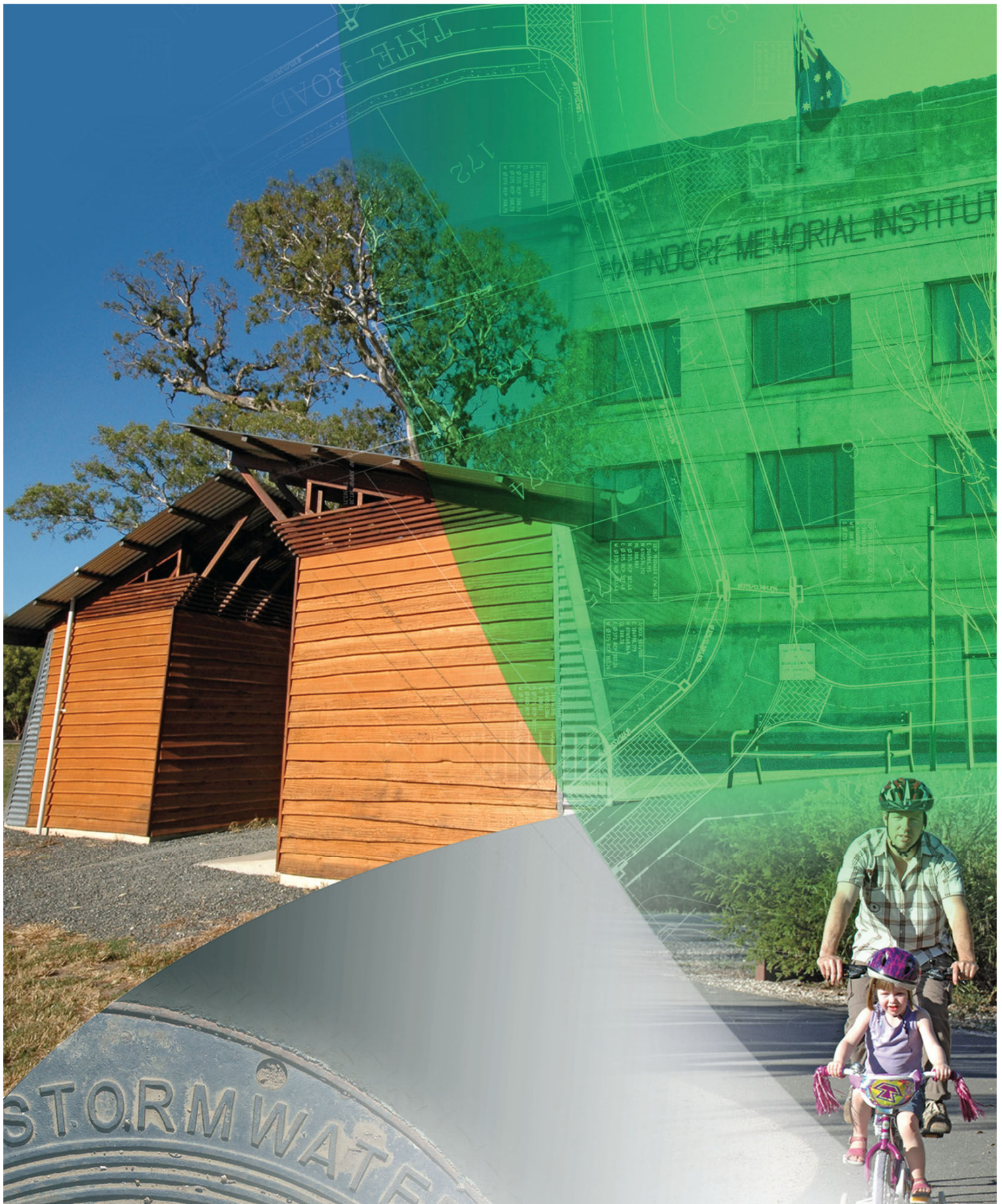




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1. SCOPE

The infrastructure reinstatement requirements contained in this Specification apply to roads and reserves which are maintained by the council (as defined in Clause 2.2 "Council"). All work shall conform to this Specification unless otherwise approved by the Council Representative.

This Specification shall be adhered to when excavation, along or across any pavement or shoulders on these roads is required for service installations, relocation of existing services, drainage or other reasons.

Notwithstanding any variation to certain of the requirements which any Government Authority (Federal or State) may consider it can exercise by virtue of its own or any other enabling legislation with respect to any underground installations, the technical and quality standards of roadwork and materials specified herein are the minimum acceptable within the meaning of words "make good" or "reinstate" used in most such legislation.

