



**Forrestfield / High Wycombe Industrial Area Stage 1
Development Contribution Plan – Report
July 2017- June 2018
(Revised October 2018)**

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1. Introduction

1.1 Background

The Forrestfield / High Wycombe development area is located within the City of Kalamunda (the City) and is generally bound by Maida Vale Road to the north, Roe Highway to the east, Berkshire Road to the south and Dundas Road to the west.

The Forrestfield / High Wycombe Local Structure Plan (the LSP) has been prepared to facilitate industrial subdivision and development within the area. Due to the nature of fragmented landownership a Development Contribution Plan (DCP) has been prepared to coordinate the provision of common infrastructure required to cater for development.

A copy of the Forrestfield / High Wycombe Local Structure Plan is contained in Figure 1.

The LSP was modified February 2017 by the City and adopted by Council for the purposes of public advertising. The modifications relevant to infrastructure in the DCP have been included in the annual review and include:

- Modification of Berkshire / Milner / Dundas Road to a full movement intersection.
- Removal of upgrades to Dundas Road.
- Extension of Road 2A through to Lot 50 and 51 Sultana Road West.
- Demolition and compensation for garage on Lot 51 to facilitate Road 2A.
- Relocation of proposed Road 1.

Additional changes have been made since Council adopted the previous DCP, as follows:

- Removal of entry statement on Berkshire Road.
- Removal of carriageway upgrades to Berkshire Road.
- Updated administration costs.
- Revised utility relocation estimates (now within each relevant road cost estimate).
- Accounting for contributions received and land purchased.

1.2 Purpose of Development Contribution Plan

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 rate applicable;
- Principles for the priority and timing of infrastructure provision and land acquisition; and
- Various other operational matters.

1.3 Status

This DCP Report has been prepared pursuant to Clause 6.5.3 of the City's Local Planning Scheme No.3 (LPS3).

The DCP Report should be read in conjunction with Clause 6.5 and Schedule 12 (DCP Scheme) of LPS3 and the LSP. This DCP Report does not form part of LPS3 but has been prepared generally in accordance with the DCP Scheme contained in Schedule 12 of LPS3.

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. These items include:

- Land for roads and intersections;
- Roads and intersections;
- Landscaping;
- Fencing treatment to Bush Forever; and
- Administration costs.

2.1 Land Value

Land is required to deliver the infrastructure outlined within the DCP. To determine the total cost of items, an estimate of land value needs to be identified. For the purposes of land acquisitions the net land value is to be determined in accordance with the definition of "value" in LPS3 Clause 6.5.12.

Local Planning Scheme No. 3 Amendment 88 (Gazetted in May 2018) amended the valuation methodology of Clause 6.5.12 to read "*Valuation methodology will be defined for each particular arrangement by the applicable Development Contribution Plan Report.*" In this case, advice the City has been provided by consultants indicates that in the context of the nature of highly fragmented land ownership, static feasibility valuations will be undertaken for all land parcels; however, for the purposes of implementing a single land value for the DCP a combination of the comparative sales approach, piecemeal approach and an average rate approach will be utilised.

This approach is consistent with previous versions of the DCP and based on consultant advice, is the most appropriate methodology.

Valuation reports undertaken October 2018 indicate a land value rate of \$220/m².

2.2 Roads / Intersections

Note: All service and utility relocation cost estimates and street lighting have been included as part of road or intersection upgrade estimates.

2.2.1 Berkshire Road

Berkshire Road is an existing road and borders a significant portion of the LSP area. Berkshire Road is required to be upgraded to service the future development envisaged by the LSP.

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

- Upgrade of the existing footpath to meet the requirements of a shared path along Berkshire Road to provide a continuous path between Milner Road and Roe Highway.
- Raising of a power line crossing to provide unrestricted clearance for RAV7 vehicles.

The future development cost for Berkshire Road is estimated at \$90,864.86

A detailed breakdown of the cost is provided in Appendix A.

2.2.2 Milner Road

Milner Road is an existing road and borders the northern boundary of the LSP area. Milner Road is required to be upgraded to service the future development envisaged by the LSP.

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

- Widen carriageway along north side by approximately one metre to provide a ten (10) metre wide carriageway.
- Construction of a 2.5m shared path to provide connection between Berkshire Road and Sultana Road West.
- Remove existing pedestrian paths and reinstate the verge area.
- Install street lighting between Berkshire Road and Sultana Road West.

- Road upgrades to accommodate category RAV7 vehicles between Berkshire Road and Nardine Close.
- Road upgrades to accommodate category RAV4 between Nardine Close and Sultana Road West.

The future development cost for Milner Road is estimated at \$734,396.15

A detailed breakdown of the cost is provided in Appendix B.

2.2.3 Nardine / Ashby Close

Nardine / Ashby Close are existing roads providing the primary connection through the industrial area from Berkshire Road to Milner Road. Nardine / Ashby Close is required to be extended and upgraded to service the future development envisaged by the LSP.

The following items are included in the DCP for Nardine / Ashby Close:

- Creation of new road reserve section between existing cul-de-sac and Ashby Close alignment.
- Widen carriageway by approximately two metres along both the north and south sides between Nardine Close and cul-de-sac to provide a ten (10) metre wide carriageway. Road and intersection upgrades to accommodate category RAV7 vehicles.
- Construction of a new 10-metre wide road section from the existing cul-de-sac south to provide connection to Ashby Close.
- Construction of drainage swales along the road verge sections in accordance with the Drainage Strategy.
- Installation of 'StormTech' (or similar) stormwater infiltration chambers under the road pavement in accordance with the Drainage Strategy.
- Construction of a shared path along the east side to provide connection between Milner Road and Ashby Close.
- Modifications to the Ashby Close and Berkshire Road intersection to restrict access to left in, left out only.

The future development cost for Nardine / Ashby Close is at \$1,634,482.06

Completed Portion: \$472,300.90

Uncompleted Portion: \$1,162,181.16

No detailed breakdown is provided as this work has been priced through a competitive tender process. A summary is provided as Appendix C.

2.2.4 Bonser Road (formerly Road 1)

Bonser Road is a new road providing a connection between Nardine Close and Berkshire Road. Bonser Road is required to be created to service the future development envisaged by the LSP.

The following items are included in the DCP for Road 1:

- Construction of a new 10-metre wide road from the existing cul-de-sac east to provide connection to Nardine Close.
- Construction of drainage swales along the road verge sections in accordance with the Drainage Strategy.
- Construction of a shared path along the north side to provide connection between Nardine Close and Berkshire Road.
- Creation of a new road reserve between Berkshire Road and Nardine Close.
- Road and intersection upgrades to accommodate category RAV7 vehicles.
- Supply and install trees.

The future development cost for Bonser Road is estimated at \$485,349.23

A detailed breakdown of the cost is provided in Appendix D.

2.2.5 Nardine Close Extension (Road 2A)

Nardine Close extension is a new road providing access to lots currently serviced by a series of battle-axe legs. Nardine Close extension is required to be created to service the future development envisaged by the LSP.

The following items are included in the DCP for the Nardine Close extension:

- Construction of a new 10-metre-wide section to service current battleaxe configured lots.
- Construction of drainage swales along the road verge sections in accordance with the Drainage Strategy.
- Roads will only be constructed to service current battleaxe configured lots if land assembly and consolidation processes do not provide the affected lands with access from gazetted and constructed public roads.
- Creation of a new 20 and 14 metre road reserve section as required.
- Demolition and compensation for an existing garage on Lot 51 Sultana Road West to facilitate road creation and construction.
- Associated service installation and relocation.

The future development cost for Nardine Close Extension (Road 2A) including demolition and compensation for the garage removal at Lot 51 Sultana Road West is estimated at \$1,108,187.62

A detailed breakdown of the cost is provided in Appendix E.

2.2.6 Sultana Road West (50% contribution)

Sultana Road West is an existing road and borders a significant portion of the LSP area to the east. Sultana Road West is required to be upgraded to service the future development envisaged by the LSP.

The following items are included in the DCP for Sultana Road West:

- Widen carriageway along both the east and west sides by approximately one metre between Milner Road and Lot 222 (128) Sultana Road West (previously widening was proposed for the full length to Smokebush Place) to provide a ten (10) metre wide carriageway.
- Construction of drainage swales along the road verge sections for stormwater disposal.
- Construction of a shared path along the west side to provide connection between Milner Road and Lot 222 (128) Sultana Road West.

