# KALARU VILLAGE SHARED PATH TATHRA ROAD, KALARU

(Blackfellows Lake Road to Armstrong Drive)



#### Schedule of Quantities

Road pavement	Double double bitumen seal	10130m <sup>2</sup>
Shared path	Pavement 100 thick	2175m <sup>2</sup>
Kerb and gutter		2093m
Grated inlet pit	RMS SA2 inlet pit + grate 1800 x 900 inlet pit + grate Cast insitu + 1200sq grate Class D	39 3 4
Pipe	375 diam RCP 450 diam RCP 525 diam RCP 750 diam RCP	530m 215m 238m 15m
Box culvert	1800 x 450 deep 2400 x 600 deep	25m 196m
Headwalls	to suit	11
Retaining wall	Steel post and concrete walers Gravity segmental block	180m 145m
Barrier	Partial barrier fence	145m
Signs	Give way (R1-2)	4

SITE

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1	TENDER ISSUE	29/6/21
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## STODDARD ENGINEERING

Client	BEGA VALLEY SHIRE COUNCIL	Drawn SS		Scale N/A		
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•	KALARU VILLAGE BIKE PATH					
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#### **GENERAL NOTES**

- G1. These drawings shall be read in conjunction with all architectural drawings and specifications, all other consultant's drawings and specifications, all other contract documents, the requirements of relevant authorities and any other documentation relating to this project. Any discrepancy shall be referred immediately to the Stoddard Engineering engineer before proceeding with the work.
- G2. All work to be carried out in accordance with Bega Valley Shire Council Development construction specification.
- G4. All materials and workmanship shall be in accordance with the relevant current Australian Standard, the Building Code of Australia and by-laws and ordinances of relevant building authorities.
- G5. Any dimensional or geometric information contained in these drawings should be verified on site. Any discrepancy shall be referred immediately to the Stoddard Engineering engineer before proceeding with the work.
- G6. Do not scale from these plans.
- G7. During construction structures shall be maintained in a stable condition and no part shall be overloaded or overstressed. Provide temporary bracing and/or support as necessary.
- G8. During construction excavations shall be maintained in a stable condition. Provide temporary shoring, bracing and/or support as necessary. Engage a qualified engineer to design and/or certify works as necessary.
- G9. Implement soil and water management procedures to avoid erosion, contamination and sedimentation of site, surrounding areas and drainage systems.
- G10. The builder / contractor has a duty of care and shall verify the location of all services with each relevant authority. Any damage to services shall be rectified by the builder / contractor or the relevant authority at the contractor's expense. Services shown on these plans are only those evident at the time of survey or as determined from service diagrams. Stoddard Engineering cannot guarantee the information shown nor accept any responsibilty for inaccuracies or incomplete data.
- G11. All new works are to make a smooth junction with existing conditions and marry in a 'workmanlike' manner.
- G12. U.N.O. = "Unless Noted Otherwise"
- G13. Adjust existing service covers to suit new finished levels to relevant authority requirements where necessary
- G14. Reinstate and stabilise all disturbed landscaped areas.
- G15. Contractor to check and confirm site drainage connections across the verge prior to commencement of site drainage works.
- G16. Properties affected by the works are to be notified in advance where disruption to existing access is likely.