2. DEFINITIONS

2.1. General

The definitions given in AS1348 "Road and Traffic Engineering - Glossary of Terms" shall apply to all appropriate wording in this Specification.

2.2. Council

"Council" means the District Council of Mount Barker.

2.3. Council Representative

"Council Representative" being the officer directly responsible for any form of construction and or maintenance of Council owned land within the District Council of Mount Barker.

2.4. Service Authority

"Service Authority" means the person, Statutory Authority, Government Department, Corporate body or any other organisation (private, State or Federal) responsible for the excavation and reinstatement referred to in this Specification. Some examples include the following:

- Telstra
- SA Water
- ETSA
- Developers
- Private individuals

2.5. Minor Programmed Works

Works confined to one days duration from commencement to completion.

2.6. Major Programmed Works

Works exceeding one days duration from commencement to completion.

2.7. Excavation

"Excavation" is to incorporate any disturbance to any surface.

3. STAGES

3.1. Notification of proposed works

Notification should be formally given to Council prior to work commencing, in writing requesting approval for the said works and to include a sketch plan of the proposal and suggested timeframe. The following permit for Works on Council Land is the preferred method for doing this:

http://www.dcmtbarker.sa.gov.au/webdata/resources/files/Works_impacting_on_Council_Infrastructure1.pdf

3.2. Approval granted

Council will notify the service authority of their approval to undertake the prescribed works and to include any alterations, specifications, timeframes and any concerns e.g. native vegetation impacts, future works considerations and planning requirements.

3.3. Undertaking of works

Council is to be notified of the commencement of works so that the relevant inspections can take place to confirm location, compliance to specifications and reinstatement.

3.4. Completion of works

The service authority upon completion of the works shall notify Council as soon as possible so that compliance to this Specification can be ascertained.

4. GENERAL

4.1. Council Notification

The Service Authority shall notify the Council where it carries out excavation on, along or across any road pavement, shoulder or reserve which is maintained by the Council, in accordance with the procedures given below.

These procedures also apply to those Service Authorities where enabling legislation (eg. Waterworks Act and Sewer Act) provides for, or where the Council Representative approves otherwise, the quality, supply and placing of the surfacing by the Service Authority (as in accordance with Clause 6.5 "Asphalt and Sprayed Bituminous Surfacing").

4.1.1. Minor Programmed Works

Where the Council is to undertake final surfacing, at least forty-eight hours notice shall be given to the Council Representative, before any work is commenced, otherwise prior notice is not required if Council is not undertaking final surfacing.

4.1.2. Major Programmed Works

Work shall be in accordance with drawings, specifications and work methods submitted at least four weeks prior to the intended work and approved by the Council Representative, before any work is commenced.

Furthermore, the Service Authority shall be responsible for advising the Council Representative at least twenty-four hours before commencement of excavation in order that regular inspections and arrangements for final reinstatement can be made.

4.1.3. Emergency Works

Where either the road pavement or shoulder is damaged, or excavation of same is necessary in emergency situations, then the Service Authority shall provide verbal notification to the Council Representative, as soon as practicable after the emergency becomes known, in order that regular inspections and arrangements for final reinstatement and maintenance period commencement can be made.

4.1.4. Attachment of Services to Bridge and Culvert Structures

Drawings, including fixture details, are to be submitted to the Council Representative, at least six weeks prior to the intended work and approved by the Council Representative before any work is commenced.

4.2 Identification of Completed Work within the Maintenance Period

After completion of the work, and at any time upon request within the maintenance period, the Service Authority shall supply the Council Representative with details, including sketches, size, location and date constructed, of their reinstatement.

4.3 Safety

The Service Authority shall be responsible for the safety of vehicle, bicycle and pedestrian traffic for the duration of the work and all due precautions shall be taken and adequate warning given to traffic to ensure safety around the worksite in accordance with the AS1742 "Manual of Uniform Traffic Control Devices", Part 3 as modified by the "Code of Practice for the Installation of Traffic Control devices in SA".

4.1.5. Occupational Health and Safety

The service authority shall supply to Council a copy of their Occupational Health and Safety policy or if none available agree to the specific conditions as per the Occupational Health and Safety policy of the District Council of Mount Barker.

4.1.6. Public liability insurance

The service authority is to show to Council proof of Public Liability insurance to the value specified on the Works on Council Land permit.