The future development cost for Sultana Road West is estimated at \$754,014.17

A detailed breakdown of the cost is provided in Appendix F.

2.2.7 Milner Road / Nardine Close Intersection

Nardine Close / Ashby Road intersection is required to be upgraded to service the future development envisaged by the LSP.

The future development cost for Nardine Close / Milner Road intersection is estimated at \$450,018.83

A detailed breakdown of the cost is provided in Appendix G.

2.2.8 Berkshire Road / Ashby Close Intersection

Ashby Close / Berkshire Road intersection is required to be upgraded to service the future development envisaged by the LSP.

The future development cost for Ashby Close / Berkshire Road intersection is estimated at \$209,207.31

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

2.2.9 Dundas / Berkshire / Milner Road Intersection

Milner / Dundas / Berkshire Road intersection is required to be upgraded to service the future development envisaged by the LSP.

- The previous review of the DCP included approx. 10% of the construction cost (excluding utility relocations) of the upgrade of the Milner / Berkshire / Dundas Road intersection. At this time it was assumed approx. 90% of costs will be incurred by Public Transport Authority (PTA) as a result of the impact the Forrestfield Airport Link (FAL) project will have on this intersection utilising RAV4 vehicles.
- The FAL have since reviewed their haulage requirements and decided to utilise as of right vehicles (19.5 semi-trailers) and no longer require the upgrade of this intersection to a RAV4 standard.
- The FAL have offered to provide a nominal \$80,000 contribution to the upgrade of this intersection once it has been upgraded, this will be accounted for in the costs included in the DCP when the funds have been received by the FAL.

The future development cost for Milner Road / Dundas Road / Berkshire Road intersection is estimated at \$1,159,268.46

A detailed breakdown of the cost is provided in Appendix I.

2.2.10 Bush Forever Fencing

The 'Bush Forever' site is located at the southern end of the site between Nardine Close and Sultana Road West. There is a requirement to fence off this section of 'Bush Forever'.

The fence type used for cost estimates consists of pine posts and rails with a chainmesh infill between posts.

The future development cost for Bush Forever Fencing is estimated at \$105,875.33.

A detailed breakdown of the cost is provided in Appendix J.

2.3 Land for Road Reserve

The DCP takes responsibility for acquiring DCP road reserve land where the existing reserve is widened or where the road is a new road.

See Section 2.1 for information on land valuation methodology.

The following table summarises the remaining road reserve acquisitions:

Property Address	Remaining Acquisition Area (m ²)	Remaining Acquisition Cost
Lot 16 (285) Berkshire Road	132	\$29,040
Lot 17 (287) Berkshire Road	76	\$16,720
Lot 547 (291) Berkshire Road	7,479	\$1,645,380
Lot 200 (103) Milner Road	93	\$20,460
Lot 50 (170) Sultana Road West	670	\$147,400

Lot 51 (168) Sultana Road West	2,491	\$548,020
Lot 52 (166) Sultana Road West	1,100	\$242,000
Total	12,041	\$2,649,020

2.4 Administrative Items

Administrative items include all expended and estimated future costs associated with administration, planning and development of the LSP, DCP and any technical documents necessary for the implementation of the above, including:

- Planning studies;
- Road design costs;
- Other related technical and professional studies; and
- Scheme Management Costs (including administration and management of the DCP).

The total cost forecast for administrative items over the remaining life of the DCP is estimated at \$768,000.

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

2.5 Estimated Cost

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

Item	Actual as at 30/06/2017	Remaining	Total (Actual + Remaining)
Berkshire Road*	\$0	\$90,864.86	\$90,864.86
Milner Road**	\$0	\$734,396.15	\$734,396.15
Nardine/Ashby Close*	\$472,300.90	\$1,162,181.16	\$1,634,482.06
Bonser Road (Road 1*)	\$0	\$485,349.23	\$485,349.23
Nardine Close Extension (Road 2A) Stages 1 and 2*	Stage 1 \$24,000.00 Stage 2 \$12,500	\$1,108,187.62	\$1,144,681.16
Sultana Road West**	\$0	\$754,014.17	\$754,014.17
Nardine Close/Milner Road Intersection*	\$4,677.50	\$450,018.83	\$454,969.33
Ashby Close/Berkshire Road Intersection*	\$0	\$209,207.31	\$209,207.31
Berkshire/Milner Road Intersection*	\$4,536.14	\$1,159,268.46	\$1,163,804.60
Bush Forever Fencing*	\$0	\$105,875.33	\$105,875.33
Land for Roads	\$4,224,730.00	\$2,649,020.00	\$6,873,750.00
Subtotal – Infrastructure	\$4,742,744.54	\$8,908,383.13	\$13,651,127.67
Administration	\$329,740.30	\$768,000	\$1,097,740.30
Gross / Net Variation [^]	\$0	-\$195,463.00	-\$195,463.00
Reimbursements	\$354,164.00	\$5,852.69	\$360,016.69
Subtotal – Administration Items	\$683,904.30	\$578,389.69	\$1,262,293.99
Total	\$5,426,648.84	\$9,486,772.81	\$14,913,421.65

* 10% contingency applied.

** 20% contingency applied.

[^] The previous DCP calculated contributions based on a gross area (calculated based on total land area) and collected on a net area (deducting areas for road reservations). This has resulted in a short fall. The short fall will be dealt with by Council at the end of the DCP. To ensure this short fall does not exacerbate and is passed on to future contributors, the calculation for contributions has been modified to deduct the shortfall incurred to date.

3. Development Contribution Methodology

This section of the DCP Report sets out the methodology for determining the development contributions applicable. The development area is characterised by a single precinct and development contributions are made on a 'per square metre' basis.

Schedule 12 of LPS3 sets out the method for calculating contributions:

$$\text{Contribution rate} = \frac{\text{Cost of infrastructure items} + \text{cost of administrative items (\$)}}{\text{Net lot area of DCA (m}^2\text{)}}$$

$$\text{Net lot area} = \text{Contribution Area} - (\text{Area of Road Reserve} + \text{Developed Area})$$

$$\text{Cost of infrastructure items} = \text{remaining infrastructure costs} - \text{funds held as money}$$

3.1 Area Inputs

Area Input	Area
Contribution Area	690,411m ²
Area of Road Reserve	28,315.5m ²
Developed Area	277,024.5m ²
Net lot area	385,071m²

$$\text{Net lot area} = \text{Contribution Area} - (\text{Area of Road Reserve} + \text{Developed Area})$$

3.2 Cost Inputs

Cost Input	\$/m ²
Remaining infrastructure costs	\$8,908,383.13
Funds held	\$2,937,443.06
Cost of infrastructure items	\$5,970,940.07
Cost of administrative items	\$578,389.69

$$\text{Cost of infrastructure items} = \text{remaining infrastructure costs} - \text{funds held as money}$$

3.3 Calculation

$$\begin{aligned} \text{Contribution rate} &= \frac{\text{Cost of infrastructure items} + \text{cost of administrative items (\$)}}{\text{Net lot area of DCA (m}^2\text{)}} \\ &= \frac{\$5,970,940.06 + \$578,389.69}{385,071\text{m}^2} \\ &\approx \$17.01/\text{m}^2 \end{aligned}$$

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 City 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 City 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 City providing a matching or partial contribution. The City 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.

Subject to the availability of funding, the following items have been determined by the City as current priority items:

1. Administration Costs;
2. Nardine / Ashby Close design, land acquisition and construction;
3. Nardine Close / Milner Road intersection design and construction;
4. Ashby Close / Berkshire Road intersection design and construction;
5. Berkshire / Milner Road intersection design and construction;
6. Nardine Close Extension (Road 2A: Stage 1) design and construction;
7. Bonser Road (Road 1), land, design and construction; and
8. Nardine Close Extension (Road 2A: Stage 2) design, land acquisition and construction.

The priorities have been identified in order of priority. 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 10 years, being the date of gazettal of the related scheme amendment to incorporate the DCP into LPS3 as Schedule 12.

The DCP Scheme will be reviewed at least every 5 years from the date of gazettal or earlier 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.

The DCP Report, incorporating cost estimates, 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.

6. Operational Matters

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

6.1 Principles

Refer Clause 6.5.6 of LPS3.

6.2 Matters Addressed in Development Contribution Plan – Scheme Amendment 88

Through implementation of the DCP there have been a number of interpretations of the DCP Report that are inconsistent with the DCP Scheme. This section of the DCP Report identifies the matters that have been addressed in a review of the DCP Scheme to ensure the DCP Report operates in conformance with the DCP Scheme.

