

DEPARTMENT *of* INFRASTRUCTURE, ENERGY *and* RESOURCES
TASMANIA
ROADWORKS SPECIFICATION
R34 – Drainage and Kerb Maintenance
November 2010

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R34.1 SCOPE

This Specification sets out the requirements for:

- The clearing and maintenance of stormwater drainage structures including culverts (<1.2m wide), endwalls, side-entry pits, grated pits, access pits, batter channels, energy dissipators, kerb and gutter, v-gutter and kerb scuppers.
- The clearing and maintenance of surface drains, table drains and inlet/outlet channels.
- The maintenance of subsoil drains, including markers.
- The maintenance of grid units.
- The maintenance of kerb including mountable, edge strips and barrier.

R34.2 REFERENCES

This Specification shall be read in conjunction with the following Specifications:

- G1 – General Provisions/MG1 Maintenance General Provisions
- G2 - Contract Management Plan/MG2 Maintenance Contract Management Plan
- G3 – Traffic Management
- R31 – Open Drain and Channels
- R32 – Drainage: Culverts, Pipelines and Structures
- R33 – Subsoil Drains
- R36 – Kerb and Gutter
- R54 – Road and Bridge Cleaning
- R81 – Minor Concrete Structures
- B15 – Concrete Repairs
- B23 – Penetrating Sealers and Coatings for Concrete

R34.3 REQUIREMENTS

R34.3.1 Concrete Drainage Structures

Where components require replacing, the removal and replacement shall be in accordance with *Standard Specifications R32 Drainage: Culverts, Pipelines and Structures* and *R36 Kerb and Gutter*. Endwalls shall be reinstated to their original location. Concrete repairs shall be carried out in accordance with *Standard Specifications B15 Concrete Repairs* and *B23 Penetrating Sealers and Coatings for Concrete* as applicable. New concrete work shall be in accordance with *Standard Specification R81 Minor Concrete Structures*. Open joints between pre-cast segments shall be repaired either by grouting or patching with mortar. Culverts, pipes and headwalls shall be maintained to prevent the ingress or collapse of fill material into the watercourse.

Pit covers shall be maintained to provide clear ingress for water into the drainage system and to provide a safe cover for the protection of pedestrians and vehicles. Pit covers shall be realigned to prevent hazards to pedestrians and road users and grid units realigned to prevent possible damage to vehicles. Pit covers shall provide a surface that is flush with the surrounding surface and permits clear ingress for water.

Grid units and supports shall be maintained to provide a safe crossing for vehicles. Grid units and supports shall be integral with the road surface and not have any loose sections. All grids that have material closer than 150 mm below the bottom of the grid rails shall be cleaned out. Stormwater drainage structures shall be cleared of vegetation and sediment to ensure surface flows are accepted by the piped system such that blockages pit surcharges and damage to pipe joints is avoided.

Culverts, pipes and headwalls shall not have exposed reinforcement. Any misaligned pit cover or grid unit shall be returned to the as constructed position.

R34.3.2 Surface Drains and Channels

Surface drains and channels shall be managed in accordance with the requirements of *Standard Specification R31 Open Drains and Channels* to minimise the risk of:

- Scouring of pavements, shoulders, verges and drains.
- Softening of subgrades and overlying pavements.
- Undermining and scouring of cut and fill batters and subsequent batter failures.
- Flooding, sedimentation and scour damage to surrounding land.

In addition:

- Surface Drains and Channels shall be reshaped so that the drain conforms to the originally constructed profile, where this can be determined, or to an agreed profile that ensures the flow of water.
- All sand, gravel, silt or debris that blocks or impedes the flow of water shall be removed and disposed of to avoid re entry into the drainage structure.
- Channels shall be maintained such that there is sufficient area to facilitate the flow of water into and out of pipes.
- Rock lining shall be installed in accordance with *Standard Specification R31 Open Drains and Channels*.
- The Superintendent may direct that the drains shall be lined with either asphalt or concrete as an alternative.
- Lined drains shall provide unobstructed free flow of water along their length without ponding.
- Joints shall be maintained to prevent leaking, subsidence and vegetation growth.
- Surface drains shall be cleaned to promote the free flow of water away from the pavement for both the safety of road users and the structural integrity of the pavement.