4.4 Lodgement of an Order Requesting Work by the Council

For all programmed work, an order covering the cost of asphalt or other bituminous surface reinstatement, to be undertaken by the Council unless otherwise agreed with the Council Representative, shall be lodged with the Council Representative before the road surface is broken.

In the case of emergency works, an order covering the cost, as given above, shall be lodged with the Council Representative, no later than twenty-four hours after the emergency becomes known.

4.6 Trenchless Methods

This Specification does not apply to the installation of services where alternatives to open trenching such as thrust boring, tunnelling, etc. are used. The Council Representative, which will specify the appropriate reinstatement procedures, shall be given prior notice if it is intended to use trenchless methods.

5. EXCAVATION

5.1. Trenching Times

Trenching which is likely to reduce traffic volumes should not be carried out between 7.00am and 9.00am or between 4.00pm and 6.00pm on peak flow traffic lanes, unless unavoidable due to emergency circumstances, or otherwise approved by the Council Representative. Works shall be organised so as to cause minimal disruption to traffic, pedestrians and access to properties at all times. Approximately one half of the carriageway shall remain open to traffic at all times, unless otherwise approved by the Council Representative.

5.2. Detector Loops

All the necessary care and precaution shall be taken to prevent damage occurring to the detector loops where excavation is to be undertaken in the vicinity of traffic signals. Where damage occurs the Service Authority shall lodge an order with the relevant authority to cover the cost of repairing detector loops.

5.3. Saw cut

The trench shall be saw cut to the full depth of the existing asphalt surface. Where cement stabilised pavement exists, the pavement shall be saw cut to the full depth (unless restricted by cutting equipment) to minimise damage to the surrounding pavement. A saw cut is not required for roads surfaced with a light bituminous surface treatment.

5.4. Excavated Material

Unless otherwise approved by the Council Representative, excavated material shall not be reused in the reinstatement of trenches and shall be removed from the site and appropriately disposed.



6. BACKFILL

Prior to backfill operations, all loose rubbish and foreign material shall be removed from the excavation. All spaces excavated and not occupied by permanent work shall be backfilled.

Excavations shall be backfilled with Sand Type C to Standard Specifications PM63 or alternatively, approved (by the Council Representative) clean quarry, pit or dune sand or rubble of plasticity index not exceeding 8.

The backfilling shall be uniformly compacted in horizontal layers nominally not exceeding 200mm thickness to the dry density determined using AS1289, test method 5.2.1 (modified compaction) for:

- a) not less than 90%, up to a level 800mm below finished level, and/or
- b) not less than 95% at all levels above 800mm below finished level.

For pavement reinstatement other than unsealed shoulders the compacted backfill shall be brought to a level 525mm and 460mm below the finished road level for asphalt and sprayed bituminous roads respectively. For unsealed shoulders the compacted backfill shall be brought to a level 300mm below the finished level.

7. PAVEMENT REINSTATEMENT

7.1. Asphaltic Concrete Surfaced Roads

After completion of the backfill, 20mm crushed rock to Standard Specification PM1/20QG shall be used to reinstate the excavation to a level not less than 50mm and no more than 75mm below the existing surface adjoining the excavation. The crushed rock shall comply with Standard Specification PM1/20QG. The crushed rock shall be uniformly compacted in horizontal layers not exceeding 150mm thickness to not less than 98% of the dry density determined using AS1289, test method 5.2.1 (modified compaction).

7.2. Sprayed Bituminous Surfaced Roads

After completion of the backfill, 20mm crushed rock to Standard Specification PM1/20QG shall be used to reinstate the excavation to a level not less than 50mm and no more than 75mm below the existing surface adjoining the excavation. The crushed rock shall comply with Standard Specification PM1/20QG. The crushed rock shall be uniformly compacted in horizontal layers not exceeding 150mm thickness to not less than 98% of the dry density determined using AS1289, test method 5.2.1 (modified compaction).

7.3. Unsealed Roads

After completion of the backfill, a compacted 300mm depth of 20mm rubble complying with Standard Specification PM3/20QG, or an equivalent material approved by the Council Representative, shall be placed and compacted in two horizontal layers to reinstate the road pavement to the finished shoulder level and matching cross fall. Compaction shall be to 95% of the dry density determined using AS1289, test method 5.2.1 (modified compaction).