Subsequent to adoption of this DCP Report the City will initiate the process to ensure the DCP Scheme is brought into alignment.

- Methodology for the valuation of land. The DCP Scheme refers to the static feasibility model in order to determine the value of land. This has not been the case for implementation of the DCP where a direct comparison approach has been utilised. The DCP Scheme needs to reflect the land value approach taken to date. It is not uncommon for the valuation approach to be deferred to the DCP Report.
- Cul-de-sac at the intersection of Berkshire Road and Milner Road has been modified to a through connection.
- Include the construction of Bonser Road (Road 1) and not just the land component.
- Calculation methodology changed to Net Lot Area not Total Lot Area and additional definition provided for clarity.

7. Figures

7.1 Draft Forrestfield / High Wycombe Local Structure Plan (As Amended)



LEGEND			

Structure Plan Notes

Subdivision, strata titling and design requirements

General

1. Notation A denotes Berkshire Road / Miner Road / Dundas Road LULU movement intersection.

Lot Size

2. Industrial subdivision is to meet the requirements of the Scheme and WAPC Policy DCA.1 - Industrial Subdivision unless otherwise specified.
3. Notation B denotes a minimum lot size for Lots 50-52 Suttana Road West, Lots 3-6 Ashby Close and Lot 547 Berkshire Road is 2000m².
4. Remaining lots, minimum size of approximately one (1) hectare applies.

Batchlease Development

5. Notation C denotes that no batchlease subdivision will be supported (unless otherwise decided on the Structure Plan Map).
6. Notation D denotes that single or shared batchlease legs are not permitted to service industrial development on existing Lots 50, 51 and 52 Suttana Road West and Lots 5, 6 and 8 Ashby Close. Approval to non-residential development is contingent on securing direct access to a constructed public road.
7. Subdivision will be permitted on Lots 50-52 Suttana Road West, Lots 3-6 Ashby Close and Lot 547 Berkshire Road subject to the construction of Road 2A.

Industrial Strata Titling

8. Industrial unit strata titling will only be supported in circumstances where a management statement is imposed as a condition of strata approval to the satisfaction of the Shire that ensures appropriate management arrangements and ongoing compliance with all development criteria as contained within the Scheme, this Structure Plan, any supporting planning policy or design guidelines, or any other requirements specified by the Shire.

Development Criteria and Requirements

Land Use Permissibility

9. Although the permissibility of uses is as set out in Table 1 in the Scheme, the Structure Plan intent is to facilitate land uses that take advantage of the lands strategic location in respect to major transport infrastructure, including Perth Airport, Roe Highway and Tonkin Highway. On this basis, logistics and other transport based industries are preferred land uses to take advantage of the lands locational attributes.
10. When considering development applications for 'D' and 'A' uses under the Scheme, consideration will be given to the extent that the proposed use supports the Structure Plan intent in accordance with (a) above.

Built Form

11. In addition to the requirements of the Scheme, any applicable planning policy and design guidelines, any wall or building facing any street is to be painted or otherwise treated to ensure an appropriate standard of visual amenity to the satisfaction of the Shire.
12. In addition to the requirements of the Scheme, any applicable planning policy and design guidelines, service areas, bin and storage areas and services such as air conditioners and other machinery are to be screened such that they are not visible from the street.

Vehicle Access and Movement

13. No vehicular access for non-residential development will be permitted via existing batchlease legs.
14. All vehicular access for all non-residential development is to be taken directly from a gazetted and constructed public road.
15. In addition to the requirements of the Scheme, any applicable planning policy and design guidelines, internal driveways and car parks are to be designed to ensure slow speeds. Lengths of driveway or car parks exceeding 50 metres are to incorporate speed control devices including minor level changes.
16. Vehicle access at the intersection of Ashby Close and Berkshire Road will be restricted to left in, left out only.

Pedestrian Movement and Amenity

17. In addition to the requirements of the Scheme, any applicable planning policy and design guidelines, footpaths are to be provided connecting car parking areas to buildings to the satisfaction of the Shire.

Landscaping

18. In addition to the requirements of the Scheme, any applicable planning policy and design guidelines, landscaping is to be provided within any development site of a sufficient quality to ensure an attractive well-landscaped environment.
19. Landscaping within car parks throughout the Structure Plan area is to be in accordance with the requirements of the Scheme, any applicable planning policy and design guidelines.
20. In addition to the requirements of the Scheme, any applicable planning policy and design guidelines, the tree species implemented, when not used for screening purposes, shall be of a type having high branch free stems to facilitate surveillance and visibility of building fronts and with a large canopy to achieve adequate shading of car parking areas.

Signage

21. In addition to the requirements of the Scheme, any applicable planning policy and design guidelines, signage is to relate directly to the building containing the use or service and any associated products for advertising purposes, and is not to be excessive or unnecessary. Third party signage is not permitted.

Energy Efficiency

22. In addition to the requirements of the Scheme, any applicable planning policy and design guidelines, building openings should be orientated to benefit from passive climatic heating and cooling opportunities to reduce fixed energy consumption.
23. In addition to the requirements of the Scheme, any applicable planning policy and design guidelines, all new buildings should incorporate energy saving design and technology where practical to do so.

Design Guidelines

24. For additional development criteria and requirements applicable in the Structure Plan area, refer to the Forrestfield/High Wycombe Industrial Area Design Guidelines.

This concept has been prepared for the purpose of meeting client specifications. The drawing does not constitute an invitation, agreement or contract (or any part thereof) of any kind whatsoever. All parties associated with the proposed property development declare all responsibility for any errors or omissions. The right is reserved to change the plan at any time.

Forrestfield/ High Wycombe Industrial Area
Stage 1 - Local Structure Plan Map
Shire of Kalamunda

Date: 20 January 2017
Drawn: MJC
Checked: JMS
Drawing No.: 750-105 0114 2017-01-20.dwg

8. Appendices

8.1 Appendix A: Berkshire Road

Item	Description	New Quantity	Unit	Rate	Amount	Notes
1	Preliminaries					
1.1	All Preliminaries (Mobilisation, Supervision, Insurances, Safety etc.)			6%	\$3,876.57	
					\$3,876.57	
2	Survey Control and Testing					
2.1	All Survey (Setout, As-Cons, Compaction Testing etc.)			5%	\$3,230.48	
					\$3,230.48	
3	Clearing and Demolition					
3.1	Clear Large Trees inc Grubbing	0	ea	\$246.00	\$0.00	
3.2	Clear Small Trees inc Grubbing	0	ea	\$179.00	\$0.00	
3.3	Clear shrubs/grass	0	m2	\$1.82	\$0.00	
3.4	Demolish and Dispose redundant footpaths	0	m2	\$20.00	\$0.00	Existing footpath to be retained and widened.
					\$0.00	
4	Earthworks					
4.1	Remove 100mm Topsoil to spoil	630	m2	\$3.00	\$1,890.00	Calculated based on 0.7m stripping for footpath widening for 900m assumed length. $0.7 \times 900 = 630$
					\$1,890.00	
5	Roadworks					
5.1	Widen existing concrete footpaths (from 1.8m wide to 2.5m wide)	630	m2	\$47.65	\$30,019.50	Assumed existing footpath to be retained and widened to 2.5m. New footpath widening of 0.7 m for 900m assumed length. $0.7 \times 900 = 630$
5.2.	Supply and Install Pram Ramps	4	ea	\$550.00	\$2,200.00	Allowed for 2 road crossings. $2 \times 2 = 4$
					\$32,219.50	
6	Miscellaneous					
6.1	Clean up	1	ITEM	\$3,500.00	\$3,500.00	
6.2	Adjust Telstra Pit	1	ITEM	\$3,000.00	\$3,000.00	Quantity based on aerial imagery.
6.3	Adjust stay poles	1	ITEM	\$5,000.00	\$5,000.00	Quantity based on aerial imagery.
6.4	Adjust hydrant	1	ITEM	\$3,000.00	\$3,000.00	Quantity based on data from Water Corporation.

