NOTES

1. CONCRETE GRADE N25.
2. SEE WALLS OF PITS DEEPER THAN 150 ARE TO BE REINFORCED WITH ONE LAYER OF RL1218 MESH RETURNED 300 INTO BASE.
3. PITS DEEPER THAN 600 TO BE FITTED WITH GALVAISED STEP IRONS.
4. ALL EXPOSED EDGES TO BE ROUNDED WITH 20 RADIUS.
5. MINIMUM COVER OF REINFORCEMENT SHALL BE 50 UNLESS SHOWN OTHERWISE.
6. LOCATION AND LEVEL OF GULLY PIT SHOWN IN THE DRAWINGS REFERS TO THIS POINT.
7. FOR DETAILS OF FRAME AND GRATE SEE R0220-04 AND R0220-05.
8. FOR PITS WITH PIPE DIAMETER GREATER THAN 450MM SEE R0220-06.
9. AT RIGHT ANGLE CHANGE IN PIPE DIRECTION, OUTLET INVERT TO BE 150 BELOW INLET INVERT.
10. DEPTH OF PIT NOT TO EXCEED 3000.

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

SEND FEEDBACK ON THIS STANDARD DRAWING TO technologystandards@rms.nsw.gov.au

MANAGER ROAD DESIGN ENGINEERING SERVICES

DATE 21.11.16

REV: 0

DRAWING NO.: R0220-01

STANDARD DRAWING

ROAD DESIGN ENGINEERING

R0220 STORMWATER DRAINAGE SERIES - GULLY PITS

GULLY PIT TYPE SA PIPE DIAMETER UP TO 450 mm

SHEET 1 OF 2

ISSUED

© Roads and Maritime Services
STANDARD DRAWING
ROAD DESIGN ENGINEERING
R0220 STORMWATER DRAINAGE SERIES - GULLY PITS
GULLY PIT TYPE SA PIPE DIAMETER UP TO 450 mm

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN

SEND FEEDBACK ON THIS STANDARD DRAWING TO: technologystandards@rms.nsw.gov.au

PRECAST CONCRETE LINTEL
PRECAST CONCRETE LINTEL

PRE-CAST LINTEL WHERE REQUIRED.
SUBSOIL DRAIN 100 DIA. HOLES FOR PIPES GREATER THAN 450 DIA.
FOR SEDIMENTATION CONTROL WHERE SPECIFIED ADDITIONAL 300 BELOW INVERT TO BE PROVIDED

INLET
OUTLET
CHANNEL INVERT
CHANNEL INVERT

25 RAD.
25 RAD.

REFERENCE POINT
REFERENCE POINT

FOOTPATH
FOOTPATH

50 DEPRESSION AT GRATING
50 DEPRESSION AT GRATING

JOURNEYS
JOURNEYS

PRE-CAST CONCRETE MORTAR BED.
SET IN 5 CEMENT PRE-CAST LINTEL

MORTAR BED.
SET IN 5 CEMENT PRE-CAST LINTEL

WHERE REQUIRED.
WHERE REQUIRED.

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FOOTPATH
FOOTPATH

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NOTE:
1. CONCRETE STRENGTH N25.
2. STEEL: HOT DIP GALVANISED IN ACCORDANCE WITH AS4680.
3. SIDE WALLS OF PITS DEEPER THAN 1.2M TO BE REINFORCED WITH ONE LAYER OF 60.2M MESH AND RETURNED INTO BASE.
4. STEP IRONS ARE REQUIRED WHERE PITS ARE DEEPER THAN 1.2M.
5. PROVIDE SUBSURFACE DRAINS INTO PITS AS REQUIRED.
6. PROVIDE SL52 MESH AND RETURNED INTO BASE.

TYPE SA K&G
1500 CHANNEL TRANSITION

320

NOTE:
SEND FEEDBACK ON THIS STANDARD DRAWING TO technologystandards@rms.nsw.gov.au

NOTE:
ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
**REINFORCEMENT SCHEDULE**

<table>
<thead>
<tr>
<th>SHAPE</th>
<th>MARK</th>
<th>DA (mm)</th>
<th>D1 (mm)</th>
<th>LENGTH (mm)</th>
<th>No.</th>
<th>TOTAL LENGTH (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>16</td>
<td>1.060</td>
<td>1.980</td>
<td>1</td>
<td></td>
<td>1.980</td>
</tr>
<tr>
<td>A2</td>
<td>10</td>
<td>1.120</td>
<td>1.980</td>
<td>6</td>
<td>1.920</td>
<td>9.920</td>
</tr>
<tr>
<td>B1</td>
<td>10</td>
<td>1.120</td>
<td>1.980</td>
<td>2</td>
<td></td>
<td>3.960</td>
</tr>
<tr>
<td>C1</td>
<td>10</td>
<td>1.120</td>
<td>4.100</td>
<td>4</td>
<td>1.940</td>
<td>7.760</td>
</tr>
<tr>
<td>A2</td>
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<td>1.120</td>
<td>1.980</td>
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<td>1.920</td>
<td>9.920</td>
</tr>
<tr>
<td>A3</td>
<td>10</td>
<td>1.120</td>
<td>1.980</td>
<td>6</td>
<td>1.920</td>
<td>9.920</td>
</tr>
<tr>
<td>B2</td>
<td>10</td>
<td>2.150</td>
<td>2.830</td>
<td>2</td>
<td>5.960</td>
<td>11.920</td>
</tr>
<tr>
<td>C2</td>
<td>10</td>
<td>2.150</td>
<td>4.100</td>
<td>7</td>
<td>2.850</td>
<td>19.950</td>
</tr>
<tr>
<td>A2</td>
<td>10</td>
<td>3.160</td>
<td>3.160</td>
<td>6</td>
<td>1.950</td>
<td>11.700</td>
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<tr>
<td>B2</td>
<td>10</td>
<td>3.160</td>
<td>3.160</td>
<td>6</td>
<td>1.950</td>
<td>11.700</td>
</tr>
<tr>
<td>C2</td>
<td>10</td>
<td>3.160</td>
<td>3.160</td>
<td>11</td>
<td>4.330</td>
<td>43.300</td>
</tr>
</tbody>
</table>

**NOTES**

1. **CONCRETE GRADE N25**
2. **CLEAR COVER TO REINFORCEMENT SHALL BE 25 mm UNLESS SHOWN OTHERWISE.**
3. **EXPOSED SURFACES TO BE OFF-STEEL FORM FINISH OR OF HIGH QUALITY STEEL FLOAT FINISH.**
4. **ALL EXPOSED EDGES TO BE ROUNDED TO 5 mm FINISH.**
5. **GALVANISING TO BE IN ACCORDANCE WITH AS4680.**
SECTION
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WELDED STEEL FRAME