7.4. Unsealed Shoulders

After completion of the backfill, a compacted 200mm depth of 20mm screened quarry waste complying with Standard Specification PM3/20QG, or an equivalent material approved by the Council Representative, shall be placed and compacted in two horizontal layers to reinstate the road shoulder to the finished shoulder level and matching cross fall. Compaction shall be to 95% of the dry density determined using AS1289, test method 5.2.1 (modified compaction).

7.5. Temporary Pavement Surface

On completion of backfill and pavement reinstatement, it shall be the responsibility of the Service Authority, to maintain the open surface of the reinstated excavation until final asphalt or other bituminous surfacing has commenced. A temporary pavement surface shall be provided and maintained by the Service Authority, who shall ensure the surface is in a safe and trafficable condition for all traffic including bicycles, at all times pending final surfacing.

7.6. Asphalt and Sprayed Bituminous Surfacing

The Service Authority or its contractor will supply and place asphalt or other bituminous surfacing at cost to the Service Authority for all excavation reinstatement work. Wherever

standard asphalt or other bituminous surfacing exists, the following surface reinstatement requirements shall apply as appropriate:

a) comply with quality requirements and the finished acceptance criteria of Standard Specification for Asphalt (Bituminous Surfacing of Roads) A.7.

b) comprise a primerseal or tack coat and asphaltic concrete AC10 surface course mix to the requirements of A.7 (unless otherwise directed by the Council Representative) placed in layers not less than 30mm or greater than 50mm compacted thickness, finished off evenly and flush with the adjoining pavement surface.

c) comprise primer seal and sprayed bituminous surface with matching size and texture to the existing adjacent road surfacing, placed not less than forty-eight hours after the primer seal with an emulsion or hot cut-back binder. The level of workmanship shall comply with the general requirements of the Standard Specification for Seal Coat Treatment A.5.

7.7. Pavement Markings

The Service Authority shall lodge an order with the Council Representative, to cover the full cost of reinstatement of any painted pavement markings, raised pavement markers or safety bars, which are removed or damaged during trenching works. This order shall be lodged as soon as practicable.

7.8. Road Furniture

The Service Authority shall replace all road signs, guide posts, guard fence or other road furniture which are temporarily removed or damaged during trenching work, ensuring that all road furniture is made good (including sign mounting heights) and cleaned. This work is to be completed prior to traffic use.

7.9. Concrete Kerbing

The Service Authority shall reinstate (in concrete) any concrete kerb and gutter or median type kerb which is removed or damaged during trenching work, ensuring that the kerb profile, conforms with existing. Kerb reinstatement shall be completed by the Service Authority within three days of leaving the worksite. Concrete used in the work shall be in accordance with AS1379, "The Specification and Manufacture of Concrete", and shall be Grade N20 concrete.

7.10. Road Drainage Systems

The Service Authority shall report all instances of damage caused to the road drainage systems, i.e. culverts, sumps, subsoil drainage, roadside drainage systems etc. incurred during trenching works, to the Council Representative. All costs for the repairs shall be borne by the Service Authority.

7.11. Medians/Traffic Islands

The Service Authority shall reinstate medians and traffic islands, to conform to the existing surface treatment. The Service Authority shall lodge an order, as soon as practicable, with the Council Representative, to cover the replacement of any vegetation (eg. shrubs, median grasses, etc.) which are removed or damaged during trenching works.

7.12. Native vegetation

The service Authority shall take into account all relevant information under the Native Vegetation Act and Local Roadside Vegetation Management Plans using proper Land Management. Proper Land Management Proper Land Management can be referred to as the organisation or regulation of land use activities for a specific purpose in the manner that will support sustained use.

Maintenance of improvement of the integrity of the land, water, atmosphere and its aesthetic value is the objective. The terms capability and degradation are often used with regard to proper land management and the Soil Conservation and Land Care Act 1989 has defined these terms as follows: Capability: in relation to land, means the ability of the land to sustain a particular use without suffering permanent damage or a reduction in future productivity. Degradation: of land means a decline in the quality of the soil, vegetation, water and other natural resources of the land, resulting, from overgrazing, excessive tillage, over clearing, mineral extraction, development of towns, disposal of wastes, road construction, failure to control plant and animal pests or any other human activity on the land. The Oxford Dictionary defines "sustained" use as the ability to support that use for a long period of time and "integrity" of the land as the wholeness of soundness of the land.

7.13. Other services

It is the responsibility of the Service authority to arrange for the location of other services, such as Telstra, Effluent, SA Water, ETSA, etc.

