND LIGHTING</u>				
	701 - ROADWAY LIGHTING				
	<u>SUPPLY & INSTALLATION OF NEW LIGHTING POLES COMPLETE</u>				
701.01	Single galvanised light pole, single outreach arm and luminaire	No	\$ 4,574.72	0.00	\$ -
701.02	Single galvanised light pole, double outreach arm and luminaire	No		0.00	\$ -
701.03	Additional street lighting as per Shire requirements	Sum	\$ 500,000.00	0.00	\$ -
	Total Carried Forward to Summary				\$ -
	<u>SERIES 900 - MISCELLANEOUS</u>				
	901 - MISCELLANEOUS WORKS				
901.01	Extra over costs for supply and installation of 2.1 x 2.1 RCB in lieu of proposed 1.2 x 1.2 RCB	m		0.00	\$ -
901.05	100 thick N32 concrete pram ramp including thickening	No			\$ -
901.06	100 thick N32 concrete footpath and thickening	m2	\$ 95.33	10,496.00	\$ 1,000,621.73
	Total Carried Forward to Summary				\$1,000,621.73
	TOTAL - SCHEDULE NO. 2				\$10,585,113.29
	<u>SCHEDULE No. 3 - PROVISIONAL SUMS</u>				
	<u>PROVISIONAL SUMS</u>				
	TRAFFIC FACILITIES				
PS.01	Signalised Intersection	P.S.		1.00	\$ 265,125.00
PS.02	Signs	P.S.		1.00	\$ 31,512.00
PS.03	Pavement Marking	P.S.		1.00	\$ 31,512.00
PS.04	Roundabouts	P.S.		1.00	\$ -
PS.05	Traffic Management	P.S.		1.00	\$ 467,280.00
PS.06	Bio Filter Landscaping	P.S.		1.00	\$ -
	PUBLIC UTILITIES				
PS.07	Western Power - Roadway Lighting	P.S.		1.00	\$ 400,000.00
PS.08	Western Power - Relocate Existing HV Transmission Poles etc.	P.S.		1.00	\$ 2,200,000.00
PS.09	Telstra	P.S.		1.00	\$ 3,200,000.00
PS.10	Westnet Energy	P.S.		1.00	\$ 417,635.00
PS.11	Water Corporation	P.S.		1.00	\$ 286,335.00
	ADDITIONAL TO ORIGINAL PROPOSAL				
PS.12	Signalised Intersection	P.S.		1.00	\$ 265,125.00
PS.13	Western Power - Roadway Lighting	P.S.		1.00	\$ 300,000.00
PS.14	Stages - As constructed	P.S.		1.00	\$ 16,440.00
	TOTAL - SCHEDULE NO. 3				\$7,880,964.00
	TOTAL COST				\$19,786,290.89
	Note: DCP Share (71.25% of Total Cost)				\$14,097,732.26

Appendix C – Orton Road Costs

Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Orton Road						
				12.5%	Orton	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	SCOPE OF WORK -SUMMARY OF MAIN QUANTITIES					
	Length of Road	m			2,840.00	
	Width of Road Reserve	m			30.00	
	Depth of Road Cut to Fill	m			0.50	
	Depth of Road Embankment	m			0.30	
	200mm Subbase Width	m			12.40	
	300mm Subbase Width	m			12.40	
	100mm Base Course Width	m			12.40	
	150mm Base Course Width	m			12.40	
	Seal Width	m			10.00	
	Concrete Footpath/PSP Width	m			4.00	
	SCHEDULE No. 1 - ADDITIONAL PRELIMINARY COSTS					
110.01	Design and Investigation	Sum	\$ 1.00	\$ 1.00	1.00	\$ 383,969.37
110.02	Client Project Management Costs	Sum	\$ 1.00	\$ 1.00	1.00	\$ 383,969.37
110.03	Local Government Fees	Sum	\$ 1.00	\$ 1.00	1.00	\$ 115,190.81
110.04	As Constructed Drawings	Sum	\$ 50,000.00	\$ 50,000.00	1.00	\$ 50,000.00
	TOTAL - SCHEDULE NO. 1					\$ 933,129.55
	Note: Rates inclusive of Contractor's Overhead, Margin and Project Management Costs (P&G)					
	SCHEDULE No. 2 - ROADWORKS					
	<u>SERIES 300 - EARTHWORKS</u>					
	301 - CLEARING					
301.01	Site Clearing (Incl mulching)	ha	\$ 8,884.14	\$ 11,743.72	8.520	\$ 100,056.52
301.02	Final Grade and Clean Up Site	m2	\$ 3.69	\$ 4.88		
	302 - EARTHWORKS					
	<u>TOPSOILING</u>					
	Topsoil Removal					
302.01	Topsoil removal, 100mm deep	ha	\$ 4,100.02	\$ 5,419.71	8.520	\$ 46,175.96
	Topsoil Spreading					
302.02	Respread topsoil, 75mm thick	ha	\$ 2,181.21	\$ 2,883.29	0.00	\$ -
	<u>REMOVAL OF REDUNDANT PAVEMENTS & OTHER ITEMS</u>					
302.03	Removal of redundant seal and dispose off site	m2	\$ 4.38	\$ 5.79	0.00	\$ -
302.04	Ripping & rehabilitating redundant pavement	m2			0.00	\$ -
302.05	Removal of redundant lighting poles	No	\$ 237.50	\$ 313.95	0.00	\$ -
302.09	Removal of redundant kerbs	m	\$ 11.50	\$ 15.20		
302.10	Marking out and cutting edge along junction between new pavement and existing pavement including trimming existing pavement layers as required to bond new pavement	m	\$ 9.50	\$ 12.56		
	<u>EXCAVATION</u>			\$ -		
302.06	Cut and Fill including removal of surplus material	m3/BCM	\$ 7.50	\$ 9.91	42,600.00	\$ 422,339.06
	<u>EMBANKMENT CONSTRUCTION</u>					
302.14	Embankment foundation compaction	m2	\$ 1.90	\$ 2.51	0.00	\$ -
302.07	Embankment construction using site excavated and/ or imported fill as required including embankment compaction	m3/CCM	\$ 30.00	\$ 39.66	10,564.80	\$ 418,960.35
	SUBGRADE					
302.20	Subgrade	m²	\$ 3.50	\$ 4.63		

Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Orton Road						
				12.5%	Orton	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
302.22	Subgrade to principal shared path	m²	\$ 4.20	\$ 5.55		
302.08	<u>SHOULDER & TABLE DRAIN REFURBISHING</u> Allow for refurbishing of existing shoulder and table drain between ch 55250 and ch 55980	m			0.00	\$ -
302.09	Proof Roll	m2	\$ 1.68	\$ 2.22		
302.10	Stabilisation of Lots	m2	\$ 2.01	\$ 2.66		
	Total Carried Forward to Summary					\$ 987,531.89
	<u>SERIES 400 - DRAINAGE</u>					
	402 - SURFACE DRAINS & LEVEES					
402.01	Table Drain blocks	No			0.00	\$ -
402.02	Surface Drain Type F	m			0.00	\$ -
402.03	Construct Graded V Drain	m			0.00	\$ -
402.04	Shape 200mm deep Swale	m				
402.05	160mm Sub-surface drainage	m				
402.06	Subsurface to Swales	m				
402.07	100mm Draincoil	m	\$ 37.06	\$ 48.99		
402.08	300mm RC Pipework with subsoil	m	\$ 181.47	\$ 239.88		
	403 - SUBSOIL DRAINS					
403.01	150dia slotted PVC subsoil drainage pipe	m	\$ 80.00	\$ 105.75	11,360.00	\$ 1,201,320.00
403.02	Inlet pit 150 diameter pipe subsoil drain including concrete cover and	No.	\$ 1,150.00	\$ 1,520.16		
	404 - CULVERTS					
	<u>CULVERTS</u>					
	<u>Reinforced Concrete Pipes - Class 3</u>					
404.01	375 Diameter pipe culvert	m			0.00	\$ -
404.02	600 Diameter pipe culvert	m			0.00	\$ -
404.03	750 Diameter pipe culvert	m	\$ 300.00	\$ 396.56	30.00	\$ 11,896.88
404.04	1200 Diameter RCB culvert (incl rock protection to outlet)	m	\$ 953.44	\$ 1,260.33	0.00	\$ -
404.05	Extend DN750 pipe culvert	m			0.00	\$ -
404.06	Reinforced concrete base slab and shear keys	m³	\$ 1,500.00	\$ 1,982.81		
404.07	Reinforced concrete insitu end treatment	m³	\$ 2,800.00	\$ 3,701.25		
	<u>Redundant Culverts</u>					
404.06	Removal of existing 300 diameter pipe culvert including all necessary backfilling	m			0.00	\$ -
404.07	Removal of existing 375 diameter pipe culvert - No backfilling Culvert Replaced	m			0.00	\$ -
404.08	Removal of existing 375 diameter pipe culvert including all necessary backfilling	m			0.00	\$ -
404.09	Removal of existing 1200 diameter pipe culvert including all necessary backfilling	m			0.00	\$ -
	<u>STORMWATER DRAINS</u>					
	<u>Reinforced Concrete Pipes in trench, depth not exceeding 1.5m</u>					
404.10	375 Diameter stormwater drain	m			0.00	\$ -
404.11	600 Diameter stormwater drain	m	\$ 225.00	\$ 297.42	3,290.00	\$ 978,519.09
404.11a	Additional 600 Diameter stormwater drains for Byford Townsite Drainage and Water Management Plan Floodways	m	\$ 355.14	\$ 469.45	0.00	\$ -
404.12	1050 Diameter stormwater drain	m	\$ 1,206.28	\$ 1,594.55		\$ -
	<u>All Stormwater Drains</u>					
404.13	Extra over stormwater drains for cement stabilised backfill	m			0.00	\$ -
404.14	V-Drain as per Schematic Shire Design	m	\$ -	\$ -	0.00	\$ -
404.16	300 Diameter drain in trench, depth not exceeding 1.5m	m	\$ 110.00	\$ 145.41		
404.161	450 Diameter drain in trench, depth not exceeding 1.5m	m	\$ 90.00	\$ 118.97		
404.17	300 Diameter drain in trench, depth exceeding 1.5m but not exceeding 2.5m	m	\$ 150.00	\$ 198.28		


Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Orton Road						
				12.5%	Orton	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
404.171	450 Diameter drain in trench, depth exceeding 1.5m but not exceeding 2.5m	m	\$ 180.00	\$ 237.94		
	All Stormwater Drains					
404.20	Extra over stormwater drains for cement stabilised backfill	m³	\$ 230.00	\$ 304.03		
	405 - DRAINAGE STRUCTURES					
	End Treatments					
405.01	Precast concrete end treatment to suit DN600 stormwater pipe	No	\$ 4,628.87	\$ 6,118.79	15.00	\$ 91,781.78
405.02	Precast concrete end treatment to suit DN750 stormwater pipe	No	\$ 5,786.09	\$ 7,648.48	2.00	\$ 15,296.96
405.03	1200 dia RC liner Street Gully to suit 675dia max stormwater pipe	No	\$ 2,733.87	\$ 3,613.83	58.00	\$ 209,602.40
405.04	1200 dia Class 2 RC liner Side Entry Pit cover and apron to suit 675dia max pipe	No	\$ 3,177.71	\$ 4,200.54	58.00	\$ 243,631.05
	406 - ROCK PROTECTION					
406.01	Rock protection to Culvert inlet / outlet	m²	\$ 180.00	\$ 237.94	58.00	\$ 13,800.38
	407 - KERBING					
407.01	300 wide Mountable kerb	m	\$ 50.40	\$ -		\$ -
407.02	230 wide Semi mountable kerb	m	\$ 43.75	\$ 57.83	11,360.00	\$ 656,971.88
407.03	Ramp kerb	m	\$ 50.40	\$ 66.62	0.00	\$ -
407.04	100 thick N32 concrete pram ramp including thickening	No	\$ 500.00	\$ 660.94	30.00	\$ 19,828.13
407.05	Reinstate Kerbing		\$ 50.40	\$ 66.62		
	Total Carried Forward to Summary					\$3,442,648.54
	SERIES 500 - PAVEMENT & SURFACING					
	501 - PAVEMENTS					
	SUBBASE					
501.01	150mm thick Gravel subbase in reconstruction	m2	\$ 13.00	\$ 17.18	0.00	\$ -
501.01a	200mm thick Limestone subbase in reconstruction	m2	\$ 10.00	\$ 13.22	35,216.00	\$ 465,511.50
501.031	280mm Thick limestone subbase	m²	\$ 23.00	\$ 30.40	0.00	\$ -
501.01b	300mm thick Limestone subbase in reconstruction	m2	\$ 15.00	\$ 19.83	0.00	\$ -
	BASECOURSE					
501.02	100mm thick Gravel bascourse in reconstruction	m2	\$ 7.48	\$ 9.89	35,216.00	\$ 348,202.60
501.02a	150mm thick Gravel bascourse in reconstruction	m2	\$ 11.22	\$ 14.83	0.00	\$ -
501.12	180mm Thick crushed rock basecourse	m²	\$ 13.00	\$ 17.18	0.00	\$ -
	503 - BITUMINOUS SURFACING					
	ROADWORKS					
	Primerseal					
503.01	First coat primerseal with BAR of 1.1 litres/m2 and 10mm aggregate	m2	\$ 1.80	\$ 2.38	0.00	\$ -
503.02	Second coat primerseal with BAR of 1.0 litres/m2 and 5mm aggregate	m2	\$ 4.00	\$ 5.29	0.00	\$ -
503.03	First coat primerseal with BAR of 0.7 litres/m2 and 7mm aggregate	m2	\$ 3.47	\$ 4.59	28,400.00	\$ 130,268.14
503.04	Single coat primerseal with BAR of ? litres/m² and 10mm aggregate	m²	\$ 4.00	\$ 5.29	120.00	\$ 634.50
	GENERAL					
	Binder Application Rate Variation					
503.03	Rated (L) for bituminous binder is \$ per litre for adjustments greater than 7.55 of the tendered BAR ordered by the Superintendent	litre			0.00	\$ -
	504 - ASPHALT SURFACING					
	ROADWORKS					
	Asphalt					


Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Orton Road						
				12.5%	Orton	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
504.01	Tack coat	m²	\$ 0.90	\$ 1.19	0.00	\$ -
504.01	30mm thick Asphalt	m2	\$ 13.00	\$ 17.18	28,400.00	\$ 488,036.25
504.01a	40mm thick Asphalt	m2	\$ 17.32	\$ 22.89	0.00	\$ -
504.021	40mm Thick intersection mix asphalt	m²	\$ 18.00	\$ 23.79	0.00	\$ -
504.071	40mm Thick asphalt intermediate course	m²	\$ 17.00	\$ 22.47	0.00	\$ -
504.072	210mm Thick asphalt intermediate course	m²	\$ 80.00	\$ 105.75	0.00	\$ -
	<u>PRINCIPAL SHARED PATHS</u>					
504.13	Tack coat	m²	\$ 0.90	\$ 1.19	0.00	\$ -
504.14	25mm Thick dense graded coloured asphalt	m²	\$ 19.00	\$ 25.12	0.00	\$ -
	505 - SEGMENTAL PAVING					
505.01	50mm thick brick paving on 30mm compacted sand bed	m2	\$ 75.00	\$ 99.14	500.00	\$ 49,570.31
505.03	230mm x 115mm Brick paving units on and including 100mm sand bedding	m²	\$ 65.00	\$ 85.92	0.00	\$ -
	Total Carried Forward to Summary					\$ 1,482,223.30
	<u>SERIES 600 - TRAFFIC FACILITIES</u>					
	601 - SIGNS					
	<u>RELOCATION OF EXISTING SIGNS</u>					
601.01	Single post sign	No	\$ 335.00	\$ 442.83	0.00	\$ -
601.02	Double post sign	No			0.00	\$ -
	<u>SUPPLY & INSTALLATION OF NEW SIGNS</u>					
601.03	Single post sign	No			0.00	\$ -
601.04	Double post sign	No			0.00	\$ -
	602 - GUIDE POSTS					
602.01	Guide post	No			0.00	\$ -
	603 - ROAD SAFETY BARRIER SYSTEMS					
603.01	Galvanised W-beam barrier	m	\$ 104.78	\$ 138.51	0.00	\$ -
603.041	Galvanised ET2000 plus end terminal	No.	\$ 6,400.00	\$ 8,460.00	0.00	\$ -
603.042	Galvanised x-Tension median terminal	No.	\$ 6,400.00	\$ 8,460.00	0.00	\$ -
	604 - PAVEMENT MARKING					
	<u>ROAD PAVEMENT MARKINGS</u>					
604.01	Line Type - Edge	m	\$ 1.50	\$ 1.98	0.00	\$ -
604.02	Line Type - Broken Separation Line	m			0.00	\$ -
604.03	Line Type - Double one way barrier line	m			0.00	\$ -
604.04	Line Type - double two way barrier line	m			0.00	\$ -
604.04	Removal of redundant road pavement markings	Item	\$ 3,700.00	\$ 4,890.94	0.00	\$ -
604.05	Line Type - Continuity line	m			0.00	\$ -
	Total Carried Forward to Summary					\$ -
	<u>SERIES 700 - ELECTRICAL AND LIGHTING</u>					
	701 - ROADWAY LIGHTING					
	<u>SUPPLY & INSTALLATION OF NEW LIGHTING POLES COMPLETE</u>					
701.01	Single galvanised light pole, single outreach arm and luminaire	No	\$ 3,460.78	\$ 4,574.72	58.00	\$ 265,333.68
701.02	Single galvanised light pole, double outreach arm and luminaire	No			0.00	\$ -
701.03	Additional street lighting as per Shire requirements	Sum	\$ 500,000.00	\$ 500,000.00	0.00	\$ -
	Total Carried Forward to Summary					\$ 265,333.68


Byford Development Contribution Plan
Orton Road


Page 5 of

Appendix D – Kardan Boulevard Costs


Serpentine Jarrahdale Shire					 Serpentine Jarrahdale Shire	
Byford Development Contribution Plan						
Kardan Boulevard						
				12.5%	Kardan Blvd	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	SCOPE OF WORK -SUMMARY OF MAIN QUANTITIES					
	Length of Road	m				
	Width of Road Reserve	m				
	Depth of Road Cut to Fill	m				
	Depth of Road Embankment	m				
	200mm Subbase Width	m				
	300mm Subbase Width	m				
	100mm Base Course Width	m				
	150mm Base Course Width	m				
	Seal Width	m				
	Concrete Footpath/PSP Width	m				
	SCHEDULE No. 1 - ADDITIONAL PRELIMINARY COSTS					
110.01	Design and Investigation	Sum	\$ 1.00	\$ 1.00	1.00	\$ 34,445.92
110.02	Client Project Management Costs	Sum	\$ 1.00	\$ 1.00	1.00	\$ 34,445.92
110.03	Local Government Fees	Sum	\$ 1.00	\$ 1.00	1.00	\$ 10,333.78
110.04	As Constructed Drawings	Sum	\$ 50,000.00	\$ 50,000.00	1.00	\$ 50,000.00
	TOTAL - SCHEDULE NO. 1					\$ 129,225.62
	Note: Rates inclusive of Contractor's Overhead, Margin and Project Management Costs (P&G)					
	SCHEDULE No. 2 - ROADWORKS					
	<u>SERIES 300 - EARTHWORKS</u>					
	301 - CLEARING					
301.01	Site Clearing (Incl mulching)	ha	\$ 8,884.14	\$ 11,743.72	1.24	\$ 14,562.22
301.02	Final Grade and Clean Up Site	m2	\$ 3.69	\$ 4.88	7,252.00	\$ 35,373.22
	302 - EARTHWORKS					
	<u>TOPSOILING</u>					
	<u>Topsoil Removal</u>					
302.01	Topsoil removal, 100mm deep	ha	\$ 4,100.02	\$ 5,419.71	2.00	\$ 10,864.90
	<u>Topsoil Spreading</u>					
302.02	Respread topsoil, 75mm thick	ha	\$ 2,181.21	\$ 2,883.29	2.00	\$ 5,780.13
					0.00	
	<u>REMOVAL OF REDUNDANT PAVEMENTS & OTHER ITEMS</u>				0.00	
302.03	Removal of redundant seal and dispose off site	m2	\$ 4.38	\$ 5.79	50.00	\$ 289.49
302.04	Ripping & rehabilitating redundant pavement	m2			0.00	\$ -
302.05	Removal of redundant lighting poles	No	\$ 237.50	\$ 313.95	0.00	\$ -
302.09	Removal of redundant kerbs	m	\$ 11.50	\$ 15.20	20.00	\$ 304.03
302.10	Marking out and cutting edge along junction between new pavement and existing pavement including trimming existing pavement layers as required to bond new pavement	m	\$ 9.50	\$ 12.56		
	<u>EXCAVATION</u>			\$ -		
302.06	Cut and Fill including removal of surplus material	m3/BCM	\$ 7.50	\$ 9.91	300.00	\$ 2,974.22
	<u>EMBANKMENT CONSTRUCTION</u>					
302.14	Embankment foundation compaction	m2	\$ 1.90	\$ 2.51		
302.07	Embankment construction using site excavated and/ or imported fill as required including embankment compaction	m3/CCM	\$ 30.00	\$ 39.66	3,119.69	\$ 123,715.21
	<u>SUBGRADE</u>					
302.20	Subgrade	m²	\$ 3.50	\$ 4.63		
302.22	Subgrade to principal shared path	m²	\$ 4.20	\$ 5.55		