WELDED STEEL GRATING

NOT TO SCALE

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NOTES

1. STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIP GALVANISED.

2. GRATING PATTERN AND BAR SIZES MAY VARY BUT SHALL BE CLASS D AND BIKE SAFE IN ACCORDANCE WITH AS 3996 UNLESS OTHERWISE STATED.
CONCRETE QUANTITIES

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>300</th>
<th>375</th>
<th>400</th>
<th>525</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>QTY FOR MIN DEPTH PIT (m³)</td>
<td>0.66</td>
<td>0.64</td>
<td>0.69</td>
<td>0.84</td>
<td>0.94</td>
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<tr>
<td>FOR EACH ADDITIONAL 1.0 m DEPTH ADD 0.54 m³</td>
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NOTES

1. CONCRETE GRADE N25.
2. SIDE WALLS OF PIT DEEPER THAN 1500 TO BE REINFORCED WITH ONE LAYER OF S82M Mesh RETURNED INTO BASE.
3. LOCATION AND LEVEL OF GULLY PIT SHOWN ON PLANS REFER TO THIS POINT.

FOR DETAILS OF GRATE AND FRAME SEE R0220-08

RECESS 60 x 20 TO CONTAIN R.10 G.I. LIFTING BAR

REINFORCEMENT WHERE REQUIRED

WHERE PIPE DIA IS 450 OR LARGER

CONCRETE COVER

76 x 76 x 10 M.S. ANGLE

EXPANSION JOINT

PLAN

SECTION 1

SECTION 2

DETAIL A

SECTION

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CONCRETE COVER

EXPANSION JOINT

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NOTES

1. Steel grates and frames are to be fabricated from mild steel and hot dip galvanised.
2. Grating pattern and bar sizes may vary but shall be Class D and bicycle safe in accordance with AS 3996 unless otherwise stated.
NOTES

1. CONCRETE GRADE N25.

2. LOCATION AND LEVEL OF GULLY PIT SHOWN IN THE DRAWINGS REFER TO THIS POINT.

3. SEE WALLS OF ALL PITS DEEPER THAN 1.50M ARE TO BE REINFORCED WITH ONE LAYER OF 3M MESH RETURNED 300 TO BASE.

4. DEPTH OF PIT NOT TO EXCEED 3.0M.

5. PITS DEEPER THAN 1.50M TO BE FITTED WITH GALVANISED STEP IRONS.

6. ALL EXPOSED EDGES TO BE ROUNDED WITH 20 RADIUS.

7. FOR PIPES greater THAN 450 DIA. REFER TO R0220-28.

8. SURFACE OF PRECAST COVER TO BE FINISHED WITH MATERIALS AND METHOD SIMILAR TO THAT SPECIFIED FOR MEDIAN PAVING.

1. ProjectWiseQRCodeLayer
MILD STEEL GRILLE

1 REQUIRED

NOTES

1. STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIP GALVANISED.

2. GRATING PATTERN AND BAR SIZES MAY VARY BUT SHALL BE CLASS D AND SAFE IN ACCORDANCE WITH AS 3996 UNLESS OTHERWISE STATED.
NOTES

1. CONCRETE GRADE N25
2. CONSTRUCT GULLY PIT IN REVERSE WHEN FLOW IS IN OPPOSITE DIRECTION.
3. WHERE GULLY PIT IS LOCATED UNDER GUARDFENCE, COVERS MAY BE OMITTED.
4. TO BE READ IN CONJUNCTION WITH THE SPECIFICATION.

Send feedback on this standard drawing to technologystandards@rms.nsw.gov.au
NOTES

1. CONCRETE STRENGTH GRADE SHALL BE N25.

2. SEE WALLS OF ALL PITS DEEPER THAN 900 mm ARE TO BE REINFORCED WITH ONE LAYER OF SL82 MESH RETURNED 100 MINIMUM INTO BASE.

3. DEPTH OF PIT NOT TO EXCEED 1200 mm (SPECIAL DESIGN REQUIRED).

4. ALL EXPOSED EDGES TO BE ROUNDED WITH 20 mm RADIUS.

5. PITS DEEPER THAN 1200 mm TO BE FITTED WITH STEPS.

6. LOCATION AND CHANNEL LEVEL OF GULLY PIT IN PLANS REFER TO THIS POINT.

7. FOR DETAILS OF GRATE AND FRAME SEE R0220-19

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN
NOTES

1. ALL EXPOSED EDGES TO BE ROUNDED WITH 20 mm RADIUS.
2. LOCATION AND CHANNEL LEVEL OF GULLY PIT IN PLANS REFER TO THIS POINT.
3. CONCRETE PAVEMENT DEPTH AS SHOWN ON CONSTRUCTION PLANS.
4. FOR DETAILS OF GRATE AND FRAME SEE R0220-19.
STANDARD DRAWING

REV. DATE AMENDMENT / REVISION DESCRIPTION WVR No. APPROVAL

SCALES ON A3 SIZE DRAWING

0 5 1 0 1 5 2 0 2 5 3 0 3 5 4 0 4 5 5 0 mm ON A3 SIZE ORIGINAl THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED.

TYP. 6

150 100 X 6 P X 450

ELEVATION SHOWING METHOD OF JOINING FRAMES TO ANCHOR PLATE.

850

830

860

TYP.

FRAME ASSEMBLY

SECTION NOT TO SCALE

SECTION NOT TO SCALE

TYP.

FRAME WELDING DETAILS

NOT TO SCALE

NOT TO SCALE

NOTE

1. STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIP GALVANISED.
2. GRATING PATTERN AND BAR SIZES MAY VARY BUT SHALL BE CLASS D AND BICYCLE SAFE IN ACCORDANCE WITH AS 3996 UNLESS OTHERWISE STATED.

SEND FEEDBACK ON THIS STANDARD DRAWING TO technologystandards@rns.wa.gov.au

REVIEWED MANAGER ROAD POLICY, SPECIFICATIONS AND TECHNOLOGY

DATE: 20.01.17

MANAGER ROAD POLICY, SPECIFICATIONS AND TECHNOLOGY

DATE: 20.01.17

NOT TO SCALE

SECTION NOT TO SCALE

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SEND FEEDBACK ON THIS STANDARD DRAWING TO technologystandards@rns.wa.gov.au

REVIEWED MANAGER ROAD POLICY, SPECIFICATIONS AND TECHNOLOGY

DATE: 20.01.17

MANAGER ROAD POLICY, SPECIFICATIONS AND TECHNOLOGY

DATE: 20.01.17

NOT TO SCALE

SECTION NOT TO SCALE

NOT TO SCALE

DATE: 20.01.17

NOT TO SCALE

NOT TO SCALE

NOTE

1. STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIP GALVANISED.
2. GRATING PATTERN AND BAR SIZES MAY VARY BUT SHALL BE CLASS D AND BICYCLE SAFE IN ACCORDANCE WITH AS 3996 UNLESS OTHERWISE STATED.