#### SITEWORKS NOTES

- S1. Origin of levels Jack Atkinson survey data as supplied by BVSC. JAS040 DETAIL SURVEY.dwg.
- S2. Contractor must verify all dimension and existing levels on site prior to commencement of work.
- S3. All work is to be undertaken in accordance with the details shown in the drawings, the specifications and the directions of the superintendent.
- S4. Where new works abut existing, the contractor shall ensure that a smooth even profile, free from abrupt changes is achieved.
- S5. The contractor shall arrange all survey setout to be carried out by a registered surveyor.
- S6. Care is to be taken when excavating near existing services. No mechanical excavations to be undertaken over Telstra or electrical services. Hand excavate in these areas.
- S7. All service trenches under pavements shall be backfilled with sand or an appropriate granular material and compacted to 98% standard maximum dry density in accordance with AS1289 e1.1.
- S8. For trenches not under pavements where excavated material may be used for backfill, the material shall be compacted to the same density as the undisturbed material either side of the trench.
- S9. On completion of pipe installation all disturbed areas must be reinstated to 'as found' condition, including kerbs, footpaths, concrete areas, gravel and grassed areas and road pavements.
- S10. Provide maximum 12 wide x 50mm deep self expanding cork expansion joint in concrete paving (top) where abutting existing buildings and structures. Fill remainder of joint with non-expanding cork unless shown otherwise. Alternative fillers may be used subject to approval by superintendent.
- S11. Contractor to obtain all authority approval where relevant.
- S12. Make smooth transition to existing surfaces and make good.
- S13. The contractor shall ensure all areas drain with a minimum fall of 1% (1:100) grade to outlets unless indicated otherwise.
- S14. These plans shall be read in conjunction with approved landscape, architectural, structural, hydraulic and mechanical drawings and specifications.
- S15. Trenches through existing road and concrete pavements shall be sawcut to full depth of concrete and a minimum of 50mm in bituminous paving.
- S16. All branch gas and water services under driveways and brick paving shall be located in 80 dia uPVC sewer grade conduits extending a minimum of 500mm beyond edge of paving.
- S17. Grades to pavements to be as implied by RL's on plan but not less than 1% grade evenly between nominated RL's. Areas exhibiting ponding greater than 50mm depth will not be accepted.

#### **EXISTING SERVICES AND FEATURES**

- ES1. The contractor shall allow for the capping off excavation and removal if required of all existing services in areas affected by works within the contract area or as shown on drawings, unless directed otherwise by superintendent.
- ES2. The contractor shall ensure that at all times services to all buildings not affected by the works are not disrupted.
- ES3. Prior to commencement of any works, the contractor shall gain approval of his program for the relocation construction of temporary services.
- ES4. The contractor shall construct temporary services to maintain existing supply to buildings remaining in operation during works to the satisfaction and approval of the superintendent. once diversion is complete and commissioned the contractor shall remove all such temporary services and make good to the satisfaction of the superintendent.
- ES5. Interruption to supply of existing services shall be done so as not to cause any inconvenience to the principal. Contractor to gain approval of superintendent for time of interruption.

#### **UNDERGROUND SERVICES**

- US1. The locations of underground services shown on these drawings have been plotted from survey and authority information. The information has been prepared only to show the approximate position of any known services and may not be as constructed or accurate.
- US2. Stoddard Engineering can not guarantee that the services information shown on these drawings accurately indicates the presence or absence of services or their location and will accept no liability for inaccuracies in the service information shown arising from any cause whatsoever.
- US3. Contractors shall take due care when excavating on site including hand excavation and pot holing where necessary.
- US4. Contractors are to contact the relevant service authority prior to commencement of excavation of future works.
- US5. Contractors are to undertake a services search prior to commencement of works on site. Search results are to be kept on site at all times.

#### SUBGRADE & SUBBASE PREPARATION AND COMPACTION NOTES

- SG1. Strip topsoil to expose naturally occurring material. Stockpile nominated quantity for reuse as directed by superintendent.
- SG2. Where filling is required to achieve subgrade proof roll exposed natural surface with a minimum of 8 passes of a vibrating roller (minimum static weight of 8 tonnes) in the presence of the superintendent.
- SG3. All soft, wet or unsuitable material to be removed as directed by the superintendent and replaced with approved material, satisfying the requirements listed below.
- SG4. All subbase fill material shall be from a source approved by the superintendent and shall comply with the following:

Free from organic and perishable matter;

Maximum particle size 75mm;

Plasticity index between 2% and 20%.