6.5	Provision for misc./unidentified service relocations	1	ITEM	\$10,000.00	\$10,000.00	A conservative allowance for minor works to existing services Quantity based on aerial imagery. Allow \$1500 per crossover - cut and reinstate
6.6	Crossover adjustments and reinstatements - allow \$1500 per crossover.	4	ITEM	\$1,500.00	\$6,000.00	
						\$24,500.00
7	Subtotal					
7.1	Construction Subtotal ex Prelims, Survey				\$64,609.50	
7.2	Construction Subtotal				\$71,716.55	
8	Allowances and Charges					
8.1	Traffic Management		5%		\$3,585.83	
8.2	BCITF Levy		0.2%		\$143.43	
8.3	Council Supervision		1.5%		\$1,075.75	
8.4	Design and Superintendence		10%		\$7,171.65	
8.5	Contingency		10%		\$7,171.65	
9	Total				\$90,864.86	

8.2 Appendix B: Milner Road

Item	Description	New Quantity	Unit	Rate	Amount	Notes
1	Preliminaries					
1.1	All Preliminaries (Mobilisation, Supervision, Insurances, Safety etc.)			6%	\$29,039.57	
						\$29,039.57
2	Survey Control and Testing					
2.1	All Survey (Setout, As-Cons, Compaction Testing etc.)			5%	\$24,199.64	
						\$24,199.64
3	Clearing and Demolition					
3.1	Clear Large Trees inc Grubbing	9	ea	\$246.00	\$2,214.00	Quantity based on aerial imagery.
3.2	Clear Small Trees inc Grubbing	6	ea	\$179.00	\$1,074.00	Quantity based on aerial imagery.
3.3	Clear shrubs/grass	5040	m2	\$1.82	\$9,172.80	Allowed for clearing from edge of footpath to road reserve boundary. Clearing required is approximately 4.5m on both sides for 560m assumed length. $(4.5 \times 2) \times 560 = 5040$
3.4	Demolish and Dispose redundant footpaths (assumed width 2m)	1920	m2	\$20.00	\$38,400.00	Existing footpath on both sides of the road required to be removed as part of the road widening. Total length of footpath estimated as 960m with an existing width of 2m based on aerial imagery. $960 \times 2 = 1920$
3.5	Demolish and Dispose redundant kerbing	1120	m	\$2.73	\$3,057.60	Adopted road length 560m, estimated kerb length is double this. Excludes intersection upgrades at Dundas, Nardine and Sultana. $560 \times 2 = 1120$
3.6	Remove and Dispose redundant drainage pits	0	ea	\$460.00	\$0.00	
3.7	Remove and Dispose redundant pavements	112	m2	\$35.65	\$3,992.80	100mm allowed on both side of the widening for the cut line. $(0.1 \times 2) \times 560 = 112$
						\$57,911.20

4.1	Remove 100mm Topsoil to spoil	5040	m2	\$3.00	\$15,120.00	<p>Allowed for topsoil stripping from edge of footpath to road reserve boundary. Area is approximately 4.5m on both sides for 560m assumed length. $(4.5 \times 2) \times 560 = 5040$</p> <p>Existing 8m wide pavement. Widening to 10m with equal 1m widening on both side. An additional 500mm of widening has been allowed for on both sides to allow for kerbing. Total of 3m widening has been allowed for roadbase construction for estimated length of 560m. $3 \times 560 = 1680$</p>
4.2	Form, Shape, Compact Subgrade	1680	m2	\$4.00	\$6,720.00	
4.3	Form and Compact Embankment Foundation	0	m2	\$2.70	\$0.00	
4.4	Import Fill, Shape, Compact	0	m3	\$30.00	\$0.00	
4.5	Cut to spoil	1100	m3	\$24.64	\$27,104.00	Removal of unsuitable materials based on Portion B rate. Excavate to prepare subgrade to say 600-700mm depth
5	Roadworks					
5.1	Supply and Install 220mm limestone sub-base	370	m3	\$50.00	\$18,480.00	Sub-base has been calculated for the 3m widening for estimated length of 560m for a depth of 220mm. $(3 \times 560) \times 0.22 = 370$
5.2	Supply and Install 100mm road base	168	m3	\$65.00	\$10,920.00	Basecourse has been calculated for the 3m widening for estimated length of 560m for a depth of 100mm. $(3 \times 560) \times 0.1 = 168$
5.3	Supply and Install 7mm Primer Seal	1680	m2	\$2.60	\$4,368.00	Primer seal has been calculated for the 3m widening for estimated length of 560m. $3 \times 560 = 1680$
5.4	Supply and Install 30mm AC10	5600	m2	\$12.19	\$68,264.00	Allows for full resheet of 10m wide pavement for estimated 560m length. $10 \times 560 = 5600$
5.5	Supply and Install FK	0	m	\$20.00	\$0.00	
5.6	Supply and Install MK (refer note 8)	0	m	\$35.00	\$0.00	

5.7	Supply and Install SMK (refer note 8)	1120	m	\$20.48	\$22,937.60	Semi Mountable Kerb assumed for entire job. Estimated road length of 560m. 2x560=1120 Assumed only reinstating footpath on one side of the road with a width of 2.5m for estimated length of 560m. 2.5x560=1400 Allowed for one road crossing at Eureka Street.
5.9	Supply and Install new concrete footpaths (2.5m wide)	1400	m2	\$38.12	\$53,368.00	
5.10	Supply and Install Pram Ramps	2	ea	\$550.00	\$1,100.00	
					\$237,037.60	
6	Drainage					
6.1	Supply and Install new 300dia culverts	0	ea	\$2,000.00	\$0.00	Quantity based on aerial imagery. Factor \$200/m x 2 given small piecing/connections.
6.2	Remove and Replace existing culverts	0	ea	\$1,120.00	\$0.00	
6.3	Convert Existing SEP's to Gully's	14	ea	\$2,500.00	\$35,000.00	
6.6	Supply and Install 375 dia. RCP	15	m	\$400.00	\$6,000.00	
					\$41,000.00	
7	Miscellaneous					
7.1	Supply and Install misc linemarking and Signage	1	ITEM	\$5,000.00	\$5,000.00	Based on adopted road length of 560m and Portion A & B pricing.
7.2	Supply and Install street lighting	560	m	\$110.00	\$61,600.00	
7.3	Supply and Install trees	0	ea	\$450.00	\$0.00	
7.4	Maintenance of trees and verges for a 2 year period	0	Year	\$11,353.75	\$0.00	
7.5	Supply and Install select fill for swales	0	m3	\$30.00	\$0.00	
7.6	Supply and Install gravel for swales	0	m2	\$33.00	\$0.00	
7.7	Clean up	1	ITEM	\$2,500.00	\$2,500.00	
					\$96,100.00	
8	Subtotal					
8.1	Construction Subtotal ex Prelims, Survey				\$483,992.80	
8.2	Construction Subtotal				\$537,232.01	
9	Allowances and Charges					
9.1	Traffic Management		5%		\$26,861.60	
9.2	BCITF Levy		0.2%		\$1,074.46	
9.3	Council Supervision		1.5%		\$8,058.48	
9.4	Design and Superintendence		10%		\$53,723.20	

9.5	Contingency	20%	\$107,446.40	Refer Note 9 below
10	Total		\$734,396.15	

8.3 Appendix C: Nardine / Ashby Close

Nardine/Ashby Close Connection Tender and Estimated Sums

	Tender/Estimate Price	Actual	Future
Portion A	\$ 513,629.62	\$ 434,042.75	\$ 79,586.87
Portion B	\$ 731,696.71	\$ -	\$ 731,696.71
Portion A/B Demobilisation and Remobilisation	\$ 45,110.00	\$ -	\$ -
Watermain Reconnection	\$ 10,590.04	\$ -	\$ -
Street Lighting	\$ 178,820.96	\$ -	\$ 178,820.96
Subtotal	\$ 1,479,847.33	\$ 434,042.75	\$ 1,045,804.58
Interface Management Plan	\$ 6,650.00	\$ -	\$ 6,650.00
Design and Superintendency	\$ 147,984.73	\$ 38,258.15	\$ 109,726.58
Total	\$ 1,634,482.06	\$ 472,300.90	\$ 1,162,181.16

*Note: Design and Superintendency estimate based on 10%, actual costs will be recorded and updated until construction is complete