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REVIEWED MANAGER ROAD POLICY, SPECIFICATIONS AND TECHNOLOGY

DATE: 20.01.17

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2. GRATING PATTERN AND BAR SIZES MAY VARY BUT SHALL BE CLASS D AND BICYCLE SAFE IN ACCORDANCE WITH AS 3996 UNLESS OTHERWISE STATED.
NOTES

1. CONCRETE STRENGTH GRADE SHALL BE N25.
2. SIDE WALLS OF ALL PITS DEEPER THAN 1.5 M ARE TO BE REINFORCED WITH ONE LAYER OF 6 MM MESH RETURNED 200 MM INTO BASE.
3. DEPTH OF PIT NOT TO EXCEED 3.5 M (SPECIAL DESIGN REQUIRED).
4. PITS DEEPER THAN 1.25 M TO BE FITTED WITH GALVANISED STEP IRONS.
5. ALL EXPOSED EDGES TO BE ROUNDED WITH 25 MM RADIUS.
6. LOCATION AND LEVEL OF GULLY PIT SHOWN IN THE DRAWINGS REFER TO THIS POINT:
7. FOR DETAILS OF GRATE AND FRAME SEE R0220-23.
NOTES

1. STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIP GALVANISED.
2. GRATING PATTERN AND BAR SIZES MAY VARY BUT SHALL BE CLASS D AND BIKESAFE IN ACCORDANCE WITH AS 3996 UNLESS OTHERWISE STATED.

ROAD POLICY, SPECIFICATIONS AND TECHNOLOGY.

Send feedback on this standard drawing to technologystandards@rms.nsw.gov.au.

.Standard Gully Pit Type So Gratings and Frames

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
1. Concrete strength N25.
2. Steel grates and frames to be mild steel and hot dipped galvanized.

NOTES

SEND FEEDBACK ON THIS STANDARD DRAWING TO technologystandards@rms.nsw.gov.au

STANDARD GULLY PIT TYPE F - DOUBLE GRATE

ROAD DESIGN ENGINEERING
R0220 STORMWATER DRAINAGE SERIES - GULLY PITS

ISSUED
SHEET 1 OF 1

ROADS AND MARITIME SERVICES

© Roads and Maritime Services

IS IS THIS DRAWING M A Y B E P R E P A R E D I N C O L O U R A N D M A Y B E I N C O M P L E T E I F C O P I E D

STANDARD DRAWING NO.
DATE
AMENDMENT / REVISION DESCRIPTION
WVR No.
APPROVAL

SCALES ON A3 SIZE DRAWING

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN

SEE R0220-26 FOR GRATE AND FRAME DETAILS

FOR GRATE AND FRAME DETAILS

PLAN

SECTION

SECTION

NOT TO SCALE

NOT TO SCALE

PIT REFERENCE POINT

PIT REFERENCE POINT

FLOW

PIT REFERENCE POINT

FOR GRATE AND FRAME DETAILS

SEE R0220-26

NOTE

GALVANISED.

STEEL GRATES AND FRAMES TO BE MILD STEEL AND HOT DIPPED GALVANIZED.

SECTION

NOT TO SCALE

SECTION

NOT TO SCALE

PIT REFERENCE POINT

PIT REFERENCE POINT

FLOW

SECTION

NOT TO SCALE

SECTION

NOT TO SCALE

PIT REFERENCE POINT

PIT REFERENCE POINT

FLOW
NOTES

1. STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIP GALVANISED.
2. GRATING PATTERN AND BAR SIZES MAY VARY BUT SHALL BE CLASS D AND BIKE AND BICYCLE SAFE IN ACCORDANCE WITH AS 3996 UNLESS OTHERWISE STATED.
3. FOR DETAILS OF GRATES SEE R0220-28.
NOTES
1. LOCATION AND LEVEL OF THE PIT SHOWN IN THE DRAWINGS REFERS TO
   THIS POINT:
2. CONCRETE STRENGTH GRADE SHALL BE N25.
3. WHERE PIPE DIAMETER EXCEEDS 575 mm PIT WALLS TO BE STEPPED IN
   ACCORDANCE WITH R0220-28.
4. WHERE PIT IS LOCATED IN A SAG, INLET DEPRESSIONS ARE TO BE
   PROVIDED ON BOTH SIDES OF THE PIT.
5. FOR DETAILS OF GRATE AND FRAME SEE R0220-33.
6. SIDEWALLS OF PITS DEEPER THAN 1500 ARE TO BE REINFORCED WITH
   ONE LAYER OF SL2 MESH RETURNED 300 mm INTO THE BASE.
7. DEPTH OF PIT IS NOT TO EXCEED 3500 mm (SPECIAL DESIGN REQUIRED).
8. PITS DEEPER THAN 1200 mm ARE TO BE FITTED WITH STEP IRONS.
9. MINIMUM COVER TO REINFORCEMENT TO BE 50 mm UNLESS SHOWN
   OTHERWISE.

FOR DETAILS OF GRATE AND FRAME SEE DS2014/005847
FOR DETAILS OF GRATE AND FRAME SEE R0220-33

CONCRETE STRENGTH GRADE SHALL BE N25.
SIDEWALLS OF PITS DEEPER THAN 1500 ARE TO BE REINFORCED WITH
ONE LAYER OF SL2 MESH RETURNED 300 mm INTO THE BASE.
DEPTH OF PIT IS NOT TO EXCEED 3500 mm (SPECIAL DESIGN REQUIRED).
PITS DEEPER THAN 1200 mm ARE TO BE FITTED WITH STEP IRONS.
MINIMUM COVER TO REINFORCEMENT TO BE 50 mm UNLESS SHOWN
OTHERWISE.
NOTES
1. CONCRETE GRADE N25.
2. SIDE WALLS OF ALL PITS DEEPER THAN 1500 TO BE REINFORCED WITH ONE LAYER OF SL82 MESH RETURNING 300 INTO BASE.
3. DEPTH OF PIT SHALL NOT EXCEED 3500.
4. PITS DEEPER THAN 1500 TO BE FITTED WITH GALVANISED STEP IRONS.
5. WHERE PIPES ENTER PIT ON A SKEW OD = HORIZONTAL SKEW 5.

SEE R0220-45.