- SG5. Prior to the delivery of any subbase material to the site, the source of all material and certificates that the material satisfies the specified requirements, shall be provided for approval. Additionally, for each material source, compliance with the approved quality assurance program for individual materials shall be provided to the superintendent as required in the quality system requirements. Testing of pavement materials will normally be performed on samples taken at the source prior to delivery to the site and in their final conditions after placement and compaction in the pavement. However, the properties specified and final acceptance is applicable to the materials in their final condition in the pavement. Final acceptance will be conditional on no significant change in properties due to segregation or contamination during subsequent pavement works.
- SG6. All material shall be placed in maximum 200mm thick layers and compacted at optimum moisture content (+ or 2%) to achieve a dry density determined in accordance with AS 1289 5.1.1. of not less than the following standard minimum dry density in accordance with AS 1289 e1.1:

Location	Standard Dry Density
Under building slabs	98%
Areas of service trenches	98%
External paved areas	98%
Roads and carparks	98%
I andscaped areas	95%

- SG7. The contractor shall program the earthworks operation so that the working areas are adequately drained during the period of construction. The surface shall be graded and sealed off to remove depression, roller marks and similar, which would allow water to pond and penetrate the underlying material. Any damage resulting from the contractor not observing these requirements shall be rectified by the contractor at their expense.
- SG8. Testing of the subgrade and fill layers shall be carried out by an approved NATA registered laboratory at the contractor's expense, in accordance with the recommendations of AS 3798 and the Geotechnical Engineers requirements.
- SG9. Subbase shall conform to the requirements of class DGB20 material as specified in RTA specification 3051 and shall be hard, durable stone, free of clay lumps, organic matter and objectionable quantities of deleterious substances. The material may be crusher run or screened and recombined.

All material requirements apply both prior to and after placement in the pavement.

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#### PAVEMENT CONSTRUCTION

- PC1. Pavement material shall not be placed on the subgrade or previous layers of pavement until those layers have been approved. Material shall not be placed over a layer weakened by moisture.
- PC2. Crushed material, when delivered, shall have moisture content within ±2% of the standard optimum moisture content
- PC3. Spread material in uniform layers as near as practicable to the required thickness by direct tipping from suitable vehicles or by the use of a mechanical spreader. Take care to avoid segregation of material during tipping and spreading. The tipping of material in heaps and spreading by grader is to be minimised. If material becomes segregated it shall be remixed as directed, using a rotary hoe or other suitable equipment.
- PC4. Layers of pavement material shall not be less than 100mm in compacted thickness. Maximum thickness shall be limited to that which will allow compaction to specified densities by the equipment in use. Where a course of particular material is composed of several layers they shall be of equal thickness within these limits.
- PC5. Base, sub-base and select materials shall be compacted to 98% standard dry density throughout.
- PC6. During compaction, maintain moisture content of pavement materials in the range specified above. Water spraying equipment used for this purpose shall be capable of uniformly distributing water in controlled quantities over uniform lane widths.
- PC7. Testing of base, sub-base and select layers shall be carried out by NATA registered laboratory. Frequency of testing shall be in accordance with the recommendations of a Geotechnical Engineer and AS3798 (whichever requires the more tests). Copies of all results shall be forwarded to the superintendent without delay. Each successive layer shall not be commenced until the underlying layer has been approved by the Geotechnical Engineer.
- PC8. On completion of placement, compaction and trimming pavement courses shall comply with tolerances itemized in table. Surface shape be such that water cannot accumulate at any point.
- PC9. Where pavement abuts a gutter the surface level at the edge shall be within ±5mm of the actual concrete level where sealing is specified or such lower levels as is necessary to accommodate the specified thickness of pavement surfacing.