Actual costs are taken from GL account to 30 June

Street lighting includes WP commissioning fee

8.4 Appendix D: Bonser Road (Road 1)

Item	Description	New Quantity	Unit	Rate	Amount	Notes
1	Preliminaries					
1.1	All Preliminaries (Mobilisation, Supervision, Insurances, Safety etc.)			6%	\$20,706.47	
						\$20,706.47
2	Survey Control and Testing					
2.1	All Survey (Setout, As-Cons, Compaction Testing etc.)			5%	\$17,255.39	
						\$17,255.39
3	Clearing and Demolition					
3.1	Clear Large Trees inc Grubbing	0	ea	\$246.00	\$0.00	
3.2	Clear Small Trees inc Grubbing	20	ea	\$179.00	\$3,580.00	Quantity based on aerial imagery.
3.3	Clear shrubs/grass	4725	m2	\$1.82	\$8,599.50	Allowed for 13.5m clearing for the assumed length of 350m. $13.5 \times 350 = 4725$
3.5	Demolish and Dispose redundant kerbing	0	m	\$20.24	\$0.00	
3.6	Remove and Dispose redundant drainage pits	0	ea	\$460.00	\$0.00	
4.2	Form, Shape, Compact Subgrade	3850	m2	\$4.00	\$15,400.00	Allowed for 11m wide for the assumed length of 350m. $11 \times 350 = 3850$
4.3	Form and Compact Embankment Foundation	3850	m2	\$2.70	\$10,395.00	Allowed for 11m wide for the assumed length of 350m. $11 \times 350 = 3850$
4.4	Import Fill, Shape, Compact	0	m3	\$30.00	\$0.00	
4.5	Cut to spoil	385	m3	\$24.64	\$9,486.40	Allowed for 100mm of cut for topsoil area. $(13.5 \times 350) \times 0.1 = 385$
4.6	Dust Control	1	ITEM	\$3,000.00	\$3,000.00	
						\$52,456.40
5	Roadworks					
5.1	Supply and Install 220mm limestone sub-base	847	m3	\$50.00	\$42,350.00	Allowed for a 220mm depth for an area of 11m wide for the assumed length of 350m. $11 \times 350 = 3850$. $(11 \times 350) \times 0.22 = 847$
5.2	Supply and Install 100mm road base	385	m3	\$65.00	\$25,025.00	Allowed for a 100mm depth for an area of 11m wide for the assumed length of 350m. $11 \times 350 = 3850$. $(11 \times 350) \times 0.1 = 385$
5.3	Supply and Install 7mm Primer Seal	3950	m2	\$2.60	\$10,270.00	Allowed for 11m wide for the assumed length of 350m plus 100m for contingency. $11 \times 350 + 100 = 3950$

5.4	Supply and Install 30mm AC10	3600	m2	\$12.19	\$43,884.00	Allowed for 10m wide for the assumed length of 350m plus 100m for contingency. $10 \times 350 = 3600$ Flush kerbing assumed for road length minus the intersections which will have semi mountable kerbing. Estimated road length of 350m. $2 \times 350 - \text{SMK value} = 2 \times 350 - 75 = 625$
5.5	Supply and Install FK	625	m	\$55.20	\$34,500.00	
5.6	Supply and Install MK (refer note 8)	0	m	\$35.00	\$0.00	Allowed for semi mountable kerbing at the intersections. Assuming 12m radius at intersections for 4 corners approximate kerb length is the circumference of a circle with a radius of 12. $2 \times \pi \times 12 = 75.39$ rounded down to 75.
5.7	Supply and Install SMK (refer note 8)	75	m	\$20.48	\$1,536.00	
5.8	Reinstate existing Crossovers	0	m2	\$90.00	\$0.00	
5.10	Supply and Install Pram Ramps	2	ea	\$550.00	\$1,100.00	Allowed for one road crossing.
7.2	Supply and Install misc linemarking and Signage	1	ITEM	\$5,000.00	\$5,000.00	
7.3	Supply and Install vegetation for swales	700	m2	\$10.00	\$7,000.00	Assumed swale running down one side of the road. Allowed for a width of 2m. $2 \times 350 = 700$.
7.4	Supply and Install trees	24	ea	\$450.00	\$10,800.00	
7.5	Maintenance of trees and verges for a 2 year period	2	Year	\$7,975.94	\$15,951.88	Allowed for trees at 15m spacing for the entire road length. $350 / 15 = 23.33$ rounded up.
7.6	Supply and Install select fill for swales	140	m3	\$30.00	\$4,200.00	
7.7	Supply and Install gravel for swales	0	m2	\$33.00	\$0.00	
7.8	Clean up	1	ITEM	\$2,000.00	\$2,000.00	Assumed swale running down one side of the road. Allowed for a width of 2m and 200mm fill depth. $(2 \times 350) \times 0.2 = 140$.
7.9	Provision for misc./unidentified service relocations	1	ITEM	\$5,000.00	\$5,000.00	
8	Subtotal					\$88,451.88
8.1	Construction Subtotal ex Prelims, Survey				\$345,107.78	
8.2	Construction Subtotal				\$383,069.64	
9	Allowances and Charges					
9.1	Traffic Management		5%		\$19,153.48	
9.2	BCITF Levy		0.2%		\$766.14	
9.3	Council Supervision		1.5%		\$5,746.04	
9.4	Design and Superintendence		10%		\$38,306.96	
9.5	Contingency		10%		\$38,306.96	
10	Total				\$485,349.23	

8.5 Appendix E: Road 2A

Item	Description	Quantity	Unit	Rate	Amount	Subtotals	Notes
1	Preliminaries						
1.1	All Preliminaries (Mobilisation, Supervision, Insurances, Safety etc.)			6%	\$39,398.86		
						\$39,398.86	
2	Survey Control and Testing						
2.1	All Survey (Setout, As-Cons, Compaction Testing etc.)			5%	\$32,832.39		
						\$32,832.39	
3	Clearing and Demolition						
3.1	Clear all vegetation and inc Grubbing of trees	1	Item	\$25,000.00	\$25,000.00		
3.2	Demolition and Reinstatement of Garage	1	ITEM	\$100,000.00	\$100,000.00		\$100,000 assumes demolition of approximately \$70,000 and reinstatement of approximately \$30,000.
3.3	Demolish and Dispose redundant footpaths	0	m2	\$20.00	\$0.00		
3.4	Demolish and Dispose redundant kerbing	0	m	\$20.24	\$0.00		
3.5	Remove and Dispose redundant drainage pits	0	ea	\$460.00	\$0.00		
3.6	Remove and Dispose redundant pavements	0	m2	\$35.65	\$0.00		
						\$125,000.00	
4	Earthworks						
4.1	Remove 100mm Topsoil, stockpile and respread	9200	m2	\$4.00	\$36,800.00		Area measured from design drawing.
4.2	Form, Shape, Compact Subgrade	5678	m2	\$4.00	\$22,712.00		Area measured from design drawing. Road area (measured 5150m2) + 0.6 m box out each side. $5150 + (0.6 \times 2) \times 450$
4.3	Form and Compact Embankment Foundation	3520	m2	\$2.70	\$9,504.00		Area measured from design drawing. Trimming of verges. Verge width 4m on both side. $(4 \times 2) \times 440 = 3520$
4.4	Import Fill, Shape, Compact	0	m3	\$30.00	\$0.00		
4.5	Cut to spoil	0	m3	\$24.64	\$0.00		
4.6	Cut to fill	1000	m3	\$5.00	\$5,000.00		Based on Porter's figures.
4.7	Excavate, Form and Compact Swales	375	m	\$8.00	\$3,000.00		Area measured from design drawing.
4.8	Dust Control	1	ITEM	\$9,000.00	\$9,000.00		
						\$86,016.00	
5	Roadworks						