R34.3.3 Subsoil Drains

Replacement of subsoil drains and subsoil drain markers shall be in accordance with *Standard Specification R33 Subsoil Drains*.

All subsoil drains shall be free flowing at the outlet. Any growth or siltation at the outlet of subsoil drains shall be cleared. Clearing will generally be confined to flushing the subsoil drains and/or rodding, but may also include the removal of restrictions, clearing headwalls, clearing weepholes in wingwalls and abutments of bridges and retaining walls.

R34.3.4 Kerbing

All kerb and channel shall be cleaned as per *Standard Specification R54 Road and Bridge Cleaning* or as instructed by the Superintendent.

Where components require replacing, the removal and replacement shall be in accordance with *Standard Specification R36 Kerb and Gutter*. Concrete repairs shall be carried out in accordance with *Standard Specifications B15 Concrete Repairs* and *B23 Penetrating Sealers and Coatings for Concrete* as applicable.

New concrete work shall be in accordance with *Standard Specification R81 Minor Concrete Structures*.

Open joints between pre-cast segments shall be repaired either by grouting or patching with mortar.

R34.3.5 Disposal of Material

All material to be disposed of shall become the property of the Contractor unless otherwise stated in the Specification. The Contractor shall arrange suitable off-site disposal areas for all such material. All such material including detritus and debris shall be removed and disposed in

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accordance with all relevant legislation and Standard Specifications G1 General Provisions/MG1 Maintenance General Provisions and G2 Contract Management Plan/MG2 Maintenance Contract Management Plan.

R34.4 PERFORMANCE CRITERIA

R34.4.1 Maintenance in Construction Contracts

The intervention level and the condition following treatment are set out in **Table R34.1 Intervention Levels Construction Contracts**.

Table R34.1 Intervention Levels Construction Contracts

ROUTINE MAINTENANCE TREATMENT	INTERVENTION LEVEL	MINIMUM CONDITION AFTER TREATMENT
Clearance of Table Drains, Diversion Drains, Surface Drains, including Batter Channels	Any build up of debris or vegetation that restricts /prevents water from flowing along the drainage element.	No restrictions to water flow
Clearance of Culverts, Stormwater Drainage, Pits, Kerb and Gutter	Any debris that reduces the capacity of the drainage structure.	No restrictions to water flow
Clearance of Subsoil Drains	Any blocked subsoil drain, including outlet	No restrictions to water flow
Subsoil Drain Markers	Any missing subsoil drain marker at outlet	Subsoil drain markers at outlets shall be replaced within 14 days of being identified as missing
Kerbing	Any damaged or missing kerb	Function restored

R34.4.2 Network Maintenance Contracts

The intervention level and the condition following treatment are set out in **Table R34.2 Intervention Levels Network Maintenance Contracts**.

Table R34.2 Intervention Levels Network Maintenance Contracts

ROUTINE MAINTENANCE ITEM	INTERVENTION LEVEL	MINIMUM CONDITION AFTER TREATMENT
Table Drain, Open Drain and Channel Maintenance	As specified in the Contract.	No restrictions to water flow
Maintenance of Culverts, Stormwater Drainage, Pits, Inlet and Outlet Structures and Subsoil Drains	As specified in the Contract	No restrictions to water flow
Kerb and Gutter Maintenance	As specified in the Contract	No restrictions to water flow
Cleaning of Kerb and Gutter Pits	As specified in the Contract	Pits clear of Detritus and debris.

R34.5 PAYMENT

R34.5.1 Maintenance in Construction Contracts

Payment for the maintenance management of drainage and kerbing shall include the clearance/maintenance of; drains, culverts, pits, kerb and gutter. Payment shall be the relevant Scheduled Rate and shall include the supply of all plant, labour and materials required. Payment shall be on a pro-rata basis over the contract period (ref schedule of rates: 3.37).

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R34.5.2 Network Maintenance Contracts

Payment shall be in accordance with the relevant clauses and attachments in the Basis of Payment section of the Contract and shall include the supply of all plant, labour and materials required.