ITEM		TOLERANCE
Base Course	Level	+-5mm
Foot Paving	Thickness	+-5mm
	Straightness	10mm departure from 3m
		straight edge both ways
Sub-base	Thickness	+10mm -5mm
Total Pavement	Thickness	+10mm if select material is absent
Layers Over Subgrade		-5mm if pavement includes select material

#### STORMWATER DRAINAGE NOTES

- SW1. All concrete stormwater pipesnto be RRJ Class 3 and HS2 support everywhere with minimum cover of 500mm. Where minimum cover of 700mm can be achieved Class 2 pipes may be used.
- SW2. Box culvert installation to be in accordance with AS1597.
- SW3. Pipes shall be laid in accordance with AS/NZS 3725 and the design drawings.
- SW4. Where trenches are in rock the pipe shall be bedded on a minimum of 50mm concrete bed (or 75mm bed of 12mm blue metal) under the barrel of the pipe.
- SW5. Where subsoil drains pass under vehicular pavements, unslotted UPVC sewer grade pipe is to be used.
- SW6. Care is to be taken with levels of stormwater lines. Grades shown are not to be reduced without approval.
- SW7. Grates and covers shall conform to AS 3996, and the design drawings.
- SW8. At all times during construction of the stormwater pits, adequate safety procedures shall be implemented to prevent persons falling down pits.
- SW9. Existing stormwater pipe locations and invert levels to be confirmed prior to commencement of construction.
- SW10. All existing stormwater drainage lines and pits that are to remain are to be inspected and cleaned during this process. Any part of the stormwater drainage system that warrants repair shall be reported to the superintendent for further directions.

#### **EROSION AND SEDIMENT CONTROL NOTES**

EC1. The site superintendent/engineer to ensure that all soil and water management works are generally carried out in accordance with:

Local Authority Requirements;

EPA requirements;

Landcom Managing Urban Stormwater, Soils and Construction

- EC2. When stormwater pits are constructed, prevent site runoff entering unless sediment fences are erected around pits.
- EC3. Contractor is to ensure all erosion & sediment control devices are maintained and in good working order to the satisfaction of the superintendent and the local authority and operate effectively. Repairs and or maintenance shall be undertaken as required, particularly following storm events.
- EC4. Where practical, the soil erosion hazard on the site to be kept as low as possible. To this end, work should be undertaken in the following sequence:

Install sediment traps to all down stream water pits;

Erect sediment control and site security fence to works area (where possible).

- EC5. During windy weather, large unprotected areas to be kept moist (not wet) by sprinkling with water to keep dust under control.
- EC6. Final site landscaping will be undertaken as soon as possible and within 10 working days from completion of construction activities.
- EC7. Stockpiles not to be located within 2 metres of hazard areas, including likely areas of concentrated or high velocity flows such as waterways. Where they are between 2 and 5 metres from such areas, special sediment control measured should be taken to minimize possible pollution to downslope waters, eg. through installation of sediment fencing.
- EC8. Any sand used in the concrete curing process (spread over the surface) will be removed as soon as possible and within 10 working days from placement.
- EC9. Water to be prevented from entering the permanent drainage system unless it is relatively sediment free ie. the catchment are has been permanently landscaped and/or any likely sediment has been filtered through an approved structure.
- EC10. Temporary soil and water management structures to be removed only after the lands they are protecting are rehabilitated.
- EC11. Acceptable receptors to be provided for concrete and mortar slurries, paints and washings, light-weight waste materials and litter.
- EC12. Any existing trees which form part of the final landscaping plan to be protected from construction activities by:

  Protecting them with barrier fencing or similar materials installed outside drip line;

r rotecting them with barrier rending or simile

Ensuring that nothing is nailed to them;

Prohibiting paving, grading, sediment wash or placing or stockpiles within the drip line except under the following conditions:

Encroachment only occurs on the one side and no closer to the trunk than either 15 metres or half the distance between the outer edge of the drip line and the trunk, whichever is greater.

A drainage system that allows air and water to circulate through the root zone (eg. a gravel bed) is placed under all fill layers of more than 300mm depth.

Care is taken not to cut roots unnecessarily nor to compact the soil around them.