PITS DEEPER THAN 1200 TO BE FITTED WITH GALVANISED STEP IRONS.

100 DIA. CORED HOLE FOR SUBSURFACE DRAIN CLEANOUT WHERE REQUIRE.

12 DIA. DEFORMED REINFORCEMENT BARS AT 100 CENTRES (WHEN HOUSED IN TWO DIRECTIONS)

PIVES > 450: \[ \star = OD + 200 \]

MULTIPLE PIPE: \[ \star = n\times OD + (n-1)\times OD/2 + 200 \]

WHERE \( n \) = NUMBER OF LINES

AS 1324 17 X 18 MESH RETURN MINIMUM 300.

MAX 500

150

PAVEMENT

200

150

200

300

200

50

DRAINS ON A3 SIZE ORIGINA

L DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED

RETURN MINIMUM 300.
NOTES
1. CONCRETE GRADE N25.
2. PRECAST CONCRETE COVERS TO BE REINFORCED WITH DIAMETER M6 RODS AT 100 CENTRES, PLACED LONGITUDINALLY AND TRANSVERSELY;
3. LOCATION AND LEVEL OF JUNCTION BOX SHOWN IN THE DRAWINGS REFER TO THIS POINT:
4. SIDE WALLS OF ALL PITS DEEPER THAN 1500 TO BE REINFORCED WITH ONE LAYER OF #4 0.338 MESH RETURNED 500 INTO BASE;
5. wall ANGLE CHANGE IN PIPE DIRECTION OUTLET INLET TO BE RETURNED
6. DEPTH OF JUNCTION BOX NOT TO EXCEED 3000;
7. MINIMUM COVER OF REINFORCEMENT SHALL BE 500 UNLESS SHOWN OTHERWISE.

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

SEND FEEDBACK ON THIS STANDARD DRAWING TO

technologystandards@rms.nsw.gov.au

MANAGER ROAD POLICY, SPECIFICATIONS & TECHNOLOGY

REV

DATE
R0220-29
STANDARD DRAWING
R0220-29 STORMWATER DRAINAGE SERIES - GULLY PITS
DRAINAGE JUNCTION BOX

MINIMUM COVER OF REINFORCEMENT SHALL BE 500 UNLESS SHOWN OTHERWISE.
NOTES
1. INLET OUTLET PIPES TO BE LOCATED AS PER DRAINAGE PLANS.
2. PIPES TO BE CONNECTED TO PIT IN ACCORDANCE WITH R0220-43
3. WHERE THE GULLY PIT IS LOCATED IN A SAG, INLET DEPRESSIONS ARE TO BE PROVIDED ON BOTH SIDES OF THE GULLY PIT.
4. MATERIAL IN FRAMES AND GRATES TO BE MILD STEEL, HOT DIP GALVANISED.
5. USE CONCRETE GRADE N25.
6. LAYER OF SL82 MESH RETURNED 300 INTO BASE.
7. SIDEWALLS OF PITS DEEPER THAN 1500 TO BE REINFORCED WITH ONE 12 DIA. DEFORMED BARS AT 100 CENTRES.
8. PROVIDE SUBSOIL DRAINS INTO PITS AS REQUIRED.
9. DEPTH OF PIT NOT TO EXCEED 3500 mm.
10. FOR DETAILS OF FRAME AND GRATE SEE R0220-33
1. CONCRETE GRADE N25
2. LOCATION AND LEVEL OF GULLY PIT SHOWN IN THE DRAWINGS REFER TO THIS POINT:
3. FOR DETAILS OF GRATE AND FRAME SEE R0220-33
4. SUITABLE FOR SINGLE, DOUBLE, TRIPLE AND QUAD PITS (R0220-30).

NOTES
NOTES

1. STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIP GALVANISED.
2. THE GRATING SHOWN ON THIS DRAWING IS TO BE USED ONLY WHERE THERE IS NO PEDESTRIAN OR PEDAL CYCLIST MOVEMENTS AND WHERE THERE IS A PROBABILITY OF BLOCKAGE DUE TO MAINTENANCE PROCEDURES.
3. GRATING PATTERN AND BAR SIZES MAY VARY BUT SHALL BE CLASS D AND CYCLE SAFE, IN ACCORDANCE WITH AS 3996 UNLESS OTHERWISE STATED.

SEND FEEDBACK ON THIS STANDARD DRAWING TO technologystandards@rms.nsw.gov.au

Transport Roads & Maritime Services

STANDARD DRAWING ROAD DESIGN ENGINEERING R0220 STORMWATER DRAINAGE SERIES - GULLY PITS GRATINGS AND FRAMES STANDARDS GULLY PIT DEPRESSED MEDIAN PITS GRATINGS AND FRAMES

NOTES

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Transport Roads & Maritime Services

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Transport Roads & Maritime Services

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Transport Roads & Maritime Services
NOTES
1. CONCRETE GRADE N25
2. LOCATION AND LEVEL OF REFERENCE POINT SHOWN ON DESIGN PLANS.
3. STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIP GALVANISED.
4. GRATING PATTERN AND BAR SIZES MAY VARY BUT SHALL BE CLASS D AND CYCLE SAFE IN ACCORDANCE WITH AS 3996 UNLESS OTHERWISE STATED.
5. DETAILS OF APPROPRIATE GRATING AND FRAME STRUCTURES ARE AVAILABLE THROUGH SOURCING PROPRIETARY PRODUCTS.
The drawings may be prepared in colour and may be incomplete if copied.

**STANDARD DRAWING**

**ROAD DESIGN ENGINEERING**

**R0220 STORMWATER DRAINAGE SERIES - GULLY PITS**

**NOTES**

1. **CONCRETE GRADE N25**
2. **WALL THICKNESS AND REINFORCEMENT SHOWN SHALL APPLY TO ALL PITS UP TO 1200 DEEP.**
3. **PITS DEEPER THAN 1200 TO BE FITTED WITH GALVANISED STEP IRONS.**
4. **ALL REINFORCEMENT LAPS TO BE 300 LONG.**
5. **PRESSURE PLATE HOLE FOR SUBSOIL DRAIN OUTLETS TO BE LOCATED 100 ABOVE INSERT LEVEL OF THE STORMWATER PIPE.**
6. **LOCATION AND LEVEL OF GULLY PIT SHOWN IN THE DRAWINGS REFER TO THIS POINT.**

**MINIMUM PIT SIZE**

<table>
<thead>
<tr>
<th>DEPTH</th>
<th>SINGLE</th>
<th>DOUBLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1200</td>
<td>762 × 762</td>
<td>762 × 1295</td>
</tr>
<tr>
<td>1200 - 2400</td>
<td>762 × 1295</td>
<td>762 × 1803</td>
</tr>
<tr>
<td>OVER 2400</td>
<td>762 × 1803</td>
<td>762 × 1803</td>
</tr>
</tbody>
</table>