5.1	Supply and Install 200mm limestone sub-base	1136	m3	\$50.00	\$56,800.00	Road area with 200mm depth. Road area measured from design drawing. 5678x0.2=1135.6 rounded up.
5.2	Supply and Install 100mm road base	568	m3	\$65.00	\$36,920.00	Road area with 100mm depth. Road area measured from design drawing. 5678x0.1=567.8 rounded up.
5.3	Supply and Install 7mm Primer Seal	5678	m2	\$2.60	\$14,762.80	Area measured from design drawing.
5.4	Supply and Install 30mm AC10	5150	m2	\$12.19	\$62,778.50	Road area (measured 5150m2) + 0.6 m box out each side. 5150+(0.6x2)x450
5.5	Supply and Install FK	382	m	\$55.20	\$21,086.40	Area measured from design drawing.
5.6	Supply and Install MK (refer note 8)	515	m	\$35.00	\$18,025.00	Length measured from design drawing.
5.7	Supply and Install SMK (refer note 8)	123	m	\$20.48	\$2,519.04	Length measured from design drawing.
5.8	Reinstate existing Crossovers	120	m2	\$92.00	\$11,040.00	Allowing 40m2 reinstated for 3 crossovers. 3x40=120
5.9	Supply and Install new concrete footpaths (2.5m wide)	1100	m2	\$40.00	\$44,000.00	Allowed for footpath on one side of the road with a width of 2.5m for estimated length of 440m. 2.5x440=1100
5.10	Supply and Install Pram Ramps	2	ea	\$550.00	\$1,100.00	Allowed for one road crossing.
					\$269,031.74	
6	Drainage					
6.1	Supply and Install Rock Pitching - Weirs	3	item	\$1,000.00	\$3,000.00	Quantity based on design drawing.
6.2	Supply and Install new 300dia culverts	0	ea	\$2,000.00	\$0.00	
6.2	Remove and Replace existing culverts	0	ea	\$1,120.00	\$0.00	
6.4	Convert Existing SEP's to Gully's	0	ea	\$2,500.00	\$0.00	
6.5	Covert Existing SEP's to Manholes	0	ea	\$2,000.00	\$0.00	
6.6	Supply and Install new SEP's	0	ea	\$3,000.00	\$0.00	
					\$3,000.00	
7	Miscellaneous					
7.1	Supply and Install street lighting	440	m	\$110.00	\$48,400.00	Based on adopted road length of 440m and Portion A & B pricing.
7.2	Supply and Install misc linemarking and Signage	1	ITEM	\$2,000.00	\$2,000.00	
7.3	Supply and Install vegetation for swales	0	m2	\$10.00	\$0.00	
7.4	Supply and Install trees	0	ea	\$450.00	\$0.00	
7.5	Maintenance of trees and verges for a 2 year period	0	Year	\$6,228.75	\$0.00	
7.6	Supply and Install select fill for swales		N/A	\$30.00	\$0.00	
7.7	Supply and Install gravel for swales		N/A	\$33.00	\$0.00	
7.8	Clean up	1	ITEM	\$10,000.00	\$10,000.00	

7.9	Provision for misc./unidentified service relocations	1	ITEM		\$10,000.00	
7.10	Fencing on Western Boundary of Lot 499 - Adjustments		ALLOW		\$5,000.00	
						\$75,400.00
8	Services					
8.1	Underground Power (inc. in item 7.1)	440	m	\$0.00	\$0.00	Included in item 7.1, Based on adopted road length of 440m .
8.2	Western Power Energisation Fees	1	ITEM	\$50,000.00	\$50,000.00	
8.3	Communications		N/A		\$0.00	
8.4	Gas Servicing		N/A		\$0.00	
8.5	Landscaping		N/A		\$0.00	
8.6	Water Reticulation (150 P-12)	720	m	\$60.00	\$43,200.00	Length measured from design drawing. Subject to Water Corporation approvals.
8.7	Water Corporation Connection Fees	1	ITEM	\$5,000.00	\$5,000.00	
						\$98,200.00
9	Subtotal					
9.1	Construction Subtotal ex Prelims, Survey				\$656,647.74	
9.2	Construction Subtotal				\$728,878.99	
10	Allowances and Charges					
10.1	Traffic Management		5%		\$36,443.95	
10.2	BCITF Levy		0.2%		\$1,457.76	
10.3	Council Supervision		1.5%		\$10,933.18	
10.4	Design and Superintendence		10%		\$72,887.90	
10.5	Contingency		10%		\$72,887.90	
11	Total				\$923,489.68	
12	Staging					
12.1	Staging Contingency		20%		\$184,697.94	
13	Total with Staging				\$1,108,187.62	

8.6 Appendix F: Sultana Road West

Item	Description	New Quantity	Unit	Rate	Amount	Notes
1	Preliminaries					
1.1	All Preliminaries (Mobilization, Supervision, Insurances, Safety etc.)			6%	\$59,630.61	
						\$59,630.61
2	Survey Control and Testing					
2.1	All Survey (Setout, As-Cons, Compaction Testing etc.)			5%	\$49,692.18	
						\$49,692.18
3	Clearing and Demolition					
3.1	Clear Large Trees inc Grubbing	10	ea	\$246.00	\$2,460.00	approximate only based on aerial imagery
3.2	Clear Small Trees inc Grubbing	27	ea	\$179.00	\$4,833.00	approximate only based on aerial imagery
3.3	Clear shrubs/grass	4000	m2	\$1.82	\$7,280.00	Length of road taken as 800m with 4m road widening (2x 0.5m extra for topsoil stripping). 800x5=4000
3.4	Demolish and Dispose redundant footpaths	0	m2	\$20.00	\$0.00	
3.5	Demolish and Dispose redundant kerning	1600	m	\$2.73	\$4,368.00	Quantity based on assumed length. Removal on both sides of road. 800x2=1600
3.6	Remove and Dispose redundant drainage pits	0	ea	\$460.00	\$0.00	
						\$18,941.00
4.2	Form, Shape, Compact Subgrade	4000	m2	\$4.00	\$16,000.00	Length of road taken as 800m with 4m road widening (2x 0.5m extra for topsoil stripping). 800x5=4000
4.3	Form and Compact Embankment Foundation	0	m2	\$2.70	\$0.00	
4.4	Import Fill, Shape, Compact	0	m3	\$30.00	\$0.00	
4.5	Cut to spoil	400	m3	\$24.64	\$9,856.00	Allowed for 100mm of cut for topsoil area. (5x800)x0.1=400.

5 Roadworks

5.1	Supply and Install 220mm limestone sub-base	880	m3	\$50.00	\$44,000.00	Road area with 220mm depth. (5x800)x0.22= 880
5.2	Supply and Install 100mm road base	400	m3	\$65.00	\$26,000.00	Road area with 100mm depth. (5x800)x0.1=400
5.3	Supply and Install 7mm Primer Seal	4000	m2	\$2.60	\$10,400.00	Road area. 5x800=4000.
5.4	Supply and Install 30mm AC10	3200	m2	\$12.19	\$39,008.00	Length of road (800m) x road widening (4m). 800x4=3200
5.5	Supply and Install FK	1529	m	\$55.20	\$84,400.80	781m south side, 748m north side
5.6	Supply and Install MK (refer note 8)	0	m	\$35.00	\$0.00	
5.7	Supply and Install SMK (refer note 8)	0	m	\$35.00	\$0.00	
5.8	Reinstate existing Crossovers	1160	m2	\$90.00	\$104,400.00	29 crossovers at 40m2 each. 29x40=1160m2
					\$388,848.80	
6.1	Supply and Install new 300dia culverts	0	ea	\$2,000.00	\$0.00	
6.2	Remove and Replace existing culverts OR extend existing culvert	1	ea	\$5,000.00	\$5,000.00	Brae Road
6.3	Convert Existing SEP's to Gully's	0	ea	\$2,500.00	\$0.00	
6.5	Supply and Install new SEP's	1	ea	\$3,000.00	\$3,000.00	Quantity based on aerial imagery.
					\$12,000.00	
7 Miscellaneous						
7.1	Supply and Install misc linemarking and Signage	1	ITEM	\$5,000.00	\$5,000.00	
7.2	Supply and Install street lighting	800	m	\$110.00	\$88,000.00	Length of road
7.3	Supply and Install trees	54	ea	\$450.00	\$24,300.00	Allowed for trees at 15m spacing for the entire road length. 800/15=53.33 rounded up.
7.4	Maintenance of trees and verges for a 2 year period	2	Year	\$16,948.86	\$33,897.72	
7.5	Supply and Install select fill for swales	0	m3	\$30.00	\$0.00	

7.6	Supply and Install gravel for swales	0	m2	\$33.00	\$0.00	
7.7	Clean up	1	ITEM	\$5,000.00	\$5,000.00	
7.8	Relocation of power pole at Milner Road Intersection (based on Dundas/Milner/Berkshire Quote)	1	ITEM	\$350,000.00	\$350,000.00	
7.9	Provision for misc./unidentified service relocations			\$20,000.00	\$20,000.00	
						\$526,197.72
8	Subtotal					
8.1	Construction Subtotal ex Prelims, Survey				\$993,843.52	
8.2	Construction Subtotal				\$1,103,166.31	
9	Allowances and Charges					
9.1	Traffic Management		5%		\$55,158.32	
9.2	BCITF Levy		0.2%		\$2,206.33	
9.3	Council Supervision		1.5%		\$16,547.49	
9.4	Design and Superintendence		10%		\$110,316.63	
9.5	Contingency		20%		\$220,633.26	Refer Note 12 below
10	Subtotal - entire width				\$1,508,028.34	
11	Total to Scheme (50%)				\$754,014.17	