8. CONFORMITY TESTING

The Service Authority shall submit to the Council Representative copies of laboratory test results to confirm compliance with materials and compaction requirements as specified herein for any reinstatement works carried out, within fourteen days of testing. Testing is not required for emergency work. Testing shall be undertaken by a laboratory registered by the National Association of Testing Authorities (NATA). The arrangement and cost of such testing shall be borne by the Service Authority. It shall be the responsibility of the Service Authority to remove and replace any material used by the Service Authority which does not comply with this Specification.

8.1. Material

All pavement material shall comply with PM32.C2 as appropriate, and conformance documentation may be required.

8.2. Compaction

The following minimum frequencies of testing shall apply:

a) Pavement

- | | |
|-------------|---|
| 0-50 m2 | no testing required. |
| 50-200 m2 | minimum 2 tests. |
| over 200 m2 | 2 tests and an additional test for every 200 m2 over 200 m2 |

b) Backfill

No testing required unless otherwise directed by the Council Representative.

9. MAINTENANCE PERIOD

For all work, notwithstanding the reinstatement of the surface by the Council, the Service Authority will be responsible for the cost of making good any settlement or other deterioration in the reinstated excavation for a maintenance period of one year after reinstatement.

Where it is agreed by the Council Representative that the reinstatement of the asphalt or other bituminous surface of the excavation for a service installation or repair service is to be carried out by the Service Authority, or where enabling legislation exists the same, then the responsibility to maintain the completed surface in a safe and trafficable condition for all traffic including bicycles, shall remain with the Service Authority until the end of the maintenance period unless an order covering the full cost of maintenance is lodged with the Council Representative for the District Council of Mount Barker to take over this maintenance responsibility.

The Service Authority shall indemnify and keep indemnified the Council against all claims which may arise due to excavations or settlement of excavations until the maintenance responsibility has transferred to the Council. All costs and charges incurred by the Council Representative for any works necessitated by the Council due to non-compliance with the requirements of this Specification for all installations by the Service Authority are to be borne by the Service Authority until the end of the maintenance period. Before carrying out any work necessitated by settlement of the excavation for all installations and for which an order has not been obtained, the Council Representative will give notice to the Service Authority of his intentions so that the deficient work may be inspected before rectification.

Settlement will be classified as any change in finished level that is greater than 20mm measured under a 1.2m straightedge along or across the trench.

10. RELATED INFORMATION

10.1. ACTS

1. Native Vegetation Act
2. Local Government Act
3. Sewers Act
4. Waterworks Act
5. ETSA Act
6. Telecommunications Act 1991
7. Telecommunications National Code 1996 (revised)

10.2. STANDARDS

1. AS 1289
2. AS 1379
3. AS 1742 Part 3

10.3. SPECIFICATIONS

1. Class 1 Quarried pavement material [grading based]
2. Class 2 Quarried pavement material [grading based]
3. Class 3 Quarried pavement material [grading based]
4. Sand

APPENDIX 1 - MATERIAL SPECIFICATIONS

CLASS 3 QUARRIED PAVEMENT MATERIAL [GRADING BASED]

This product specification is to be read in conjunction with and as part of the attached "Standard Specification for the Supply and Delivery of Pavement Material" PARTS 1 - 4.

PAVEMENT APPLICATION

These products are intended for use as pavement layers on low traffic roads or subbase layers on medium traffic roads. These products are equivalent to Class 3 Recycled Pavement Material.

SOURCE MATERIALS

Source materials shall be natural quarried material. No recycled material is permitted to be included.

ENVIRONMENTAL REQUIREMENTS

No specific requirements.

PRODUCT QUALITY CONTROL

TEST PROCEDURE	MANUFACTURING TOLERANCE				
QUALITY CONTROL TESTS					
Particle Size Distribution TP134	Product	20 mm Class 3 PM 3/20QG	40 mm Class 3 PM 3/40QG	55 mm Class 3 PM 3/55QG	75 mm Class 3 PM 3/75QG
	Sieve Size (mm)	Percent Passing			
	75				100
	53		100	100	75 – 95
	37.5		90 – 100	75 – 95	
	26.5	100			50 – 75
	19	90 – 100	60 – 85	50 – 75	
	13.2				
	4.75	40 - 65	25 - 50	20 – 45	20 – 40
0.075	5 - 15	3 - 11	3 - 11	3 - 11	
AS 1289.3.1.2 AS 1289.3.3.1 AS 1289.3.4.1	Liquid Limit Plasticity Index Linear Shrinkage	Maximum 35% Maximum 15% Maximum 8%			
AS 1141.23 AS 1141.23	LA Abrasion Grading 'A' LA Abrasion Grading 'B'	N/A Max 45%	Maximum 45% N/A		

CLASS 2 QUARRIED PAVEMENT MATERIAL [GRADING BASED]

This product specification is to be read in conjunction with and as part of the attached "Standard Specification for the Supply and Delivery of Pavement Material" PARTS 1 - 4.