**CAST IRON FRAME & COVER SIZE**

<table>
<thead>
<tr>
<th>SINGLE</th>
<th>DOUBLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>762 × 762</td>
<td>762 × 1295</td>
</tr>
<tr>
<td>914 × 914</td>
<td>914 × 1905</td>
</tr>
<tr>
<td>914 × 1905</td>
<td>914 × 1905</td>
</tr>
<tr>
<td>914 × 2795</td>
<td>914 × 2795</td>
</tr>
</tbody>
</table>

**SECTION NOT TO SCALE**

**PLAN**

**SECTION**

**SUBSOIL DRAIN OUTLETS**

**CLEAR OPENING**

**VARIABLE - MIN 762**

**STEEL MESH SLS2 PLACED CENTRALLY WITH MAIN BARS HORIZONTAL.**

**Send feedback on this standard drawing to technologystandards@rms.nsw.gov.au**

**Transport Roads & Maritime Services**

**R0220-35**

**MANAGER ROAD POLICY SPECIFICATIONS & TECHNOLOGY**

**DEPT**

**NSW**

**ISSUED**

**JANUARY 2017**

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REFERENCE POINT

GALVANISED BURCHARGE PT COVER

150 DIA. HOLE FOR SUBSURFACE DRAIN OUTLET WHERE REQUIRED

INTERNAL PIT OPENING SIZE
600 mm x 600 mm
600 mm x 900 mm
900 mm x 900 mm
900 mm x 1200 mm
1200 mm x 1200 mm
LARGER PIT SIZES REQUIRE SPECIAL BURCHARGE PIT COVER.

INLET DRAIN INSERT OR NATURAL SURFACE

NOT TO SCALE

SECTION

ELEVATION

PLAN

(CRATE NOT SHOWN)

NOTES
1. CONCRETE GRADE N25
2. LOCATION AND LEVEL OF INLET BUMP SHOWN IN DRAWINGS REFER TO THIS POINT.
3. SIDE WALLS OF ALL PITS DEEPER THAN 1500 TO BE REINFORCED WITH ONE LAYER OF 4x4 MESH RETURNING 500 INTO BASE.
4. AT 90° ANGLE CHANGE IN PIPE DIRECTION OUTLET INVERT TO BE 150 BELLOW INLET INVERT.
5. DEPTH OF JUNCTION BOX NOT TO EXCEED 1050.
6. MINIMUM COVER OF REINFORCEMENT SHALL BE 50 UNLESS SHOWN OTHERWISE.

ENGINEERING SERVICES
PREPARED BY

ISSUED

SHEET

OF

REFERENCE POINT

100 DIA. HOLE FOR SUBSURFACE DRAIN OUTLET WHERE REQUIRED

INTERNAL PIT OPENING SIZE
600 mm x 600 mm
600 mm x 900 mm
900 mm x 900 mm
900 mm x 1200 mm
1200 mm x 1200 mm
LARGER PIT SIZES REQUIRE SPECIAL BURCHARGE PIT COVER.

INLET DRAIN INSERT OR NATURAL SURFACE

NOT TO SCALE

SECTION

ELEVATION

PLAN

(CRATE NOT SHOWN)

NOTES
1. CONCRETE GRADE N25
2. LOCATION AND LEVEL OF INLET BUMP SHOWN IN DRAWINGS REFER TO THIS POINT.
3. SIDE WALLS OF ALL PITS DEEPER THAN 1500 TO BE REINFORCED WITH ONE LAYER OF 4x4 MESH RETURNING 500 INTO BASE.
4. AT 90° ANGLE CHANGE IN PIPE DIRECTION OUTLET INVERT TO BE 150 BELLOW INLET INVERT.
5. DEPTH OF JUNCTION BOX NOT TO EXCEED 1050.
6. MINIMUM COVER OF REINFORCEMENT SHALL BE 50 UNLESS SHOWN OTHERWISE.
1. Location and level of gully pit shown in drawings refer to this point.
2. Side walls of all pits deeper than 150 are to be reinforced with one layer of sl82 mesh returned 300 into base.
3. Pits deeper than 1200 to be fitted with galvanised step-irons.
4. For pipes greater than 450 dia. refer to R0220-28.
5. All exposed edges to be rounded with 20 radius.
6. Concrete grade N25.
7. Depth of pit not to exceed 3500.
8. For temporary lid detail where specified see drawing R02042.
TRANSITION

LINED CATCH DRAIN

SECTION

NOT TO SCALE

LINED CATCH DRAIN

SECTION

NOT TO SCALE

TRANSITION

FROM LINED CATCH DRAINS (TYPE A & B)

TO SIDE OPENING PIT (LENGTH = 2000)

SECTION

NOT TO SCALE

TRANSITION

LARGEST OR MULTIPLE PIPES

LINED CATCH DRAIN

SECTION

NOT TO SCALE

SECTION

NOT TO SCALE

TRANSITION

LINED CATCH DRAIN

LIFTING HOOKS.

REFERENCE POINT.

PIPE  O.D.

LIFTING HOOKS AT 500 CENTRES.

2/16 DIA GALVANISED

BARS AT 100 CENTRES

12 DIA GALVANISED REINFORCEMENT

BARS AT 150 CENTRES

(WHEN MUENCH-ED 2 WAYS).

GULLY PIT

TYPE IP4

PITS DEEPER THAN 1200 TO BE FITTED WITH GALVANISED STEP IRONS.

1. CONCRETE GRADE N25.

2. LOCATION AND LEVEL OF INSPECTION PIT SHOWN IN DRAWINGS REFER TO THIS POINT.

3. SIDE WALLS OF PITS BETWEEN 1500 AND 3500 ARE TO BE REINFORCED WITH ONE LAYER OF SL82 MESH RETURNED 300 INTO BASE.

4. SIDE WALLS OF PITS BETWEEN 3500 AND 4500 ARE TO BE REINFORCED WITH ONE LAYER OF SL81 MESH RETURNED 300 INTO BASE.

5. DEPTH OF PIT NOT TO EXCEED 4500.

6. ALL EXPOSED EDGES TO BE ROUNDED WITH 20 RADIUS.

7. ALL STEEL TO HAVE MIN. 50 COVER.

8. ALL STEEL TO HAVE MIN. 50 COVER.

TRANSITION

LINED CATCH DRAIN

SECTION

NOT TO SCALE

TRANSITION

LINED CATCH DRAIN

SECTION

NOT TO SCALE

TRANSITION

LINED CATCH DRAIN

SECTION

NOT TO SCALE

25 DIA. MILD STEEL GALVANISED ROD.

25 DIA MS GI ROD.

12 DIA 4/20 REINFORCEMENT BARS AT 150 CENTRES.

150

350

25 DIA GI ROD.

MAX.

