PAVEMENT STANDARD DRAWINGS

ASPHALT

Volume 1 - New Construction

Related drawings:
Volume 2 - Maintenance
### REVISION REGISTER

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<td>1/0</td>
<td>18/02/2014</td>
<td>ALL</td>
<td>INITIAL ISSUE</td>
<td>PEP&amp;MG *</td>
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* PRINCIPAL ENGINEER PAVEMENTS, MATERIALS AND GEOTECHNICAL

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### TABLE 2.1: ABBREVIATIONS

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<th>SYMBOL</th>
<th>DESCRIPTION</th>
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<td>TABLE A.B</td>
<td>SHEET A, TABLE B (LIKEWISE &quot;FIGURE A.B&quot;)</td>
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<tr>
<td>CRCP</td>
<td>Continuously Reinforced Concrete Pavement</td>
</tr>
<tr>
<td>LCS</td>
<td>Lean-Mix Concrete Subbase</td>
</tr>
<tr>
<td>SMZ</td>
<td>Selected Material Zone (upper subgrade)</td>
</tr>
<tr>
<td>PCP</td>
<td>Plain Concrete Pavement</td>
</tr>
<tr>
<td>PCP-R</td>
<td>Reinforced Plain Concrete Pavement</td>
</tr>
<tr>
<td>JRCP</td>
<td>Jointed Reinforced Concrete Pavement</td>
</tr>
<tr>
<td>SFCP</td>
<td>Steel Fibre Reinforced Concrete Pavement</td>
</tr>
<tr>
<td>UNO</td>
<td>Unless Noted Otherwise</td>
</tr>
<tr>
<td>DG/DGA/AC</td>
<td>Dense Graded Asphalt</td>
</tr>
<tr>
<td>SMA</td>
<td>Stone Mastic Asphalt</td>
</tr>
<tr>
<td>QG/QGA</td>
<td>Open Graded Asphalt</td>
</tr>
<tr>
<td>QDP</td>
<td>Quick Drying Prime</td>
</tr>
<tr>
<td>CRS</td>
<td>Cationic Rapid Set</td>
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<tr>
<td>AAPA</td>
<td>Australian Asphalt Pavement Association</td>
</tr>
</tbody>
</table>

NOTE 5: ALL NUMERIC NOTES ARE LOCATED ON SHEET 03.

SHEET A, TABLE B (LIKEWISE "FIGURE A.B")

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT

LEAN-MIX CONCRETE SUBBASE

SELECTED MATERIAL ZONE (UPPER SUBGRADE)

PLAIN CONCRETE PAVEMENT

REINFORCED PLAIN CONCRETE PAVEMENT

JOINTED REINFORCED CONCRETE PAVEMENT

STEEL FIBRE REINFORCED CONCRETE PAVEMENT

UNLESS NOTED OTHERWISE

DENSE GRATED ASPHALT

STONE MASTIC ASPHALT

OPEN GRADED ASPHALT

QUICK DRYING PRIME

CATIONIC RAPID SET

AUSTRALIAN ASPHALT PAVEMENT ASSOCIATION
Asphalt Standard Drawing Notes

GENERAL
1. All dimensions are in millimetres unless noted otherwise.
2. All Asphalt pavement dimensions relate to compacted asphalt.
3. Dimensions:
   (a) At all design points, unless noted otherwise.

PAVING
4. The allowable asphalt layer thickness during paving is listed in Table 3.1.
5. Hand placement of asphalt is only permitted for minor corrections of the existing surface and in areas where placement with a paving machine is impractical.
6. The minimum paving width is 1.0 m.
7. All loose, cracked and/or mellow material at the edge of a paved mat must be removed prior to paving the adjacent mat.
8. Each joint must be finished with a smooth, planar surface coinciding with the surface of the rest of the mat and satisfying the surface shape requirements specified in R116, R121, R159 or R121.

JOINT LAYOUT DESIGN
9. The location of mandatory longitudinal and transverse asphalt joints is shown on the planned drawings.
10. Longitudinal asphalt joints must be located within ±25 mm of line markings, or at the centre of the lane, unless noted on the drawings.
11. Transverse joints must be:
   (a) No more than 50 mm from the joint in the underlying layers;
   (b) Coincident within 150 mm of the line of change in crossfall;
   (c) Coincident with traffic markings, unless otherwise approved by the Principal.
12. Transverse joints must:
   (a) be a minimum of 25 mm apart;
   (b) be offset by a minimum of 1 m from the joint in the underlying layer;
   (c) be started within the commencement of each paving run.
13. Where no joints are shown on the drawings, the contractor is permitted to form joints according to asphalt production and paving equipment available onsite and meet requirements of Notes 10 to 12.