PAVEMENT APPLICATION

These products are intended for use as pavement layers on medium traffic roads or sub-base layers on high traffic roads. These products are equivalent to Class 2 Recycled Pavement Material.

SOURCE MATERIALS

Source materials shall be natural quarried material. No recycled material is permitted to be included.

ENVIRONMENTAL REQUIREMENTS

No specific requirements.

PRODUCT QUALITY CONTROL

TEST PROCEDURE	MANUFACTURING TOLERANCE [Grading Based]			
QUALITY CONTROL TESTS				
Particle Size Distribution TP134	Product	20 mm Class 2 PM 2/20QG	30 mm Class 2 PM 2/30QG	40 mm Class 2 PM 2/40QG
	Sieve Size (mm)	Percent Passing		
	53		100	100
	37.5		100	90 – 100
	26.5	100	90 – 100	74 – 96
	19	90 – 100	77 – 95	62 – 86
	13.2	74 – 96		
	9.5	61 – 85	51 – 75	42 – 66
	4.75	42 – 66	35 – 57	28 – 50
	2.36	28 – 50	24 – 44	20 – 39
	0.425	11 – 27	9 – 22	8 – 21
	0.075	4 – 14	4 - 12	3 – 11
AS 1289.3.1.2 AS 1289.3.3.1 AS 1289.3.4.1	Liquid Limit Plasticity Index Linear Shrinkage	Maximum 28% Minimum 1% - Maximum 8% Maximum 4%		
AS 1141.23	LA Abrasion Grading 'A'	N.A.	N.A.	Maximum 45%
AS 1141.23	LA Abrasion Grading 'B'	Maximum 45%	Maximum 45%	N.A.

CLASS 1 QUARRIED PAVEMENT MATERIAL [GRADING BASED]

This product specification is to be read in conjunction with and as part of the attached "Standard Specification for the Supply and Delivery of Pavement Material" PARTS 1 - 4.

PAVEMENT APPLICATION

These products are intended for use as pavement layers on high traffic roads. These products are equivalent to Class 1 Recycled Pavement Material.

SOURCE MATERIALS

Source materials shall be natural quarried material. No recycled material is permitted to be included.

ENVIRONMENTAL REQUIREMENTS

No specific requirements.

PRODUCT QUALITY CONTROL

TEST PROCEDURE	MANUFACTURING TOLERANCE [Grading based]			
QUALITY CONTROL TESTS				
Particle Size Distribution TP134	Product	20 mm Class 1 PM 1/20QG	30 mm Class 1 PM 1/30QG	40 mm Class 1 PM 1/40QG
	Sieve Size (mm)	Percent Passing		
	53			100
	37.5		100	95 – 100
	26.5	100	95 – 100	79 – 91
	19	95 – 100	79 – 93	65 – 83
	13.2	77 – 93		
	9.5	63 – 83	53 – 73	44 – 64
	4.75	44 – 64	36 – 56	29 – 49
	2.36	29 – 49	25 – 43	20 – 38
	0.425	13 – 23	10 – 21	8 – 18
	0.075	5 – 11	4 – 10	3 – 9
AS 1289.3.1.2 AS 1289.3.3.1 AS 1289.3.4.1	Liquid Limit Plasticity Index Linear Shrinkage	Maximum 25% Minimum 1% Maximum 6% Maximum 3%		
AS 1141.23	LA Abrasion Grading 'A'	N.A.	N.A.	Maximum 30%
AS 1141.23	LA Abrasion Grading 'B'	Maximum 30%	Maximum 30%	N.A.

NOTE: The quarried pavement material shall have a uniform grading and shall not be graded from the coarse limit of the grading envelope to the fine limit of the grading envelope, or vice versa.

SAND

This product specification is to be read in conjunction with and as part of the attached "Standard Specification for the Supply and Delivery of Pavement Material" PARTS 1 - 4.

SOURCE MATERIALS

Type A and B Shall be washed or unwashed natural pit, river or crushed quarry material.

Type C Shall be a crushed quarry product only.