300

200

MAX.

300

SIDE OPENING PIT (LENGTH = 2000)

FROM LINED CATCH DRAINS (TYPE A & B)

WHEN MUNCH-ED 2 WAYS.

LIFTING HOOKS AT 500 CENTRES.

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SECTION

NOT TO SCALE

TRANSITION

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350

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MAX.

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200

MAX.

300

SIDE OPENING PIT (LENGTH = 2000)

FROM LINED CATCH DRAINS (TYPE A & B)

WHEN MUNCH-ED 2 WAYS.

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MAX.

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FROM LINED CATCH DRAINS (TYPE A & B)

WHEN MUNCH-ED 2 WAYS.

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MAX.

300

200

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WHEN MUNCH-ED 2 WAYS.

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7. ALL STEEL TO HAVE MIN. 50 COVER.

8. ALL STEEL TO HAVE MIN. 50 COVER.
NOTES
1. CONCRETE STRENGTH N25.
2. SIDE DIMENSIONS WILL VARY WITH UNEQUAL PIPE SIZES. SIDE DIMENSIONS DETERMINED BY LARGEST OUTSIDE PIPE DIMENSION PLUS 200.

DIMENSIONS DETERMINED BY LARGEST OUTSIDE PIPE DIMENSION
SIDE DIMENSIONS WILL VARY WITH UNEQUAL PIPE SIZES I.E. SIDE

CONCRETE STRENGTH N25.

REINFORCED WITH SL82
PROVIDE CONCRETE LID

DEPTHS TO INVERT LESS THAN "A" END REINFORCEMENT REQUIRED.
OVER 1200 PROVIDE SLAB WITH STEP IRONS.

MAX DEPTH TO INVERT 1000
DEMIN. DESIRABLE
500 MIN. ABSOLUITE

PLAN
NATURAL

SECTION
NOT TO SCALE

SECTION
3

REINFORCEMENT DETAIL

PIT DIMENSIONS

<table>
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<tr>
<th>INLET / OUTLET DIA + 200</th>
<th>&quot;A&quot;</th>
<th>REINF. IN WALLS / SLAB</th>
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<tr>
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<td>DEPTH TO INVERT LESS</td>
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ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN

SEND FEEDBACK ON THIS STANDARD DRAWING TO technologystandards@rms.nsw.gov.au

MANAGER ROADS & TRANSPORT INFRASTRUCTURE & TECHNOLOGY

DATE: 20.01.17

MANAGER ROAD POLICY, SPECIFICATIONS & TECHNOLOGY

ISSUED: 20.01.17

STANDARD DRAWING
ROAD DESIGN ENGINEERING
R0220 STORMWATER DRAINAGE SERIES - GULLY PITS
DETAIL OF INSPECTION PIT

PREPARED BY

© Roads and Maritime Services

NOTES
1. CUT INLET AND OUTLET PIPES TO BE SHAPED AROUND MANHOLE WITH REINFORCEMENT LEFT EXPOSED AND CUT TO LAP INTO CHAMBER REINFORCEMENT.
2. APPROPRIATE HOLES TO BE CUT INTO MANHOLE CHAMBER-SECTIONS (MINIMUM 93 mm TO TOP OR BOTTOM OF UNIT).
3. CUT EXPOSED CHAMBER-REINFORCEMENT AT INLET TO LAP WITH INLET PIPE REINFORCEMENT AND CONNECT REINFORCEMENT BY WELDING.
4. FILL REMAINING GAP WITH A EPoxy RESIN Mortar. POLYESTER RESIN Mortar OR MAGNESIUM PHOSPHATE CEMENT Mortar.
5. AT OUTLET, TURN EXPOSED CHAMBER-REINFORCEMENT OUT AND INCLUDE IN THE CONCRETE SURROUND. DO NOT ENCLOSE THE RUBBER RING JOINT IN THE CONCRETE SURROUND.
6. PLASTER INTERIOR OF OUTLET INCLUDING EXPOSED PIPE REINFORCEMENT.
7. STANDARD STEP IRONS TO BE GALVANISED MALLEABLE CAST IRON 93 mm FIXED INTO REINFORCED CONCRETE CHAMBER.
8. CONCRETE BASE, SLAB, ROOF SLAB AND MANHOLE GULLY PIT TO BE CONCRETE GRADE N25. BASE SLABS TO BE CONSTRUCTED IN NATURAL MATERIALS. SAFETY BEARING CAPACITY OF 100 kPa.
9. CONCRETE BACKFILL/REINFORCEMENT AROUND INLET AND OUTLET PIPES TO BE CONCRETE GRADE N25.
10. COVER TO REINFORCEMENT FOR INSTU CONCRETE TO BE 15 mm.
11. PRECAST MANHOLE CHAMBERS TO BE CONSTRUCTED FROM CLASS 2 CONTINUOUS CIRCULAR REINFORCED CONCRETE PIPES DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH AS 4133.
12. PRECAST MANHOLE CHAMBERS TO BE MANUFACTURED USING CONCRETE GRADE N50 WITH MINIMUM COVER TO REINFORCEMENT OF 15 mm.
13. MANHOLE CHAMBER JOINTS TO BE INTERNAL FLUSH JOINTS, MORTARISED SMOOTH WITH EPOxy MORTAR PREPARED AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
14. LENGTH AND LOCATION OF PRECAST UNITS TO SUIT INVERT LEVELS OF GULLY PIT GRATES AND PIPES.
15. FOR DETAILS OF GULLY PITS REFER TO RO220-30.
16. BACKFILLING AROUND SIDES OF MANHOLE CHAMBERS TO BE PERFORMED IN ACCORDANCE WITH ESTABLISHED SITE CONTRACT PROCEDURES AND SPECIFICATIONS AS DEFINED BY THESE SPECIFICATIONS. BACKFILL SHALL BE A SELECTED BACKFILL AND THE BACKFILLING PROCEDURE SHALL CONFORM TO THE SPECIFICATION FOR "BACKFILLING AND COMPACTION AGAINST THE SIDES OF CULVERTS AND WINGWALLS". WATER LAYERS ARE ADDED AND COMPACTED SIMULTANEOUSLY AROUND THE CIRCUMFERENCE OF THE STRUCTURE TO AVOID DIFFERENTIAL LOADING.
17. ALL METAL INSERTS, FITTINGS, CRATES, HANDRAILS, BOLTS, ETC. ARE TO BE SUPPLIED NIT OF GALVANISED UNLESS NOTED OTHERWISE. ALL MASONRY ANCHORS AND BOLTS NOTED AS "SS" TO BE STAINLESS STEEL GRADE 304 OR SIMILAR.
18. GRATING PATTERNS AND BAR SIZES MAY VARY BUT SHALL BE CLASS D AND STRUCTURAL SAFE, IN ACCORDANCE WITH AS 1491 UNLESS OTHERWISE STATED.
19. DEPTH NOT GREATER THAN 6.5 m INLET AND OUTLET PIPES NOT GREATER THAN 6.0 mdia.