WEARING COURSE
14. Open graded asphalt (OGA) may be laid above the top level of a gutter.
15. Stone mastic asphalt (SMA) and Dense Graded Asphalt (DGA) should be laid flush with the top of the gutter.
16. The edge of the OGA must be rolled over to minimise the step height of the OGA to the gutter.

TACKCOAT
17. The tackcoat must be applied at an application rate of between 0.15 L/m² and 0.30 L/m² of residual bitumen. For joints the application rate must be doubled on vertical faces.
18. Bitumen emulsion for use as a tackcoat must be CRS/170-60 and comply with AS 1160.
19. The tackcoat must be applied within 60 mm of the design line and/or edges. Hence, LCS may be paved in large widths without longitudinal joints but, if joints are shown on the drawings, they must be located within the nominated zone.
20. LCS joints are typically butt faced and need not be scabbled or corrugated. They must not be tied. The vertical alignment must be 90° ± 10° to the top surface. Slab corners formed by joints and/or edges must be no more acute than 60°.
21. A filler must be provided between the LCS and the abutment or other structure. The filler must comply with RMS 3204 and must cover the full end of the LCS.

REFERENCES
22. Bituminous emulsions for the construction and maintenance of pavements.
23. Spray applied bituminous surfacing (with polymer modified binder).
24. Cold Applied Elastomeric Joint Sealants
25. Cold Milling of Road Pavement Materials
26. Stone Mastic Asphalt
27. Open Graded Asphalt
28. Lean-Mix Concrete Subbase
29. Concrete Pavement Base
30. Cold Milling of Road Pavement Materials
31. Sprayed Bituminous Surfacing (with Polymer Modified Binder)
32. Heavy Duty Dense Graded Asphalt
33. Light Duty Dense Graded Asphalt
34. Open Graded Asphalt
35. Stone Mastic Asphalt
36. Preformed Joint Fillers for Concrete Road Pavements and Structures
37. Cold Applied Elastomeric Joint Sealants
38. Bituminous emulsions for the construction and maintenance of pavements
39. Specification and Supply of Concrete

NOTES
- All joints must be finished with a smooth, planar surface coinciding with the surface of the rest of the mat and satisfying the surface shape requirements specified in R116, R121, R159 or R121.
- All dimensions are in millimetres unless noted otherwise.
- All Asphalt pavement dimensions relate to compacted asphalt.
- Dimensions:
   (a) At all design points, unless noted otherwise.

TABLE 3.1: ALLOWABLE ASPHALT LAYER THICKNESS (mm)

<table>
<thead>
<tr>
<th>ASPHALT TYPE</th>
<th>ALLOWABLE ASPHALT LAYER THICKNESS FOR DIFFERENT NOMINAL ASPHALT SIZE (mm)</th>
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<tbody>
<tr>
<td></td>
<td>6 mm</td>
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<tr>
<td>DENSE GRADED ASPHALT (DGA)</td>
<td>15 - 20</td>
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<tr>
<td>STONE MASTIC ASPHALT (SMA)</td>
<td>-</td>
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<tr>
<td>OPEN GRADED ASPHALT (OGA)</td>
<td>-</td>
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LONGITUDINAL ASPHALT TRANSITION DETAILS

NOT TO SCALE
If third lane is required, second lane to be offset as per first lane.

NOTE:

LONGITUDINAL JOINT - SECTIONS AND DETAILS

Table:

<table>
<thead>
<tr>
<th>Plot Driver:</th>
<th>File Path:</th>
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<tr>
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</tbody>
</table>

NOTE:

(a) If third lane is required, second lane to be offset as per first lane.
RAMP PAVEMENT JOINT ARRANGEMENT
SCALE 1:500

ASPHALT OVER CRCP

CONCRETE TRANSVERSE JOINTS NOT SHOWN FOR CLARITY

NOTES:

(a) PAVEMENT TYPES:
- ASPHALT WEARING COURSE
- ASPHALT OVER CRCP
- FLEXIBLE PAVEMENT

(b) Refer to RMS Rigid Pavement Standard Drawings for all concrete details.

(c) Refer to RMS standard pavement subsurface drainage details.

(d) Slab widths and all lane widths are indicative only.

(e) All dimensions are in metres unless noted otherwise.

Slab widths and all lane widths are indicative only.

Refer to RMS Rigid Pavement Standard Drawings for all concrete details.

