STANDARD SPECIFICATION
FOR MINOR CIVIL WORKS ON ROADS

Signage

Where required by Shire of Toodyay, a project signboard shall be erected at a suitable location on the site to advise the public of the project details, including contact details for the consulting engineer and contractors, and the expected completion date of the project.

Hours of Work

Generally, normal working hours for construction work are 7.00 am to 7.00 pm every day except Sundays and public holidays. No work shall be undertaken outside these hours without prior Local Government approval. Construction work includes deliveries to the site of the works and the onsite servicing and fuelling of machinery. Any application for work outside of normal hours shall demonstrate that it is reasonably necessary to perform the work outside of normal hours and additional resident consultation may be required.

If a Total Fire Ban, or Harvest Vehicle Movement and Hot Works Ban is declared for the area of works. Conditions must be met in order for roadworks to continue, exemptions are outlined in the DFES – *Roadwork, Prescribed activity and conditions* document. It is the contractors' responsibility to be aware of any bans imposed and cease work if the conditions cannot be met.

Inspections

The contractor shall ensure that any particular stage of work to be inspected has been satisfactorily completed before requesting an inspection by the Local Government. A minimum of 24 hours' notice is required to enable arrangements to be made for an inspection. Each stage shall be inspected prior to the next or following stage of construction being commenced. The Local Government shall to the best of its ability carry out the inspection within 48 hours of the notification of an inspection being required.

The minimum inspection and regular site meetings regime for the construction of road works is:

1. When the road has been boxed out and the sub-grade shaped and compacted (if required);
2. When the sub-base has been compacted to shape, level and specifications;
3. When the base course has been placed, graded, compacted and water bound to correct shape and level before sealing

The minimum inspection and regular site meetings regime for the construction of drainage works is:

1. When the trenches have been excavated and the pipes laid true to line and level;
2. When using sub-soil drainage pipes, after the calibrated aggregate has been placed; and
3. After junction pits, gullies and other structures have been constructed.

Practical Completion

Upon receipt of Practical Completion notification, the Local Government shall arrange an inspection of the completed works at a mutually convenient time. The inspection shall require the presence of the Local Government's representative and the contractor. The contractor is to arrange for all road pavements to be swept, the drainage system cleaned out and gully and manhole covers temporarily opened for inspection. All drainage infrastructure needs to be accessible at the time of inspection.

Defects liability

It shall be deemed to be the responsibility of the developer to repair any defects resulting from faulty workmanship and/or defective materials on all roads and associated works for a period of 12 months from the date of practical completion – referred to as the defects liability period.

CONSTRUCTION GUIDELINES

Traffic Management

Where work is on existing roads a traffic management plan shall be prepared and signed by an accredited traffic management professional and submitted to Shire of Toodyay for approval.

Traffic shall be managed in accordance with MRWA Traffic Management for Road Works Code of Practice and AS 1742.3 Manual of Uniform Traffic Control Devices: Part 3 Traffic Control Devices for Works on Roads.

The traffic management plan shall be developed to minimise the impact of the works on traffic flows, pedestrians, cyclists, access to existing private properties, and emergency vehicles, while ensuring the safety of employees and the public.

Clearing

Any required clearing works are to take place in accordance with approved clearing permits and/or in line with Environmental Protection Act 1986 and Environmental Protection (Clearing of Native Vegetation) Regulations 2004.

Clearing of all shrubs and trees shall be completed only to an extent sufficient to facilitate the construction works. Natural vegetation shall be retained where possible. Precautions to protect and prevent damage to native vegetation to be preserved during subdivision works must be put in place as agreed with Shire of Toodyay.

Fill

All fill shall be clean, granular material obtained from general and roadwork excavations and shall not be contaminated with roots or other impurities. Fill for roadworks shall be placed in even layers not greater than 300 millimetres thick and each layer shall be compacted to satisfaction of Shire of Toodyay. Compaction is to be not less than 95% modified maximum dry density under pavements, and 90% elsewhere. Depending on the location and compaction equipment used, greater layer thicknesses may be approved by Shire of Toodyay.