Serpentine Jarrahdale Shire					 Serpentine Jarrahdale Shire	
Byford Development Contribution Plan						
Kardan Boulevard						
				12.5%	Kardan Blvd	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	SHOULDER & TABLE DRAIN REFURBISHING					
302.08	Allow for refurbishing of existing shoulder and table drain between ch 55250 and ch 55980	m			0.00	\$ -
302.09	Proof Roll	m2	\$ 1.68	\$ 2.22	12,150.00	\$ 26,982.11
302.10	Stabilisation of Lots	m2	\$ 2.01	\$ 2.66	12,800.00	\$ 34,009.20
	Total Carried Forward to Summary					\$ 254,854.72
	<u>SERIES 400 - DRAINAGE</u>					
	402 - SURFACE DRAINS & LEVEES					
402.01	Table Drain blocks	No			0.00	\$ -
402.02	Surface Drain Type F	m			0.00	\$ -
402.03	Construct Graded V Drain	m			0.00	\$ -
402.04	Shape 200mm deep Swale	m			0.00	\$ -
402.05	160mm Sub-surface drainage	m			0.00	\$ -
402.06	Subsurface to Swales	m			0.00	\$ -
402.07	100mm Draincoil	m	\$ 37.06	\$ 48.99	866.40	\$ 42,443.80
402.08	300mm RC Pipework with subsoil	m	\$ 181.47	\$ 239.88	250.30	\$ 60,042.13
	403 - SUBSOIL DRAINS					
403.01	150dia slotted PVC subsoil drainage pipe	m	\$ 80.00	\$ 105.75		\$ -
403.02	Inlet pit 150 diameter pipe subsoil drain including concrete cover and	No.	\$ 1,150.00	\$ 1,520.16		
	404 - CULVERTS					
	<u>CULVERTS</u>					
	<u>Reinforced Concrete Pipes - Class 3</u>					
404.01	375 Diameter pipe culvert	m				\$ -
404.02	600 Diameter pipe culvert	m				\$ -
404.03	750 Diameter pipe culvert	m	\$ 300.00	\$ 396.56		\$ -
404.04	1200 Diameter RCB culvert (incl rock protection to outlet)	m	\$ 953.44	\$ 1,260.33		\$ -
404.05	Extend DN750 pipe culvert	m				\$ -
404.06	Reinforced concrete base slab and shear keys	m³	\$ 1,500.00	\$ 1,982.81		
404.07	Reinforced concrete insitu end treatment	m³	\$ 2,800.00	\$ 3,701.25		
404.08	2400 x 1200mm box culvert	m	\$ 3,465.15	\$ 4,580.50	60.00	\$ 274,829.71
	<u>Redundant Culverts</u>					
404.06	Removal of existing 300 diameter pipe culvert including all necessary backfilling	m				\$ -
404.07	Removal of existing 375 diameter pipe culvert - No backfilling Culvert Replaced	m				\$ -
404.08	Removal of existing 375 diameter pipe culvert including all necessary backfilling	m				\$ -
404.09	Removal of existing 1200 diameter pipe culvert including all necessary backfilling	m				\$ -
	<u>STORMWATER DRAINS</u>					
	<u>Reinforced Concrete Pipes in trench, depth not exceeding 1.5m</u>					
404.10	375 Diameter stormwater drain	m				\$ -
404.11	600 Diameter stormwater drain	m	\$ 225.00	\$ 297.42	0.00	\$ -
404.11a	Additional 600 Diameter stormwater drains for Byford Townsite Drainage and Water Management Plan Floodways	m	\$ 355.14	\$ 469.45	0.00	\$ -
404.12	1050 Diameter stormwater drain	m	\$ 1,206.28	\$ 1,594.55		\$ -
	<u>All Stormwater Drains</u>					
404.13	Extra over stormwater drains for cement stabilised backfill	m				\$ -
404.14	V-Drain as per Schematic Shire Design	m	\$ -	\$ -	0.00	\$ -
404.16	300 Diameter drain in trench, depth not exceeding 1.5m	m	\$ 110.00	\$ 145.41		
404.161	450 Diameter drain in trench, depth not exceeding 1.5m	m	\$ 90.00	\$ 118.97		
404.17	300 Diameter drain in trench, depth exceeding 1.5m but not exceeding 2.5m	m	\$ 150.00	\$ 198.28		
404.171	450 Diameter drain in trench, depth exceeding 1.5m but not exceeding 2.5m	m	\$ 180.00	\$ 237.94		

Serpentine Jarrahdale Shire					 Serpentine Jarrahdale Shire	
Byford Development Contribution Plan						
Kardan Boulevard						
				12.5%	Kardan Blvd	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	All Stormwater Drains					
404.20	Extra over stormwater drains for cement stabilised backfill	m³	\$ 230.00	\$ 304.03		
	405 - DRAINAGE STRUCTURES					
	End Treatments					
405.01	Precast concrete end treatment to suit DN600 stormwater pipe	No	\$ 4,628.87	\$ 6,118.79		\$ -
405.02	Precast concrete end treatment to suit DN750 stormwater pipe	No	\$ 5,786.09	\$ 7,648.48		\$ -
405.03	1200 dia RC liner Street Gully to suit 675dia max stormwater pipe	No	\$ 2,733.87	\$ 3,613.83	4.00	\$ 14,455.34
405.04	1200 dia Class 2 RC liner Side Entry Pit cover and apron to suit 675dia max pipe	No	\$ 3,177.71	\$ 4,200.54		\$ -
	406 - ROCK PROTECTION					
406.01	Rock protection to Culvert inlet / outlet	m²	\$ 180.00	\$ 237.94		
	407 - KERBING					
407.01	300 wide Mountable kerb	m	\$ 50.40	\$ -		\$ -
407.02	230 wide Semi mountable kerb	m	\$ 43.75	\$ 57.83		\$ -
407.03	Ramp kerb	m	\$ 50.40	\$ 66.62		\$ -
407.04	100 thick N32 concrete pram ramp including thickening	No	\$ 500.00	\$ 660.94		\$ -
407.05	Reinstate Kerbing		\$ 50.40	\$ 66.62	20.00	\$ 1,332.45
	Total Carried Forward to Summary					\$393,103.42
	<u>SERIES 500 - PAVEMENT & SURFACING</u>					
	501 - PAVEMENTS					
	<u>SUBBASE</u>					
501.01	150mm thick Gravel subbase in reconstruction	m2	\$ 13.00	\$ 17.18		\$ -
501.01a	200mm thick Limestone subbase in reconstruction	m2	\$ 10.00	\$ 13.22	50.00	\$ 660.94
501.031	280mm Thick limestone subbase	m²	\$ 23.00	\$ 30.40		
501.01b	300mm thick Limestone subbase in reconstruction	m2	\$ 15.00	\$ 19.83		\$ -
	<u>BASECOURSE</u>					
501.02	100mm thick Gravel basecourse in reconstruction	m2	\$ 7.48	\$ 9.89	50.00	\$ 494.38
501.02a	150mm thick Gravel basecourse in reconstruction	m2	\$ 11.22	\$ 14.83		\$ -
501.12	180mm Thick crushed rock basecourse	m²	\$ 13.00	\$ 17.18		
	503 - BITUMINOUS SURFACING					
	<u>ROADWORKS</u>					
	<u>Primerseal</u>					
503.01	First coat primerseal with BAR of 1.1 litres/m2 and 10mm aggregate	m2	\$ 1.80	\$ 2.38		\$ -
503.02	Second coat primerseal with BAR of 1.0 litres/m2 and 5mm aggregate	m2	\$ 4.00	\$ 5.29		\$ -
503.03	First coat primerseal with BAR of 0.7 litres/m2 and 7mm aggregate	m2	\$ 3.47	\$ 4.59	50.00	\$ 229.35
503.04	Single coat primerseal with BAR of ? litres/m² and 10mm aggregate	m²	\$ 4.00	\$ 5.29		
	<u>GENERAL</u>					
	<u>Binder Application Rate Variation</u>					
503.03	Rated (L) for bituminous binder is \$ per litre for adjustments greater than 7.55 of the tendered BAR ordered by the Superintendent	litre				\$ -
	504 - ASPHALT SURFACING					
	<u>ROADWORKS</u>					
	<u>Asphalt</u>					
504.01	Tack coat	m²	\$ 0.90	\$ 1.19	50.00	\$ 59.48
504.01	30mm thick Asphalt	m2	\$ 13.00	\$ 17.18	50.00	\$ 859.22
504.01a	40mm thick Asphalt	m2	\$ 17.32	\$ 22.89		\$ -


Serpentine Jarrahdale Shire					 <div>Serpentine Jarrahdale Shire</div>	
Byford Development Contribution Plan						
Kardan Boulevard						
				12.5%	Kardan Blvd	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
504.021	40mm Thick intersection mix asphalt	m²	\$ 18.00	\$ 23.79		
504.071	40mm Thick asphalt intermediate course	m²	\$ 17.00	\$ 22.47		
504.072	210mm Thick asphalt intermediate course	m²	\$ 80.00	\$ 105.75		
	PRINCIPAL SHARED PATHS					
504.13	Tack coat	m²	\$ 0.90	\$ 1.19		
504.14	25mm Thick dense graded coloured asphalt	m²	\$ 19.00	\$ 25.12		
	505 - SEGMENTAL PAVING					
505.01	50mm thick brick paving on 30mm compacted sand bed	m2	\$ 75.00	\$ 99.14		\$ -
505.03	230mm x 115mm Brick paving units on and including 100mm sand bedding	m²	\$ 65.00	\$ 85.92		
	Total Carried Forward to Summary					\$ 2,303.37
	SERIES 600 - TRAFFIC FACILITIES					
	601 - SIGNS					
	<u>RELOCATION OF EXISTING SIGNS</u>					
601.01	Single post sign	No	\$ 335.00	\$ 442.83		\$ -
601.02	Double post sign	No				\$ -
	<u>SUPPLY & INSTALLATION OF NEW SIGNS</u>					
601.03	Single post sign	No				\$ -
601.04	Double post sign	No				\$ -
	602 - GUIDE POSTS					
602.01	Guide post	No				\$ -
	603 - ROAD SAFETY BARRIER SYSTEMS					
603.01	Galvanised W-beam barrier	m	\$ 104.78	\$ 138.51		\$ -
603.041	Galvanised ET2000 plus end terminal	No.	\$ 6,400.00	\$ 8,460.00		
603.042	Galvanised x-Tension median terminal	No.	\$ 6,400.00	\$ 8,460.00		
	604 - PAVEMENT MARKING					
	<u>ROAD PAVEMENT MARKINGS</u>					
604.01	Line Type - Edge	m	\$ 1.50	\$ 1.98		\$ -
604.02	Line Type - Broken Separation Line	m				\$ -
604.03	Line Type - Double one way barrier line	m				\$ -
604.04	Line Type - double two way barrier line	m				\$ -
604.04	Removal of redundant road pavement markings	Item	\$ 3,700.00	\$ 4,890.94		
604.05	Line Type - Continuity line	m				\$ -
	Total Carried Forward to Summary					\$ -
	SERIES 700 - ELECTRICAL AND LIGHTING					
	701 - ROADWAY LIGHTING					
	<u>SUPPLY & INSTALLATION OF NEW LIGHTING POLES COMPLETE</u>					
701.01	Single galvanised light pole, single outreach arm and luminaire	No	\$ 3,460.78	\$ 4,574.72	0.00	\$ -
701.02	Single galvanised light pole, double outreach arm and luminaire	No				\$ -
701.03	Additional street lighting as per Shire requirements	Sum	\$ 500,000.00	\$ 500,000.00		\$ -
	Total Carried Forward to Summary					\$ -