Type D Shall be a natural pit material, dune sand or crushed quarry product.

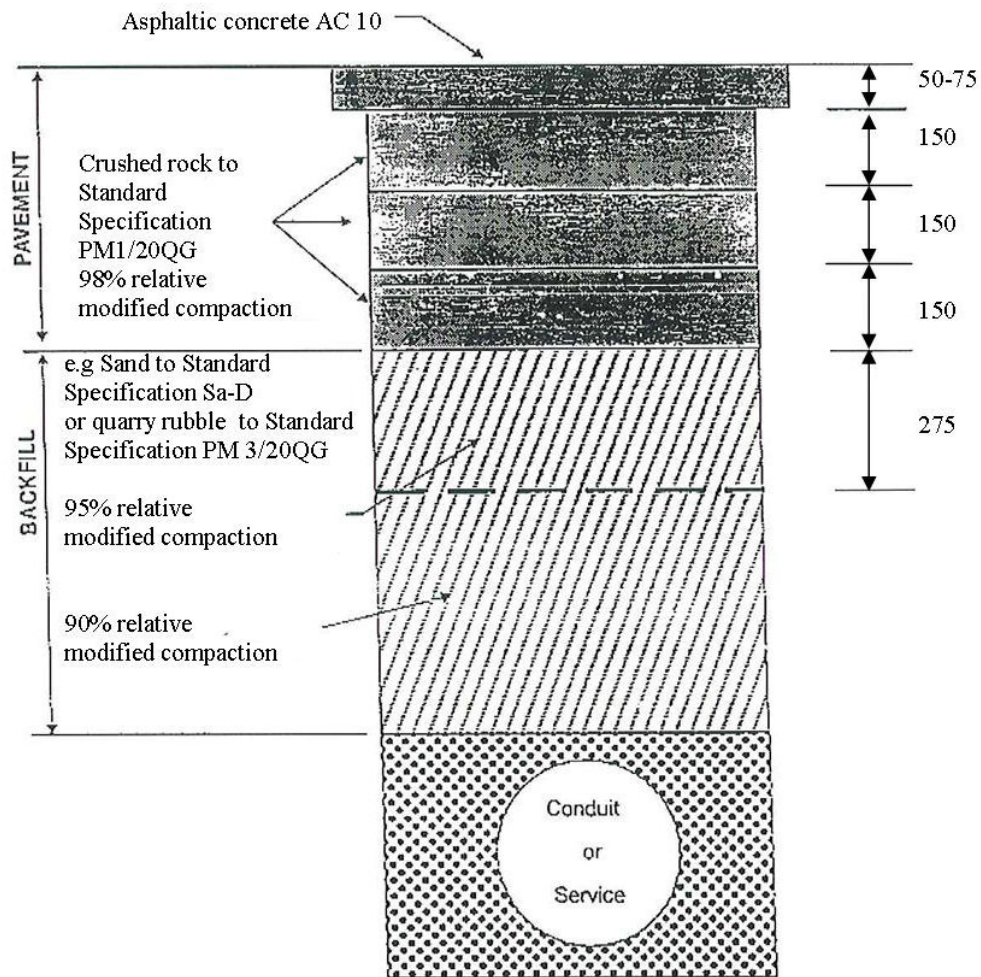
ENVIRONMENTAL REQUIREMENTS

No specific requirements.

PRODUCT QUALITY CONTROL

TEST PROCEDURE	MANUFACTURING TOLERANCE				
QUALITY CONTROL TESTS					
Particle Size Distribution TP134	Product	Sa - A	Sa - B	Sa – C	Sa – D
	Sieve Size (mm)	Percent Passing			
	9.5	100	100		95 – 100
	6.7			100	
	4.75	95 – 100	95 – 100	70 – 100	
	2.36	75 – 100	75 – 100	35 – 100	
	1.18	55 – 90	45 – 90		25 – 70
	0.600	35 – 70	30 – 70		
	0.425			25 – 70	
	0.300	20 – 40	20 – 42		
	0.150	5 – 20	15 – 30		0 – 10
0.075	0 - 10	5 – 20	8 – 20		
AS 1289.3.1.2 AS 1289.3.3.1 AS 1289.3.4.1	Liquid Limit Plasticity Index Linear Shrinkage	Non Plastic	Max 25% Max 6% Max 3%		Non Plastic
AS 1141.34	Organic Impurities	Satisfactory			