Scale 1:500

Typical cross section

Scale 1:75

Section 1

Section 2

Detail

Scale 1:20

Scale 1:75

NOTES:

(a) PAVEMENT TYPES:
- ASPHALT WEARING COURSE
- ASPHALT OVER CRCP
- FLEXIBLE PAVEMENT

(b) Refer to RMS Rigid Pavement Standard Drawings for all concrete details.

(c) Refer to RMS standard pavement subsurface drainage details.

(d) Slab widths and all lane widths are indicative only.

(e) All dimensions are in metres unless noted otherwise.
FLEXIBLE PAVEMENT

ON RAMP PAVEMENT ARRANGEMENT
SCALE 1:500

ASPHALT JOINT AND LANE MARKING

LANE LINE MARKING

NOTE 25
0.25
NOTE 25
0.25
NOTE 25

DETAIL
SCALE 1:20

ASPHALT WEARING COURSE
JOINT PLACEMENT

CROWN

ASPHALT WEARING COURSE
JOINT PLACEMENT

ASPHALT INTERMEDIATE LAYERS
LCS SUBBASE

SHOULDER

TRAVEL LANE

0.5 MIN

5.0

SCALE 1:75

SECTION 1A

TYPICAL CROSS SECTION

SHOULDER

TRAVEL LANE

2.5

3.5

SHOULDER

TRAVEL LANE

2.5

3.5

SHOULDER

TRAVEL LANE

2.5

3.5

SHOULDER

TRAVEL LANE

2.5

3.5

SHOULDER

TRAVEL LANE

2.5

3.5

SHOULDER

TRAVEL LANE

2.5

3.5

SHOULDER

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SHOULDER

TRAVEL LANE

2.5

3.5

SHOULDER

TRAVEL LANE

2.5

3.5

SHOULDER

TRAVEL LANE

2.5

3.5

NOTE 25
0.25
NOTE 25
0.25
NOTE 25

SCALE 1:75

DETAIL
SCALE 1:20

FLAT PLANED ASPHALT JOIN

JOINT LOCATION
REFER TO NOTE 11(a)
ON SHEET No 05.

ASPHALT JOINT AND LANE MARKING

LANE LINE MARKING

NOTE 25
0.25
NOTE 25
0.25
NOTE 25

DETAIL
SCALE 1:20

FLAT PLANED ASPHALT JOIN

JOINT LOCATION
REFER TO NOTE 11(a)
ON SHEET No 05.

NOTES:
(a) PAVEMENT TYPES:

ASPHALT WEARING COURSE

ASPHALT OVER CROP

FLEXIBLE PAVEMENT

(b) Refer to RMS Rigid Pavement Standard Drawings for all concrete details.

(c) Refer to RMS standard pavement subsurface drainage details.

(d) All measurements are in metres unless explicitly marked.

(e) Slab widths and all lane widths are indicative only.

(f) All dimensions are in metres unless noted otherwise.
NOTES:

(a) All dimensions are in metres unless noted otherwise.

(b) Refer to RMS Rigid Pavement Standard Drawings for all concrete details.

(c) Slab widths marked '*' and all lane widths are indicative only.

(d) Refer to RMS standard pavement subsurface drainage details.

(e) Slab widths marked '*' and all lane widths are indicative only.

(f) All dimensions are in metres unless noted otherwise.

PAVEMENT ARRANGEMENT PLAN

TURNING AREAS AND BREAKDOWN BASE

SCALE 1:500
TABLE 10.1 ISOLATION AND EXPANSION JOINT DIMENSIONS

<table>
<thead>
<tr>
<th>MOVEMENT (mm)</th>
<th>SAWCUT WIDTH (mm)</th>
<th>SEALANT DEPTH (mm)</th>
<th>SAWCUT DEPTH</th>
<th>DEPRESSION (mm)</th>
<th>BACKER ROD DIAMETER (mm)</th>
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<tbody>
<tr>
<td>UP TO ± 5</td>
<td>6</td>
<td>8</td>
<td>10 mm FROM BOTTOM OF ASPHALT LAYER</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>UP TO ± 10</td>
<td>15</td>
<td>12</td>
<td>10 mm FROM BOTTOM OF ASPHALT LAYER</td>
<td>4</td>
<td>20</td>
</tr>
</tbody>
</table>

NOTES:
(a) Joint as detailed and dimensioned is suitable for joint gap movements up to ± 5 mm.
(b) For movements greater than ± 5 mm up to ± 10 mm use the corresponding dimensions shown in Table 10.1.

For Bridge Joint see Bridge Standard Drawing RMS B035A.