Appendix E – San Simeon Boulevard Costs

Serpentine Jarrahdale Shire				 Serpentine Jarrahdale Shire	
Byford Development Contribution Plan					
San Simeon Boulevard					
MRWA Item Number	Description	Unit	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
SCOPE OF WORK -SUMMARY OF MAIN QUANTITIES					
	Length of Road	m		2,330.00	
	Width of Road Reserve	m		25.00	
	Depth of Road Cut to Fill	m		0.50	
	Depth of Road Embankment	m		0.30	
	200mm Subbase Width	m		12.40	
	300mm Subbase Width	m		12.40	
	100mm Base Course Width	m		12.40	
	150mm Base Course Width	m		12.40	
	Seal Width	m		10.00	
	Concrete Footpath/PSP Width	m		4.00	
SCHEDULE No. 1 - ADDITIONAL PRELIMINARY COSTS					
110.01	Design and Investigation	Sum	\$ 1.00	1.00	\$ 891,748.95
110.02	Client Project Management Costs	Sum	\$ 1.00	1.00	\$ 636,963.54
110.03	Local Government Fees	Sum	\$ 1.00	1.00	\$ 191,089.06
110.04	As Constructed Drawings	Sum	\$ 50,000.00	1.00	\$ 50,000.00
TOTAL - SCHEDULE NO. 1					\$ 1,769,801.55
Note: Rates inclusive of Contractor's Overhead, Margin and Project Management Costs (P&G)					
SCHEDULE No. 2 - ROADWORKS					
SERIES 300 - EARTHWORKS					
301 - CLEARING					
301.01	Site Clearing (Incl mulching)	ha	\$ 11,743.72	5.825	\$ 68,407.18
301.02	Final Grade and Clean Up Site	m2	\$ 4.88		
302 - EARTHWORKS					
TOPSOILING					
Topsoil Removal					
302.01	Topsoil removal, 100mm deep	ha	\$ 5,419.71	5.825	\$ 31,569.83
Topsoil Spreading					
302.02	Respread topsoil, 75mm thick	ha	\$ 2,883.29	0.00	\$ -
REMOVAL OF REDUNDANT PAVEMENTS & OTHER ITEMS					
302.03	Removal of redundant seal and dispose off site	m2	\$ 5.79	0.00	\$ -
302.04	Ripping & rehabilitating redundant pavement	m2		0.00	\$ -
302.05	Removal of redundant lighting poles	No	\$ 313.95	0.00	\$ -
EXCAVATION					
302.06	Cut and Fill including removal of surplus material	m3/BCM	\$ 18.31	29,125.00	\$ 533,219.59
EMBANKMENT CONSTRUCTION					
302.07	Embankment construction using site excavated and/ or imported fill as required including embankment compaction	m3/CCM	\$ 55.94	17,475.00	\$ 977,582.08

Serpentine Jarrahdale Shire				 Serpentine Jarrahdale Shire	
Byford Development Contribution Plan					
San Simeon Boulevard					
MRWA Item Number	Description	Unit	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	SHOULDER & TABLE DRAIN REFURBISHING				
302.08	Allow for refurbishing of existing shoulder and table drain between ch 55250 and ch 55980	m		0.00	\$ -
302.09	Proof Roll	m2	\$ 2.22		
302.10	Stabilisation of Lots	m2	\$ 2.66		
	Total Carried Forward to Summary				\$ 1,610,778.69
	SERIES 400 - DRAINAGE				
	402 - SURFACE DRAINS & LEVEES				
402.01	Table Drain blocks	No		0.00	\$ -
402.02	Surface Drain Type F	m		0.00	\$ -
402.03	Construct Graded V Drain	m		0.00	\$ -
402.04	Shape 200mm deep Swale	m			
402.05	160mm Sub-surface drainage	m			
402.06	Subsurface to Swales	m			
402.07	100mm Draincoil	m	\$ 48.99		
402.08	300mm RC Pipework with subsoil	m	\$ 239.88		
	403 - SUBSOIL DRAINS				
403.01	150dia slotted PVC subsoil drainage pipe	m	\$ 54.42	2,679.50	\$ 145,822.66
	404 - CULVERTS				
	CULVERTS				
	Reinforced Concrete Pipes - Class 3				
404.01	375 Diameter pipe culvert	m		0.00	\$ -
404.02	600 Diameter pipe culvert	m		0.00	\$ -
404.03	750 Diameter pipe culvert	m	\$ 697.67	72.50	\$ 50,581.25
404.04	1200 Diameter RCB culvert (incl rock protection to outlet)	m	\$ 1,260.33	100.00	\$ 126,032.85
404.05	Extend DN750 pipe culvert	m		0.00	\$ -
404.15	2,400mm x 1,200mm box culverts complete with headwalls etc.	m	\$ 3,639.30	0.00	\$ -
404.16	1,800mm x 900mm box culverts complete with headwalls etc.	m	\$ 2,425.42	140.00	\$ 339,558.20
404.17	1,500mm x 1,500mm box culverts complete with headwalls etc.	m	\$ 2,475.51	350.00	\$ 866,427.26
404.18	2,100mm x 1,200mm box culverts complete with headwalls etc.	m	\$ 3,145.89	90.00	\$ 283,130.20
404.19	2,400mm x 1,200mm box culverts complete with headwalls etc.	m	\$ 3,465.15	420.00	\$ 1,455,362.04
404.20	2,400mm x 2,100mm box culverts complete with headwalls etc.	m	\$ 4,108.62	560.00	\$ 2,300,827.28
404.21	450mm diameter class 4 concrete stormwater pipes	m	\$ 437.69	0.00	\$ -
404.22	Kerb inlets complete with bio retention rain garden	No	\$ 15,175.91	0.00	\$ -
	Redundant Culverts				
404.06	Removal of existing 300 diameter pipe culvert including all necessary backfilling	m		0.00	\$ -
404.07	Removal of existing 375 diameter pipe culvert - No backfilling Culvert Replaced	m		0.00	\$ -
404.08	Removal of existing 375 diameter pipe culvert including all necessary backfilling	m		0.00	\$ -
404.09	Removal of existing 1200 diameter pipe culvert including all necessary backfilling	m		0.00	\$ -
	STORMWATER DRAINS				
	Reinforced Concrete Pipes in trench, depth not exceeding 1.5m				
404.10	375 Diameter stormwater drain	m		0.00	\$ -
404.11	600 Diameter stormwater drain	m	\$ 469.45	2,630.00	\$ 1,234,656.21
404.11a	Additional 600 Diameter stormwater drains for Byford Townsite Drainage and Water Management Plan Floodways	m	\$ 469.45	1,680.00	\$ 788,677.73
404.12	1050 Diameter stormwater drain	m	\$ 1,594.55		\$ -

Serpentine Jarrahdale Shire					
Byford Development Contribution Plan					
San Simeon Boulevard					
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Serpentine Jarrahdale Shire					 Serpentine Jarrahdale Shire
Byford Development Contribution Plan					
San Simeon Boulevard					
MRWA Item Number	Description	Unit	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	505 - SEGMENTAL PAVING				
505.01	50mm thick brick paving on 30mm compacted sand bed	m2	\$ 140.25	600.00	\$ 84,150.56
	Total Carried Forward to Summary				\$ 1,390,771.87
	SERIES 600 - TRAFFIC FACILITIES				
	601 - SIGNS				
	RELOCATION OF EXISTING SIGNS				
601.01	Single post sign	No		0.00	\$ -
601.02	Double post sign	No		0.00	\$ -
	SUPPLY & INSTALLATION OF NEW SIGNS				
601.03	Single post sign	No		0.00	\$ -
601.04	Double post sign	No		0.00	\$ -
	602 - GUIDE POSTS				
602.01	Guide post	No		0.00	\$ -
	603 - ROAD SAFETY BARRIER SYSTEMS				
603.01	Galvanised W-beam barrier	m	\$ 138.51	0.00	\$ -
	604 - PAVEMENT MARKING				
	ROAD PAVEMENT MARKINGS				
604.01	Line Type - Edge	m		0.00	\$ -
604.02	Line Type - Broken Separation Line	m		0.00	\$ -
604.03	Line Type - Double one way barrier line	m		0.00	\$ -
604.04	Line Type - double two way barrier line	m		0.00	\$ -
604.05	Line Type - Continuity line	m		0.00	\$ -
	Total Carried Forward to Summary				\$ -
	SERIES 700 - ELECTRICAL AND LIGHTING				
	701 - ROADWAY LIGHTING				
	SUPPLY & INSTALLATION OF NEW LIGHTING POLES COMPLETE				
701.01	Single galvanised light pole, single outreach arm and luminaire	No	\$ 4,574.72	48.00	\$ 219,586.49
701.02	Single galvanised light pole, double outreach arm and luminaire	No		0.00	\$ -
701.03	Additional street lighting as per Shire requirements	Sum	\$ 500,000.00	0.00	\$ -
	Total Carried Forward to Summary				\$ 219,586.49

Serpentine Jarrahdale Shire

Byford Development Contribution Plan

San Simeon Boulevard

Serpentine
Jarrahdale Shire

MRWA Item Number	Description	Unit	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
SERIES 900 - MISCELLANEOUS					
901 - MISCELLANEOUS WORKS					
901.01	Extra over costs for supply and installation of 2.1 x 2.1 RCB in lieu of proposed 1.2 x 1.2 RCB	m		0.00	\$ -
901.02	300 wide Mountable kerb	m			\$ -
901.03	230 wide Semi mountable kerb	m			\$ -
901.04	Ramp kerb	m			\$ -
901.05	100 thick N32 concrete pram ramp including thickening	No			\$ -
901.06	100 thick N32 concrete footpath and thickening	m2	\$ 95.33	9,320.00	\$ 888,509.39
Total Carried Forward to Summary					\$888,509.39
TOTAL - SCHEDULE NO. 2					\$12,739,270.73
SCHEDULE No. 3 - PROVISIONAL SUMS					
PROVISIONAL SUMS					
TRAFFIC FACILITIES					
PS.01	Signalised Intersection	P.S.		1.00	\$ -
PS.02	Signs	P.S.		1.00	\$ 15,000.00
PS.03	Pavement Marking	P.S.		1.00	\$ 70,000.00
PS.04	Roundabouts	P.S.		2.00	\$ 525,000.00
PS.05	Traffic Management	P.S.		1.00	\$ 400,000.00
PS.06	Bio Filter Landscaping	P.S.		1.00	\$ 582,500.00
PUBLIC UTILITIES					
PS.07	Western Power - Roadway Lighting	P.S.		1.00	\$ 45,000.00
PS.08	Western Power - Relocate Existing HV Transmission Poles etc.	P.S.		1.00	\$ -
PS.09	Telstra	P.S.		1.00	\$ -
PS.10	Westnet Energy	P.S.		1.00	\$ -
PS.11	Water Corporation	P.S.		1.00	\$ -
TOTAL - SCHEDULE NO. 3					\$1,637,500.00
TOTAL COST					\$16,146,572.27