All dimensions are in millimetres unless otherwise shown.
NOTES

1. CUT INLET AND OUTLET PIPES TO BE SHARED AROUND MANHOLE WITH REINFORCEMENT LEFT EXPOSED AND CUT TO LAP INTO CHAMBER REINFORCEMENT.

2. APPROPRIATE HOLES TO BE CUT INTO MANHOLE CHAMBER SECTIONS (MINIMUM 320 mm TO TOP OR BOTTOM OF UNIT)

3. CUT EXPOSED CHAMBER REINFORCEMENT AT INLET TO LAP WITH INLET PIPE REINFORCEMENT AND CONNECT REINFORCEMENT BY WELDING.

4. FILL REMAINING GAP WITH AN EPoxy REIN FOR MORTAR. POLYESTER REIN MORTAR OR MAGNESIUM PHOSPHATE MORTAR.

5. AT OUTLET, TURN EXPOSED CHAMBER REINFORCEMENT OUT AND INCLUDE IN THE CONCRETE SURROUND. DO NOT ENCLOSE THE RUBBER RING JOIN IN THE CONCRETE SURROUND.

6. PLACE INTERNAL PROFILE TOROUND EXPOSED PIPE REINFORCEMENT.

7. STANDARD STEPS TO BE GALVANISED MALLEABLE CAST IRON 300 WIDE, FIXED INTO REINFORCED CONCRETE CHAMBER.

8. CONCRETE BASE, SLAB, ROOF SLAB AND MANHOLE/GULLY PIT TO BE CONCRETE GRADE N25. BASE SLAB TO BE CONSTRUCTED IN NATURAL MATERIAL, OF SAFE REARING CAPACITY OF 600 kPa.

9. CONCRETE BACKFILL/REINFORCEMENT AROUND INLET AND OUTLET PIPES TO BE CONCRETE GRADE N25.

10. COVER TO REINFORCEMENT FOR INLET CONCRETE TO BE 10 mm.

11. PREFAB MANHOLE CHAMBERS TO BE CONSTRUCTED FROM CLASS 2 CONTINUOUS CIRCULAR REINFORCED CONCRETE PIPES AND CONSTRUCTED IN ACCORDANCE WITH AS 4133.

12. PREFAB MANHOLE CHAMBERS TO BE MANUFACTURED USING CONCRETE GRADE N50 WITH MINIMUM COVER TO REINFORCEMENT OF 15 mm.

13. MANHOLE CHAMBER JOINTS TO BE INTERNAL FLUSH JOINTS, MORTARED SMOOTH WITH EPOXY MORTAR, PREPARED AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

14. LENGTH AND LOCATION OF PREFAB UNITS TO SUIT INVERT LEVELS OF GULLY PIT OUTFLOW TO ALL OUTLET PIPES.

15. FOR DETAILS OF GULLY PITS REFER TO R0220-30.

16. BACKFILLING AROUND SIDES OF MANHOLE CHAMBERS TO BE PERFORMED IN ACCORDANCE WITH ESTABLISHED SITE CONTRACT PROCEDURES AND SPECIFICATIONS AS DEPICTED BY THESE SPECIFICATIONS. BACKFILL SHALL BE A SELECTED BACKFILL AND THE BACKFILL PROCEDE SHALL CONFORM TO THE SPECIFICATION FOR "BACKFILLING AND COMPACTION" OF SITES AND LANDSCAPING.

17. ALL METAL INSERTS, FITTINGS, GRATES, HANDRAILS, LADDERS, BOLTS ETC. AND STRUCTURES TO BE SUPPLIED NOT OF GALVANISED UNLESS NOTED OTHERWISE. ALL MASONRY AND BOLTS NOTED AS "S/S" TO BE STAINLESS STEEL GRADE 316 OR SIMILAR.

18. GRAVING PATTERN AND BAR SIZES MAY VARY BUT SHALL BE CLASS A AND BICYCLE SAFE IN ACCORDANCE WITH AS 4683 UNLESS OTHERWISE STATED.

19. DEPTH NOT GREATERTHAN 4.5 m INLET AND OUTLET PIPES NOT GREATER THAN 4.5 mm DIA.

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN

NOTE: STRUCTURES TO BE SUPPLIED TO AVOID DIFFERENTIAL LOADING.

WINGWALLS" WHERBY LAYERS ARE ADDED AND COMPACTED SIMULTANEOUSLY AROUND THE CIRCUMFERENCE OF THE STRUCTURE.

BACKFILLING PROCEDURE SHALL CONFORM TO THE SPECIFICATION FOR "BACKFILLING AND COMPACTION AGAINST THE SIDES OF CULVERTS AND STRUCTURES".

MANHOLE CHAMBER JOINTS TO BE INTERNAL FLUSH JOINTS, MORTARED SMOOTH WITH EPOXY MORTAR, PREPARED AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

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MANHOLE CHAMBER JOINTS TO BE INTERNAL FLUSH JOINTS, MORTARED SMOOTH WITH EPOXY MORTAR, PREPARED AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
# STORMWATER DRAINAGE SERIES - GULLY PITS

**PIT TO PIPE CONNECTION**

- **Dimensions:**
  - 1200 mm for pipe dia. over 450 mm
  - 600 mm for pipe dia. up to 450 mm

**Materials:**
- **Expansions Joint Filler:** Closed Cell Polyethylene
- **Rubber Ring Joint:**
- **Concrete Pit:**

**Contact Details:**
- Send feedback on this standard drawing to technologystandards@rms.nsw.gov.au

**Issued:**
- ProjectWiseQRCodeLayer

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**Standard Drawing**

**Road Design Engineering**

**R0220-43**

**Status:**
- Issued

**Issue Date:**
- January 2017

**Document Ver.:**
- Scan to check

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**All dimensions are in millimetres unless otherwise shown.**
INVERT SLAB

PRECAST BOX CULVERT CROWN UNIT

12 mm BARS AT 150 C/C

FACE OF CULVERT SHALL BE TROWELED SMOOTH AND FREE FROM INTRUSIONS.