Water

Water, for the purposes of construction only, shall be supplied by the Shire of Toodyay from the standpipe pipe located at the intersection of Toodyay Road/Northam-Toodyay Road. Contractor to provide suitable water cart/s and operator/s to enable works to progress in a timely manner. Shire to advise should a closer, suitable water source be made available.

Base Course

Gravel base course to be supplied by the Shire of Toodyay under an existing contract arrangement. Gravel pit is located at the corner of Forest Road and Goomalling-Toodyay Road intersection. Contractor to provide suitable truck/s and operator/s to enable works to progress in a timely manner. Shire to advise should a closer, suitable gravel source be made available.

The grading of the gravel shall conform to the requirements shown in the table below.

Sieve size (Square opening AS Sieve)	Percentage by weight passing
19mm	100%
4.75mm	45-65%
2.36mm	30-50%
0.425mm	12-30%
0.075mm	0-12%

Base course material shall be watered, compacted and cut to grade and cross-fall specified in the approved drawings. Each course shall be rolled until it is compacted to a firm, even surface by appropriate self-propelled steel-wheel and pneumatic tyred rollers. The use of the pneumatic tyred roller is essential for the final passes to achieve compaction of immediate surface material.

Base course construction shall be inspected and approved by the Local Government prior to the application of a surface treatment.

Sealing

Base course to be prepared and gravel surface tightly bound to the satisfaction of the Shire of Toodyay. Unless otherwise specified (eg. Small areas that can be hand sealed), the application of surface treatments are to be completed by Shire contractors under an existing contract arrangement, and as such, are excluded from the scope of works.

Drainage

All culverts under roads and crossovers and all pipe entries and outfalls shall have approved headwalls. Protective works are required at culvert exits and entries to reduce the velocity, to ensure erosion does not occur. Refer to the Local Government for detailed crossover/culvert standards that will be required.

Drainage pipes within the road reserve shall be reinforced concrete pipes (spigot and socket type) unless otherwise approved by Shire of Toodyay. All pipes shall conform to the appropriate Australian Standards.

Strength class for reinforced concrete pipes shall be Class 2 unless otherwise noted and have at least the manufacturers minimum specified cover otherwise approved.

Bedding of pipes shall be carried out evenly and thoroughly. The trench shall be backfilled to grade with approved material and compacted to specification. All pipe bedding shall be min. 50mm clean sand unless otherwise specified.

Trench compaction is to be not less than 95% modified maximum dry density under pavements, and 90% elsewhere. Evidence of compaction is to be provided via;

- Sand penetrometer test on granular trench backfill (minimum of three tests per trench).
- Nuclear density test on base course finish level (minimum of one test per trench).

No pipe or fittings shall be backfilled until they have been inspected and approved by the Local Government including receipt of compliant compaction results/certification.

Stone Pitching

Surfaces shall be protected by pitching stones. Stones shall be hard, sound and durable and generally weigh in excess of 10 kilograms each. The largest size of any stone shall not exceed 1.5 times its least dimension. Non-woven geotextile lining may be used to prevent subsidence or wash-outs.

Stones shall be set on a sand bed in a close fitting pattern, watered and rammed into position. On floodways, no rock shall project above the shoulder and pavement level.

Where specified as mortared stone pitching, joints between stones shall be raked for their full depth and grouted with three parts sand to one part Portland cement mortar. Voids shall not exceed 50mm in any direction.

Rock Class	Rock Size (m)	Approximate Rock Mass (kg)	Percentage of Rock Larger than Rock Size in the Second Column	Typical Use
Facing	0.40 0.30 0.15	100 35 2.5	0 50 90	Culvert Outlets
Light	0.55 0.40 0.20	250 100 10	0 50 90	Floodway Batters
Quarter Tonne	0.75 0.55 0.30	500 250 35	0 50 90	Floodway Batters
150 Rock Pitching	0.15x0.15x0.15		100	Landscaped Slopes

As-constructed Drawings

The Shire will be responsible for the collection of as-constructed information.

Contractor to notify the Shire should there be any variation from the design to the works delivered on ground.

If this specification or the relevant design drawings do not cover a component of the works, 'Local Government Guidelines for Subdivisional Development Oct 2017' produced by DPLH, IPWEA and WAPC is to be used.