Appendix F – Doley Road Costs

Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Doley Road						
				12.5%	Doley	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	SCOPE OF WORK -SUMMARY OF MAIN QUANTITIES					
	Length of Road	m			1,210.00	
	Width of Road Reserve	m			30.00	
	Depth of Road Cut to Fill	m			0.50	
	Depth of Road Embankment	m			0.30	
	200mm Subbase Width	m			12.40	
	300mm Subbase Width	m			12.40	
	100mm Base Course Width	m			12.40	
	150mm Base Course Width	m			12.40	
	Seal Width	m			10.00	
	Concrete Footpath/PSP Width	m			4.00	
	SCHEDULE No. 1 - ADDITIONAL PRELIMINARY COSTS					
110.01	Design and Investigation	Sum	\$ 1.00	\$ 1.00	1.00	\$ 157,742.45
110.02	Client Project Management Costs	Sum	\$ 1.00	\$ 1.00	1.00	\$ 157,742.45
110.03	Local Government Fees	Sum	\$ 1.00	\$ 1.00	1.00	\$ 47,322.74
110.04	As Constructed Drawings	Sum	\$ 50,000.00	\$ 50,000.00	1.00	\$ 50,000.00
	TOTAL - SCHEDULE NO. 1					\$ 412,807.64
	Note: Rates inclusive of Contractor's Overhead, Margin and Project Management Costs (P&G)					
	SCHEDULE No. 2 - ROADWORKS					
	<u>SERIES 300 - EARTHWORKS</u>					
	301 - CLEARING					
301.01	Site Clearing (Incl mulching)	ha	\$ 8,884.14	\$ 11,743.72	3.630	\$ 42,629.71
301.02	Final Grade and Clean Up Site	m2	\$ 3.69	\$ 4.88		
	302 - EARTHWORKS					
	<u>TOPSOILING</u>					
	<u>Topsoil Removal</u>					
302.01	Topsoil removal, 100mm deep	ha	\$ 4,100.02	\$ 5,419.71	3.630	\$ 19,673.56
	<u>Topsoil Spreading</u>					
302.02	Respread topsoil, 75mm thick	ha	\$ 2,181.21	\$ 2,883.29	0.00	\$ -
	<u>REMOVAL OF REDUNDANT PAVEMENTS & OTHER ITEMS</u>					
302.03	Removal of redundant seal and dispose off site	m2	\$ 4.38	\$ 5.79	0.00	\$ -
302.04	Ripping & rehabilitating redundant pavement	m2			0.00	\$ -
302.05	Removal of redundant lighting poles	No	\$ 237.50	\$ 313.95	0.00	\$ -
302.09	Removal of redundant kerbs	m	\$ 11.50	\$ 15.20		
302.10	Marking out and cutting edge along junction between new pavement and existing pavement including trimming existing pavement layers as required to bond new pavement	m	\$ 9.50	\$ 12.56		
	<u>EXCAVATION</u>			\$ -		
302.06	Cut and Fill including removal of surplus material	m3/BCM	\$ 7.50	\$ 9.91	18,150.00	\$ 179,940.23
	<u>EMBANKMENT CONSTRUCTION</u>					
302.14	<u>Embankment foundation compaction</u>	m2	\$ 1.90	\$ 2.51	0.00	\$ -
302.07	Embankment construction using site excavated and/ or imported fill as required including embankment compaction	m3/CCM	\$ 30.00	\$ 39.66	4,501.20	\$ 178,500.71
	<u>SUBGRADE</u>					
302.20	Subgrade	m²	\$ 3.50	\$ 4.63		

Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Doley Road						
				12.5%	Doley	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
302.22	Subgrade to principal shared path	m²	\$ 4.20	\$ 5.55		
	SHOULDER & TABLE DRAIN REFURBISHING					
302.08	Allow for refurbishing of existing shoulder and table drain between ch 55250 and ch 55980	m			0.00	\$ -
302.09	Proof Roll	m2	\$ 1.68	\$ 2.22		
302.10	Stabilisation of Lots	m2	\$ 2.01	\$ 2.66		
	Total Carried Forward to Summary					\$ 420,744.22
	<u>SERIES 400 - DRAINAGE</u>					
	402 - SURFACE DRAINS & LEVEES					
402.01	Table Drain blocks	No			0.00	\$ -
402.02	Surface Drain Type F	m			0.00	\$ -
402.03	Construct Graded V Drain	m			0.00	\$ -
402.04	Shape 200mm deep Swale	m				
402.05	160mm Sub-surface drainage	m				
402.06	Subsurface to Swales	m				
402.07	100mm Draincoil	m	\$ 37.06	\$ 48.99		
402.08	300mm RC Pipework with subsoil	m	\$ 181.47	\$ 239.88		
	403 - SUBSOIL DRAINS					
403.01	150dia slotted PVC subsoil drainage pipe	m	\$ 80.00	\$ 105.75	2,420.00	\$ 255,915.00
403.02	Inlet pit 150 diameter pipe subsoil drain including concrete cover and	No.	\$ 1,150.00	\$ 1,520.16		
	404 - CULVERTS					
	CULVERTS					
	Reinforced Concrete Pipes - Class 3					
404.01	375 Diameter pipe culvert	m			0.00	\$ -
404.02	600 Diameter pipe culvert	m			0.00	\$ -
404.03	750 Diameter pipe culvert	m	\$ 300.00	\$ 396.56	21.60	\$ 8,565.75
404.04	1200 Diameter RCB culvert (incl rock protection to outlet)	m	\$ 953.44	\$ 1,260.33	0.00	\$ -
404.05	Extend DN750 pipe culvert	m			0.00	\$ -
404.06	Reinforced concrete base slab and shear keys	m³	\$ 1,500.00	\$ 1,982.81		
404.07	Reinforced concrete insitu end treatment	m³	\$ 2,800.00	\$ 3,701.25		
	Redundant Culverts					
404.06	Removal of existing 300 diameter pipe culvert including all necessary backfilling	m			0.00	\$ -
404.07	Removal of existing 375 diameter pipe culvert - No backfilling Culvert Replaced	m			0.00	\$ -
404.08	Removal of existing 375 diameter pipe culvert including all necessary backfilling	m			0.00	\$ -
404.09	Removal of existing 1200 diameter pipe culvert including all necessary backfilling	m			0.00	\$ -
	STORMWATER DRAINS					
	Reinforced Concrete Pipes in trench, depth not exceeding 1.5m					
404.10	375 Diameter stormwater drain	m			0.00	\$ -
404.11	600 Diameter stormwater drain	m	\$ 225.00	\$ 297.42	1,510.00	\$ 449,107.55
404.11a	Additional 600 Diameter stormwater drains for Byford Townsite Drainage and Water Management Plan Floodways	m	\$ 355.14	\$ 469.45	100.00	\$ 46,945.10
404.12	1050 Diameter stormwater drain	m	\$ 1,206.28	\$ 1,594.55		\$ -
	All Stormwater Drains					
404.13	Extra over stormwater drains for cement stabilised backfill	m			0.00	\$ -
404.14	V-Drain as per Schematic Shire Design	m	\$ -	\$ -	0.00	\$ -
404.16	300 Diameter drain in trench, depth not exceeding 1.5m	m	\$ 110.00	\$ 145.41		
404.161	450 Diameter drain in trench, depth not exceeding 1.5m	m	\$ 90.00	\$ 118.97		
404.17	300 Diameter drain in trench, depth exceeding 1.5m but not exceeding 2.5m	m	\$ 150.00	\$ 198.28		

Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Doley Road						
				12.5%	Doley	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
404.171	450 Diameter drain in trench, depth exceeding 1.5m but not exceeding 2.5m	m	\$ 180.00	\$ 237.94		
	<u>All Stormwater Drains</u>					
404.20	Extra over stormwater drains for cement stabilised backfill	m³	\$ 230.00	\$ 304.03		
	405 - DRAINAGE STRUCTURES					
	<u>End Treatments</u>					
405.01	Precast concrete end treatment to suit DN600 stormwater pipe	No	\$ 4,628.87	\$ 6,118.79	10.00	\$ 61,187.86
405.02	Precast concrete end treatment to suit DN750 stormwater pipe	No	\$ 5,786.09	\$ 7,648.48	2.00	\$ 15,296.96
405.03	1200 dia RC liner Street Gully to suit 675dia max stormwater pipe	No	\$ 2,733.87	\$ 3,613.83	26.00	\$ 93,959.69
405.04	1200 dia Class 2 RC liner Side Entry Pit cover and apron to suit 675dia max pipe	No	\$ 3,177.71	\$ 4,200.54	26.00	\$ 109,213.92
	406 - ROCK PROTECTION					
406.01	Rock protection to Culvert inlet / outlet	m²	\$ 180.00	\$ 237.94	26.00	\$ 6,186.38
	407 - KERBING					
407.01	300 wide Mountable kerb	m	\$ 50.40	\$ -		\$ -
407.02	230 wide Semi mountable kerb	m	\$ 43.75	\$ 57.83	4,840.00	\$ 279,907.03
407.03	Ramp kerb	m	\$ 50.40	\$ 66.62	0.00	\$ -
407.04	100 thick N32 concrete pram ramp including thickening	No	\$ 500.00	\$ 660.94	28.00	\$ 18,506.25
407.05	Reinstate Kerbing		\$ 50.40	\$ 66.62		
	Total Carried Forward to Summary					\$1,344,791.49
	<u>SERIES 500 - PAVEMENT & SURFACING</u>					
	501 - PAVEMENTS					
	<u>SUBBASE</u>					
501.01	150mm thick Gravel subbase in reconstruction	m2	\$ 13.00	\$ 17.18	0.00	\$ -
501.01a	200mm thick Limestone subbase in reconstruction	m2	\$ 10.00	\$ 13.22	15,004.00	\$ 198,334.13
501.031	280mm Thick limestone subbase	m²	\$ 23.00	\$ 30.40	0.00	\$ -
501.01b	300mm thick Limestone subbase in reconstruction	m2	\$ 15.00	\$ 19.83	0.00	\$ -
	<u>BASECOURSE</u>					
501.02	100mm thick Gravel bascourse in reconstruction	m2	\$ 7.48	\$ 9.89	15,004.00	\$ 148,353.93
501.02a	150mm thick Gravel bascourse in reconstruction	m2	\$ 11.22	\$ 14.83	0.00	\$ -
501.12	180mm Thick crushed rock basecourse	m²	\$ 13.00	\$ 17.18	0.00	\$ -
	503 - BITUMINOUS SURFACING					
	<u>ROADWORKS</u>					
	<u>Primerseal</u>					
503.01	First coat primerseal with BAR of 1.1 litres/m2 and 10mm aggregate	m2	\$ 1.80	\$ 2.38	0.00	\$ -
503.02	Second coat primerseal with BAR of 1.0 litres/m2 and 5mm aggregate	m2	\$ 4.00	\$ 5.29	0.00	\$ -
503.03	First coat primerseal with BAR of 0.7 litres/m2 and 7mm aggregate	m2	\$ 3.47	\$ 4.59	12,100.00	\$ 55,501.57
503.04	Single coat primerseal with BAR of ? litres/m² and 10mm aggregate	m²	\$ 4.00	\$ 5.29	120.00	\$ 634.50
	<u>GENERAL</u>					
	<u>Binder Application Rate Variation</u>					
503.03	Rated (L) for bituminous binder is \$ per litre for adjustments greater than 7.55 of the tendered BAR ordered by the Superintendent	litre			0.00	\$ -
	504 - ASPHALT SURFACING					
	<u>ROADWORKS</u>					
	<u>Asphalt</u>					

Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Doley Road						
				12.5%	Doley	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
504.01	Tack coat	m²	\$ 0.90	\$ 1.19	0.00	\$ -
504.01	30mm thick Asphalt	m2	\$ 13.00	\$ 17.18	12,100.00	\$ 207,930.94
504.01a	40mm thick Asphalt	m2	\$ 17.32	\$ 22.89	0.00	\$ -
504.021	40mm Thick intersection mix asphalt	m²	\$ 18.00	\$ 23.79	0.00	\$ -
504.071	40mm Thick asphalt intermediate course	m²	\$ 17.00	\$ 22.47	0.00	\$ -
504.072	210mm Thick asphalt intermediate course	m²	\$ 80.00	\$ 105.75	0.00	\$ -
	<u>PRINCIPAL SHARED PATHS</u>					
504.13	Tack coat	m²	\$ 0.90	\$ 1.19	0.00	\$ -
504.14	25mm Thick dense graded coloured asphalt	m²	\$ 19.00	\$ 25.12	0.00	\$ -
	505 - SEGMENTAL PAVING					
505.01	50mm thick brick paving on 30mm compacted sand bed	m2	\$ 75.00	\$ 99.14	200.00	\$ 19,828.13
505.03	230mm x 115mm Brick paving units on and including 100mm sand bedding	m²	\$ 65.00	\$ 85.92	0.00	\$ -
	Total Carried Forward to Summary					\$ 630,583.18
	<u>SERIES 600 - TRAFFIC FACILITIES</u>					
	601 - SIGNS					
	<u>RELOCATION OF EXISTING SIGNS</u>					
601.01	Single post sign	No	\$ 335.00	\$ 442.83	0.00	\$ -
601.02	Double post sign	No			0.00	\$ -
	<u>SUPPLY & INSTALLATION OF NEW SIGNS</u>					
601.03	Single post sign	No			0.00	\$ -
601.04	Double post sign	No			0.00	\$ -
	602 - GUIDE POSTS					
602.01	Guide post	No			0.00	\$ -
	603 - ROAD SAFETY BARRIER SYSTEMS					
603.01	Galvanised W-beam barrier	m	\$ 104.78	\$ 138.51	0.00	\$ -
603.041	Galvanised ET2000 plus end terminal	No.	\$ 6,400.00	\$ 8,460.00	0.00	\$ -
603.042	Galvanised x-Tension median terminal	No.	\$ 6,400.00	\$ 8,460.00	0.00	\$ -
	604 - PAVEMENT MARKING					
	<u>ROAD PAVEMENT MARKINGS</u>					
604.01	Line Type - Edge	m	\$ 1.50	\$ 1.98	0.00	\$ -
604.02	Line Type - Broken Separation Line	m			0.00	\$ -
604.03	Line Type - Double one way barrier line	m			0.00	\$ -
604.04	Line Type - double two way barrier line	m			0.00	\$ -
604.04	Removal of redundant road pavement markings	Item	\$ 3,700.00	\$ 4,890.94	0.00	\$ -
604.05	Line Type - Continuity line	m			0.00	\$ -
	Total Carried Forward to Summary					\$ -
	<u>SERIES 700 - ELECTRICAL AND LIGHTING</u>					
	701 - ROADWAY LIGHTING					
	<u>SUPPLY & INSTALLATION OF NEW LIGHTING POLES COMPLETE</u>					
701.01	Single galvanised light pole, single outreach arm and luminaire	No	\$ 3,460.78	\$ 4,574.72	26.00	\$ 118,942.68
701.02	Single galvanised light pole, double outreach arm and luminaire	No			0.00	\$ -
701.03	Additional street lighting as per Shire requirements	Sum	\$ 500,000.00	\$ 500,000.00	0.00	\$ -
	Total Carried Forward to Summary					\$ 118,942.68

Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Doley Road						
				12.5%	Doley	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	SERIES 900 - MISCELLANEOUS					
	901 - MISCELLANEOUS WORKS					
901.01	Extra over costs for supply and installation of 2.1 x 2.1 RCB in lieu of proposed 1.2 x 1.2 RCB	m			0.00	\$ -
901.02	300 wide Mountable kerb	m				\$ -
901.03	230 wide Semi mountable kerb	m				\$ -
901.04	Ramp kerb	m				\$ -
901.05	100 thick N32 concrete pram ramp including thickening	No				\$ -
901.06	100 thick N32 concrete footpath and thickening	m2	\$ 50.00	\$ 66.09	9,680.00	\$ 639,787.50
	Total Carried Forward to Summary					\$639,787.50
	TOTAL - SCHEDULE NO. 2					\$3,154,849.07
	SCHEDULE No. 3 - PROVISIONAL SUMS					
	PROVISIONAL SUMS					
	TRAFFIC FACILITIES					
PS.01	Signalised Intersection	P.S.			1.00	\$ -
PS.02	Signs	P.S.			1.00	\$ 10,000.00
PS.03	Pavement Marking	P.S.			1.00	\$ 40,000.00
PS.04	Roundabouts	No			1.00	\$ -
PS.05	Traffic Management	P.S.			1.00	\$ 200,000.00
PS.06	Bio Filter Landscaping	P.S.			1.00	\$ 242,000.00
	PUBLIC UTILITIES					
PS.07	Western Power - Roadway Lighting	P.S.			40.33	\$ 201,666.67
PS.08	Western Power - Relocate Existing HV Transmission Poles etc.	P.S.			1.00	
PS.09	Telstra	P.S.			1.00	\$ 286,902.00
PS.10	Westnet Energy	P.S.			1.00	\$ 39,917.00
PS.11	Water Corporation	P.S.			1.00	\$ -
	TOTAL - SCHEDULE NO. 3					\$1,020,485.67
	TOTAL COST					\$4,588,142.38

Appendix G – Warrington Road Costs

Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Warrington Road						
				12.5%	Warringtong	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	SCOPE OF WORK -SUMMARY OF MAIN QUANTITIES					
	Length of Road	m			1,295.00	
	Width of Road Reserve	m			20.00	
	Depth of Road Cut to Fill	m			0.50	
	Depth of Road Embankment	m			0.30	
	200mm Subbase Width	m			8.60	
	300mm Subbase Width	m			8.60	
	100mm Base Course Width	m			8.60	
	150mm Base Course Width	m			8.60	
	Seal Width	m			7.40	
	Concrete Footpath/PSP Width	m			4.00	
	SCHEDULE No. 1 - ADDITIONAL PRELIMINARY COSTS					
110.01	Design and Investigation	Sum	\$ 1.00	\$ 1.00	1.00	\$ 111,741.05
110.02	Client Project Management Costs	Sum	\$ 1.00	\$ 1.00	1.00	\$ 111,741.05
110.03	Local Government Fees	Sum	\$ 1.00	\$ 1.00	1.00	\$ 33,522.32
110.04	As Constructed Drawings	Sum	\$ 50,000.00	\$ 50,000.00	1.00	\$ 50,000.00
	TOTAL - SCHEDULE NO. 1					\$ 307,004.42
	Note: Rates inclusive of Contractor's Overhead, Margin and Project Management Costs (P&G)					
	SCHEDULE No. 2 - ROADWORKS					
	<u>SERIES 300 - EARTHWORKS</u>					
	301 - CLEARING					
301.01	Site Clearing (Incl mulching)	ha	\$ 8,884.14	\$ 11,743.72	2.590	\$ 30,416.24
301.02	Final Grade and Clean Up Site	m2	\$ 3.69	\$ 4.88		
	302 - EARTHWORKS					
	<u>TOPSOILING</u>					
	<u>Topsoil Removal</u>					
302.01	Topsoil removal, 100mm deep	ha	\$ 4,100.02	\$ 5,419.71	2.590	\$ 14,037.06
	<u>Topsoil Spreading</u>					
302.02	Respread topsoil, 75mm thick	ha	\$ 2,181.21	\$ 2,883.29	0.00	\$ -
	<u>REMOVAL OF REDUNDANT PAVEMENTS & OTHER ITEMS</u>					
302.03	Removal of redundant seal and dispose off site	m2	\$ 4.38	\$ 5.79	0.00	\$ -
302.04	Ripping & rehabilitating redundant pavement	m2			0.00	\$ -
302.05	Removal of redundant lighting poles	No	\$ 237.50	\$ 313.95	0.00	\$ -
302.09	Removal of redundant kerbs	m	\$ 11.50	\$ 15.20		
302.10	Marking out and cutting edge along junction between new pavement and existing pavement including trimming existing pavement layers as required to bond new pavement	m	\$ 9.50	\$ 12.56		
	<u>EXCAVATION</u>			\$ -		
302.06	Cut and Fill including removal of surplus material	m3/BCM	\$ 7.50	\$ 9.91	12,950.00	\$ 128,387.11
	<u>EMBANKMENT CONSTRUCTION</u>					
302.14	<u>Embankment foundation compaction</u>	m2	\$ 1.90	\$ 2.51	0.00	\$ -
302.07	Embankment construction using site excavated and/ or imported fill as required including embankment compaction	m3/CCM	\$ 30.00	\$ 39.66	3,341.10	\$ 132,495.50
	<u>SUBGRADE</u>					
302.20	Subgrade	m²	\$ 3.50	\$ 4.63		
302.22	Subgrade to principal shared path	m²	\$ 4.20	\$ 5.55		

Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Warrington Road						
				12.5%	Warringtong	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	SHOULDER & TABLE DRAIN REFURBISHING					
302.08	Allow for refurbishing of existing shoulder and table drain between ch 55250 and ch 55980	m			0.00	\$ -
302.09	Proof Roll	m2	\$ 1.68	\$ 2.22		
302.10	Stabilisation of Lots	m2	\$ 2.01	\$ 2.66		
	Total Carried Forward to Summary					\$ 305,335.91
	SERIES 400 - DRAINAGE					
	402 - SURFACE DRAINS & LEVEES					
402.01	Table Drain blocks	No			0.00	\$ -
402.02	Surface Drain Type F	m			0.00	\$ -
402.03	Construct Graded V Drain	m			0.00	\$ -
402.04	Shape 200mm deep Swale	m				
402.05	160mm Sub-surface drainage	m				
402.06	Subsurface to Swales	m				
402.07	100mm Draincoil	m	\$ 37.06	\$ 48.99		
402.08	300mm RC Pipework with subsoil	m	\$ 181.47	\$ 239.88		
	403 - SUBSOIL DRAINS					
403.01	150dia slotted PVC subsoil drainage pipe	m	\$ 80.00	\$ 105.75	2,590.00	\$ 273,892.50
403.02	Inlet pit 150 diameter pipe subsoil drain including concrete cover and	No.	\$ 1,150.00	\$ 1,520.16		
	404 - CULVERTS					
	CULVERTS					
	Reinforced Concrete Pipes - Class 3					
404.01	375 Diameter pipe culvert	m			0.00	\$ -
404.02	600 Diameter pipe culvert	m			0.00	\$ -
404.03	750 Diameter pipe culvert	m	\$ 300.00	\$ 396.56	60.10	\$ 23,833.41
404.04	1200 Diameter RCB culvert (incl rock protection to outlet)	m	\$ 953.44	\$ 1,260.33	0.00	\$ -
404.05	Extend DN750 pipe culvert	m			0.00	\$ -
404.06	Reinforced concrete base slab and shear keys	m³	\$ 1,500.00	\$ 1,982.81		
404.07	Reinforced concrete insitu end treatment	m³	\$ 2,800.00	\$ 3,701.25		
	Redundant Culverts					
404.06	Removal of existing 300 diameter pipe culvert including all necessary backfilling	m			0.00	\$ -
404.07	Removal of existing 375 diameter pipe culvert - No backfilling Culvert Replaced	m			0.00	\$ -
404.08	Removal of existing 375 diameter pipe culvert including all necessary backfilling	m			0.00	\$ -
404.09	Removal of existing 1200 diameter pipe culvert including all necessary backfilling	m			0.00	\$ -
	STORMWATER DRAINS					
	Reinforced Concrete Pipes in trench, depth not exceeding 1.5m					
404.10	375 Diameter stormwater drain	m			0.00	\$ -
404.11	600 Diameter stormwater drain	m	\$ 225.00	\$ 297.42	1,435.00	\$ 426,800.88
404.11a	Additional 600 Diameter stormwater drains for Byford Townsite Drainage and Water Management Plan Floodways	m	\$ 355.14	\$ 469.45	0.00	\$ -
404.12	1050 Diameter stormwater drain	m	\$ 1,206.28	\$ 1,594.55		\$ -
	All Stormwater Drains					
404.13	Extra over stormwater drains for cement stabilised backfill	m			0.00	\$ -
404.14	V-Drain as per Schematic Shire Design	m	\$ -	\$ -	0.00	\$ -
404.16	300 Diameter drain in trench, depth not exceeding 1.5m	m	\$ 110.00	\$ 145.41		
404.161	450 Diameter drain in trench, depth not exceeding 1.5m	m	\$ 90.00	\$ 118.97		
404.17	300 Diameter drain in trench, depth exceeding 1.5m but not exceeding 2.5m	m	\$ 150.00	\$ 198.28		
404.171	450 Diameter drain in trench, depth exceeding 1.5m but not exceeding 2.5m	m	\$ 180.00	\$ 237.94		
	All Stormwater Drains					
404.20	Extra over stormwater drains for cement stabilised backfill	m³	\$ 230.00	\$ 304.03		

Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Warrington Road						
				12.5%	Warringtong	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	405 - DRAINAGE STRUCTURES					
	End Treatments					
405.01	Precast concrete end treatment to suit DN600 stormwater pipe	No	\$ 4,628.87	\$ 6,118.79	7.00	\$ 42,831.50
405.02	Precast concrete end treatment to suit DN750 stormwater pipe	No	\$ 5,786.09	\$ 7,648.48	2.00	\$ 15,296.96
405.03	1200 dia RC liner Street Gully to suit 675dia max stormwater pipe	No	\$ 2,733.87	\$ 3,613.83	26.00	\$ 93,959.69
405.04	1200 dia Class 2 RC liner Side Entry Pit cover and apron to suit 675dia max pipe	No	\$ 3,177.71	\$ 4,200.54	26.00	\$ 109,213.92
	406 - ROCK PROTECTION					
406.01	Rock protection to Culvert inlet / outlet	m²	\$ 180.00	\$ 237.94	26.00	\$ 6,186.38
	407 - KERBING					
407.01	300 wide Mountable kerb	m	\$ 50.40	\$ -		\$ -
407.02	230 wide Semi mountable kerb	m	\$ 43.75	\$ 57.83	2,590.00	\$ 149,784.96
407.03	Ramp kerb	m	\$ 50.40	\$ 66.62	13.00	\$ 866.09
407.04	100 thick N32 concrete pram ramp including thickening	No	\$ 500.00	\$ 660.94	29.00	\$ 19,167.19
407.05	Reinstate Kerbing		\$ 50.40	\$ 66.62		
	Total Carried Forward to Summary					\$1,161,833.48
	SERIES 500 - PAVEMENT & SURFACING					
	501 - PAVEMENTS					
	SUBBASE					
501.01	150mm thick Gravel subbase in reconstruction	m2	\$ 13.00	\$ 17.18	0.00	\$ -
501.01a	200mm thick Limestone subbase in reconstruction	m2	\$ 10.00	\$ 13.22	11,137.00	\$ 147,217.22
501.031	280mm Thick limestone subbase	m²	\$ 23.00	\$ 30.40	0.00	\$ -
501.01b	300mm thick Limestone subbase in reconstruction	m2	\$ 15.00	\$ 19.83	0.00	\$ -
	BASECOURSE					
501.02	100mm thick Gravel bascourse in reconstruction	m2	\$ 7.48	\$ 9.89	11,137.00	\$ 110,118.48
501.02a	150mm thick Gravel bascourse in reconstruction	m2	\$ 11.22	\$ 14.83	0.00	\$ -
501.12	180mm Thick crushed rock basecourse	m²	\$ 13.00	\$ 17.18	0.00	\$ -
	503 - BITUMINOUS SURFACING					
	ROADWORKS					
	Primerseal					
503.01	First coat primerseal with BAR of 1.1 litres/m2 and 10mm aggregate	m2	\$ 1.80	\$ 2.38	0.00	\$ -
503.02	Second coat primerseal with BAR of 1.0 litres/m2 and 5mm aggregate	m2	\$ 4.00	\$ 5.29	0.00	\$ -
503.03	First coat primerseal with BAR of 0.7 litres/m2 and 7mm aggregate	m2	\$ 3.47	\$ 4.59	9,583.00	\$ 43,956.32
503.04	Single coat primerseal with BAR of ? litres/m² and 10mm aggregate	m²	\$ 4.00	\$ 5.29	80.00	\$ 423.00
	GENERAL					
	Binder Application Rate Variation					
503.03	Rated (L) for bituminous binder is \$ per litre for adjustments greater than 7.55 of the tendered BAR ordered by the Superintendent	litre			0.00	\$ -
	504 - ASPHALT SURFACING					
	ROADWORKS					
	Asphalt					
504.01	Tack coat	m²	\$ 0.90	\$ 1.19	0.00	\$ -
504.01	30mm thick Asphalt	m2	\$ 13.00	\$ 17.18	9,583.00	\$ 164,677.87
504.01a	40mm thick Asphalt	m2	\$ 17.32	\$ 22.89	0.00	\$ -
504.021	40mm Thick intersection mix asphalt	m²	\$ 18.00	\$ 23.79	0.00	\$ -
504.071	40mm Thick asphalt intermediate course	m²	\$ 17.00	\$ 22.47	0.00	\$ -
504.072	210mm Thick asphalt intermediate course	m²	\$ 80.00	\$ 105.75	0.00	\$ -

Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Warrington Road						
				12.5%	Warringtong	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	<u>PRINCIPAL SHARED PATHS</u>					
504.13	Tack coat	m²	\$ 0.90	\$ 1.19	0.00	\$ -
504.14	25mm Thick dense graded coloured asphalt	m²	\$ 19.00	\$ 25.12	0.00	\$ -
	505 - SEGMENTAL PAVING					
505.01	50mm thick brick paving on 30mm compacted sand bed	m2	\$ 75.00	\$ 99.14	280.50	\$ 27,808.95
505.03	230mm x 115mm Brick paving units on and including 100mm sand bedding	m²	\$ 65.00	\$ 85.92	0.00	\$ -
	Total Carried Forward to Summary					\$ 494,201.83
	<u>SERIES 600 - TRAFFIC FACILITIES</u>					
	601 - SIGNS					
	<u>RELOCATION OF EXISTING SIGNS</u>					
601.01	Single post sign	No	\$ 335.00	\$ 442.83	0.00	\$ -
601.02	Double post sign	No			0.00	\$ -
	<u>SUPPLY & INSTALLATION OF NEW SIGNS</u>					
601.03	Single post sign	No			0.00	\$ -
601.04	Double post sign	No			0.00	\$ -
	602 - GUIDE POSTS					
602.01	Guide post	No			0.00	\$ -
	603 - ROAD SAFETY BARRIER SYSTEMS					
603.01	Galvanised W-beam barrier	m	\$ 104.78	\$ 138.51	0.00	\$ -
603.041	Galvanised ET2000 plus end terminal	No.	\$ 6,400.00	\$ 8,460.00	0.00	\$ -
603.042	Galvanised x-Tension median terminal	No.	\$ 6,400.00	\$ 8,460.00	0.00	\$ -
	604 - PAVEMENT MARKING					
	<u>ROAD PAVEMENT MARKINGS</u>					
604.01	Line Type - Edge	m	\$ 1.50	\$ 1.98	0.00	\$ -
604.02	Line Type - Broken Separation Line	m			0.00	\$ -
604.03	Line Type - Double one way barrier line	m			0.00	\$ -
604.04	Line Type - double two way barrier line	m			0.00	\$ -
604.04	Removal of redundant road pavement markings	Item	\$ 3,700.00	\$ 4,890.94	0.00	\$ -
604.05	Line Type - Continuity line	m			0.00	\$ -
	Total Carried Forward to Summary					\$ -
	<u>SERIES 700 - ELECTRICAL AND LIGHTING</u>					
	701 - ROADWAY LIGHTING					
	<u>SUPPLY & INSTALLATION OF NEW LIGHTING POLES COMPLETE</u>					
701.01	Single galvanised light pole, single outreach arm and luminaire	No	\$ 3,460.78	\$ 4,574.72	13.00	\$ 59,471.34
701.02	Single galvanised light pole, double outreach arm and luminaire	No			0.00	\$ -
701.03	Additional street lighting as per Shire requirements	Sum	\$ 500,000.00	\$ 500,000.00	0.00	\$ -
	Total Carried Forward to Summary					\$ 59,471.34

Serpentine Jarrahdale Shire						
Byford Development Contribution Plan						
Warrington Road						
				12.5%	Warringtong	
MRWA Item Number	Description	Unit	(Direct Cost Rate)	Rate (Sell - Inclusive of Preliminary Allowance and Margin)	Quantity	Cost
	<u>SERIES 900 - MISCELLANEOUS</u>					
	901 - MISCELLANEOUS WORKS					
901.01	Extra over costs for supply and installation of 2.1 x 2.1 RCB in lieu of proposed 1.2 x 1.2 RCB	m			0.00	\$ -
901.02	300 wide Mountable kerb	m				\$ -
901.03	230 wide Semi mountable kerb	m				\$ -
901.04	Ramp kerb	m				\$ -
901.05	100 thick N32 concrete pram ramp including thickening	No				\$ -
901.06	100 thick N32 concrete footpath and thickening	m2	\$ 50.00	\$ 66.09	3,237.50	\$ 213,978.52
	Total Carried Forward to Summary					\$213,978.52
	TOTAL - SCHEDULE NO. 2					\$2,234,821.08
	SCHEDULE No. 3 - PROVISIONAL SUMS					
	<u>PROVISIONAL SUMS</u>					
	TRAFFIC FACILITIES					
PS.01	Signalised Intersection	P.S.			1.00	\$ -
PS.02	Signs	P.S.			1.00	\$ 10,000.00
PS.03	Pavement Marking	P.S.			1.00	\$ 40,000.00
PS.04	Roundabouts	No			1.00	\$ -
PS.05	Traffic Management	P.S.			1.00	\$ 200,000.00
PS.06	Bio Filter Landscaping	P.S.			1.00	\$ 259,000.00
	PUBLIC UTILITIES					
PS.07	Western Power - Roadway Lighting	P.S.			21.58	\$ 107,916.67
PS.08	Western Power - Relocate Existing HV Transmission Poles etc.	P.S.			1.00	
PS.09	Telstra	P.S.			1.00	\$ -
PS.10	Westnet Energy	P.S.			1.00	\$ 399,840.00
PS.11	Water Corporation	P.S.			1.00	
	TOTAL - SCHEDULE NO. 3					\$1,016,756.67
	TOTAL COST					\$3,558,582.17