PRECAST UNIT SHALL BE DRILLED AND BARS HELD IN PLACE WITH EPOXY.

SUPPORT BLOCK, CONCRETE NDS

SURFACE SHALL BE SCABBLED AND PAINTED WITH AN APPROVED EPOXY BONDING AGENT.

12 mm DIA BARS AT 150 CENTRES

NOTES
1. WHERE THE PIPE IS TO BE CONNECTED, STEEL REINFORCEMENT IN THE PRECAST BOX WILL BE EXPOSED AND BENT INTO THE SUPPORT BLOCK.
NOTES

1. PITS DEEPER THAN 600 mm MUST BE FITTED WITH INDIVIDUAL-RUNG LADDERS.
2. INDIVIDUAL-RUNG LADDERS MUST BE LOCATED:
   - DIRECTLY BELOW THE OPENING OF THE COVER,
   - DESIRABLY ON A WALL WITHOUT PIPE OPENINGS,
   - DESIRABLY ON ONE OF THE LONG SIDES OF THE PIT.
3. INDIVIDUAL-RUNG LADDERS MUST COMPLY WITH AS1657.
4. INDIVIDUAL-RUNG LADDERS MUST HAVE SHARP EDGES ROUNDED AND BE HOT OF GALVANISED AFTER FABRICATION.
5. PROPRIETARY PLASTIC ENCAPSULATED INDIVIDUAL-RUNG LADDERS (OR APPROVED ALTERNATIVE) MAY BE USED.
6. INDIVIDUAL-RUNG LADDERS MUST HAVE SHARP EDGES ROUNDED AND BE HOT OF GALVANISED AFTER FABRICATION.
7. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
NOTES

1. CONCRETE GRADE N25 AT 28 DAYS.
2. SIDE WALLS OF ALL PITS DEEPER THAN 1500 mm ARE TO BE REINFORCED WITH ONE LAYER OF SL82 MESH RETURNED 300 mm INTO BASE.
3. DEPTH OF PIT NOT TO EXCEED 3500 mm.
4. PITS DEEPER THAN 1300 mm TO BE FITTED WITH GALVANISED STEP IRONS.
5. ALL EXPOSED EDGES TO BE ROUNDED WITH 200 mm RADIUS.
6. MEDIAN WIDTH AS SHOWN IS FOR MINIMUM CONDITIONS.
7. ALL REINFORCEMENT APIS 300 mm LONG.
8. FOR USE WITH FLEXIBLE PAVEMENT ONLY.

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN

SEND FEEDBACK ON THIS STANDARD DRAWING TO technologystandards@rms.nsw.gov.au

MANAGER R&D/STANDARDS, SPECIFICATIONS & TECHNOLOGY

DATE: 20.01.17

STANDARD DRAWING
ROAD DESIGN ENGINEERING
R0220 STORMWATER DRAINAGE SERIES - GULLY PITS
SLOTTED MEDIAN DRAINS

SEND FEEDBACK ON THIS STANDARD DRAWING TO technologystandards@rms.nsw.gov.au

MANAGER R&D/STANDARDS, SPECIFICATIONS & TECHNOLOGY

DATE: 20.01.17

STANDARD DRAWING
ROAD DESIGN ENGINEERING
R0220-46
SLOTTED MEDIAN DRAINS
NOTES

1. LOCATION AS INDICATED ON PLANS.

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
NOTES
1. FOUNDATION AND TRENCH BASES MUST COMPLY WITH RMS R11 STORMWATER DRAINAGE SPECIFICATION.
2. RUBBER BAND MUST COMPLY WITH AS 1646.
3. CONCRETE COLLAR MUST COMPLY WITH RMS R11 SPECIFICATION AND MUST BE CLASS 4.
4. NEW EXTENSION PIPE DIAMETER MUST BE EQUAL TO OR LARGER THAN THE EXISTING PIPE DIAMETER.
5. CONCRETE COLLAR SIZE MUST BE TWO SIZES ABOVE THE NEW PIPE TO PROVIDE 200mm ALL ROUND FOR POLYURETHANE FOAM.
6. BACKFILL MATERIAL TO BE AS SPECIFIED IN RMS R11 SPECIFICATION.
7. FLOWABLE FILM IN ACCORDANCE WITH AS 1646 AND ASTM MUST BE USED TO BACKFILL THE VOID UNDER THE COLLAR TO THE TOP OF LAUNCH ZONE.

NEEDS TO BE REVIEWED AND APPROVED BY MANAGER ENGINEERING SERVICES AND TECHNOLOGY.
# GULLY PIT TYPE SA

## Highlights:

1. Concrete Grade N25
2. See walls of pits deeper than 150 mm to be reinforced with one layer of BL218 mesh returned 300 into base.
3. Pits deeper than 1200 mm to be fitted with galvanized step irons.
4. All exposed edges to be rounded with a 20 mm radius.
5. Minimum cover of reinforcement shall be 50 mm unless shown otherwise.
6. Location, and level of gully pit shown in the drawings refer to this point.
7. For details of frame and grate see R0220-27.
8. For peace with pipe diameter greater than 450mm see R0220-26.
9. At right angle change in pipe direction, outlet invert to be 150 mm below inlet invert.
10. Depth of pit not to exceed 3000 mm.

## Notes:

- Section 1: Type SA1
- Section 2: Types SA2 and SA3

---

**Type SA1**

- **Inlet**: Location and level of gully pit shown in the drawings refer to this point.
- **Outlet**: Add additional 300 below invert to be provided for sedimentation control where specified.
- **Subsoil drain 3000 long at each inlet trench** (typical, all pits).

**Type SA2 and SA3**

- **Direction of Flow**
- **Additional 300 below invert** to be provided for sedimentation control where specified.
- **Subsoil drain 3000 long at each inlet trench** (typical, all pits).

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**All Dimensions are in Millimetres unless otherwise shown.**

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**Contact Details**

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**Transport Roads & Maritime Services**

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**Standard Drawing**

R0220 - Stormwater Drainage Series - Gully Pits

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**Issued To:**

- Roads and Maritime Services

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**Sheet:** 1 of 2

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**Issue Date:** January 2017

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**Document Version:** R0220-50

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[ digital signature ]

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**PREPARED BY:**

[ signature ]

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NOTE:
1. STEEL GRATES AND FRAMES ARE TO BE FABRICATED FROM MILD STEEL AND HOT DIP GALVANISED.
2. GRATING PATTERN AND BAR SIZES MAY VARY BUT SHALL BE CLASS D AND CYCLE SAFE IN ACCORDANCE WITH AS 3996 UNLESS OTHERWISE STATED.