8.7 Appendix G: Milner / Nardine Intersection

Item	Description	New Quantity	Unit	Rate	Amount	Notes
1	Preliminaries					
1.1	All Preliminaries (Mobilisation, Supervision, Insurances, Safety etc.)			6%	\$19,473.29	
					\$19,473.29	
2	Survey Control and Testing					
2.1	All Survey (Setout, As-Cons, Compaction Testing etc.)			5%	\$16,227.74	
					\$16,227.74	
3	Clearing and Demolition					
3.1	Clear light vegetation inc small trees	670	m2	\$1.82	\$1,219.40	Quantity based on design drawing.
3.2	Demolish and Dispose redundant footpaths and crossovers	480	m2	\$20.00	\$9,600.00	Quantity based on design drawing.
3.3	Demolish and Dispose redundant kerbing	400	m	\$2.73	\$1,092.00	Quantity based on design drawing.
3.4	Remove and Dispose redundant drainage pits	1	ea	\$500.00	\$500.00	Quantity based on design drawing.
3.5	Demolish and Dispose of existing road pavement to a depth of 100mm	720	m2	\$20.00	\$14,400.00	Quantity based on design drawing.
3.6	Demolish and Dispose of existing road pavement for the full depth	450	m2	\$20.00	\$9,000.00	Quantity based on design drawing.
					\$35,811.40	
4	Earthworks					
4.1	Remove 100mm Topsoil to stockpile	670	m2	\$3.00	\$2,010.00	Quantity based on design drawing.
4.2	Respread Topsoil	670	m2	\$2.00	\$1,340.00	Quantity based on design drawing.
4.3	Form, Shape, Compact Subgrade	1190	m2	\$4.00	\$4,760.00	Quantity based on design drawing.
4.4	Preparation of the existing pavement surface	1190	m2	\$4.00	\$4,760.00	Quantity based on design drawing.
4.5	Cut to spoil	380	m3	\$24.64	\$9,363.20	Quantity based on design drawing.
4.6	Dust Control	1	ITEM	\$2,000.00	\$2,000.00	
					\$24,233.20	
5	Roadworks					
5.1	Supply and Install 220mm limestone sub-base	920	m2	\$10.50	\$9,660.00	Quantity based on design drawing.

5.2	Supply and Install 100mm road base	2110	m2	\$10.20	\$21,522.00	Quantity based on design drawing.
5.3	Supply and Install 7mm Primer Seal	2110	m2	\$2.60	\$5,486.00	Quantity based on design drawing.
5.4	Supply and Install 40mm AC14	1270	m2	\$21.00	\$26,670.00	Quantity based on design drawing.
5.5	Supply and Install 30mm AC10	840	m2	\$12.50	\$10,500.00	Quantity based on design drawing.
5.6	Supply and Install FK	12	m	\$55.20	\$662.40	Quantity based on design drawing.
5.7	Supply and Install SMK	350	m	\$20.48	\$7,168.00	Quantity based on design drawing.
5.8	Extra for key kerb	350	m	\$17.00	\$5,950.00	Quantity based on design drawing.
5.9	Reinstate existing crossovers	180	m2	\$90.00	\$16,200.00	Quantity based on design drawing.
5.10	Supply and Install new concrete footpaths	440	m2	\$38.12	\$16,772.80	Quantity based on design drawing.
5.11	Supply and Install Pram Ramps	4	ea	\$550.00	\$2,200.00	Quantity based on design drawing.
					\$122,791.20	
6	Drainage					
6.1	Convert Existing Manholes to SEP's	1	ea	\$2,250.00	\$2,250.00	Quantity based on design drawing.
6.2	Adjust SEP lid	1	ITEM	\$500.00	\$500.00	Quantity based on design drawing.
6.3	Supply and Install new SEP's	2	ea	\$3,000.00	\$6,000.00	Quantity based on design drawing.
6.4	Supply and Install 375 dia. RCP	0	m	\$400.00	\$0.00	Quantity based on design drawing.
					\$8,750.00	
7	Miscellaneous					
7.1	Supply and Install misc linemarking and Signage		ITEM		\$1,000.00	
7.2	Western Power Infrastructure Relocations		QUOTED PRICE		\$64,253.00	
7.3	Adjust MS Covers (sewer manhole)	2	ea	\$7,000.00	\$14,000.00	Quantity based on design drawing.
7.4	Adjust Hydrant in verge	1	ea	\$3,000.00	\$3,000.00	Quantity based on design drawing.
7.5	Adjust Valve	0				Quantity based on design drawing.
7.6	Reinstate fence and wall on new boundary	20	m	\$35.80	\$716.00	Quantity based on design drawing.
7.7	Provisional Sum - Allowance for miscellaneous/unidentified service relocations		ITEM		\$50,000.00	
					\$132,969.00	
8	Subtotal					
8.1	Construction Subtotal ex Prelims, Survey				\$324,554.80	
8.2	Construction Subtotal				\$360,255.83	
9	Allowances and Charges					
9.1	Temporary Traffic Management		5%		\$18,012.79	
9.2	BCITF Levy		0.2%		\$720.51	
9.3	Council Supervision		1.5%		\$5,403.84	

9.4	Design and Superintendence		10%	\$36,025.58
9.5	Contingency		10%	\$36,025.58
9.6	Contingency Reduction for Completed Western Power Works	10%		- \$6,425.30
10	Total			\$450,018.83

8.8 Appendix H: Berkshire / Ashby Intersection

Item	Description	New Quantity	Unit	Rate	Amount	Notes
1	Preliminaries					
1.1	All Preliminaries (Mobilisation, Supervision, Insurances, Safety etc.)			6%	\$8,925.42	
						\$8,925.42
2	Survey Control and Testing					
2.1	All Survey (Setout, As-Cons, Compaction Testing etc.)			5%	\$7,437.85	
						\$7,437.85
3	Clearing and Demolition					
3.1	Clear Large Trees inc Grubbing	0	ea	\$246.00	\$0.00	
3.2	Clear Small Trees inc Grubbing	0	ea	\$179.00	\$0.00	
3.3	Demolish and Dispose redundant kerbing	115	m	\$2.73	\$313.95	Quantity based on design drawing.
3.4	Remove and Dispose redundant drainage pits	2	ea	\$500.00	\$1,000.00	Quantity based on design drawing.
3.5	Demolish and Dispose of existing pavement	100	m2	\$20.00	\$2,000.00	Quantity based on design drawing.
						\$3,313.95
4	Earthworks					
4.1	Remove 100mm Topsoil to spoil	1400	m2	\$3.00	\$4,200.00	Quantity based on design drawing.
4.2	Respread Topsoil	1400	m2	\$2.00	\$2,800.00	Quantity based on design drawing.
4.3	Form, Shape, Compact Subgrade	1250	m2	\$4.00	\$5,000.00	Quantity based on design drawing.
4.4	Cut to spoil	400	m3	\$24.64	\$9,856.00	Quantity based on design drawing.
4.5	Dust Control	1	ITEM	\$2,000.00	\$2,000.00	
						\$23,856.00
5	Roadworks					
5.1	Supply and Install 220mm limestone sub-base	520	m2	\$10.50	\$5,460.00	Quantity based on design drawing.
5.2	Supply and Install 100mm road base	520	m2	\$8.50	\$4,420.00	Quantity based on design drawing.
5.3	Supply and Install 7mm Primer Seal	520	m2	\$2.60	\$1,352.00	Quantity based on design drawing.
5.4	Supply and Install 40mm AC14	290	m2	\$21.00	\$6,090.00	Quantity based on design drawing.
5.5	Supply and Install 30mm AC10	240	m2	\$12.50	\$3,000.00	Quantity based on design drawing.
5.6	Supply and Install FK	0	m	\$55.25	\$0.00	Quantity based on design drawing.