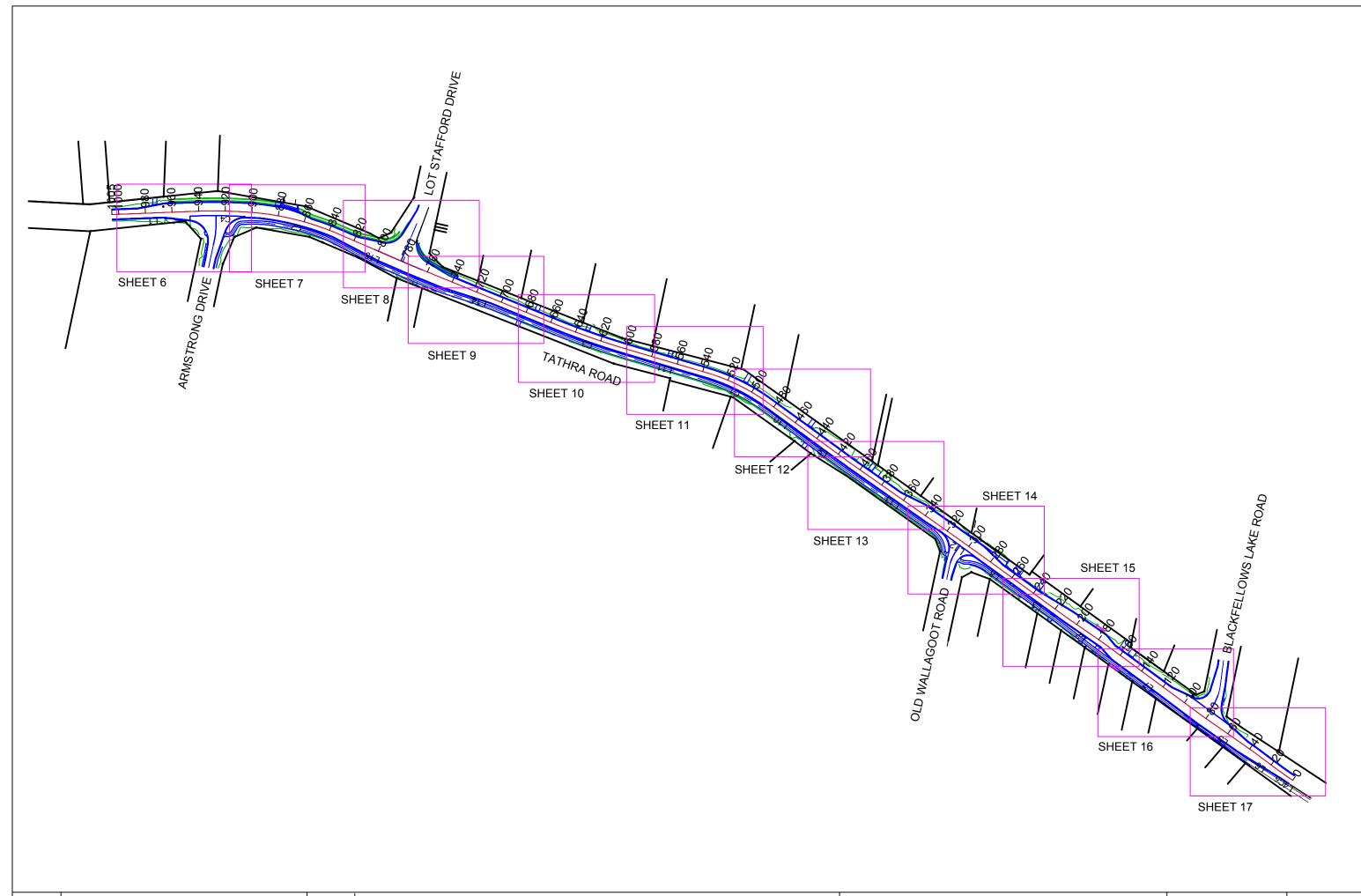
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