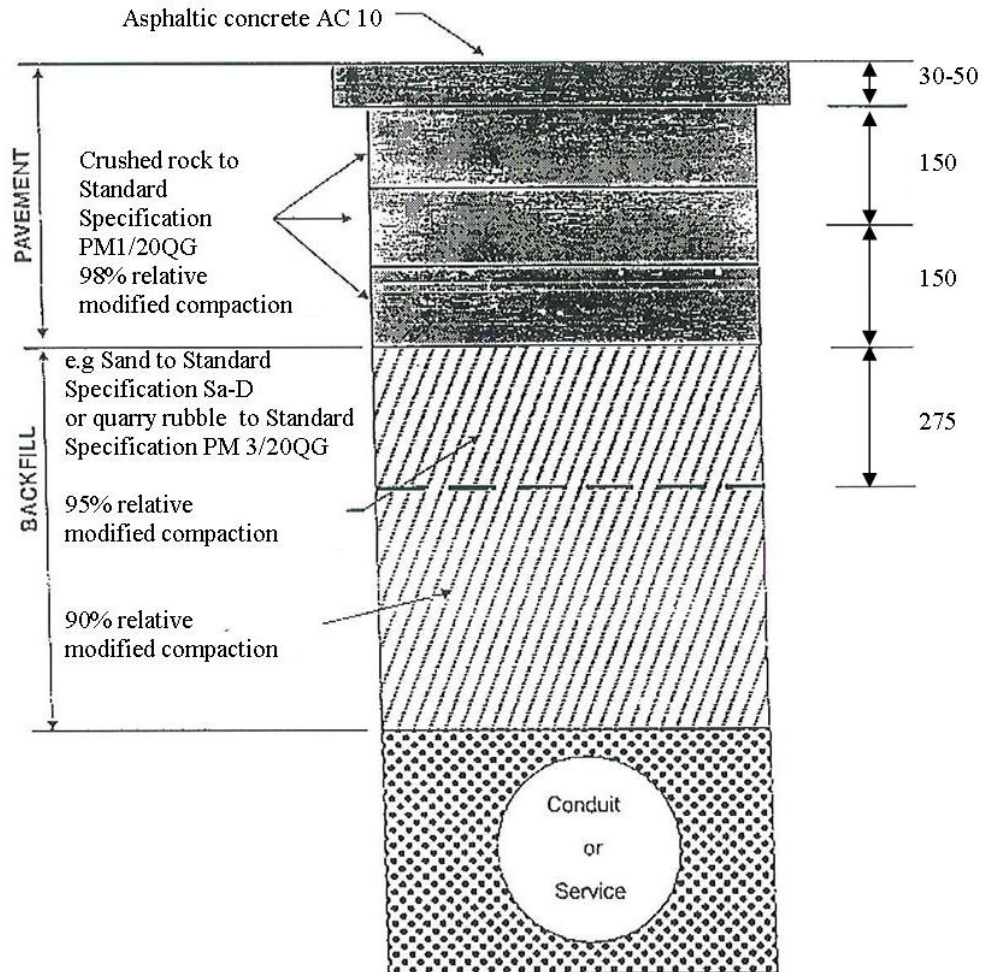
APPENDIX 2 - REQUIREMENTS FOR ASPHALTIC CONCRETE ROADS



NOTE:

- Not to scale
- All dimensions in mm

APPENDIX 3 - REQUIREMENTS FOR SPRAY SEALED ROADS



NOTE:

- Not to scale
- All dimensions in mm

APPENDIX 4 - REQUIREMENTS FOR PAVED, ASPHALT AND CONCRETE FOOTPATHS

Paving

- Pavers to match existing
- 150 mm of 20 mm crushed rock compacted 95% MDD

Asphalt

- 50mm AC10 Asphalt
- 150 mm of 20 mm crushed rock compacted 95% MDD

Concrete

Driveway

- 150 mm 20-25 MPa concrete (colour to match existing)
- F82 Mesh
- Dowelled into existing concrete
- 100 mm 20 mm crushed rock compacted 98% MDD

Footpath

- 100 mm 20-25 MPa concrete
- F82 Mesh
- Dowelled into existing concrete
- 100 mm of 20 mm crushed rock compacted 95% MDD

Rubble

- Backfill with 200 mm crushed rock, compacted every 100 mm
- Top layer compacted and levelled to existing surface

Spray Seal

- No spray seal unless otherwise authorised by District Council of Mount Barker representative.

NOTE:

Any variations to be discussed with the District Council of Mount Barker Representative