5.7	Supply and Install SMK	170	m	\$20.00	\$3,400.00	Quantity based on design drawing.
5.8	Extra for key kerbing	170	m	\$37.00	\$6,290.00	Quantity based on design drawing.
5.9	Reinstate existing crossovers	0	m2	\$90.00	\$0.00	Quantity based on design drawing.
5.10	Supply and Install new concrete footpaths	150	m2	\$38.12	\$5,718.00	Quantity based on design drawing.
5.11	Supply and Install Red Faux Brick Pavement in median	35	m2	\$100.00	\$3,500.00	Quantity based on design drawing.
5.12	Supply and Install Pram Ramps	2	ea	\$550.00	\$1,100.00	Quantity based on design drawing.
					\$40,330.00	
6	Drainage					
6.1	Convert Existing Manholes to SEP's	2	ea	\$2,250.00	\$4,500.00	Quantity based on design drawing.
6.2	Convert Existing Manholes to Combination Pits	1	ea	\$2,500.00	\$2,500.00	Quantity based on design drawing.
6.3	Convert Existing Gully's to Manholes	2	ea	\$2,000.00	\$4,000.00	Quantity based on design drawing.
6.4	Convert Existing Gully's to SEP's	1	ea	\$2,250.00	\$2,250.00	Quantity based on design drawing.
6.5	Supply and Install new SEP's	2	ea	\$3,000.00	\$6,000.00	Quantity based on design drawing.
6.6	Supply and Install 300 dia. RCP	20	m	\$400.00	\$8,000.00	Quantity based on design drawing.
					\$27,250.00	
7	Miscellaneous					
7.1	Supply and Install misc linemarking and Signage		ITEM		\$5,000.00	
7.2	Western Power Infrastructure Relocations		QUOTED PRICE		\$12,007.00	
7.3	Adjust Access Chamber		ITEM		\$7,000.00	
7.4	Relocate Valve and Water Meter		QUOTED PRICE		\$5,000.00	
7.5	Adjust Hydrant in Road		ITEM		\$5,000.00	
7.6	Provisional Sum - Allowance for miscellaneous/unidentified service relocations		PS		\$20,000.00	
					\$54,007.00	
8	Subtotal					
8.1	Construction Subtotal ex Prelims, Survey				\$148,756.95	
8.2	Construction Subtotal				\$165,120.21	
9	Allowances and Charges					
9.1	Temporary Traffic Management		5%		\$8,256.01	
9.2	BCITF Levy		0.2%		\$330.24	

9.3	Council Supervision	1.5%	\$2,476.80
9.4	Design and Superintendence	10%	\$16,512.02
9.5	Contingency	10%	\$16,512.02
10	Total		\$209,207.31

8.9 Appendix I: Dundas / Berkshire / Milner Intersection

Item	Description	New Quantity	Unit	Rate	Amount	Notes
1	Preliminaries					
1.1	All Preliminaries (Mobilisation, Supervision, Insurances, Safety etc.)			6%	\$52,631.50	
						\$52,631.50
2	Survey Control and Testing					
2.1	All Survey (Setout, As-Cons, Compaction Testing etc.)			5%	\$43,859.58	
						\$43,859.58
3	Clearing and Demolition					
3.1	Clear Large Trees inc Grubbing	2	ea	\$246.00	\$492.00	Quantity based on design drawing.
3.2	Clear shrubs/grass	100	m2	\$1.82	\$182.00	Quantity based on design drawing.
3.3	Demolish and Dispose redundant footpaths	90	m2	\$20.00	\$1,800.00	Quantity based on design drawing.
3.4	Demolish and Dispose redundant kerbing	485	m	\$2.73	\$1,324.05	Quantity based on design drawing.
3.5	Remove and Dispose redundant pavements	3480	m2	\$20.00	\$69,600.00	Quantity based on design drawing.
3.6	Remove and Dispose of existing median	70	m2	\$20.00	\$1,400.00	Quantity based on design drawing.
						\$74,798.05
4	Earthworks					
4.1	Remove 100mm Topsoil to spoil	1860	m2	\$3.00	\$5,580.00	Quantity based on design drawing.
4.2	Respread Topsoil	1860	m2	\$2.00	\$3,720.00	Quantity based on design drawing.
4.3	Form, Shape, Compact Subgrade	990	m2	\$4.00	\$3,960.00	Quantity based on design drawing. Area off widening plus length of kerb times 0.5. $790+(400 \times 0.5)=990$.
4.4	Cut to spoil	270	m3	\$24.64	\$6,652.80	Quantity based on design drawing.
4.5	Dust Control	1	ITEM	\$2,000.00	\$2,000.00	
						\$21,912.80
5	Roadworks					

5.1	Supply and Install 220mm limestone sub-base	990	m2	\$10.50	\$10,395.00	Quantity based on design drawing. Area off widening plus length of kerb times 0.5. $790+(400 \times 0.5)=990$.
5.3	Supply and Install 120mm road base	4090	m2	\$10.20	\$41,718.00	Quantity based on design drawing.
5.4	Supply and Install 7mm Primer Seal	4090	m2	\$2.60	\$10,634.00	Quantity based on design drawing.
5.5	Supply and Install 40mm AC14	4465	m3	\$21.00	\$93,765.00	Quantity based on design drawing.
5.6	Supply and Install SMK	735	m	\$20.48	\$15,052.80	Quantity based on design drawing.
5.7	Extra for key kerbing	735	m	\$37.00	\$27,195.00	Quantity based on design drawing.
5.8	Supply and Install Red Faux Brick Pavement in median	65	m2	\$100.00	\$6,500.00	Quantity based on design drawing.
5.9	Supply and Install new concrete footpaths	450	m2	\$38.12	\$17,154.00	Quantity based on design drawing.
5.10	Supply and Install Pram Ramps	4	ea	\$550.00	\$2,200.00	Quantity based on design drawing.
5.11	Profile and Prepare Existing Surface for Overlay	3475	m2	\$4.00	\$13,900.00	Quantity based on design drawing. Area of works minus total area of widening. $4465\text{m}^2-990=3475$.
					\$238,513.80	
6	Drainage					
6.1	Convert Existing Manhole to Gully's	1	ea	\$2,250.00	\$2,250.00	Quantity based on design drawing.
6.2	Convert Existing SEP's to Manholes	4	ea	\$2,000.00	\$8,000.00	Quantity based on design drawing.
6.3	Supply and Install new SEP's	5	ea	\$3,000.00	\$15,000.00	Quantity based on design drawing.
6.4	Adjust SEP lid	0	ea	\$500.00	\$0.00	Quantity based on design drawing.
6.5	Supply and Install 375 dia. RCP	15	m	\$400.00	\$6,000.00	Quantity based on design drawing.
					\$31,250.00	
7	Miscellaneous					
7.1	Supply and Install misc linemarking and Signage	1	ITEM	\$5,000.00	\$5,000.00	
7.2	Western Power Infrastructure Relocations		QUOTED PRICE		\$430,717.00	
7.3	Adjust hydrant/valve covers in road	5	ea	\$5,000.00	\$25,000.00	Quantity based on design drawing.
7.4	Provisional Sum - Allowance for miscellaneous/unidentified service relocations		PS		\$50,000.00	
					\$510,717.00	
8	Subtotal					

8.1	Construction Subtotal ex Prelims, Survey		\$877,191.65
8.2	Construction Subtotal		\$973,682.73
9	Allowances and Charges		
9.1	Temporary Traffic Management	10%	\$97,368.27
9.2	BCITF Levy	0.2%	\$1,947.37
9.3	Council Supervision	1.5%	\$14,605.24
9.4	Design and Superintendence	10%	\$97,368.27
9.5	Contingency	10%	\$97,368.27
9.6	FAL Contribution		-\$80,000.00
9.7	Contingency Reduction for Completed Western Power Works	10%	-\$43,071.70
10	Total		\$1,159,268.46

3 way intersection, heavily used.
Assumed additional traffic
management require. Rate
increased to 10% of construction
subtotal.

8.10 Appendix J: Bush Forever Fencing

Bushforever Site Length (m) = 1020
Nardine Close /
Sultana Road West /
New Road

Description	Base Costs	Amount
Siteworks		\$ 14,420.00
Drainage		\$ -
Roads		\$ -
Miscellaneous		\$ 75,400.00
Site supervision		\$ 1,347.30
Site Facilities		\$ 898.20
Civil, Geotechnical & Survey		\$ 13,809.83
SUB TOTAL		\$ 105,875.33

8.11 Appendix K: Administrative Items

Description	Annual (\$)	Years	Future (\$)
Consultant Expenditure			
Legal / Land Admin	\$ 15,000.00	6	\$ 90,000.00
DCP Annual Review / Audit	\$ 33,000.00	6	\$ 198,000.00
Land Valuation	\$ 10,000.00	6	\$ 60,000.00
Staffing Costs			
Planning / Project Management (0.7 FTE)	\$ 70,000.00	6	\$ 420,000.00
Total	\$ 128,000.00		\$ 768,000.00

Date	Actuals
13/14	\$ 53,585.00
14/15	\$ 123,321.00
15/16	\$ 15,736.00
16/17	\$ 137,098.30

Admin costs to date \$ 329,740.30