Appendix H – Byford South/The Glades District Open Space (Senior AFL Oval and Rectangular Field) Costs

The Shire of Serpentine Jarrahdale	DoS Oval			
BYFORD SOUTH / THE GLADES DOS	UNIT	ITEM	RATE	DCP COST
- Civil contract				\$ -
- Establishment	Item	1.00	\$ 6,510.56	\$ 6,510.56
- Removal of Unsuitable Subgrade	Ha	1.22	\$ 1,058.02	\$ 1,285.50
- Strip, Stockpile and Respread Topsoil	m ²	12783.00	\$ 0.43	\$ 5,497.92
- Proof Roll	m ²	12150.00	\$ 0.08	\$ 972.00
- Cut to Fill	m ³	2292.00	\$ 2.35	\$ 5,386.20
- Import Fill	m ³	2227.00	\$ 18.23	\$ 40,598.21
- Stabilisation of Lots	Ha	1.28	\$ 2,200.00	\$ 2,812.26
- DoS Works Per Current Tarn Contract				\$ -
- Excavate and Backfill Trenches	m	1128.70	\$ 12.50	\$ 14,108.75
- 100mm Draincoil	m	866.40	\$ 59.22	\$ 51,308.21
- 300mm RC Pipework with Subsoil	m	250.30	\$ 114.36	\$ 28,624.31
- Drainage Pits	Ea	4.00	\$ 2,233.75	\$ 8,935.00
- Bore Under Kardan Boulevard	Item	1.00	\$ 47,330.00	\$ 47,330.00
- Establishment	Item	1.00	\$ 14,833.98	\$ 14,833.98
- DoS Earthworks				\$ -
- Strip, Stockpile and Respread Topsoil	m ²	7014.00	\$ 0.45	\$ 3,156.30
- Cut to Fill/Spoil	m ³	3442.57	\$ 4.02	\$ 13,855.14
- Import Fill	m ³	892.69	\$ 12.84	\$ 11,462.15
- Dust Control	Item	1.00	\$ 415.00	\$ 415.00
- Final Grade and Clean Up of Site	m ²	7252.00	\$ 2.50	\$ 18,130.00
Sub-total for construction				\$ 275,221.48
Fees and charges				
Local Authority Charges				
- Supervision Fees	Item	1.00	\$ 2,158.71	\$ 2,158.71
Professional Fees				
- Engineer	Item	1.00	\$ 15,911.91	\$ 15,911.91
- Surveyor	Item	1.00	\$ 2,367.13	\$ 2,367.13
- Landscape Architect				\$ 24,494.40
- Project Management				\$ 18,553.87
Sub-total for fees and charges				\$ 63,486.02
Landscaping				
New DOS Bore and watering costs				\$ 175,463.45
SEPARABLE PORTION A				
SEPARABLE PORTION B				\$ 122,845.10
SEPARABLE PORTION C				
SEPARABLE PORTION D				
SEPARABLE PORTION E				
Sub-total for landscaping				\$ 298,308.55
TOTAL				\$ 637,016.05

Appendix H Continued

	DOS PM Fee	
Fees	\$	44,932.15
Civil Cost	\$	275,221.48
landscaping	\$	298,308.55
total	\$	618,462.18
PM Fee 3%	\$	18,553.87
Additional items currently not included		
Handwatering of Oval - January	\$	24,360.00
Handwatering of Oval - February	\$	10,920.00
Handwatering of Oval - March	\$	2,080.00
Replacement Play equipment	\$	13,847.45
New Bore for Oval	\$	124,256.00
Total		\$ 175,463.45

Appendix I – Water Quality Management Costs

Serpentine Jarrahdale Shire

Byford Development Contribution Plan

Water Quality Management



Serpentine
Jarrahdale Shire

Item	Description	Hours	People	Salary	Sample Number	Sample Runs	Cost Per Sample	Sites	Rate	Cost	Contingency	Annual Cost	Years	Total
		Qty	Qty	\$/hr	Qty	Qty	\$	Qty	\$		23.55%			
W-1 Sampling Program Management														
W-1.1	Preparation of Sample and Analysis Plan (SAP)	16	1	91.92						1,471	346	1,817	1	1,817
W-1.2	Sampling Preparation	36	1	181.82						6,546	1,541	8,087	5	40,435
W-1.3	Sample Collection	144	1	181.82						26,182	6,166	32,348	5	161,740
W-1.4	Data Management (site and program registration, data entry, verification/validation)	37	1	91.92						3,401	801	4,202	5	21,010
W-1.5	Preparation / assistance with annual report	40	5	91.92						18,384	4,329	22,713	5	113,567
W-1.6	Travel costs/courier costs	-	-	-					500	500	118	618	5	3,089
W-1.0	Total - Sampling Program Management									56,483	13,302	69,785		341,658
W-2 Water Analysis														
W-2.1	Total Nitrogen				15	9	16.44			2,219	523	2,742	5	13,710
W-2.2	Dissolved Organic Nitrogen, DON				15	9	16.44			2,219	523	2,742	5	13,710
W-2.3	Dissolved Organic Carbon, DOC				15	9	24.96			3,370	794	4,163	5	20,816
W-2.4	Total Organic Carbon, TOC				15	9	31.72			4,282	1,008	5,291	5	26,453
W-2.5	Total Oxidised Nitrogen, TON (NO ₃ -N + NO ₂ -N)				15	9	8.18			1,104	260	1,364	5	6,822
W-2.6	Ammoniacal Nitrogen, NH ₃ -N				15	9	12.49			1,686	397	2,083	5	10,416
W-2.7	Total Phosphorus				15	9	13.19			1,781	419	2,200	5	11,000
W-2.8	FRP Ortho Phosphorus, PO ₄ -P				15	9	8.18			1,104	260	1,364	5	6,822
W-2.9	Total Suspended Solids, TSS				15	9	13.03			1,759	414	2,173	5	10,867
W-2.10	Metals Set-up (Filtered)				15	2	14.19			426	100	526	5	2,630
W-2.11	Heavy Metals (Al, As, Cd, Cr, Cu, Co, Fe, Hg, Mn, Mo, Ni, Pb, Se & Zn)				15	2	87.25			2,618	616	3,234	5	16,170
W-2.12	Total Recoverable Hydrocarbons (TRH)				15	2	84.85			2,546	599	3,145	5	15,725
W-2.13	Polycyclic Aromatic Hydrocarbons and BTEX				15	2	243.30			7,299	1,719	9,018	5	45,090
W-2.14	Total Water Hardness (as CaCO ₃)				15	2	12.49			375	88	463	5	2,315
W-2.0	Total - Water Analysis									32,787	7,721	40,509		202,544
W-3 Sediment Analysis														
W-3.1	Total Recoverable Hydrocarbons (TRH)				14	2	84.85			2,376	560	2,935	5	14,677
W-3.2	Polycyclic Aromatic Hydrocarbons & BTEX				14	2	176.56			4,944	1,164	6,108	5	30,540
W-3.3	Metals Set-up				14	2	33.98			951	224	1,176	5	5,878
W-3.4	Total Heavy Metals (Al, As, Cd, Ca, Cr, Cu, Fe, Pb, Mn, Hg, Ni, Se & Zn)				14	2	87.25			2,443	575	3,018	5	15,092
W-3.5	Moisture				14	2	13.63			382	90	472	5	2,358
W-3.0	Total - Sediment Analysis									11,096	2,613	13,709		68,543
W-4 Analysis - Other														
W-4.1	Troll 9500 Profiler XP								20,000	20,000	4,710	24,710	1	24,710
W-4.2	Distilled Water (20L)								100	100	24	124	5	618
W-4.3	Nitrile Gloves								100	100	24	124	5	618
W-4.0	Total - Analysis - Other									20,200	4,757	24,957		25,946
W-5 Superficial Groundwater Monitoring														
W-5.1	Installation of monitoring wells for superficial aquifer monitoring							12	955	11,460	2,699	14,159	1	14,159
W-5.2	Monitor local superficial aquifer groundwater levels (Monthly) - Labour	9	1	181.82				12		19,637	4,624	24,261	5	121,305
W-5.3	Monitor local superficial aquifer groundwater levels (Monthly) - Equipment								455	455	107	562	1	562
W-5.0	Total - Superficial Groundwater Monitoring									31,552	7,430	38,982		136,026
W-6 Surface Water Level Monitoring														
W-6.1	Monitor flows in Multiple Use Corridors - labour	9	1	181.82				12		19,637	4,624	24,261	5	121,305
W-6.2	Installation of surface water level loggers - 12 sites							12	3,273	39,276	9,249	48,525	1	48,525
W-6.0	Total - Surface Water Level Monitoring									58,913	13,874	72,786		169,830
Total - Water Quality Management										211,030	49,698	260,728		944,547

Appendix J – Development Contribution Plan Administrative Costs

Serpentine Jarrahdale Shire
Byford Development Contribution Plan
DCP Administration



Item	Description	Salary \$	On-Costs	DCP Allocation	Annual \$	Years	Total \$
A-1	Byford DCP						
A-1.1	Audit				5,000	20	100,000
A-1.2	Legal				10,000	20	200,000
A-1.3	DCP Cost Review & Consultation				15,000	20	300,000
A-1.0	Total - Byford DCP				30,000		600,000
A-2	Consultants						
A-2.1	Planning Consultant				15,000	20	300,000
A-2.2	Land Valuation				30,000	20	600,000
A-2.0	Total - Consultants				45,000		900,000
A-3	SJ Shire Salaries & On-costs - Corporate Services - DCP Team						
A-3.1	Finance Officer	62,000	25%	20%	15,500	20	310,000
A-3.2	Planner	77,025	25%	40%	38,513	20	770,250
A-3.3	Support Officer	52,000	25%	50%	32,500	20	650,000
A-3.0	Total - SJ Shire Salaries & On-costs - Corporate Services - DCP Team				86,513		1,730,250
A-4	SJ Shire Salaries & On-costs - Engineering Services						
A-4.1	Manager Infrastructure & Design	90,000	25%	10%	11,250	20	225,000
A-4.2	Water Sensitive Urban Design Project Manager	92,863	25%	5%	5,804	20	116,079
A-4.0	Total - SJ Shire Salaries & On-costs - Engineering Services				17,054		341,079
	Total - DCP Administration				178,566		3,571,329

Appendix K – Development Contribution Plan Administrative Costs Incurred During Period Under Review

Appendix K			Unaudited 13/14
Leith Counsel Consulting - DCP Accounting			1,860.00
Digital Mapping Services		-	-
Sundries			890.41
Colliers International - Annual Englobo Value		-	3,000.00
Knight Frank		-	-
McGees Property Valuation Services			17,198.00
Mcleods Legal	-		1,413.52
MMJ Real Estate (WA) Valuation Services			12,700.00
Ross Hughes			2,250.00
Savills Valuations		-	9,450.00
SPP Consulting			78,728.19
Urbis		-	-
Brown McAllister Surveyors			3,175.00
Aquenta Consulting			44,367.49
McGarry & Associates			19,440.00
	-		194,472.61
Support Officer			16,422.56
Planner			
Finance Officer			2,027.60
Manager Infrastructure & Design -			9,882.50
Water Sensitive Urban Design Project Manager			
Coordinator Infrastructure			1,620.00
Director Planning			1,335.00
			31,287.66
		Interest on loans	29,546.60
		Total	255,306.87